

by ALFRED H. SINKS

Nikola Tesla was a great inventorand also a prophet without honor

NOUNTER-ESPIONAGE WHEELS started turning early on the morning of January 8, 1943. Anxious FBI agents slipped into a room in the Hotel New Yorker where, Late the night before, a chambermaid had discovered the body of Nikola Tesla, dead at 86, regarded by many as the greatest scientific genius of his time.

For years, Tesla had been making scientific predictions so fantastic as to be literally out of this world. Of Lite he had been working - or so he said—on revolutionary new weapons powerful enough to annihilate

armies at a single blow.

There was only one Tesla, and the story might-incredible as it sounded - be true. The old man's safe might hold these secrets, and the Government could not risk the chance of enemy spies getting there first.

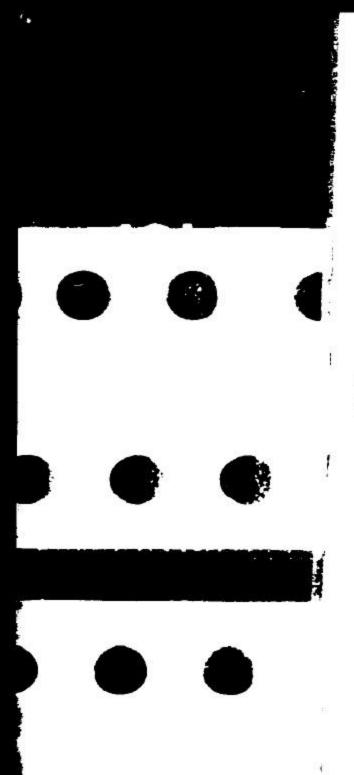
Half hoping to find something which would bring a sudden and decisive end to World War II, the G-men broke open the dead man's strong box. If anything of importance was discovered, it has never been revealed.

Yet, their quick action was jus-tified, for you could never be sure about Tesla, one of the strangest men who ever lived. Most people took him with a grain of salt, yet no serious scientist dared shrug away his claims as nonsense. No other Thomas Edison tried it and Tesla proved him wrong.

The world's leading physicists and electrical engineers had to eat crow back in the 1880s when Tesla solved a problem they had thought impossible. That one accomplishment the invention of a practical alternating-current motor and gen-

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crator - pur Tesla's name amon the world's top scientists.

From his invention spring the indistrial agree live in. For without his alternating current, there would be no mass production of automobiles, aircraft, retrigerators; no great water-power dams and generating plants, no Diesel-electric trains, we could not have developed radio, television or atomic power.

The danit current that Edison worked with a feeble force at best

could be sent no more than a couple of miles over wires because its power leaked away rapidly into the surrounding atmosphere. Lights near the power station might burn brightly and steadily, but those near the end of the line would be dim and fluttering.

Tesla sold his basic alternatingcorrent patents in 1888, for a million dollars down. By 1895, the first great power station at Viogata Falls had been built, and by the end of 1896, two more Tesla ecucrators had been installed. Within a few years, the pace of life over half the carth had changed from a crawl to a fast callop—and it has been gathcring speed ever since.

The way wire by his brilliant lidea of a "rotating inconcinheld," changed the face of the cauth and the living habits of the human race was a Croat, born in IS i in Smillian, a village in what is now Yugoslavia, but was then part of the cld. Austro-Hungarian Empire

When he was about six, Nikola Tesla's father, the village priest, was transferred to a larger parish in the city of Gospic. There, the lad erew up and perfected his carliest "inventions." Of these, his favorite was an "engine" powered by 16 June bugs, harnessed in sets of four to spokes which radiated from the drive shaft.

Nikola was a frail lad, often ill, and he nearly went blind from too much reading. He read everything he could get his hands on, not only science but also religion, philosophy, history, literature. By the time he finished high school, he was fluent in French, German and Italian, as well as his native Serbo-Croat.

He got his schooling—the best his doting family could afford at Gospie, Carlstadt, Gratz, the University of Prague and, finally, or Budapest. At the University, he saw his first electric motor, a new type direct-current affair whose brushes and commutators sent out showers of crackling blue sparks.

"If we got rid of those brushes and communitators, with all that noise and loss of energy, we'd have a much better motor," Nikola toid his professor. "Perhaps it might be done with an alternating current"

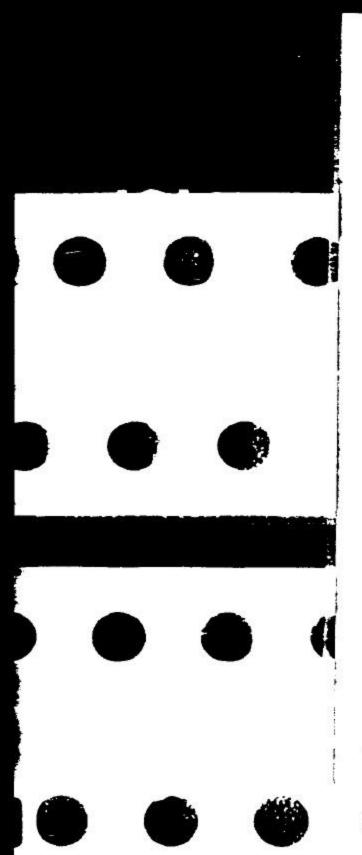
"Nonsense!" barked the professor, "An alternating current would never run anything. You're not the brilliant student I thought you were Torget it!"

But Testa could not forget. The teacher's radicule only stamped the idea indelibly on his brain. It he came an obsession, a passion—how to make an alternating current drive a motor. In every idle moment, wherever he went, he westled with this problem.

Testa's mind had an unusual twist. Minost from infancy, he had been able to see things in his mind's Cieso vividly and in such minute detail, that often he had trouble telling the real from the imaginary.

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Where the average engineer or inventor would teach instinctively for drawing board, paper and pencil, Tesla would simply switch on that uncanny magic lautern inside his brain. He would fix a mental image there. Then he would alter this detail or that, discard one plan, try another, without ever putting a line on paper.

Years later - from these mental

Years later - from these mental images alone - he could give his working exact instructions on how to build each part of a new device, though it was unlike anything ever seen before.

Thus, needing no deafting room and few laboratory conveniences to work on an idea, Tesla could use every spare minute that he had to test and revise his theory of alternating current.

His first real job was manager of a newly organized telephone company in Budapest. But telephone circuits were dull stuff compared with the challenge of that one big idea. He moved to Paris where he became a kind of general trouble-shooter for the Continental Edison Company.

His brain was still chipping away at his big problem, but the trouble was, he couldn't share it with trained men who might have helped him work it out. For whenever he mentioned alternating current to an electrical engineer, the man would look at him as though he were crazy.

But then came the moment when he knew he had solved at He was walking with a triend in the Bois de Boulogne. Suddenly, he stopped short and began jubbing with his came at some invisible object in the air.

"See it works!" he housed. "It is the rotating magnetic field which causes the armature to turn. It pulls the magnets around with it, causing the shalt to revolve As I oscillate this switch, causing the current to flow first in one direction, then the other..."

Never mind what his friend thought. Tesla had the answer.

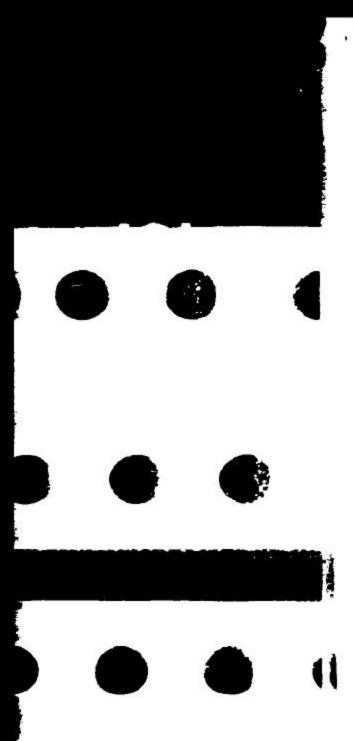
At the office, his colleagues scotled or looked blank. But the manager, listening to the outpourings of scientific jargon, suddenly thought of his boss back in the United States. If there are some truth in what the Croat said, surely the famous electrical wizard would be smart enough to see it.

So he gave Tesla a letter of introduction to Thomas Edison and urged him to try his luck in America. Thus, Tesla, now 27, arrived in New York. He was handsome, over six-feet-two, with a distinguished head and deep-set blue eyes. His Slavie face was broad across the cheekbones, his dark hair thick, his chin sharply pointed. Or worldly goods, he had the clothes on his back, four cents in cash, the letter to Edison, and the idea which was to change the world.

Edison thought less than nothing of the idea. It seemed so preposterous that he wouldn't even listen

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and, of course, Tesla had no drawings with which to try to convince him. But Edison gave him a job, for he had excellent training as an engineer and Edison needed

Busy with contine electrical work, I esta waited nearly three years for a chance to turn his mental image into an actual motor be could show to others. In 1887, he was able to borrow enough money to start his own laboratory, and the following year the alternating-current motor and generator were practical realities—on a laboratory scale—though much practical engineering would still be needed to fit them to commercial use.

George Westinghouse, another inventor, was the first to see their value. He bought the patents and gave Tesla a job as engineer in his Putsburgh factory.

But Tesla couldn't get along with the other Westinghouse engineers. From his standpoint, the alternating current job was done. Even "schoolboys" could now iron out the few remaining kinks. Meantime, his brain had statted to hatch even bigger dreams. He went back to his laboratory in New York. "Be alone" he once told a

science writer. That's the secret of invention. Be alone that's where great ideas are born.

Viola III was. In the years that followed, Tesla had many admining acquaintances, but seldour afficient. After his mother, no wome an ever entered his personal lite.

His manner toward others was condiad but reserved, distant. His words were as if untered by some god, sitting on an Olympus high

ove the rest of humanity. Backed by his fame, those words made a tremendous impression.

He lectured at every scientific center in this country and in all the important capitals abroad. Things which, as yet, existed only inside that amozing brain of his were so real to him, he made them real to his listeners.

He described tadar and radio locade asing and even television. He advocated electro-therapy. He foresaw a day when man would control nature in every respective of all kinds, and the power to run them, would be so cheap that poverty would vanish from the world.

Without wanting to be, Testa was a superb actor. After listening to him and seeing his wonders, audiences were ready to believe nearly anything.

Tesla reasoned that you could sell electric power cheap if you could do away with the millions of poles and insulators, the millions of tons of copper wire used to transmit it from place to place. He thought he knew how to do it and J. P. Morgan backed him with \$300,000.

On Long Bland, Tesla built a huge power plant with a 154-foot steel-tibbed tower topped by an enormous mushroom-shaped copper dome. From this dome he planne I to bombard the earth's crust with millions of volts of electric energy. The power so added to the earth's permanent charge could be drained off at some other point any point on the earth's surface. Thus, it would be possible for electric power to be sent anywhere without conduits, poles or wires. Or so he thought, until he tried it.

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In November, 1828, Tesla announced that he could abolish war.

The inventor had designed a small, inexpensive, radio-controlled boat which, through its supposed ability to destroy the biggest battle-ships, would make great navies useless. Not many years later, he was talking of another super-weapon, a "death ray" which would annihilate whole armies.

Yet Testa never suspected that the real super-weapon of the future would come from atomic fission. For Einstein's basic notion which led to smashing the atom, he had only ridicule. More in his middle age, he had fallen out of step with the world's great thinker.

Not all Tesla's later inventions were fantastic. Some, like his induction coils and oscillators, and pioneer work on "tuned" electrical circuits, were highly important.

Though he next succeeded in transmitting power without wires or a hig scale, he del prove that a single wire is enough. And some of his brilliant prophecies inspired the more plodding scientists to work out the practical problems of induction heating, radio-telephone, radar and many other electronic marvels of today.

But as he grew older, he with-

dress out ther and further within Selt. His stronge propherers
sounded like a voice from another
planet. For companions lip now,
the old men had only his dreams,
and they grow stronger with the
years. Completely alone at less, a
stooped, gunut figure with thus, silvery hair, he used to hip from his
hotel room, buy a long of birds at
and trudge slowly over to a park
where hundreds of placeous awaited
him. These were his friends. They
needed him, though the world did
not.

When he grew too ill to go ont, each day he sent a Western Union messenger to the park. After heedsing the birds, the box was instructed to see if any of them seemed sick. It so, he was to brine them back to Tesla's room where the inventor would muse them gently back to health.

health. Perhaps this sad

Perhaps this sad little Labor of love showed that the man who changed the world had, at last, discovered a giral truth. Perhaps he knew now that the giralest power for good lies not in lonely thought but in a human heart pulsating like his own "tuned circuits" - in tune with the hearts of his fellowmen. Or did he ever know! You could never be sure about Tesla.



In the tarry 1920s, when Winston Churchall had off-nded both his own supporters and the political opposition, the late George Bernard Shaw wrote him: "I enclose two vottchers for the première of my new play, for yourself and a friend of my."

Back to the playwright promptly came the thereto checks with this note from "Wirme": "I regret I am unable to attend the première of your new play. Please send me two your hers for the second performance - if any."

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