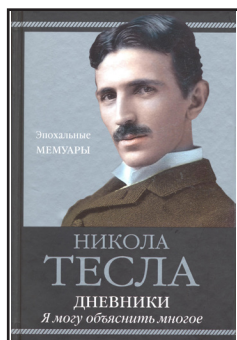


TESLA: THE MAN AND THE LEGEND

Tesla, Nikola. The Diaries. I can explain a lot. Moscow, Yauza-press, 2018, 272 p. Translated by Stevan Jovanovich. ISBN 978-5-9955-0989-9.



ABSTRACT

The published memoirs of great scientist and inventor Nikola Tesla became subject of broad discussion. His discoveries and scientific forecasts are still of relevance to this day. Moreover – much of what he said, became clear only in 21st century, and something still remains a mystery.

Did the 1895 fire accidentally ruin Tesla's laboratory? What connected the genius with the Russian scientist Mikhail Filippov, the inventor of the «rays of death»? Philadelphia experiment. Worldwide wireless transmission sys-

tem. How does it really look like? Priceless genius diaries, kept, if we follow the words of interpreter of the edition, in the archives for many years, not only shed light on his discoveries, but also reveal the secrets of this truly magical personality who managed to get ahead of time.

Taking into account variety of legends and myths, surrounding the name of Nikola Tesla during his lifetime and continuing to follow his heritage till modern times, it can't be excluded that the contents of the book will meet the doubts, but regardless of that it keeps provoking great interest.

Keywords: Nikola Tesla, memoirs, archive, electrical engineering, inventions, declassified diaries, debunking of myths.

To say that this is a very instructive book is not to say anything. For its content has a lot of resonant projections. And it is not at all a multiplicative effect, which is reproduced arbitrarily and perpetually in a dimensionless public space. In the case of Tesla, the blurriness of the format and the essential characteristics of the phenomenon that this person personifies is more likely the result of an overabundance of information about him than the result of silence under the pretext of concealing the truth in order to protect the planetary level of «secrets». Myths and legends around his name have been and remain abound.

From this point of view, the first publication, particularly in Russia, of the diary of a scientist who has been lying for more than half a century under the ban, gives a chance to at least partially approach the understanding of the human essence, mentality, innovative aspiration of the ingenious inventor and researcher. Again, it is to keep in mind some doubts about the incompleteness and reliability of archived papers that reached us. Modern life by the «magic» tools that are known to everybody leaves the imprint on the past, brings to desired conclusions any artifact. And now even trustworthiness of a proverb «the written letter remains», previously clear, can be called into question.

The genre of diaries mentioned in the title of the book is generally conditional. To be more captivating these are memories. It is no accident that the Serbian journalist and distant relative of the scientist Stevan Jovanovic, who prepared the publication, often uses the term «memoirs» in his preface. Formal occasion to consider Tesla's records as diaries, however, also exists, and it consists in the fact that the writing of the text went from the day of the eightieth anniversary and almost to the day of the writer's death in

chronological order: from July 10, 1936 to January 1, 1943 (with some interruptions), but the journal's pages touched, as we note, not the current events, everyday affairs, but the flashbacks of the past, the family and life chronicles of the hero of memories, his career in electrical engineering and the inventor, conflicts of professional self-affirmation and the talent of severe adversity and trials in Europe and the USA.

The publisher himself, commenting on the details of the recovery of the archive, especially emphasizes that its incompleteness is explained in different ways. On the one hand, there is a version of stealing of documents by German intelligence. From Berlin, Tesla has repeatedly received promising proposals, but he invariably rejected them, because he did not want anything to do with the Nazis. In addition, the scientist as an immediate carrier of «secrets» since the beginning of the Second World War in the USA was vigilantly guarded, fearing attempts by the enemy to steal such a valuable figure for the belligerent countries. Of course, stealing of papers was easier. Although, on the other hand, the version about stealing of archival materials by Germans can cover – simply and reliably – those who want to hide something really important today, arhisearious.

Discovery of memories of Nikola Tesla by Jovanovic in the archives among scientific documents and letters was a great success not only for the relatives and compatriots of the great Serb. Autobiographical diary evidence removes many questions, refutes all the stories, allegations, psychoanalytical speculation, which there is no reason to list. Many of them were accumulated and they are so speculative that, in the framework of the short review, so to take on the duties of a downer or interpreter of legends is clearly not an easy task. Let those who are interested in, let they

directly read the revelations of the memoirist themselves.

The publication and distribution of the book in the country, which, according to the publisher, his great relative treated with boundless respect, were undeniable. Stevan Jovanovic reminds that Tesla tried to arrive to work in Russia, but at the last moment changed his mind and, in his misfortune, went to America to Edison, who was close to him in spirit and interest. Both America and Edison have deceived the hopes of the inventor who sought his supporters.

The realization of the lessons and the justification for evaluations of what has been experienced for the eighty-year-old man who took over the pen is undoubtedly a reflection of a sore internal need. Everything that Tesla writes is very similar to confession. And it seems that he explains what happened to him in his long life not so much to his future readers, but primarily to himself, for he was always tormented by the desire to know the processes of thought activity, the nature of creative insights, the logic of the discovery of a new phenomenon, hitherto unknown to science.

Here is one of the confessions in the diary: «I can explain a lot, but I cannot explain how my brain works. I get answers to certain questions through a long thought-work. I am primarily a thinker and only then an experimenter. First you need to think, and then try to put experiments, otherwise instead of scientific search you will get lost in the dark. Answers to other questions come to me immediately. If I only think about it, I see the whole picture» (p. 20).

Explaining further that the first such insight he experienced in 1884 in Budapest, Nikola Tesla cites interesting details. Firstly, during a walk in the park, he clearly showed himself the scheme of the engine working on AC, which later determined the area of his basic research and innovations, making both an ideological opponent of Edison. Secondly, the phrase attracts attention: «Even before I understood what was happening, I began to draw the diagram quickly with a cane on the sand, because until that day it was not my habit to always carry notebooks and pencils» (ibid., p. 20). The words we quote are refuted by at least two attributes, often attributed to the inventor: drawing, counting solely in the mind and not leaving written traces of his activity in order not to give competitors reason to steal secrets.

Another example of inspiration is the idea of wireless energy transfer, which was born in 1884 on the tenth day of the voyage of Tesla across the Atlantic to New York. At first he was puzzled by the idea why it was so stupid to lose so much time and suffer a lot of torment, moving on the water on the steamer. And he immediately calculated the design of the flying machine, ready to carry the same number of people with much greater speed. However, due to inexperience he did not

take into account a number of indicators and was guided by abstract ideal fuel, because of which, thinking about alternative energy forces, he suddenly realized that the usual three-dimensional space can be folded into a tube.

Explaining by analogy with the sheet of paper folded in this way and pierced through with a needle, the phenomenon of the spread of punctures with the sheet unfolded, the scientist holds a natural parallel for him: «If you curl up space with electromagnetic waves of very high power, you can bring continents closer, carry anything anywhere for share seconds! This incredible insight stunned me so much that I nearly fell overboard. I promised myself that at the first opportunity I will begin to develop this idea» (pp. 25–26).

Alas, for a number of reasons Tesla's plans were not destined to be fully realized, although initially the tower with a complex of buildings for the transfer station for the «World System» project was built in 1902 on the island of Long Island 60 km from New York, and all this stood up till its demolition in 1917. No one was going to continue financing the work, and the American government was afraid that the tower would be used by German spies for their own purposes.

The military-political situation in Europe, when Tesla began writing memories, made him think about continuing work on the magnetic transformation of space and he managed to secure financial support from his associates. He writes in his diary: «The goal is somewhat different than it seemed to me. I was thinking about peaceful cargo and ordinary passengers, but I have to work out this problem for the military. This does not upset me, because the main thing is to find the right solution to the problem. Besides, I am amazed by the thought that if warships, airplanes, etc. will be able to move instantly and freely in space for long distances, then wars will stop... Some start wars, while others are at war. Those who start sit far from the front and feel safe. But if they know that at any moment a bomb can be dropped on them by an airplane that has instantly moved through space and passed all the barriers, they will think a thousand times before starting a war» (p. 27).

Such maxims cause a lot of associations in modern man. But here the personal side is important, the diary is almost the only source, authentic and true, where the hero himself frankly assesses his character, relations with people, demonstrates a civil position.

The same «Philadelphia experiment» in the framework of the «Rainbow» project, which Tesla supervised in 1936–1942, is still covered in mystery, although it is easy to guess from the text of the memories why the US military prematurely lost its main developer of ideas for ultra-fast movement in space with the help of



electromagnetic fields. An unconfirmed legend says that during the experiment in 1943, the destroyer «Eldridge» for some instants covered a distance of more than 300 km there and back. Part of the crew at the same time died, and many of the survivors with the influence of high-power electromagnetic forces received mental disorders. The phrase from the diary «if he tries to conduct experiments with people without my knowledge, then I will stop cooperating with him» (p. 35), without a doubt, explains the departure of its creator from the project. Motives are fundamental, making honor to our hero.

The humanism demonstrated by this kind of example does not in any way contradict the characteristics of Tesla's behavior when he could seem excessively demanding and emotional about his employees, partners, colleagues. See what he writes about this: «The fact that I allegedly did not know how to get along with people, do not know how to work in a team is a lie, put into circulation by Edison and willingly repeated by other ill-wishers ... I am able to find a common language with others ... But the very essence of my work is individualistic. I do not need a team to think ... It is good to think alone». And further, developing the idea, when and how many employees are required, concerns not only a painful topic for him: «... Edison needed the staff not only for experiments. He easily appropriated other people's discoveries and inventions. I experienced this on myself and I know other people whom Edison robbed and deceived as cynically as me ... Of the most famous inventions of Edison, only a telephone transmitter is the fruit of his own mind. The phonograph was invented by one of Edison's first employees named Bernstein. The idea of a light bulb was stolen by Edison from the Russian scientist Lodygin. The kinetoscope and the kinetograph were invented and created by William Dixon» (pp. 36–38).

The problem of appropriating other people's inventions was also acute at that time because there existed different systems of patenting in different countries and there were many loopholes for dishonest people – both those who applied for inventions and those who registered them (pp. 105, 184). The case with Lodygin, whom Tesla knew personally and called, according to his nephew Sawa Kosanovich, «genius scientist», of course, is far from the only one for Russian inventors. A well-known fact is the manipulation of G. Marconi with a priority on radio communication devices two years after the public demonstrations by A. S. Popov of his invention in Kronstadt and Petersburg in 1895. And it should be noted that our compatriots began with the repetition of the experiments of Nikola Tesla, the

construction of a transformer of his design and observation of phenomena of high-frequency currents (see: Grigoriev, N. D. Radio of Popov: Boundless Communications. World of Transport and Transportation, Vol. 7, 2009, Iss. 1, pp. 142–150).

By the way, Tesla himself also suffered from Marconi, the entire history of their relationship, including disputes over priorities and patents, litigation that lasted until 1943 (pp. 180–185) is a clear illustration of that full test of life of the Serbian inventor and scientist on the other side Atlantic. If you look at the details of the adversities he had experienced, it will take a lot of space: he was ruined, he was deceived, he was left without a penny in his pocket, he lived in doss-houses for the homeless, was a loader, a street cleaner, a digger, a mason's assistant (p. 115), fought against disease (p. 109). Describing this, Tesla demonstrates an unbending spirit, faith in his own strength and his talent.

Perhaps, we should add to this the fact that he believed in Russia, its people, regretted that he could not visit a friendly country for him. He had, however, from time to time, communicated with his Russian counterparts. He had excellent relations in particular with the Soviet Ambassador to the United States, Boris Skvirsky, to whom he gave part of the documents on the «World System» (p. 84). Tesla was especially interested in Mikhail Filippov, whose versatile talent enabled him to invent a method of electric transmission over huge distances of the energy of a blast wave. In absentia, two people close to each other on scientific aspirations exchanged ideas and information from 1889 to 1903, until Filippov was killed, as their common acquaintances informed, by agents of German intelligence because of the refusal to give them a promising invention (pp. 213–215).

And in conclusion, since the review of the book will still not be able to «grasp the immensity», an amusing detail: according to the diary entry of May 23, 1942 (pp. 227), among those who did not irritate Tesla in America, there was a certain professor John Trump, who was a famous physicist (1907–1985). He was the uncle of the current US president, Donald Trump. But the main thing is that this very uncle John officially supervised the study of the documents that remained after Nikola Tesla's death. So, it is not ruled out, that then, long before all of us, he was the first to read in the notebooks of the colleague the lines devoted also to himself.

History, it is always full of surprises.

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