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NIKOLA TESLA AT NIAGARA FALLS.

Mr. ORRIN E. DUNLAP, in the *Western Electrician*, says that Nikola Tesla paid his first visit to the great electrical power plant of the Niagara Falls Power Company on Sunday, July 19th. In the party with Tesla were George Westinghouse, jun., president of the Westinghouse Electric and Manufacturing Company, of Pittsburg, and his son, H. H. Westinghouse; Thomas N. Ely, of Philadelphia, superintendent of motive power of the Pennsylvania Railroad; Commodore George W. Melville, of Washington, chief engineer of the United States Navy; Edward D. Adams, president of the Cataract Construction Company, and William B. Rankine, secretary of the company; Paul D. Cravath, counsel for the Westinghouse Company; and George Urban, jun., of Buffalo, president of the Cataract Power and Construction Company, of Buffalo, which company was organized recently to distribute the electric power in Buffalo.

Quite naturally, the event of Tesla's visit was one of importance, for never before had his eyes rested on this greatest of power plants. For four years he had refused to leave his work and visit the Falls, preferring to work out his theories and await the proper time to see them put into practical use and operation. Tesla was delighted with the manner in which his discoveries had been adapted to practical use by the engineers, and he unhesitatingly declared that there was no doubt of the success of the gigantic undertaking, and that power would be transmitted to Buffalo without the least semblance of failure in any important detail. He was greatly interested in the working of the transformers invented by

Tesla Science Center at Wardenclyffe is a US 501c3 nonprofit organization with a mission to develop the site of Nikola Tesla's last remaining laboratory into a transformative global science center that embraces his bold spirit of invention, provides innovative learning experiences, fosters the advancement of new technologies, and preserves his legacy in the Tesla Museum.

him, and the great electrician declared that they solved one of the most difficult and important problems in electrical science.

It is a well known fact that Tesla does not like to speak of himself. He will talk freely about electrical discoveries or inventions, but when his own are broached he modestly says that he prefers to say little about them.

"I do not like to speak of what I am doing or what I hope to do," said he. "It is enough to let others do that when what I have done is before the world. I am content to be in my workshop and to work day and night to discover something which we are looking for, and which will assist the development of electricity as a great and universal power. The time will come when steam will not be used for commercial purposes. I am working to bring that about." This, then, is the present great ambition. He desires to see electricity fully occupy the power field.

"I came to Niagara Falls," said he, "to inspect the great power plant, and because I thought the change would bring me needed rest. I have been for some time in poor health, almost worn out, and I am now trying to get away from my work for a brief spell, and at the same time see the great results of electrical development within the last half dozen years. Those results have been wonderful, have far surpassed the expectations of the people generally, but they are what those who have made electricity their study for years and their life work have expected, and have laboured so hard to bring about. Yet scientists are not content, and great wonders in the future development of electric power for many purposes are anticipated, and are confidently expected, by the great men in all countries who are trying to discover Nature's secrets, and to develop the things which God has placed within the reach of those who will seek that they may find."

"What do you think of the Niagara power plant, Mr. Tesla? Is it fully up to your ideas and expectations?"

It was this question that aroused the great electrician's enthusiasm. "Yes," said he; "it is all and more than I anticipated it would be. It is fully all that was promised. It is one of the wonders of this century. The power-producing plant of the Cataract Construction Company is a marvel in its completeness and in its superiority of construction. When it shall be in full operation the results, in many ways, will be wonderful; will be surprising to those who have doubted that such things could be accomplished. In its entirety, in connection with the possibilities of the future, the plant, and the prospect of future development in electrical science, and the more ordinary uses of electricity, are my ideals. They are what I have long anticipated, and have laboured, in an insignificant way, to contribute toward bringing about."

"What, in your judgment, will be the effect on Niagara Falls?"

"The first effects naturally will be to the advantage of Niagara Falls, and the falls will be the greatest reaper of benefits. The result of this great development of electric power will be that the Falls and Buffalo will reach out their arms, and will join each other, and become one great city. United, they will form the greatest city in the world."

"This is your first visit to the plant?"

"Yes; I came purposely to see it. I am somewhat interested in the working of some of the machinery. But, and it is a curious thing about me, I cannot stay about big machinery a great while. It affects me very much. The jar of the machinery curiously affects my spine, and I cannot stand the strain."

"It is Mr. Tesla's two-phase system which is used," put in Secretary Rankine, who was standing by. "It is the new and great system of the two-phase alternating currents."

"What do you think of the transmission of electric power to Buffalo? Is it an assured undertaking?" Tesla was asked.

"Its success is certain. The transmission of electricity is one of the simplest of propositions. It is but the application of pronounced and accepted rules which are as firmly established as the air itself."

"Do you think the cost of electric power in Buffalo will be half, or lower than the present cost of steam?"

"I do not know what is the cost of steam power in Buffalo."

"About \$60 to \$70," said Mr. Rankine.

"Well," continued Mr. Tesla, "the cost certainly will be much less than the cost of steam. The beauty of using electricity for industrial purposes is that you can use it without any loss. When you get done with your work, you just shut it off until you want it again; therefore there is no appreciable percentage of loss, except that in transmission. On the other hand, you cannot use steam without loss. Steam must be kept up. That involves a loss of 20 per cent. at the start, which is continuous, and must be counted as a fixed loss. No matter if steam were cheaper than electricity, there would be a great saving in favour of electricity, because of its adaptability, its freedom from smoke and dust, and the fact that it may be shut off when it is not needed."

At this point Secretary Rankine advanced a piece of news. "Buffalo," said he, "will have its first instalment of electric power by November. You may say that without fear of making any mistake. The first delivery will be about 1,000 horse power, all that we can give this fall. It will be the initial instalment of the 10,000 horse power which we must furnish under our franchise within the ensuing year. The contract for the construction of the pole line will soon be let. The work will be pushed rapidly, and Buffalo will find that the company will be faithful to all of its agreements."

In regard to the transmission of power, Tesla continued: "It is cheaper to transmit electricity in large quantities than in small. The larger the force the less the loss in transmission. The loss in transmission of power to Buffalo, for instance, will be comparatively small because of the large quantity which Buffalo will receive."

Tesla was averse to speaking of his recent investigations of the vacuum electric lamp and telegraphy without the use of wires.

"I am not prepared to say anything now about those little schemes of mine," said Mr. Tesla. "They must stand aside for awhile. Just now I am devoting my time to the study and development of the transmission and insulation of electricity. Until I get these matters well worked out, and obtain satisfactory results, I shall do little else. I shall return to my laboratory in New York and continue my work. I am delighted with my trip to the Falls. I have been from top to bottom of the power plant. You may say it is the greatest and the best, the most thoroughly equipped in the world."