

TO THE COMMITTEE on Science and the Arts of the FRANKLIN INSTITUTE.

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The sub-committee, to whom was referred
"Nikola Tesla's Researches in High Fre-
quency Phenomena:-" submit the following

Report.

Carl Hering
Chairman.

J. Carpenter Smith
Edmund Pillsbury
Hermann T. Hering

HALL OF THE FRANKLIN INSTITUTE,

Philadelphia, December 6th., 1893.

The FRANKLIN INSTITUTE of the State of Pennsylvania, for the Promotion of the Mechanic Arts, acting through its Committee on Science and the Arts, investigating "Nikola Tesla's Researches in High Frequency Phenomena," finds

That a description of the researches is given at considerable length in his three illustrated lectures, the first of which was delivered before the American Institute of Electrical Engineers on May 20th., 1891, and is contained in the transactions of that Institute, vol. VIII, p. 267 et seq. It was also reprinted in full in the Electrical World, July 11, 1891, and in part in many other electrical and scientific journals.

His second lecture was delivered in England by urgent request, before the Institution of Electrical Engineers, February 3rd., 1892, and is reprinted in full in the Journal of that Institution, Vol. XXI 1892, p. 51 et seq., also in the Electrical World May 7th., 1892, and in part, in many other electrical and scientific journals: it was also published in book form by a New York publisher.

His lecture was repeated in Paris before a joint conference of the Societe de Physique and the Societe Internationale des Electriciens, held February 19th., 1892, and printed in a number of French journals.

The third lecture was delivered before the Franklin Institute, February 24th., 1893, and repeated March 1st., 1893 at the St. Louis meeting of the National Electric Light Association. It is reprinted in full in volume CXXXVI of the Journal of the Franklin Institute, in the Electrical World, June 3rd., 1893, and in the Annual report of the National Electric Light Association. It is also published in pamphlet form by that Association.

His researches were made with alternating electrical currents and electrical fields of very high frequency of alternation and very high potentials. In this field he made many new interesting and valuable discoveries, invented new apparatus for research and illustration, and discovered many striking phenomena. In general he developed a new and very important field of research in a direction in which little had been ^{done} before and, one which opened the way to very valuable results, the most important of which is that which has been sought for by so many scientists, namely, the rational generation of artificial or "cold light", as it is often called. Although he has not yet solved the problem from a commercial standpoint, he has, among many other results, opened a probable way for the solution of this most important and difficult problem, and in doing so has accomplished much more in this direction than many others have.

Probably the best proof of the importance of his researches is that his lectures were translated into many languages

and published in part or in full in almost every scientific journal with very favourable comments. The interest which his researches excited were probably as great, if not greater, than that of any of the recent new developments in electricity.

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For his earnest and indefatigable work as a pioneer in this new field, and on account of the great value to science of his researches, the Institute awards to Nikola Tesla, the Elliott Cresson Gold Medal.

Adopted: Dec 6-1893.

H. A. Hurl
Chairman of Committee on Science and the Arts.