

**ELECTRICITY ONE  
HUNDRED YEARS AGO AND  
TO-DAY; WITH COPIOUS  
NOTES AND EXTRACTS**

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Electricity One Hundred Years Ago and To-day; With Copious Notes and Extracts by Edwin J. Houston

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ONE HUNDRED YEARS AGO  
AND TO-DAY.

With Copious Notes and Extracts.

BY

EDWIN J. HOUSTON, Ph.D. (PRINCETON).

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TO  
JAMES HAMBLETT,  
PRESIDENT OF THE DEPARTMENT OF ELECTRICITY,  
BROOKLYN INSTITUTE OF ARTS AND SCIENCES,  
THIS LITTLE BOOK IS RESPECTFULLY  
DEDICATED BY THE AUTHOR.

PHILADELPHIA, May, 1894.





## PREFACE.

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This little book, "Electricity, One Hundred Years Ago and To-day," contains the text of a lecture delivered before the Electrical Section of the Brooklyn Institute. In preparing the lecture for publication, which I have determined to do in the belief that it may be of value to students of Electricity, I have concluded to permit the text to remain substantially as delivered, preferring to add, in the way of foot-notes, whatever additional matter may be required, rather than to materially change the original matter or arrangement.

The wide scope of the lecture, which embraces the progress made by electric science practically from its birth to the present day, necessitated, from the limit of time of a single lecture, a much briefer treatment of *many important discussions and inventions than*

seemed advisable when the lecture was put in book form. Various portions of the original lecture, have, therefore, been considerably extended by means of foot-notes.

In tracing the effects produced by great discoveries or inventions, it has been deemed desirable to introduce copious extracts from the papers in which such discoveries or inventions were originally described. In this manner only, can an intelligent conception be formed of the importance of a discovery, or the completeness of an invention.

In some cases no little difficulty has been experienced in finding the exact publication in which the first description of a great discovery or invention was given. This, of course, is almost necessarily the case when the discovery or invention belongs to the type for which a number of rival claimants exist. A difficulty in such studies, arises, too, in readily attaining access to a sufficiently complete collection of works on the early literature of the science. I have been fortunate, in this respect, to have had at my disposal the very excellent library of the Franklin Institute, in which is to be found, perhaps, the most complete collection of the Transactions and Proceedings of learned societies, and of the general and periodical scientific literature of the last century or so, that is to be found in this country.

It will of course be understood, that no pretense is made in this little book, of doing any more than treat-