

(All rights reserved.)

**ADVANCE PROOF**—(Subject to revision).

This Proof is sent to you for discussion only, and on the express understanding that it is not to be used for any other purpose whatsoever.—(See Sec. 39 of the Constitution.)

---

**Canadian Society of Civil Engineers.**

INCORPORATED 1887.

---

**TRANSACTIONS.**

N.B.—This Society, as a body, does not hold itself responsible for the facts and opinions stated in any of its publications.

*This Paper will be read on the evening of Thursday,  
May 17th.*

---

**ELECTRIC LIGHTING.**

BY H. Y. THORNBERRY.

The object of this paper will be to give a brief résumé of Electric Lighting, of its discovery and development until the present time.

Very little was known of Electricity in 1790; yet from that year dates the discovery by Galvani of the electro-chemical action of two metals in the presence of moisture.

It was not until six years later that Volta devised the Voltaic Pile, the first source of a constant current of electricity.

It may be remarked as a queer coincidence that illuminating gas was discovered, and the possibility of making gas from coal demonstrated at a date almost coincident with the discovery of the galvanic current. It was not, however, until 1810, a Gas Company was formed for general lighting in London. It was in that year Sir Humphrey Davy discovered the Voltaic Arc.

So rapid, however, was the introduction of gas as an illuminant that 20 years had made it general, while the Electric Light had as yet only been born.

It must not, however, be supposed the want of progress in Electric Lighting was due to inactivity on the part of those from whom the world was to have the discoveries that were to make it a success.

Among the inventions of eminent men that led the way to electric lighting may be mentioned those of Arogo, who discovered the magnetizing effect of the galvanic current, and gave us the beautiful experiment termed the Arogo Disk.

Farada, in 1831, began his masterly researches, and gave the world his discovery of magnito-induction. In Farada's discovery, Electric Lighting takes its rise, and from his time date the inventions that have made it a possibility.

Following Farada, Pixi and Saxton produced the magneto-electric machine.

The Pixi machine is composed of a strong horseshoe permanent magnet, before the ends of which two spools of covered wire wound on U

his discovery of magnito-induction. In Farada's discovery, Electric Lighting takes its rise, and from his time date the inventions that have