

SCIENCE

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THE FULLNESS OF TIME¹

PERSONAL EXPERIENCE FROM A HALF CENTURY IN ENGINEERING EDUCATION

By Dr. ARTHUR M. GREENE, JR.

DEAN, SCHOOL OF ENGINEERING, PRINCETON UNIVERSITY

THE eighth decade of the nineteenth century marked the beginning of the electric light and power industry, following the introduction of the incandescent lamp of Edison in 1878 and of the electric motor in 1873 at the Vienna Exposition.

The Jablochkoff candle had been used for street lighting from 1877 and many were employed throughout Europe. Its limitations prevented extensive use and other arc lamps were developed. This lamp, suitable for street lighting, was not adaptable for residences and offices.

The principle of the electric motor was known to Faraday in the early part of the century, and Siemens had suggested the use of the dynamo machine as a

motor in 1867. However, it was not until a chance connection of a generator of Fontaine and Breguet to a power line from another of their machines at the Vienna Exposition that the fact that motors are generators operated from an electric supply was fully realized. From that time on the electric motor became an element of power transmission.

The field of electric light and power was extended into all parts of the world, and in this eighth decade the technical press was filled with notices of organizations of power companies and with invitations for bids to furnish equipment.

The power plants of 1888 were limited as much by the facilities of manufacture and erection and by the demands for service as by the engineering knowledge of that day. The Edison Electric Company of Philadelphia built its plant near the center of the district

¹ Address delivered at the annual spring meeting of the Rensselaer chapter of the Society of Sigma Xi, Troy, N. Y.

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