they are very well edited and carefully published. Though the print is small, the size of the book is convenient and the reviewer found no difficulty in following the text. While the student of local history awaits eagerly the direct information in the voluminous correspondence addressed to General Gage, this volume will furnish some idea of things yet to come. The reviewer made notes of more than fifty statements bearing on the history of western Pennsylvania. These statements are, it is true, but a summary and a reflection of statements written to Gage, but they are so significant that in the absence of other documents they would be fundamental in any understanding of western Pennsylvania in the days before the American Revolution. Apart from local significance the two most interesting revelations from this volume are the validity of Professor Alvord's theme of the significance of the West in British imperial policy after 1763 and the dramatic importance of the Stamp Act in the routine of imperial policy.

No more important volume in American history has appeared in recent times. General and local historians alike are under great obligations to Professor Carter and those who have made this volume possible. There are rumors of a companion volume at an early date. Those interested in this period of American history hope additional volumes will follow.

ALFRED P. JAMES

Proceedings of the Engineers' Society of Western Pennsylvania, Fiftieth Anniversary Number, vol. 47, no. 4. (Pittsburgh, Engineers' Society of Western Pennsylvania, 1931. p. 171–256.)

In November, 1930, the Engineers' Society of Western Pennsylvania celebrated its fiftieth anniversary. On this occasion several papers were read which contain an abundance of valuable historical material. The first of these, read by George S. Davison, president of the Davison Coke and Iron Company, Pittsburgh, entitled "The First Half Century of the Engineers' Society of Western Pennsylvania," reviewed briefly the development of the society during the first
fifty years of its existence. Of the many forces that have tended to make Pittsburgh great, in the opinion of Mr. Davison, one that has contributed as much as any other is the Engineers' Society of Western Pennsylvania. In Pittsburgh, as elsewhere, engineers have in a large measure taken over the management of industry and transportation that add to a city's development. The growth of the society from an original membership of fifty in 1880, when it was first organized, to a membership of almost seventeen hundred gives an idea of the society's advancement. Prior to 1880 there were perhaps not more than a dozen schools in the United States where a young man could secure technical engineering training. Then suddenly, in the late seventies, Congress decided to take an inventory of the country's navigable streams, its miles of sea front, its docks, and its harbors. In the early eighties the completion of the transcontinental railroad caused a great rush on the part of promoters to build other lines. This demanded more engineers. The Bessemer process of making steel helped in this expansion. It was in this grand procession of technical developments that the engineering society was born. Today, says the author, one educational institution in Pittsburgh alone, has as many students enrolled in its engineering department as were enrolled in all of the colleges in the country in 1880.

The second paper, read by Mr. Morris Knowles, entitled "History of Civil Engineering in Western Pennsylvania," emphasized the change in engineering technique from the old "trial and error" method to the new attack by thorough investigation and study. Civil engineering originally comprehended all engineering not of a military character. But this particular paper confined itself to the activities having to do with waterways, transportation facilities, public works, and sanitation. In speaking of waterways, Mr. Knowles declared that the early history of Pittsburgh was inextricably linked with the history of the rivers. Washington, our first president, recognized this, and Hoover reiterated this same idea as late as October, 1929, in his New Orleans address. The history of the movement to provide slack water navigation on the Monongahela River dates from the act passed by
the Pennsylvania legislature on March 24, 1817. The history of bridge building in western Pennsylvania was also covered. A review of the development of sanitary engineering in this community concluded the paper.

The next paper was read by Mr. Julian Kennedy. It was entitled "Fifty Years of Mechanical Engineering." The last thirty years have constituted the period of greatest development in all manufacturing, both in invention and in production. The author described in some detail the development of the blast furnace, his own invention, and its importance to the steel industry. Another development mentioned was the progress made along metallurgical lines, as a result of extensive research.

One of the most interesting papers of the entire meeting was that read by Dean E. A. Holbrook, of the University of Pittsburgh, the title being "Progress in Coal-Mining in the Pittsburgh District." Dean Holbrook traced the history of coal mining in western Pennsylvania from the granting of a permit by the Penns in 1784 down to the present. In 1794 the first steam engine to use coal arrived in Pittsburgh. In 1797 the first glass plant in the United States to use coal started on the south bank of the Monongahela River. From this time on, each decade reveals the growth of Pittsburgh as a manufacturing center, based very largely on cheap coal and fuel for heat and power. By 1854 the consumption of coal in Pittsburgh amounted to almost half a million tons a year. Beginning in the early seventies, coke rapidly displaced charcoal. During the past decade the outstanding feature in coal mining has been the development and adoption of mechanized mining. Today many companies are mining a considerable part of their coal without hand labor at any place. Another development is the installation of coal-cleaning plants, preparing coal for the general market. Today the Pittsburgh district has the largest, most modern coal-cleaning plants in the world. Dean Holbrook concluded his paper by saying that he is more than ever convinced that when we speak of American civilization and industrial Pittsburgh, coal is, and will remain, our king.

The last paper, presented by Mr. Charles F. Scott, was entitled "A Half Century of Electrical Engineering." In
introducing his paper, Mr. Scott declared that, "Power—engine power in the last century, electric power now—underlies the engineering and industrial development of Western Pennsylvania, and indeed the new world in which we live." After giving a brief review of conditions fifty years ago, he traced in rapid order the development of the electrical industry in this part of the country. In 1882 the New York Edison Company inaugurated public service for incandescent lighting in this city. From that date on, Pittsburgh profited by the electrical industry. Likewise, Pittsburgh has contributed much. For example, George Westinghouse sponsored the alternating system by which small current could be transmitted at high voltages. The story of electric power in Pittsburgh reads like a fairy tale, according to Mr. Scott. In the steel industry, arc lighting began at the Edgar Thompson Works in 1881. In mining and transportation, electricity has played a major part. Probably the most efficiently electrified coal mine is the one at Wildwood, where one hundred per cent of the work is done by machinery. In communication, electricity has likewise played a great part. The beginning of the radio industry in Pittsburgh was also traced by Mr. Scott. The paper concluded with a chronology of the telephone development, with special reference to the Pittsburgh district; a chronology of the electric light and power industry in the Pittsburgh district; and a series of charts and diagrams contributed by industrial concerns in the Pittsburgh district showing the development of electrical progress in this community.

Fortunately all these papers have been published in the "Fiftieth Anniversary Number" of the Proceedings of the Engineers' Society of Western Pennsylvania, and the reviewer feels moved to add that it would be difficult to find another magazine outside the Western Pennsylvania Historical Magazine that is packed so full of valuable history as this issue before us. Everyone interested in the history of the region would profit by reading these papers.

John W. Oliver