agency, perhaps, the Bank of North America resisted the movement for paper currency during the lean years from 1781 to 1789. Naturally, Hamilton, Morris, and Washington turned to Willing in their search for the first president of the Bank of the United States upon its formation in 1791. For sixteen years, he was the guiding factor in that bank, carrying it through against the opposition of the Democratic-Republicans and cheap-money men.

The author of this monographic work of 237 pages has revealed, more clearly than the historian has generally realized was possible, the significance of Thomas Willing in the establishment of credit and finance in Pennsylvania and in the young republic. The language is clear, but the pursuit of details frequently retards the speed of the reader. There are very few errors and these are chiefly typographical mistakes; Cromwell, for example, is referred to as “Cornwell” (p. 115). The general reader may wonder, however, at the author’s repeated comparison of Thomas Willing and George Washington. Willing may very well stand on his own achievements without reference to Washington. The work has a good index, but lacks a bibliography. As a whole, the student of eastern Pennsylvania history will find it valuable for the period of Willing’s life.

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It is unusual to write the history of a bed of coal. However, when the opening paragraph tells us that the Pittsburgh coal bed or seam has produced an output that represents a greater value than that yielded by any other single mineral deposit of the world, one realizes what a tremendous effect this bed has had on the economic life of western Pennsylvania.

Mr. Howard N. Eavenson, the author, is a leading professional mining engineer and past president of the American Institute of Mining and Metallurgical Engineers. In the brief volume at hand he has combined this background with a research covering 282 separate articles and references. It will long endure as the authoritative reference to the general subject. In addition, the student of western Pennsylvania history will find copies of rare maps in the pocket of the volume.

Highlights of the early history of the bed are the interest of the proprietors of Pennsylvania, the descendants of William Penn, in the “Cole Mine
opposite the Fort", and the early references to the coal beds being on fire, to the astonishment of foreigners over the high quality of the coal, and to the smoke pall which hung over the town of Pittsburgh.

In 1814, coal was delivered in Pittsburgh for twelve cents per bushel, which would be three dollars per ton—certainly not a cheap price in comparison with present day costs and prices. It is most interesting that the early industry in Pittsburgh built on the presence of abundant coal was not iron-smelting, but was in making salt and glass, and in using the coal as a fuel to make steam to drive the engines in a variety of factories. It is only since 1857 that the Pittsburgh coal has been coked and used so successfully as a fuel in iron blast furnaces. Previous to that time scattered iron blast furnaces in western Pennsylvania were heated with charcoal derived from the abundant forests of our mountains. It was a fortunate coincidence that this industry could be so greatly expanded here, because underfoot was a great supply of coal with unequalled coking properties.

The reader not familiar with the Pittsburgh coal bed will learn that it is a bed of high-grade bituminous coal, generally exceeding six feet in thickness and underlying more than seven thousand square miles in southwestern Pennsylvania, northern West Virginia, and eastern Ohio. There are isolated occurrences of the coal in several areas or islands outside the main deposit. It is the main reason for the existence of industry in the region, and for the great railroad and river transportation development in the district where it occurs. The tables in the volume showing coal shipments for the local rivers, the growth of mining, the amount of the coal coked, and the production of the seam year by year tell at a glance why we have a great industrial district in western Pennsylvania.

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