



SHARPSVILLE AREA HISTORICAL SOCIETY

Newsletter

A trending issue in public history—that is, history presented through museums, historic sites, and other means facing the general public—is to highlight the history of groups that have been marginalized in the past, such as Native Americans, African-Americans, women, and Asian-Americans. In years past, the histories of these groups have been largely ignored. (As an example, in the 1924 Sharpsville Golden Anniversary supplement to *The Sharon Herald*, a page featuring the town's churches failed to mention the Second Baptist Church and its largely African-American congregation.) Even while more recent decades have seen better attention to recognizing the history of neglected groups, it has often been a token “extra,” and by implication less important than “real history.”

We support current efforts to bring to light the histories of once-neglected groups. While social justice concerns are valid; even more so, any history that ignores some topics is incomplete and thus lacking.

These efforts, however, point to an even broader need for presenters of public history to address. Key points revealed in an American Association for State & Local History 2019 survey include that the public thinks of history mainly as a series of chronological events driven by the actions of “important” people, and that learning about the past just means absorbing facts and figures. That these attitudes prevail shows that much of the public does not engage or identify with stories of our shared past and that history lacks relevance to daily life.

By focusing on those individuals whom textbooks usually credit with change, it is unsurprising the average citizen will feel little connection to these “great men” and the events of the past. Even when diversity is injected into the mix—say, with having lessons on the Civil Rights Era begin and end with Rosa Parks and Martin Luther King—it leaves out the coalitions who advanced the cause of Civil Rights. It also leaves out the gradual changes in the mindset of the average person and the accumulation of localized and seemingly disconnected events that predated though, in hindsight, were the necessary preludes to the momentous events that followed.

Finally, we see the greatest interest in Sharpsville's history naturally coming from those with a family connection. Since one's ancestor here were much more likely to have worked in the blast furnace than to have owned it, we are often left to share but scant traces of, say, an immigrant worker. Yet even when addressing an inquiry that is purely personal, the information exchanged, though often scant, can sometimes be expanded to a larger narrative. Even when they cannot be framed in the context of major historical trends, shared stories are valuable to let us know what it was like to be alive in Sharpsville in decades past.

Upcoming Events

Tour of historic Riverside Cemetery

Learn about Sharpsville's cemetery and the interesting lives of some who are buried here.

Saturday October 8th 2:00p.m. to 4:00 p.m.

Enter at the North Gate



GAMBLING SPREE BUS TRIPS
Meadows Hollywood Casino, September 20th
Seneca Allegany Casino, October 19th

**Two-Night Gambling Getaway at Soaring
Eagle Casino & Resort, October 4th-5th-6th**

*September 9th is the last day
to reserve & pay!*

Call 724-813-9199 for info and reservations

Open House

As a reminder the Historical Society is open the first and third Saturday of the month from 1:00p.m. to 3:00 p.m.

Come see the unique architecture of our historic building and a large display of our artifacts, documents, and photos of Sharpsville history.

Our basement display is expanding and may include items you may have missed on a prior visit.

A Look Back

Block Coal

Why Sharpsville and the Shenango Valley would become a center of iron and steel production can be traced to one simple fact: the discovery of large deposits of “block coal” in the area. Or, in the words of an 1882 business directory: “The Sharon or Mercer Block Coal, which has been so extensively mined in this immediate vicinity, possesses qualities of such a peculiar nature so well adapted to the making of iron as to have become regarded as one of the strongest factors in the prosperity of this particular section.” Twenty-seven years later, a county history, now in retrospect, would come to the same conclusion: “The successful use of uncoked coal marked a great advance in the iron industry and helped to give the block coal region of the Shenango valley pre-eminence in this respect.”

Metallurgical coal, i.e., coal suitable for smelting iron, requires low amounts of ash, moisture, sulfur, and phosphorus. It also requires certain structural properties: that it be strong enough to support the load of ore that would be placed on top of it in the furnace, without collapsing, and that it retain sufficient porosity, without caking, so that it does not block the blast of air (the “blast” of the blast furnace). For the first half of the nineteenth century, though, most of the smelting of iron relied on wood charcoal as fuel. Despite the vast forests encountered by European settlers here, timber was not unlimited. In an age when the great majority of structures and artifacts were made of wood, and in which wood was the main source of heat, the making of charcoal relied on an increasingly scarce commodity. The process of making charcoal, itself, was noxious and time-consuming.

Still, as a replacement for charcoal, coal was slow to be adopted. Anthracite, or “hard coal,” was mined principally in the eastern part of Pennsylvania. While coal was familiar to blacksmiths, the first use of anthracite in this country for household heating was by a Philadelphia doctor in 1804. Its successful use to heat a steam boiler was made in 1825. An anthracite-burning cooking stove was not introduced until 1828, which indicates a general household use did not occur until that decade. What would prove to be the much more plentiful bituminous coal, found in Western Pennsylvania and throughout Appalachia, would eventually eclipse anthracite. Nonetheless, the public harbored suspicion toward the idea of rocks that burn. William Fruit, one of the pioneers locally in the coal business, shipped a 27-ton load from his mines on the recently finished Erie Extension Canal from Clarksville to Erie in 1845. He had difficulty, though, in finding customers at the lake port, and ended up going through so much of his shipment in demonstrations that coal was superior to wood for cooking and heating, that he lost money on the enterprise.

For the smelting of iron, anthracite, with its high carbon content and low level of volatile matter met the needs of metallurgical coal and led to the great blast furnaces of Allentown and Bethlehem. It was first used in 1836. A count of blast furnaces in Pennsylvania in 1850 showed the continuing reliance on charcoal (230 relying on charcoal, split almost evenly between eastern and western Pennsylvania). The eastern part of the state counted 57 furnaces using anthracite coal; in the western part, the number using bituminous stood at 11. It was not until 1855 that the use of anthracite surpassed charcoal in the making of pig iron, and 1875 when the use of bituminous overtook anthracite. By 1890, only 2.7% of iron production used anthracite alone, and 21.0% was based on anthracite mixed with coked bituminous. (Surprisingly, 6.8% of production then was still from charcoal furnaces.)

Bituminous coal, however, is not normally suitable for metallurgical purposes. Not all varieties meet the required chemical composition, but those that do all have a tendency to cake, i.e., lose any porosity and eventually collapse under the weight of the ore. Coking involves the baking of coal in an enclosed oven to avoid direct contact with air, in order to drive off volatile matter, leaving the result with a high percentage of carbon. Coke used for iron-making would also have the sufficient hardness and strength as well as porosity. The first use of bituminous coke for the manufacture of iron was at the Fairchance Furnace, near Uniontown, Pennsylvania in 1836. Not all coal, however, produces good metallurgical coke. The coal fields in Fayette and Westmoreland Counties, Pennsylvania, though, yielded immense quantities of low-ash, low-sulfur coal with the right measure of volatiles, making it superior for use in the blast furnace. Enormous batteries of beehive coking ovens would eventually be erected, centered on the town of Connellsville. The output of this district was long dominant, making up to two-thirds of the nation’s coke production. However, while the lone woodsman’s charcoal stack also emitted noxious smoke, the open beehive coking ovens did the same but on a massive, industrial scale, making the entire region “one of dulled sky, cheerless and unhealthful.” The number of ovens at Connellsville increased from 550 in 1870 to 7,211 in 1880, 16,020 in 1890, and 20,954 in 1900. Henry Clay Frick came to have a dominant



This twisted mass of steel is the result of a wreck of a Pennsylvania Railroad train as it went over the Shenango River Bridge near Clarksville, around 1917. The derailment not only destroyed the rail-cars but the bridge itself. Remarkably, crews were able to build a 580-foot temporary trestle within four days of the accident.



With Gratitude

In July, the local community was once again brought together by a resumption of our annual Ice Cream Social. Thanks to the **Sharpsville Borough Street Department**, and to our performers:

**The Grace Notes, The Ukeladies, and
Young Brothers Tae Kwon-Do**

Thanks also to the following who donated items for our Chinese Auction:

Lock, Stock & Barrel, Great Depths Seafood, Tails of Hope, Lori Rollinson Hair Salon, Laurel Alexander and Lindell Bridges, and Jeanie Goodhart.

Contact Us

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see our website for officers' phone numbers

Headquarters: 131 N. Mercer Ave., Sharpsville, Pa.

Mailing address: 955 Forest Lane, Sharpsville, Pa. 16150

Meetings are held the First Monday of the Month at
7:00pm at our headquarters

**The September meeting will be held on September 12th
due to the holiday**

Block Coal, cont'd.

control over that industry. (Frick—along with Carnegie, Mellon, Heinz, and Westinghouse—was titled by Edith Wharton one of the “Lords of Pittsburgh.” While today he is revered for his bequest of the renowned art collection and mansion to the eponymous Manhattan museum, he is also reviled for the violent suppression of the Homestead Strike.)

One type of bituminous, however, could be used “raw,” i.e. without coking: block coal. It met the chemical qualifications of low ash, moisture, phosphorus, and sulfur. More unusually, it met the structural qualities: that it held up under the charges of ore used at the time and it did not collapse or cake, i.e., retained its porosity, nor did it swell, but retained its shape until fully consumed as ash, without an unconsumed clinker. Block coal had a limited range, first found in the Shenango and Mahoning Valleys, and even there its distribution was patchy. (Significant coal beds in the eastern part of Mercer County, near Stoneboro and Pardoe, were a different species—good for combustion, but too sulfurous for iron-making.)

Its first use ever to make iron was at the Clay Furnace in nearby Jefferson Township. A state historical marker, along Route 62 and dedicated in 1949, commemorates the event. The furnace was named in honor of Congressman Henry Clay (in an era when politicians were perhaps held in higher esteem than today); no remnants remain. The Clay Furnace was built by Bethuel Boyd Vincent and David Himrod as a charcoal furnace, and was first blown in during July 1845. About three months afterwards, coke was sought to charge the furnace due to charcoal being in short supply. “A difficulty soon occurred with the cokers,” however, so David Himrod thought he might try using the local coal without coking. “The furnace continued to work well, and to produce a fair quality of metal.” Another account, varying in certain details, says it was Frank Allen, manager of the furnace, who began experiments with the local coal in January 1846. At first, he coked it in open pits, and gradually mixed increasing amounts of coke with the charcoal. After receiving good results with 100% coke, he then turned to mixing coke with the block coal, until by April 1846, he was producing pig iron entirely with raw bituminous coal.

While the Clay Furnace stood in Jefferson Township (near its border with Hickory Township), its history is tied with that of Sharpsville’s iron industry. The following year, its builders, Vincent and Himrod, along with Joseph and John McClure, would, erect in Sharpsville the Blanche Furnace (later known as the Sharpsville Furnace). The Clay’s last owner, Francis Allen, had been its manager for Vincent & Himrod as well as a later owner, the Sharon Iron Works. Allen then built a furnace at Sharpsville in 1868 and was intimately connected with the operation of other furnaces in the Shenango Valley. The location of the Clay Furnace falls within the present-day zip code of Sharpsville.

A competing claim for the first use of raw bituminous coal in a blast furnace was made by Wilkinson, Wilkes & Co. who erected a furnace at Lowellville, Mahoning County, Ohio using the block coal mined near there. This furnace was blown in on August 8, 1846. While it was months after the successful use at the Clay Furnace, the Ohioans’ jealous claim was based on the Pennsylvania ironmaster’s use was an accidental necessity, while the Lowellville furnace was built for the purpose of using block coal.

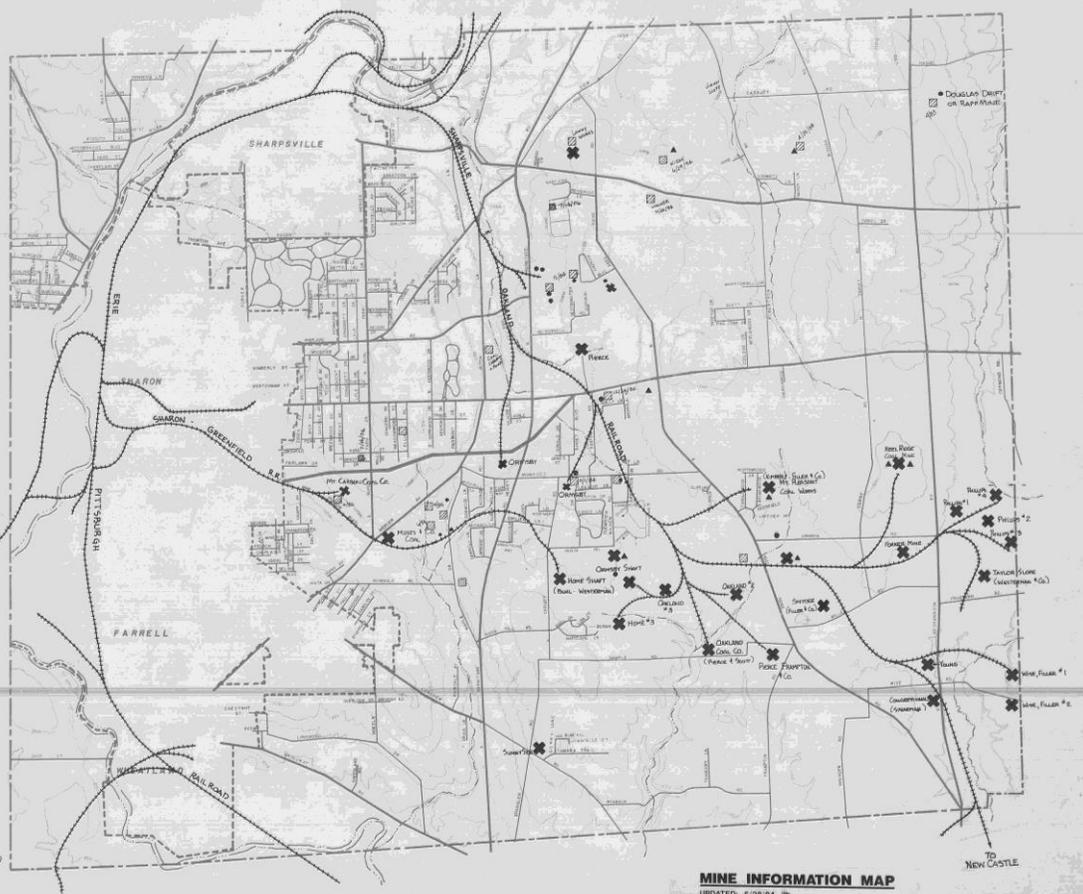
The first coal to be discovered in Mercer County, were small amounts near Greenville, suitable for blacksmithing. General Joel B. Curtis, in 1835, first found the celebrated block coal on his land on the West Hill in Sharon. The Strawbridge Brothers discovered this coal on their property in Sharon around 1840. These early mines were primitive affairs. Only “drifts,” or outcroppings of coal on a hillside, were then accessible. The coal was transported in cars with a capacity of 15 bushels (back before output was measured in tons); they ran on a pair of wooden boards. A large dog provided the motive power. In 1844, William Fruit is said to have been the first in the area to replace the dogs with mules. Despite, the initial rejection of Fruit’s canal boat load of Mercer County coal by the Erie skeptics, mining of the block coal in this area did find a market and expanded greatly. The Sharon coal was not celebrated just for the manufacture of iron; “for generating gas and steam, for various purposes, it has no superior.” It was further noted that “although, the first coal taken out of the Curtis bank was forced to go begging a market, there is at this time [1877] no bituminous or semi-bituminous coal that commands a higher price.” The early mines at Sharon soon yielded to neighboring Hickory Township as the center of coal production in the Shenango Valley. An 1888 history counted 28 mines that operated in the area from the 1850s to the 1870s. In May 1865, daily output was at 3,830 tons. Among the names of the mine operators were Curtis, Ormsby, Phillips, Kimberly, and Forker—all later blast furnace owners. Strawbridge and Frampton are familiar as names of local streets, with M. C. Trout the namesake of Trout Island. Standing first among them, however, was “General” James Pierce. Pierce, who was so instrumental in the development of

Block Coal, cont'd.

Sharpsville, is today most remembered as the owner of blast furnaces. It was in coal, however, that he first made his fortune. Pierce's mines were centered at Mount Hickory, near his farmstead that still stands, but he had four other mines nearby that he owned, either outright or in partnership, as well as two in Lawrence County. In noting his business acumen, a contemporary account says: "The secret of General Pierce's success in the coal business, when so many around him, with ample means and superior education were becoming bankrupt, seemed, to many, a mystery. Industry, economy, and excellent judgment were, no doubt, at the bottom of the magnificent fortune which he accumulated in a business of which he had no previous knowledge, and which had already proved unprofitable to a great majority of those who had ventured upon its uncertain paths." An 1865 account of daily output puts James Pierce & Co.'s 400 tons first among the Shenango Valley mines.

Block coal was also found in quantity in Trumbull and Mahoning County, Ohio, where in the latter, Brier Hill was famed as a district for block coal. Most was mined on the property of David Tod, a future Governor of Ohio, and gave rise to the blast furnaces there and to Youngstown as a center for iron and steel. Further down the Shenango River, the concentration of blast furnaces at New Castle also used uncoked block coal. However, they would have relied on the "Sharon coal" from Mercer County since that species was found in Lawrence County only a few inches thick. The furnaces along the Mahoning and Shenango Rivers—commonly referred to among those in the iron industry as "the Valleys"—would thus become a great center of iron production; their combined output led the nation in the early 1870s.

The advantage of raw bituminous coal over coke was that it avoided the cost of coking, which was estimated at around \$0.70/ton in 1870. Another cost comparison, from 1880, gives the cost of coal at Brier Hill at \$3.00 per ton versus \$3.75 for coke at the great coking center at Connellsville, Pennsylvania. But whatever cost advantage, the celebrated qualities of block coal were effusively praised in an 1878 government report by Professor J. S. Newberry, chief geologist for the State of Ohio: "The quality of coal obtained from the lower seam in the Mahoning valley, has now been so fully demonstrated and understood that words would be wasted in its praise. It has been shown by a great number of analyses and by long and varied trials to be one of the most valuable coals known in the world. Its open burning character, its comparative freedom from sulphur and small amount of ash it contains especially fit if for the smelting of iron, of which properly managed it gives a product scarcely inferior in quality to that obtained with the use of charcoal."



This map prepared by Professor Ann Harris of Youngstown State shows the block coal mines in Hickory Township (each marked with an X) along with the railroads and their spurs leading to them. (Zoom in to see detail.)

The hatched squares on the map show incidents of mine subsidences at the time of its preparation in 1994. So a sudden hole swallowing up a portion of one's yard, or even one's house, remains a real danger in the mining areas.

Block Coal, cont'd.

In the 1850 count of Pennsylvania blast furnaces noted above, out of the 11 bituminous furnaces, 7 used block coal and 4 used coke. In 1872, over 50 furnaces in the Valleys were using block coal. While that is a large increase in two decades, they were eclipsed by the roughly 130 using coke.

To bring the block coal from the mines in Hickory Township, General Pierce at first constructed a "gravity railroad" or tramway. Horses would lead the laden cars downhill where they would connect with the Erie Extension Canal near Sharpsville. In the return trip uphill the horses would be pulling empty carts. This primitive arrangement was replaced in 1864 by a steam railroad owned by Pierce. It was originally called the Keel Ridge Railroad and then reorganized in 1866 as the Sharpsville & Oakland Railroad. (Oakland was a post-office in Hickory Township, near the line's original terminus, which would later extend to New Wilmington.) Several spurs to the coal mines in Hickory were also constructed. After Pierce's death, it was incorporated as the Sharpsville Railroad in 1876. The railroad was instrumental in supplying block coal to what would ultimately be nine blast furnaces in Sharpsville. A connection to the Erie & Pittsburgh Railroad allowed the coal to be sold in a wider market as well.

The table below shows the increase in traffic on the Sharpsville & Oakland Railroad, with its destinations: The deliveries to the Erie & Pittsburgh Railroad, like those to the canal which it essentially replaced, may have ended up at the lake port in Girard, Pennsylvania or at Shenango Valley furnaces south of Sharpsville. The deliveries to Sharpsville would be for its blast furnaces, most of which were erected in the late 1860s and early 70s. Nut and Slack coal were grades that could not be used for iron-making like block coal. (The Atlantic & Great Western Railroad, later the Erie Railroad, was a second line through town; the Sharpsville Railroad's connection to it precipitated the Sharpsville's First Railroad War.)

STATEMENT of the Number of Tons of Coal, Slack and Nut Coal, transported over the Sharpsville & Oakland Railroad from the Mines to Sharpsville, for use there, and delivered to the Canal and to the Erie & Pittsburgh Railroad for shipment to places of destination, from July 1, 1865, to October 31, 1876.

YEAR.	E. & P. R. R.	CANAL.	SHARPSV'LE.	NUT.	SLACK.	A. & G. W. R. R.	TOTAL TONS.	REMARKS.
July 1, 1865, to Dec. 31, 1865,	41,315	28,743	883	70,941	Previous to July 1, 1865, there were 34,760 tons of Coal carried over the S. & O. Railroad, the destination of which was not very definitely specified, and which is not included in this Statement; adding this would make the Total 2,733,981 tons.
Year ending Dec. 31, 1866,	88,434	39,101	13,864	.....	.....	.....	141,399
" " 1867,	108,240	57,288	13,479	.....	.....	.....	179,007
" " 1868,	137,399	36,669	18,396	.....	.....	.....	192,464
" " 1869,	236,746	19,322	69,773	.....	.....	.....	325,841
" " 1870,	204,906	7,938	82,162	*4,518	5,145	.....	304,669
" " 1871,	262,508	2,547	75,667	5,312	9,579	.....	355,613
" " 1872,	172,133	.....	79,839	3,790	9,495	.....	265,257
" " 1873,	216,031	.....	91,896	6,830	15,391	.....	330,148
" " 1874,	165,713	.....	60,356	3,141	14,755	.....	243,965
" " 1875,	49,253	.....	35,247	958	3,195	1,441	90,094
To Oct. 31, 1876,	125,421	.....	62,909	.....	11,259	234	199,823
TOTALS	1,808,099	191,608	604,471	24,549	68,819	1,675	2,699,221	

* When the books came into my possession, I made two columns—one for Nut Coal, and one for Slack.

The destination of the Slack and Nut Coal is not given, but the greater part of it was delivered to the Erie & Pittsburgh Railroad.

Since it carried nearly all the output of the mines in Hickory, shipments on the Sharpsville & Oakland are essentially a proxy for actual production. Note 1874's shipments would have been depressed by reduced demand following the Panic of 1873. Supply issues, though caused the drop-off in 1875. What was termed the "Long Strike" of local miners last from February 1st to September 4th of 1875.

The other artery to connect the coal fields of Hickory Township with the Shenango Valley furnaces and other rail lines was the Sharpsville, Wheatland, Sharon and Greenfield Railroad, organized in 1870. The spur to the coal fields ran from

Block Coal, cont'd.

the canal basin in downtown Sharon, initially following the present-day route of the Shenango Valley Freeway and Pine Hollow Boulevard before terminating near Christy Road. Its traffic though was minor.

Outside the Shenango and Mahoning Valleys, only one other field of block coal of significance was found. Block coal, centering on the town of Brazil, in Clay County, Indiana was discovered in 1865. Eight blast furnaces using the native raw bituminous were built in the area between 1867 and 1872. Shenango Valley men, though, were instrumental in the discovery and development of the fields, which were at the time touted as “nowhere could such coal be found as our ‘block coal.’ They [visitors from Ohio and Pennsylvania with substantial iron and coal concerns] were amazed at it as they examined what appear to be perfect squares of pure charcoal, so free is it from sulphur. . . . and “gave their verdict that the Indiana coal excels all other in the world in the manufacture of iron.” Samuel Strain, of Sharon, is credited with the discovery of the Indiana block coal deposits. A.L. Crawford, of New Castle, had a block coal mine in Mercer County. He later gained a major interest in the Indiana coal fields and was a partner in one of the blast furnaces at Brazil. In 1869, General Pierce visited the area and purchased or leased seven hundred acres of land. Another Shenango Valley investor was James W. Ormsby who had made his fortune operating three mines in Hickory Township. An associate of Pierce, he was a director of both the Sharpsville & Oakland Railroad and Sharpsville’s Iron Banking company. In 1873, he and two of his sons erected the Ormsby Furnace (later called the Mabel) at Sharpsville. This was ill timing because later that year, a financial panic swept the country and put nearly all of Sharpsville’s furnaces out of blast. His fortune of over \$300,000 (in dollars of that time) was ruined. He was age 65, lost his homestead of 41 years, and was nearly penniless. He removed to Brazil, Indiana where his success in the coal business there allowed him to return to the Shenango Valley and buy back his old homestead. The great excitement that western Indiana would become a second Pittsburgh, however, did not come to pass. Of the eight block coal furnaces built, by 1883 three remained in blast, by 1890 two, and none in operation by 1900.

Ultimately, two elements contributed to block coal’s demise. First, to make a ton of iron, nearly twice as much block coal was needed as coke. This offset the aforementioned cost-advantage of block coal. Other cost considerations, though, came into play: Being closer to the Lake Erie ports, where great shiploads of Lake Superior iron ore were delivered, the Valley furnaces gained a \$1.20/ton of pig iron produced advantage in the rail shipping (using 1887 statistics). In contrast, where coke was used in the Valleys, they gave up \$0.76/ton in the longer transit from Connellsville, as compared to Pittsburgh. An additional offset was shipping of pig iron to Pittsburgh—where the rolling mills and other iron-finishing was concentrated—would add another \$0.40 to \$0.50/ton. Secondly, and perhaps of even greater import, compared to the great coal fields of southwestern Pennsylvania, the once-thought limitless Shenango and Mahoning Valley deposits would begin depleting in 1870. Block coal’s excellence as a steam fuel in addition to its metallurgical use contributed to its early exhaustion.

Connellsville coke was first used in the Mahoning Valley in 1867, and by 1875 very little raw block coal was used in any of those stacks. The Shenango Valley saw its first use of coke in 1872. In an 1878 directory, of the 24 furnaces in blast in the Shenango Valley in Mercer and Lawrence Counties, just two were using only raw bituminous, five were using only coke, and eleven were using a combination. (The fuel for the other six was not listed).

As the nearly exclusive conduit for the transport of block coal from the fields of Hickory, Neshannock, and Bethel, shipping statistics of the Sharpsville Railroad give another measure of the decline in production. An 1876 report gives the annual tonnage of coal shipped over the line as 230,000. In 1879, it was 218,984, with reports of those available from the years following—while they can reflect varying demand but overall show a dwindling supply: 127,407 (1880), 163,357 (1881), 136,965 (1882), 95,350 (1886), 29,998 (1887), 37,418 (1888). By 1901, a geological survey opined of the block coal here that “most of the areas of commercially workable thickness are now exhausted or nearly so.”

While coal production in Mercer County would continue to increase—in one accounting, from 591,835 tons in 1890 to 884,185 tons in 1906—this was almost all in the eastern part of the county, outside the fields of the famous block coal. In 1906, only one of the mines was working the old block coal deposits—Nick Mehler’s mine, which eked out 9½ tons that year.

Forty years after the groundbreaking innovation at the Clay Furnace, “scarcely a vestige of the old pioneer remains to tell its interesting history.” Nonetheless, while the use of block coal allowed the iron industry in the Shenango Valley to get its start, its decline and replacement by coke coincided with another innovation here. As described in the March 2019 newsletter, Sharpsville was a pioneer in the use of the high-grade Lake Superior iron ores.