Death of the Huber Breaker: Loss of an iconic Anthracite feature
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Abstract:

The Huber Breaker was one of the last and largest Anthracite coal breakers in North East Pennsylvania (USA). Built in 1939, its function was to wash, break, size, and distribute coal from several linked collieries. It operated until 1976. The Huber was one of the most sophisticated of what had been hundreds of similar structures developed over the preceding century to process the region's particular type of hard coal. An iconic structure, it did not last to see the fall of 2014 when the Huber and its accompanying support structures were demolished for their scrap value. While sitting idle for nearly 40 years, several attempts were made to stabilize and preserve the site as a museum and monument to the hundreds of thousands of people who worked in and around the coal mines. Despite hopes, community support, and a strong local preservation organization, the breaker could not be saved. Many factors affected the final fate of the site including a poor regional economy mired in a decades-long deindustrialization process, the challenges of bankruptcy proceedings for two of the companies that would come to own the site, the challenges of attempting to preserve such a large and complex structure with high liability, and social and cultural factors stemming from poor economic conditions and broad distrust of corporate and state organizations. While many industrial sites are lost following their useful period, many others are saved either as monuments or with a new function all the while serving as a physical reminder of the recent history of the region. This paper will examine the factors that led to the construction, decline, and ultimate demolition of the Huber Breaker and explore how losses like this may be better fought in the future.

Pennsylvania Anthracite

Anthracite coal was the first mass-produced industrial fuel used in the United States and its greatest deposits were found in 13 counties in northeast Pennsylvania. Anthracite is a tough, pure, and long-burning fuel ideally suited for industrial applications and home heating. Also known as hard coal or stone coal, anthracite has superior properties over bituminous including higher thermal output (BTUs), lower volatility, and lower sulfur, but its extraction and processing in Pennsylvania tended to be three times as costly due to the steep and varied nature of its seams. Pennsylvania anthracite was first discovered by Europeans in 1762 and by 1775 miners made the first shipment to market.[1] (See Figure 1)

Prior to the widespread use of anthracite in the early 19th century, nearly all American industry was powered by water and all domestic iron was produced by charcoal. Despite the extensive anthracite fields, hard coal proved difficult to use because it was difficult to ignite compared to charcoal and the limited bituminous coal available at the time. Its early use was

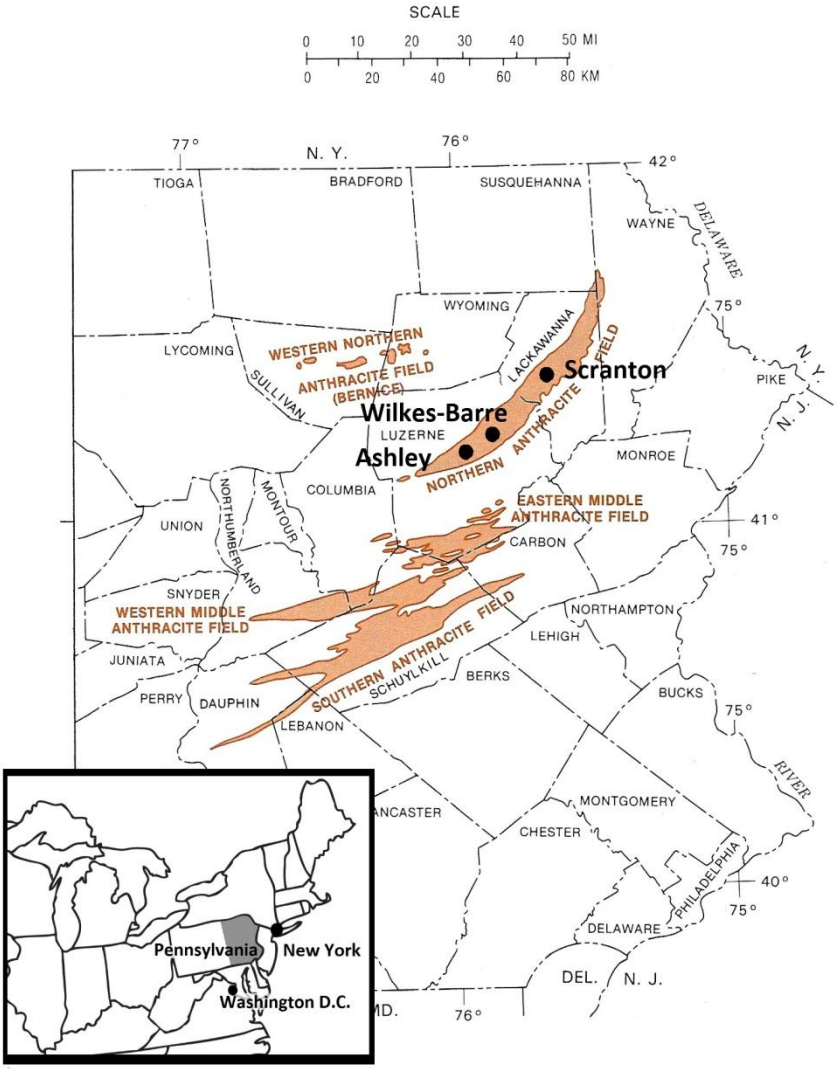

Figure 1. Pennsylvania Anthracite Fields (after *The Geology of Pennsylvania*, 465)

further hampered because few reliable transportation routes existed. Despite these early complications, as routes to relatively close urban centers and usage technologies developed it ultimately became less expensive to produce and use than wood, charcoal, and other coals. In 1792, the first anthracite mining company was organized and in 1825, the first canal was constructed to the coal regions.[2]

The most significant decade for the early development of anthracite and American industry was the 1830s. In 1832, only 100 registered steam engines operated in the US, nearly all factories were water powered, and in many cases British iron was still less expensive to import than it was to produce with charcoal in the US. Annual anthracite production, however, increased from 200,000 tons in 1830 to over 1,000,000 tons in 1840 to over 3,700,000 tons in

1849.[3] By 1838, there were over 900 registered steam engines and from 1840 to 1853 the number of anthracite blast furnaces in Pennsylvania alone increased from six to over one hundred twenty.[4] By 1840 the average price per ton of anthracite dropped from $11 in 1830 to $5. With the exception of war-time spikes and recession troughs, the price remained relatively steady through World War One.[5]

While bituminous fields would eventually prove to be much larger and ultimately less expensive to mine, early 19th century transportation routes from the bituminous regions to US cities were arduous and expensive and anthracite dominated both the industrial and home heating market. It was not until railroads reached the soft coal fields of western Pennsylvania and West Virginia in the mid 19th century that the economics of mining, transporting, and even coking bituminous coal started to shift and the soft coal came to dominate the industrial and transportation markets. By that time however, home heating became the greatest market for anthracite because it burned longer and cleaner. The expanding market more than compensated for the loss of industrial customers. Anthracite remained a primary home heating fuel until the 1920s when easier to extract, process, and transport oil and natural gas made significant inroads into the market. The greatest year of production for the north east Pennsylvania coal mines would be 1917 with significant declines coming in the 1930s and 1950s. Anthracite continues to be mined in Pennsylvania today, but on a significantly reduced scale and with a much lower contribution to the global market dominated by China, Russia, and the Ukraine.

Underground extraction of anthracite followed typical room and pillar mining. Coal seams were accessed through shafts, drifts, or slopes and the coal was drilled, blasted, and hauled to the surface leaving enough coal in place to hold up the roof. Open pit mining began in the 1890s utilizing steam shovels to clear away overburden to access shallow coal seams. However it reached the surface the coal had to be processed and sized for market. The marketable sizes for anthracite ranged from a designation of egg which would fit through a 3.25 inch (8.25cm) screen, to stove, chestnut, pea, buckwheat, rice, and barley which fit through a .1875 inch (4.7mm) screen.

Once brought to the surface, the coal had to be washed, crushed, and sized. Prior to 1844, miners broke and sized coal underground, but as demand increased and markets required finer coal sizes, collieries developed large structures called breakers to process coal. The technical term for the breaker is coal preparation plant, but it is also known as a tipple, wash plant, or prep plant in other parts of the world. Washing coal involved the removal of slate, shale, rock, and other impurities brought up from the mine. While later technologies mechanically separated these materials, for much of the 19th century, anthracite impurities were removed exclusively by hand by boys, elderly miners, or injured miners. Many of the US

child labor laws were strongly influenced by early 20th century photographs showing the young breaker boys at work. A series of crushers in the plant then broke down the large coal pieces which passed over screens that sifted the broken coal and separated it into the different market sizes. Vast quantities of water sluiced waste materials and coal dust to areas away from the colliery.

The two most iconic features on the anthracite mining landscape were the large culm banks, or waste piles also known as tips, spoil banks, or gob piles and the breakers. While many of the remote mining locations had orderly rows of company houses, company stores, churches, fan houses, and steam plants, none of the built structures were as large or dominant as the breaker which often rose several stories above the surface. Initially all breakers were constructed of wood and by 1883 averaged about 80 feet (24m) tall.[6] In 1897, the average breaker processed 880 tons per day with a maximum capacity of 2,600 tons per day.[7] Wood, while prone to fire, was easily procured and very flexible which was important given the high vibrations of the crushing and screening equipment. (See Figure 2) 1917 was the year of greatest anthracite production and available capital allowed for greater investment in equipment and buildings. By 1920, breakers were being constructed of steel and concrete and their size increased to up to 185 feet (56m).

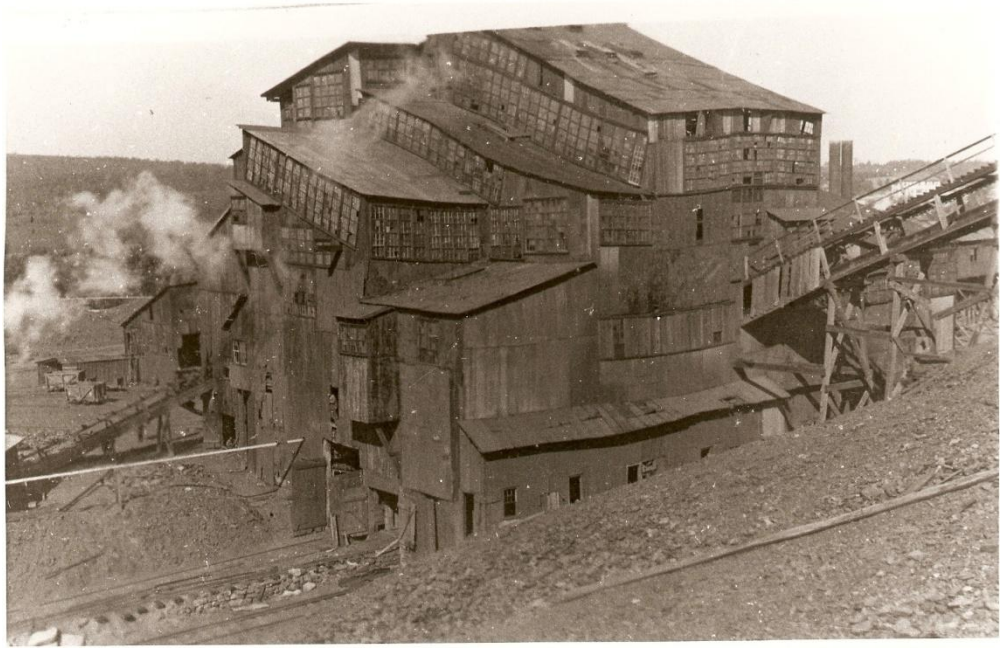

Figure 2. Typical wood breaker, 1915 (courtesy of Eckley Miners' Village, PHMC)

Huber Breaker

In 1855, the Hartford Colliery in Ashley, Luzerne County, Pennsylvania, outside of Wilkes-Barre built its first breaker which operated until it burned in 1884. A second breaker, called the Maxwell, constructed on the site by the Lehigh and Wilkes-Barre Coal Company, survived until 1939 when the Glen Alden Company built the Huber Breaker to replace it.[8] When completed, the Huber, named for Glen Alden Chairman Charles F. Huber, was described as "modern in both architectural design and operational details" and the plant provided "a highly marketable output."[9] The breaker could process 7,000 tons per day and over 1,000,000 tons of coal per year. The 132' (40m) tall structure was constructed of steel and concrete with notable full height glass curtain walls. In addition to updated equipment, the breaker was designed to handle the output of several collieries at once. (See Figure 3) Glen Alden also created a process to add blue dye to the coal surface and trademarked "blue coal" as a marketing strategy to appeal to the home market. The dye did nothing to improve the performance of the coal.

Figure 3. Huber Breaker 1954 (NPS, HAER-PA-204)

The complex was one of the largest in the region and included a power house, breaker, coal bagging house, office buildings, and ancillary buildings. Historians have aligned the design of the breaker with the *international style* because of its clean, smooth clad exterior and "transparent glazed" walls that created a daylight factory interior. Architectural scholars

compared the design to the Alfeld, Germany Fagus Factory by Walter Gropius and the Bauhaus buildings in Dessau, Germany. [10]

While demand for anthracite coal continued to wane in the decades after World War Two, the company made significant improvements to the site in the 1950s and 1960s to modernize operations. In 1959, however, miners working in the Knox Mine eight miles (12 km) east got too close to the bottom of the Susquehanna River which broke through. The resulting disaster killed twelve men and flooded many of the linked mines adjacent to the Knox. This ended coal mining in the immediate area and to many, proved to be the symbolic end of underground anthracite mining. The Glen Alden Company continued to process coal at the Huber through the 1970s when a declining market and a series of financial maneuvers failed to pay off. It ended mining operations in 1973 and sold the breaker in 1975.[11] The new owner, Lucky Strike Coal Company operated the breaker to process coal from its strip mine operations, but closed the site for good in 1976. By the fall of 2014, the breaker and most of its associated buildings were demolished and its metal sold for scrap.

Post industrial history

Louis Beltrami and the Lucky Strike Coal Company closed the breaker in 1976 but held onto the property with no activity until his companies were forced into bankruptcy in 1991 resulting from disputes over the site and legal actions by outside parties.[12] The proceedings continued for ten years until a settlement was reached. In 2001, Al Roman of No. 1 Contracting bought the Huber site including the breaker from bankruptcy and was using the site and its offices to run his business. Immediately, local preservation hopefuls speculated that Mr. Roman, an engineer who had been a respected fixture in the anthracite industry since the 1950s, would donate the site to a preservation society or other entity for conversion into a museum. (See Figure 4) A local newspaper recounted events:

> Roman bought the Huber property in 2000 (sic) and almost immediately there was speculation that he would donate the breaker. Ten years earlier, the Huber Breaker Preservation Society had been formed with the goal of saving the breaker and turning it into a living museum.
>
> The dream of those involved - a cast that included political figures on the state level, academics, local business people, anthracite historians and descendants of coal miners - was to turn the breaker into a world-class tribute to miners and their families. An auditorium, a typical company house, restaurants, country store, walking paths, movie theater and artifact-laden museum were on the agenda.[13]

Figure 4. Huber Breaker 1991 (NPS, HAER-PA-204)

The hope of saving the site grew after 2001 with political support from state and local representatives. Roman, however, believed the Huber Breaker Preservation Society, formed to save the breaker, didn't have enough human and fiscal capital to transform the site, especially as liability and asbestos threats mounted. However, he later claimed that his intention was never to donate the site, but to sell it for its scrap value or some other financial return. He eventually hired a firm to plan for the demolition but hit opposition from county officials who stalled the permit and threatened to take the site through eminent domain hoping to save it. Unfortunately, state and local governments did not have any money to support the project especially as the local economy slowed down.[14]

Although he supported creating a museum at the site, Roman valued the property too high for non-profit or government acquisition. He was willing, however, to swap the site for twenty one acres (8.5 ha) of nearby land controlled by the Luzerne County Redevelopment Authority. The Authority, however, was constrained by a hold on the property to ensure it was properly remediated and only offered six acres (2.5 ha). While Roman was willing to take a loss on the structure, the six acre offer and a later cash buyout option fell too short for what he considered fair.[15]

In 2010, during the financial crisis that began two years earlier, No. 1 Contracting, like the Lucky Strike Coal Company before it, was forced into bankruptcy owing $10,000,000 to over 200 creditors. As part of the settlement, Paseo Logistics, a steel recycling firm from Philadelphia, PA bought the Huber site, and the Earth Conservancy, a non-profit land holding

company, bought the office building and several acres of non-industrial land. Paseo never made any ovation to support the preservation of the breaker and as soon as permits were issued began site cleanup and demolition. While the structure itself couldn't be saved, the Earth Conservancy donated three acres to the Huber Breaker Preservation Society to create a miner's memorial park. Paseo donated equipment and signage to the effort. Estimators valued the breaker steel between $600,000 and $700,000.[16]

Huber Breaker Preservation Society

While the bankruptcy courts worked through the various proceedings over twenty years, the Huber Breaker Preservation Society was publicly trying to raise both political support and money to buy the breaker. In 1990, the Ashley Breaker Preservation Society was formed to begin preservation efforts. While its efforts were largely inconsequential in the 90s, it was reorganized with a broader mission as the Huber Breaker Preservation Society in 2001 following the 1991 National Park Service HAER report documenting the structure and a 2000 feasibility study exploring preservation and development options.[17] While the HAER report was primarily focused on history, the feasibility study outlined goals and costs to convert the site to a museum and park and included site cleanup, security, and signage with estimated costs ranging from $500,000 to $4,000,000.[18] The challenge, according to Ray Clarke, chairman of the Huber Breaker Preservation Society, was the ownership issue. Without the legal right to work on the building many fundraising efforts fell short.[19]

Clarke stated that the society had several successful fundraising efforts but were not able to capitalize on their achievements. Ultimately the group was forced to return significant funds including a $90,000 grant for cosmetic restoration because they didn't have access to the site and $12,600 of a $26,000 grant because they didn't spend the money in time. While money came in from small community grants and individual donations, Clarke said the society never made enough in any give year to formally file an Internal Revenue Service form 990, a tax form required of non-profit organizations in the US. He estimated that the society never had more than $60-70,000 at any given time.[20] With the 2014 demolition of the breaker, the society's primary focus became the development of the miners' memorial park on the land donated by the Earth Conservancy. (See Figure 5)

Social, Cultural, and Economic Constraints

While the primary reasons the Huber Breaker was not saved lied in its enormous size, its scrap value, and the poor economic conditions that led to two bankruptcies, these are conditions influenced and informed by larger economic and post-industrial social and cultural forces. It is true that no organization ever had enough money to buy the site and the bankruptcies hurt any long-term planning, but economic fluctuations triggered in 2008 that saw significant downturns in economic growth in 2008, 2009, and 2011 had reverberations

Figure 5. Huber Breaker Preservation Society miners' memorial park, 2015 (author)

throughout the US economy. Unemployment rose, housing prices dropped, and people tended to curb spending. This downturn had significant affects on government tax revenues and many state, regional, and municipal governments had to cut spending. The Pennsylvania Historical and Museum Commission, for example, lost nearly half of its operating budget in 2009 leading to the closure of historic sites and museums and the loss of jobs. As economic conditions worsened, the lack of public money trickled down to county governments. Luzerne County which had been supporting some action at the Huber Breaker had to withdraw while trying to manage a $400 million dollar debt.[21]

Although the economic downturn that occurred in 2008 had an immediate effect on the anthracite region, coal mining had been significantly declining since the 1930s and there had not been any meaningful economic replacement for the industry. Several attempts to revitalize the region included the development of industrial parks located near major east-west and north-south interstates. Some companies relocated here because of temporary tax breaks and some warehouse facilities opened but the level and quality of jobs and economic activity did not rebound. In many post-industrial regions in the US, notably the rust belt across the north, as economic conditions worsened people fled leaving behind an aging population with poor prospects for economic recovery. Mired in this malaise, social and cultural conditions worsened for those who remained.

Over the past few years, several studies have examined the mental state, health, and prospects of residents in the area. Much of the northern anthracite fields including the Huber Breaker reside in the Scranton-Wilkes Barre metropolitan statistical area, a government-defined region of contiguous population density.

- In 2010, the Scranton-Wilkes Barre metropolitan statistical area had a median age of 42.3 which placed it among the oldest 10% of the country and, when you remove cities that are primarily retirement communities, it ranks the 9th oldest region in the country out of 367 defined areas.[22]

- In a 2013 study, Gallup-Healthways ranked the Scranton-Wilkes Barre region 177th out of 189 regions in the country studied for the well-being of its residents.[23] They defined well-being as physical health, fulfilling work and life experiences, strong social relationships, and access to resources.

- In a 2014 paper published by the National Bureau of Economic Research, Glaeser, Gottlieb, and Ziv used a number of factors to quantify happiness and satisfaction. Not surprising, the paper concluded that residents of declining areas tended to report less satisfaction with their lives. Of 367 communities studied, the Scranton-Wilkes Barre region came in last.[24]

- A 2014 study conducted by Indiana University and the University of Hong Kong examined 25,000 government officials convicted of corruption crimes and created an index based on the number of convictions per the number of government officials. Out of fifty states, the researchers concluded that Pennsylvania was the fifth most corrupt in the country.[25]

- A 2015 study examining indulgence, including heavy drinking, smoking, obesity, and consumer debt listed Scranton-Wilkes Barre as the fourth most indulgent region out of 105 studied in the country.[26]

- Another 2015 study looked at the prospects for people working for small businesses that included median income, unemployment, well-being, average hours worked, and projected growth. The group found that out of 100 metropolitan statistical areas studied, Scranton-Wilkes Barre was the third worst.[27]

- Lastly another study from 2015 suggested that among 100 metropolitan statistical areas, the Scranton-Wilkes Barre area ranked 92nd in the availability and growth of high-tech and advanced industry jobs.[28]

Studies like these can be defined in any number of ways to demonstrate any number of trends and can often easily be questioned and criticized. While this paper is not intending to validate any of this research, the studies are merely cited to demonstrate that the Scranton-Wilkes Barre region is suffering from significant social and economic conditions resulting from the decline of industry in the region. The majority of the other regions doing poorly also suffer from post-industrial economic collapse.

So what does this all mean? Suffering from many decades of economic decline has left the Pennsylvania anthracite region without much hope for a strong future. Its people are aging and among the least happy, healthy, and satisfied in the entire country. With a history of corruption that continues today, the region exhibits a strong distrust and contempt for government and individuals who don't share similar values.

The members of the Huber Breaker Preservation Society shared a common goal and worked together for twenty years to save a key part of their heritage. But the ultimate loss of the breaker occurred during one of the most significant economic downturns in the last century in a community beset by worsening living conditions and poor cooperation, trust, and expectation for a better future. While the end of the coal industry left a few significant features on the landscape, it also left poor economic and productive social legacies. Without a shared belief in common goals and government and community buy-in, it became nearly impossible to overcome the hurdles necessary to save such a large building and the loss of the breaker somehow doesn't seem as much a defeat given the social and economic conditions, as another anecdote not atypical for the region.

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