

Rekindling the Flame: The History of the Kent Iron Furnace and a New Interpretive Perspective

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Nearly a million visitors flock to northwestern Connecticut each year to enjoy the natural wonders of autumn leaf peeping excursions, spend a snowy winter day on the ski slopes, or simply soak in the rural charm. Unfortunately, many visitors never know that in the not-so-distant past, the area had a much different aesthetic than the bucolic hills and densely forested river valley they experience today. If we were to turn the clock back a little over 100 years, visitors to the region would experience an entirely altered landscape, devoid of trees, the air thick with smoke, bustling with the sights and sounds of the number one industry, ironmaking. Today, the only obvious evidence of the industry that once dominated the region is the stone ruins of the iron furnace complexes, which stand like sentinels among the trees. However, if you know where to look, you can find traces of the industry's impact on the landscape and discover its role in shaping the region as we know it today.

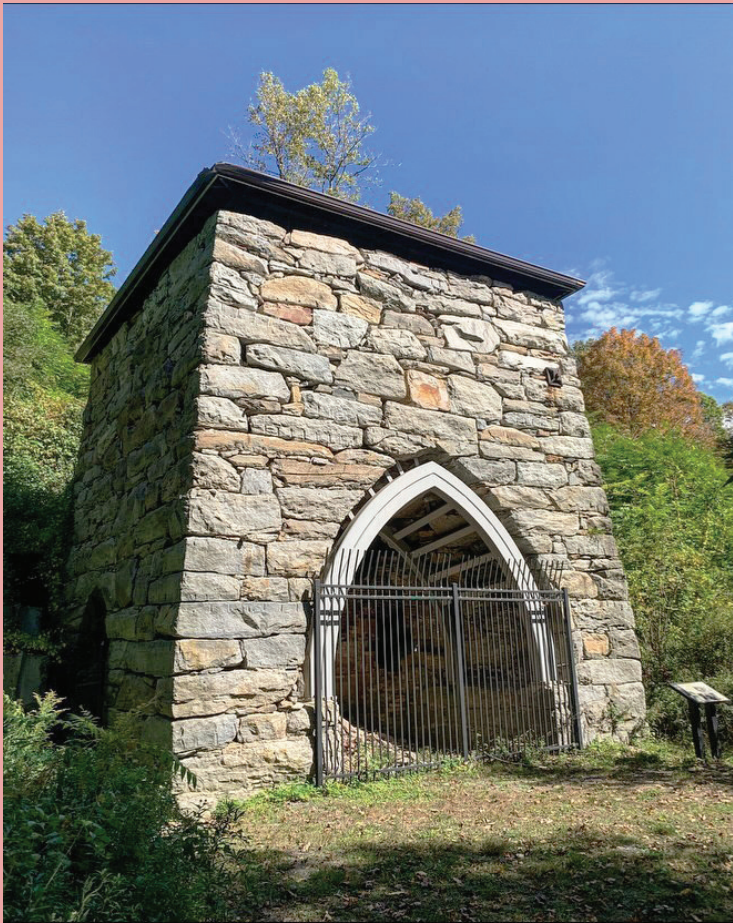
One such place can be found in Kent, Connecticut, at the Eric Sloane Museum & Kent Iron Furnace. Here, in this quaint New England town, nestled along the banks of the Housatonic River, a 30-foot granite tower protrudes from the hillside, drawing the attention of curiosity seekers and history enthusiasts alike. While the structure is a unique historic landmark, its history, interpretation, and preservation have undergone many changes since the last furnace fires were extinguished in 1892. Since 1969, the Eric Sloane Museum, as part of the Connecticut State Historic Preservation Office, has worked to promote and preserve the furnace and its history. Recently, the museum embarked on a new approach to rekindle interest in the Kent Iron Furnace and northwestern Connecticut's industrial history.

Just 90 miles north of New York City, Kent, Connecticut, is located in the very southern reaches of the Salisbury Iron District, a region rich in iron ore stretching across segments of western Massachusetts, northwest Connecticut, and

Stephen Mankowski, a master blacksmith, May 2024. LARA MILLER



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Kent Iron Furnace, May 2024. ANDREW ROWAND

eastern New York. After the discovery of rich iron ore deposits in the 18th century, the region became home to iron production from the mid-1700s until the last furnace closed in 1923. Kent proved to be an ideal location for producing iron due to its proximity to iron ore mines; an abundance of wood for charcoal production, the primary fuel source of the furnaces; and the ability to harness the hydropower of the Housatonic River for additional mills and furnace operations. The Kent Furnace would be one of three furnaces operating in Kent and could be counted among over 40 similar furnaces in the Salisbury Iron District during the 19th century. The ruins can obviously serve as evidence of the iron-making process. Along with the more widely recognized textile mills, which primarily depended on waterpower, ironmaking was one of the earliest industries in America.

Today, at first glance, the central stone tower is all that remains of the vast Kent Iron Furnace complex, which boasted over a dozen structures, including a casting house, several waterpowered mills, support workshops, charcoal warehouses, a railroad line, company-town-style tenant housing, and a store for furnace laborers. Upon closer inspection, the remains of these structures can be found hidden within the trees. Both the ruins

and the trees serve essential roles in interpreting iron production during the 18th and 19th centuries. Turning ore into iron requires lots of energy. Wood, the most accessible energy source, was, and once again is, found across most regions in some form. As the biomatter from years of photosynthesis, wood stores the sun's radiant energy as chemical energy. When burned, wood converts the stored chemical energy into heat. While most kinds of wood can serve as adequate heating fuel, those hardwoods with the least sap and resin, such as maple, oak, ash, birch, and most fruit trees, burn the most efficiently. Controlled, wood burns form charcoal. Skilled colliers could smolder up to 5,000 pounds of wood (measured in cords) to make the charcoal that fueled the furnace and ensured adequate temperatures in the ironmaking process. Charcoal kilns produced extremely unpleasant smoke, with the charcoal containing 75–90% carbon that could cloud the air for miles. Enterprises like the Kent Furnace depended upon charcoal rather than mineral coal imported from Pennsylvania. Having enough for the demands of a blast furnace could require up to 4,000 acres for “continuous production with a sustained fuel supply.”

While 18th-century colonial settlers first founded the iron industry in Salisbury, the Kent Iron Furnace opened its doors in 1826 to refine raw iron ore into a finished cast iron product. Although the finer details of iron production would alter during the furnace's 66 years of operation, the central concept and process remained essentially the same. The Kent Furnace operated as a blast furnace. A central brick-lined granite chimney was a furnace into which iron ore, limestone flux, and charcoal were loaded. The fires were fed with charcoal and stoked by hot air forced into the furnace through a series of ducts called “tuyeres.” These charcoal fires reached temperatures exceeding 3,000 degrees Fahrenheit and were capable of melting iron from the other minerals found in the iron ore. The denser molten iron would sink and collect at the bottom of the chimney while the limestone would fuse with the remaining minerals to form a less-dense glass-like substance called “slag,” which would rise to the top like cream on milk. Below the chimney sat the casting shed, a sand-lined floor into which molds of bricks were imprinted. Once enough iron had been collected into the “bosh,” or chimney base, workers would open a tap, allowing the molten material to flow into the sand-cast molds, where it was allowed to cool. The molds were laid out in the sand beds to be fed from a central line. The group of molds was said to resemble a litter of suckling piglets, the bricks being called “pigs” and the main line the

“sow.” This process enabled the furnace to refine iron from the ore and create measurable amounts of finished iron that could be shipped throughout the country for further processing into finished iron goods, including railroad car wheels for the rapidly developing industry. The Kent Iron Furnace would operate in this manner, barring few exceptions, seven days a week, twenty-four hours a day, boasting a production of several thousand tons of finished pig iron a day.

The Kent Iron Company closed in 1892 as it became less profitable due to changes in industrial technologies, and the center for metal production shifted to the Ohio River Valley and the South. The furnace complex remained abandoned and fell into disrepair and decay in the following decades as the region shifted its focus from iron production to dairy-based agriculture that took advantage of the deforested hills, a direct result of charcoal production. By the 1930s, Stanley Tool Works had purchased the furnace property and began leasing it to the town of Kent for use as a trash dump, a role it would retain until the late 1960s. In 1969, Stanley Works partnered with renowned author and artist Eric Sloane and the state of Connecticut to open a museum of early American crafts and trades and preserve the Kent Iron Furnace. The choice to place a museum on the furnace property was no accident. All concerned parties agreed that both would not only preserve the region’s industrial history, but also reclaim the river valley as public parklands. The Kent Iron Furnace was added to the National Register of Historic Places in 1977.

Since 1969, the museum has taken many approaches to preserve and interpret the furnace and ironmaking in

general. They have included creating a small ironworks exhibit, building a trail with interpretive panels, and, in 2006, stabilizing the granite tower. However, in an attempt to bring the furnace and its story back to the forefront of museum interpretation, the museum began offering regular guided tours in 2021. Although each interpretive layer added to the preservation of the furnace, there was always a sense that “more can be done.” Then, in the fall of 2022, someone on a tour for members of the Early American Industries Association remarked, “Wouldn’t it be amazing to make iron here again someday?” This simple comment set the wheels in motion to develop more dynamic programs for the furnace, inspired by the Eric Sloane Museum’s recent focus on historic trade preservation.

It was during this tour that I had the good fortune to meet Stephen Mankowski, a master blacksmith who specializes in historic iron smelting. Mankowski’s impressive resume includes operating his own blacksmithing business while having also worked at Colonial Williamsburg, Preservation Virginia for Jamestown Rediscovery, and many other historic sites. Mankowski and I began to discuss the possibilities of smelting iron again at the furnace and how it might tie into the interpretation of the Eric Sloane Museum’s antique tool collection. Over the next year, I sought funding and support while Mankowski gathered the needed materials and built a team to support the iron smelting demonstration.

Ultimately, we decided that the program would replicate *Ore to Axe*, a 2012 documentary on iron smelting for which Mankowski served as an expert consultant, where iron is smelted using 18th-century methods to produce a congealed mass, or “bloom,” of refined iron that then can be forged into an axe using traditional methods. This would not only allow us to demonstrate ironmaking on a smaller, more manageable scale, but would also accurately portray ironmaking in the region leading up to the building of the larger blast furnaces of the 19th century. The program’s two days of public programming would culminate in the creation of an axe for the collection of the Eric Sloane Museum, which houses many similar historical examples, as a full-circle moment from start to finish in the creation of an early American tool. With all the details in place, all that was left to do was make the program a reality.

In May 2024, after months of preparation, it was finally time for the program to begin. Mankowski arrived and began building the earthen furnace, called a “bloomery,” with the help of master blacksmith Eric Dennis. The

Kent Iron Furnace, ca. 1885. ERIC SLOANE MUSEUM COLLECTION





▲ Building the bloomery, May 18, 2024. ANDREW ROWAND



▲ Iron bloom, May 18, 2024. ANDREW ROWAND

two used dampened clay to form a cylindrical chimney around a wooden form that resembled its larger cousin, the blast furnace. A small fire was lit in the new chimney to harden the clay, enabling it to retain its shape for the upcoming smelting process. Although the bloomery's four-foot clay chimney paled in comparison to the blast furnace's thirty-foot tower, it would operate in a very similar fashion of using extreme heat to separate the iron from the other materials in the ore. One key difference is that the smaller furnace cannot reach temperatures high enough to fully liquify the iron, instead melting it just enough to form a congealed iron mass at the bottom of the chimney—the bloom.

The state promoted the program through social media and other free sources as a two-day event that would be free for the public to attend. This would be the first time iron had been smelted at the furnace property in over 132 years. The museum partnered with several local historical societies and historic trades interest groups to provide additional programming opportunities and broaden the scope beyond just Kent Furnace's history to represent the region. While we knew there would

be a certain amount of interest in the process, we were unsure how many visitors would attend. From the minute the fire was lit on Saturday morning, we knew we were in store for a busy weekend. More than 500 visitors attended over the two days to watch as iron ore was smelted into an iron bloom on Saturday, a six-hour process, then successfully forged into an early American-style axe on Sunday, an additional five hours. Many of the visitors remained throughout the day to watch the demonstrations, take advantage of tours of the furnace remains, and learn more about the region's industrial history. The program marked the largest event attended at the museum, focusing solely on ironmaking, and one of the most significant collaborations between local institutions to interpret the Kent Iron Furnace. By the end of the weekend, we considered the event a tremendous success.

Just because the unique program ended did not mean the work was done; we needed to strike while the iron was still hot. Viewing the event as the first step of many to come, we immediately began to take stock of the positives, necessary changes, and how we could work to



▲ Working the iron, May 19, 2024. ZACH JONES



▲ Forge work, May 19, 2024. ZACH JONES

▼ Forging the axe, May 19, 2024. ZACH JONES

expand the event and improve overall interpretation in years to come. The most important takeaway was the community's investment and interest in the iron furnace. This was apparent from the hundreds of visitors who saw the program, those who came to the museum in the following weeks after hearing of the event, and the thousands who engaged with virtual content on social media. We plan to take advantage of these large audiences by increasing the number of furnace-related programs throughout the year and broadening their scope to incorporate more social history and environmental conservation perspectives into the interpretation, such as highlighting the sources of energy that fired the furnace and linking carbon emissions to today's concerns about climate change. One way to communicate all this is through the arts, as we plan to continue highlighting the skills of metalworking artisans through demonstrations, special exhibits, and, eventually, an iron sculpture park that would enhance the established interpretive trail. Although we have a long way to go, the future is bright for the furnace as we approach its 200th anniversary in 2026.





Finished axe, May 19, 2024. ANDREW ROWAND

The Kent Iron Furnace stands as a testament to the region's industrial heritage. Through preservation efforts and historical interpretation, visitors gain a deeper understanding of the significant role the iron industry played in shaping the landscape, resources, and communities of northwestern Connecticut, and, as part of that reshaping, the role that the forest and water played in providing energy for these activities. By learning about the history of the Kent Iron Furnace and the operations of the iron industry as a whole, we can appreciate and fully understand the hidden industrial history that contributed to the development of this now-picturesque region.

ENDNOTE

1. Robert B. Gordon, *A Landscape Transformed: The Ironmaking District of Salisbury, Connecticut* (New York: Oxford University Press, 2001) 39, 56–67.