

Iron Beginnings in America

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One of the first things in which the colonists were interested in the New World were extractable metals. For the Spanish, gold and silver could be easily “extracted” from the Aztec and Incan civilizations, and the early English and French colonists hoped for similar riches when they arrived in America. Although they found none to speak of here, and despite their best efforts at prospecting (the Jamestown residents nearly died their first winter because they had spent too much time prospecting and too little time laying up supplies), the settlers knew that extractable metals were the key to prosperity. Native Americans had some experience with extracting precious metals, but had not mastered the art of iron extraction; that knowledge was to arrive with the Europeans.

Thomas Harriot, in his work *A Briefe and True Report* (1588) made it very clear that extractive products were his principal concern. Indeed, the opening chapter is “The First Part, Of Marchantable Commodities”. In there he listed silk (made from silkworms but also made from grass!), hemp, flax, alum, pitch, tar, rosin, and (a medicinal clay), as well as all sorts of timber and animal resources, but also iron:

In two places of the countrey specially, one about fourescore and the other sixe score miles from the Fort or place where wee dwelt: wee founde water side the ground to be rockie, which by the triall of a minerall man, was founde to holde Iron richly. It is founde in manie places of the countrey else. I knowe nothing to the contrarie, but that it maie bee allowed for a good marchantable commoditie, considering there the small charge for the labour and feeding of men: the infinite store of wood: the want of wood and deereness thereof in England: & the necessity of ballasting of shippes.

and copper:

A hundred and fiftie miles into the maine in two townes wee founde with the inhabitaunts diuerse small plates of copper, that had beene made as wee vnderstood, by the inhabitantes that dwell farther into the countrey: where as they say are mountaines and Riuers that yeelde also whyte graynes of Mettall, which is to bee deemed Siluer. For confirmation whereof at the time of our first arriuall in the Countrey, I sawe with some others with mee, two small peeces of siluer grosly beaten about the weight of a Testrone, hangyng in the eares of a Wiroans or chiefe Lorde that dwelt about fourescore myles from vs; of whom thorowe enquiry, by the number of dayes and the way, I learned that it had come to his handes from the same place or neere, where I after vnderstood the copper was made and the white graynes of mettall founde. The aforesaide copper wee also founde by triall to holde siluer.

Most early American ironworks extracted the iron ore from “bog iron” deposits – large nodules of quite pure iron that forms along the roots of plants in boggy areas. Bog iron could be easily scooped up from the mucky bottom with long-handled rakes into flat-bottomed boats and then dried on shore. It was very easy to reduce to pure, molten iron as it had relatively few impurities and in particular was not encased in rock that had to be crushed and roasted before smelting. Although bog ore nodules can grow as large as a small trashcan and weigh hundreds of pounds, most are nut- to fist-sized lumps that do not even require much processing for the furnace.

As early as 1619, the group of investors known as the Southampton Adventurers sent three master ironworkers upriver from Jamestown to Falling Creek (just south of Richmond) to set up an ironworks. With £4,000 in capital, they built the furnace stack, began mining ore, and, with an infusion of three more master ironworkers (the first three had not survived the winter), began producing bloomery iron. In 1620, twenty more skilled ironworkers were sent under the command of Mr. Berkeley and iron production began in earnest. By this time – and as subsequent archaeological excavations have confirmed – the Falling Creek ironworks had a functioning blast furnace making cast iron pigs (presumably for export back to England after being ‘fined’ into wrought iron by the finers sent over in 1621). Unfortunately, in 1622, during an uprising by the local Native Americans in which hundreds of Europeans were killed across Virginia, over two dozen of the ironworkers and their families (numbering over 200 at the time) were killed. This set back iron-making in the Virginia colony for over a century.

It was not until the 1640s that a successful iron plantation was set up in the colonies. It was the Hammersmith colony, in what is today Saugus, Massachusetts. This iron plantation was capitalized with an influx of £15,000—an immense sum in 1640s currency. The problem was that iron foundries could be very profitable, but only after production grew to a certain level, which might take five or even ten years. Investors were rarely that patient in the seventeenth century, when America was seen as the get-rich-quick scheme of the millennium.

All iron plantations were demanding technical enterprises, and their masters and artisans demanded (and got) high wages. In fact, in the seventeenth century, skilled ironworkers were so valuable that one colonial ironmaster felt justified in petitioning the British Parliament for £1000 in damages for having been delayed by a customs official leaving London with a boatload of ironworkers bound for Massachusetts—although no one died or was financially damaged by the 6 weeks delay in England (making it a 14-week journey in all), they lost the season and arrived in such sorry state that little work could be done until spring. Similarly, even in straight-laced Puritan Massachusetts, skilled ironworkers and their families, who did not have to be Puritan, could get away with modest fines for things like blasphemy, public indecency (not turning one’s head as male swimmers came out of the pond to put their shirts back on, for example), or lewd behavior in cases where Puritans would be whipped, banished, or worse.

Most iron-making was almost entirely confined to New England prior to about 1700, but throughout the eighteenth century all of the colonies began developing their local iron

smelting skills. Given the location of ore and wood for charcoaling, the iron industry blossomed in an arc from south-central Pennsylvania through northern New Jersey, southern New York, and western Connecticut. By the time of the Revolution, very large furnaces were in operation in all these colonies, as well as a few in Maryland and many in Massachusetts. Although they did develop their own industries, in general, southern colonies lagged behind those in the north in iron production, an industrial handicap they were still to suffer from during the War between the States.

Sources

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