Some Factors Which Enabled Europeans Successfully to Settle the American Forests

RICHARD G. LILLARD, Indiana University

To Europeans in the seventeenth and eighteenth centuries the eastern part of America was a wonderful forested "Eden newly sprung from the Ocean" yet at the same time a formidable challenge to exploration, conquest, and settlement. Most Europeans came from open countrysides and were poor men of the handicraft period when science and folklore were still much intermingled. But selecting from their total stock of knowledge, experimenting afresh, and learning from the natives, the colonists in time developed a complete system for survival in the forest and the setting up of civilization. American history entered a Wooden Age, when the forest was both major aid and major obstacle.

Travel and communication were a problem in the tangled primeval woods. Colonists solved the problem in part by using boats along the sunken Atlantic shoreline where bays and estuaries interfingered with the land, and along the big rivers that thrust into the continent toward the easy portages near the Great Lakes. They adopted the Indian dugout, made from whole tree trunks, and the canoe, made primarily of bark. When they had to travel by land they went afoot, following the elaborate network of Indian trails, or breaking trail, aided by Indian woodcraft. They crossed swollen streams by felling a tree across to make a "raccoon" bridge or by binding impromptu rafts with grapevines. While traders and soldiers found ways to use horses, emigrants used the European ox, which with its cloven feet was better adapted to pulling loads through marshes and among stumps and roots. Men learned to select routes by studying vegetation and soil and chopped out lanes, using blazes to indicate main and side roads. The corduroy road, made by laying logs side by side at right angles to the line of travel, became a commonplace road through bogs and bottoms.[1]

The backwoods developed a characteristic weapon, the long rifle. The musket of the early colonists, the Blunderbuss, and the Brown Bess were relatively useless. Short barreled and hard kicking, flaring at the muzzle, the musket was always inaccurate and short ranged and was therefore most effective when shot in volleys. Its days were numbered, for about the year 1500 Gaspard Kollner, a Viennese, had worked spiral grooves into the bore of a gun. By giving a rotary motion to the bullet, he gave it unprecedented distance and accuracy. The idea spread into Germany and Switzerland, where men formed corps of Jaeger rifle-

[1] Bartram, William, 1791. *Travels Through North and South Carolina.* Philadelphia; Belknap, Jeremy, 1813. *The History of New Hampshire,* Boston; Hall, B. R., 1855. *The New Purchase.* New York. The notes to this paper list only a few of the available sources.

men, and came with Protestant refugees to Pennsylvania. There backwoods smith experimented with bore, rifling, length of barrel, and native materials. By 1740 they had developed a native rifle weighing fourteen to twenty pounds, four to six feet long, with a stock of black walnut running clear to the muzzle. Fitted to the work of stalking the abundant game of the woods, it was relatively silent, economical in the use of lead and powder, light, strong, easily repaired, and—in a world of logs and branches—easily supported for aiming. It fed whole families and was essential in peace and war to all kinds of frontiersmen. At the start of the Revolution, which it helped win, exhibition shooters demonstrated its possibilities. At Lancaster a rifleman put eight consecutive shots into a two-inch bullseye sixty yards away. On Cambridge Common another rifleman hit a seven-inch pole 250 yards away.[2]

The leather shirt of the hunter, his moccasins, his habits in camping out, his lightweight nourishment of dried venison and cornmeal, his strategy in hunting wild animals, really a series of intrigues and ambushes—these came from Indian tutors. Applied to warfare against human beings, this whole pattern became the American style of fighting, of constant movement, applied woodcraft, surprise, and ambuscade, that European officers and soldiers had to master in order to survive.[3]

The most important task facing colonists was deforestation. They learned to select soil by noting the species of trees growing on it, the size and number. From the Indians they borrowed the technique of girdling trees, and they developed their own schemes for clearing land by felling and burning up the trees. While they developed many kinds of fences that used the abundant wood of the clearings, it was types of stake and rail fences, following patterns used in Sweden and the forested portions of central Europe, that came to dominate. The most notable was the Virginia worm fence, six to eight rails high, with stake and rider.[4]

The Dutch and English settlers in the seventeenth centuries had nothing but frame houses like those in the homelands. These required elaborate inventories of tools and the slow labor of splitting or sawing clapboards. Frame houses caught fire easily, bullets easily penetrated them, and in the southern colonies, where they were made of oaken clapboards, which warped, they were drafty. The style that came to house the generations on the frontier was the log cabin imported by Swedes, Finns, and Germans to the colonies on Delaware Bay. The cabin used the abundant wood, whole logs at a time, cheaply and quickly. It required no nails or other ironwork. It could be built with just one tool, the ax, If properly chinked, it was warm, tightening as the logs shrank. It

---

[2] Burlingame, Roger, 1938. *March of the Iron Men.* New York and London; Randolph, Vance, 1931. *The Ozarks.* New York.

[3] Adair, James, 1775. *The History of the American Indians.* London; Kercheval, Samuel, 1850. *A History of the Valley of Virginia.* Woodstock, Va.; Rogers, Robert, 1769. *The Journals of Major Robert Rogers.* Dublin.

[4] Chinard, Gilbert, 1945. The American Philosophical Society and the Early History of Forestry in America. Proc. Am. Philos. Soc. 89:444-488; Mercer, H. C., 1929. *Ancient Carpenters' Tools.* Doylestown, Penna.

stopped bullets and fire arrows and was simply repaired. It served as the natural housing for a nation of poor backwoodsmen.[5]

While wild animals and plants supplied settlers with food, including tree sugar and the honey of European bees naturalized in hollow limbs, their basic foods were Indian corn and the Old World hog. Unlike European small grains, corn thrived in the semi-shade of girdled groves, competing with weeds and increasing many times for each kernel planted. Since the mature plant could be left standing in the fall, being harvested at will to feed human beings, livestock, and barnyard fowls, corn fitted flexibly into busy lives. And colonists learned from Indians a score of ways to use its grains, including pone and hominy.

Grass was scarce in the forest and stinging insects were abundant, and where cattle could not endure in the woods hogs found a plenty of nuts, acorns, roots, and tubers that made them grow corpulent. Besides, while a cow had only one calf a year, the razorback sow bore several litters. Razorbacks had long legs like greyhounds. They could gallop a mile and leap over rail fences, but they raised themselves without care. And once butchered, they served a dozen purposes in the household. Families felt the future was safe when they had all the pork they could eat. They were afraid when they could see the bottom of the pork barrel.[6]

Clearing the forest, splitting rails, chopping fuel, building the cabin all required the ax, and the backwoods evolved its own tool. The early colonists brought with them the European felling ax weighing about three pounds, a type virtually unchanged since Roman times. The handle was straight and round, the bit wide and flaring, the round poll so light that the axhead was unbalanced and wobbled in the stroke. In the coastal colonies blacksmiths developed axheads that were balanced. The poll grew flat, thick, heavier sometimes than the bit, and the bit lost its flare while gaining in cutting power as smiths learned to make the cutting edge by inserting steel strips and welding them. The head gained in weight up to seven pounds. The handle got longer, slimmer, took on an oval cross-section, curved so that the center of the cutting edge and the end of the handle were on the same plane. A bulb developd at the handle end to give the axman a firmer hold.[7] The American ax was the instrument that enabled the frontiersmen literally to conquer and exploit the forest, destroying it to make way for farming, or converting it into masts and boards, planks and bolts of cabinet wood.

The interaction of European and Indian culture amid the great forests of eastern America produced a unique backwoods civilization of canoeists, road blazers, hunters, scouts, railsplitters, cabin dwellers,

---

[5] Johnson, Amadus, 1911. *The Swedish Settlements on the Delaware.* Philadelphia and New York; Shurtleff, H. B., 1939. *The Log Cabin Myth.* Cambridge, Mass.

[6] Force, Peter, 1836-1846. *Tracts and Other Papers, Relating Principally to the Origin, Settlement, and Progress of the Colonies of North America.* Washington, D. C.; Kirkland, Joseph, 1887. *Zury, the Meanest Man in Spring County.* New York; The Elias Kiser MSS. Indiana Historical Library.

[7] Mercer, op. cit.

and lumberers. A challenge and an opportunity for men working, the process of occupying and developing the forest was a common experience that unified the nation until about 1848. Thereafter the country split into North and South, the treeless and arid plains and deserts raised brand-new problems, the Machine Age began, and Americans faced a series of new adjustments to environment, ones not yet satisfactorily made.