Leander T. Stuart sat down one day in 1850 to write a friend in Indiana. Stuart owned “eighty acres of Prairie and forty of timber,” but his land held even more promise. “I have a bank of stone ware clay on my land the best I have ever seen. I have a kiln that you would say was first rate.” He continued, “In May, June & July I burnt five thousand gal. of stone ware which I sold at the kiln at 7 cents per gallon cash. I will burn four or five thousand gallon more between this and cold weather and then I will have to stop until the latter part of April.”

Blessed with abundant beds of clay, Iowans developed a thriving pottery industry in the 19th century. Leander Stuart, like all potters, knew that when fired to maturity, clay becomes extremely durable, harder than many metals. It undergoes an irreversible transformation and assumes a new utility, beauty, and value.

Most of Iowa’s potteries were small enterprises that produced about a dozen kinds of vessels—pitchers, churns, preserve jars, butter pots, jugs, milk pans, cream pots, chamber pots, and flower pots, as well as items made to order. Pottery was the near universal container in 19th-century America. For holding and storing food and liquids, there were few other options.

by Michael O. Smith
Photography by John Zeller
Iowa potteries were concentrated where deposits of clay and coal (for kiln fuel) were available, especially in the Des Moines River valley or around Fort Dodge, Davenport, Des Moines, and Sioux City.

The first step in stoneware production was to mine and prepare the clay, described in an 1869 Iowa newspaper as "dirty work and no more enticing to a dandy than coal mining. The mines here are drifts or levels, being entered by an opening on the side of the bluffs. The clay is not soft and pliable when taken out, but is a soft stone. It is . . . soaked about two days in water till it softens down to a workable state. It is first ground by the same process as brickmakers employ, then it is kneaded and 'spanked' by hand while all impurities are detected by skilled means and picked out. The air is also worked out by this means, the same as the baker uses to get air in. It is then taken to the turner's and moulders' wheels in balls weighed out in such sizes as are necessary for the particular utensil they are to form."

Potters also prepared clay in pug mills. Clay and water in a tank were mixed by paddles attached to a center rotating post, which was powered by a horse or a mule.

Stoneware decoration in 19th-century Iowa was decidedly Germanic, with motifs that could be traced back hundreds of years to the Westerwald region. Even Iowa potteries owned by non-Germans used variations of tulips, with vines, swags, swirls, dots, X's, lines, and bands.

Cobalt oxide was the preferred colorant. "Figures and tasteful flourishes in blue . . . adorn much of pottery ware. These stripes and designs are done by hand, each piece in its own turn. The 'bluer' takes a jar on his lap, and, holding a quill box, . . . makes by his eye the outline of design. It is a steady hand and true eye that can scratch off rapidly and so accurately these pictures, each being so near like its fellow that one at first supposes a pattern or stencil plate had been employed. . . . The blue marks soon dry on and are 'fixed' by the burning in the kiln."
A four-gallon churn and a large pitcher bear Germanic motifs in cobalt on a salt glaze. The churn, circa 1870s, is marked “Cedar Falls Iowa” near the rim. The pitcher was made by Smith Kelsey, Des Moines, in 1863. Pitchers were challenging to produce because the spout had to be lined up with the handle for an even pour. Because of daily use, most pitchers eventually broke and were discarded. Relatively few from the 19th century have survived.
Firing the kiln was the most exciting part of stoneware manufacturing, and also the riskiest. A good firing resulted in profit, a bad firing in wasted labor, clay, and fuel.

The first step was to “set the kiln,” placing the pieces perfectly perpendicular so they would not fall or warp, and evenly spaced so that vaporized salt would circulate uniformly for the glaze.

Most Iowa potters traditionally fueled kilns with wood until the 1880s, when many switched to coal, which is generally found in the same areas as beds of clay.

For the first 12 hours, the kiln was kept at 200 degrees to allow moisture to escape. More fuel was added to the fireboxes to increase the temperature to the desired 2,300 degrees. Especially large kilns (some as high as 36 feet) might need several days to reach that temperature. Small pieces of clay suspended by wire into the kiln were pulled out to determine if the fuel needed to be redistributed for an even flow of heat.

After three days of cooling, the pottery was removed and inspected.

Above: Calvin Brinton and children hold flowerpots by a downdraft kiln at Maxwell Clay Products, Turkey River, circa 1916.
Five-gallon butter churns, like this one, were the most common size of churns, although some were twice as large.

Stoneware must be glazed to be impervious. Until the mid-1880s, salt glaze was commonly used. The tradition of salt-glazed pottery in Iowa can be traced back to New England and the Mid-Atlantic states, and dates back to the 14th century in Europe.

To create a salt glaze, the potter threw rock salt through side portholes in the kiln, where it vaporized and reacted with the silica in the clay. The result was a glassy surface, with a texture like that of an orange peel.

Albany slip became a popular glaze in the 1880s. Dark brown clay was mixed with water to the consistency of fresh cream and then applied. Albany slip was often used on the inside of stoneware (as it was on this churn) because the surface was easier to clean than a salt-glazed surface.

Most Iowa stoneware was not decorated, so this peacock "scratch" design in cobalt is particularly unusual. Scratch designs were either scratched directly on the clay or through a slip glaze before firing. This churn was made by Montpelier Pottery in Muscatine County, circa 1890. The exterior is salt glazed; the interior, with Albany slip.
Besides churns, jugs, jars, and pitchers, potteries made garden products, such as flowerpots and hanging baskets. Colesburg Pottery Company in Colesburg specialized in flowerpots beginning in the 1880s (left). To meet a growing demand, the company installed steam-powered molding machines, and by 1905, it was producing 10,000 flowerpots a day and doing business in more than 16 states. But the Colesburg pots had to be transported by wagon over eight miles of hilly dirt roads to the nearest railroad, in Osterdock. Partly because of such transportation problems, the plant closed in 1916.

Opposite: The molded letters on this Stich Bros. flowerpot may have been added to advertise the business, which operated in Livermore. The flowerpot with the shiny brown Albany slip was made at White’s Pottery Works in Fort Dodge (1882–1892). The blue-rimmed pot is attributed to Fort Dodge Stoneware (1892–1906).
The number of Iowa potteries peaked in the 1880s, from 17 listed in the 1865 state gazetteer, to 34 in 1885. What had begun as a traditional craft evolved into a mechanized, technologically complex industry with full-time, specialized workers.

One of the more specialized manufacturers was the Davenport Pottery Company, established in 1880 by a diverse group of investors. Its cluster of buildings and two beehive kilns were located near several brickyards in downtown Davenport. The mottled brown pitcher (left) is one example of its work.

The company cast a wide net for workers, contacting potters in the Midwest, the East, and England. By 1888 it had failed, perhaps because of growing competition from Ohio and eastern potteries.
Mauck & Son pottery, founded in 1880 in Boone County, may have marked this jug with the company name, location, and date to commemorate its first firing. Jugs were one of the commonest forms of pottery and were seldom decorated, although this one bears straight and wavy lines. Fingerprints at the bottom reveal where the potter held the jug as it was dipped in glaze.

Jugs were used to hold toxic liquids like kerosene, turpentine, and acid, as well as cider, wine, water, vinegar, and oils.
Fire was a continuing threat to potteries. A blazing hot kiln was an accident waiting to happen. In 1837 William Welch's Van Buren County pottery burned down before his first kiln load was even fired. In 1857, David Roberts lost his first pottery in Colesburg to flame. The Des Moines Pottery burned twice, in 1873 and 1882. County histories record many more.

The most destructive fire in an Iowa pottery took place on the night of December 17, 1906, at the main plant of the former Fort Dodge Stoneware Company. Founded in 1870 by Martin White, the Fort Dodge Stoneware Company became Iowa's largest producer of stoneware. In April 1906 it was purchased by the Western Stoneware Company and designated as Plant 7. Based in Illinois, Western Stoneware was a conglomerate of potteries trying to compete with the mammoth Red Wing Stoneware in Red Wing, Minnesota. Western Stoneware operated its Plant 7 in Fort Dodge only six months before it was destroyed by fire.
The name “Plant 7” in the stenciled maple-leaf logo confirms that this five-gallon churn was made in Fort Dodge in 1906, when Western Stoneware operated there. Its shiny white Bristol glaze was made by mixing feldspar, whiting, zinc oxide, kaolin, and flint. By the turn of the century Bristol glaze had replaced Albany slip as the most common glaze. Because it was opaque and shiny white, it appeared more sanitary, at a time when sanitation was both a health reform issue and a marketing tool.
Still throwing pots at age 79, Johnnie Nelson (right) grew up in Red Wing, Minnesota, and at the age of 13 began working in the Red Wing plants. In 1912 he moved to Iowa to work at the newly founded What Cheer Clay Products in What Cheer, in Keokuk County. The town lay in Iowa's coal-mining region, with rich beds of clay 15 to 60 feet deep.

After five years, Nelson and his sons began their own pottery (below). The sons focused on drain tile, fire brick, and building blocks, but Nelson was drawn to more fanciful creations—giant toadstools and bird baths; large urns and fountain figures; imitation fruits, vegetables, and nuts; flowerpots and vases of all sizes; and replicas of Mexican and Sicilian water jugs. Customers bought his lawn and garden art for their rock gardens and goldfish and lily ponds.

Left: Using a simple clay sewer pipe, What Cheer potter Johnnie Nelson created this decorative umbrella stand for Drs. Tarana and Albert Dulin, who practiced in nearby Sigourney. Nelson made the storks from a mold he brought with him from Red Wing Pottery in Minnesota, where he had worked as a young man.
Commemorative, novelty, and souvenir stoneware, like these examples, occupied only a very small part of the pottery market. By the early 1900s, utilitarian stoneware production was in steep decline. Glass containers, especially canning jars, were more sanitary, lighter weight, and less costly than pottery. Preserving meat and vegetables with salt in stoneware was gradually replaced by shipping fresh food in refrigerated railroad cars and keeping it cold in household ice-boxes.

The 1903 Directory of Clay Workers in Iowa listed 303 ceramics manufacturers; only six of these produced pottery. All the others made sewer pipe, tile bricks, and drainage tile.

Clockwise, from top left: Found in the ground near an old Eldora hotel, this unusual clay object was probably made for a smoker. Perhaps matches were stored in the short corncobs and struck on the rough half-circle surface. The mug commemorates the Iowa Democratic Convention, on July 27, 1910. Made by Ottumwa Clay Products, it has a stenciled donkey on the back and an unusually ornate handle. The miniature jug was made by Fort Dodge Stoneware and marks a national convention. What Cheer potter Johnnie Nelson made the miniature canteen, as well as 600 miniature lions (left) for the Sigourney Lions Club.
The American art pottery movement gained a brief foothold in Iowa in the 1920s, thanks to two ceramists at Iowa State College, Paul E. Cox and Mary Lanier Yancey. Cox and Yancey were from Newcomb College, where women were taught both the aesthetics and the marketability of art pottery. Likewise, Cox and Yancey labored to convince Iowans that the state's rich deposits of clay had other uses than drainage tile and sewer pipe, and that art pottery had commercial possibilities.

Besides the Iowa State program, only a few art potteries existed in Iowa early in the 20th century: Shawsheen Pottery in Mason City; Farr Pottery, Oskaloosa; Artclay Company, Scranton; and, in Corning, a pottery of varying names (Spring Lake, Turner Pottery, and Corning Pottery).

For the complete story of Iowa pottery and dozens of examples, visit the new exhibit “Made from Mud: Iowa Potters and Poteries, 1830–1930,” September 13, 2008–April 12, 2009, at the State Historical Building in Des Moines. Check www.iowahistory.org.