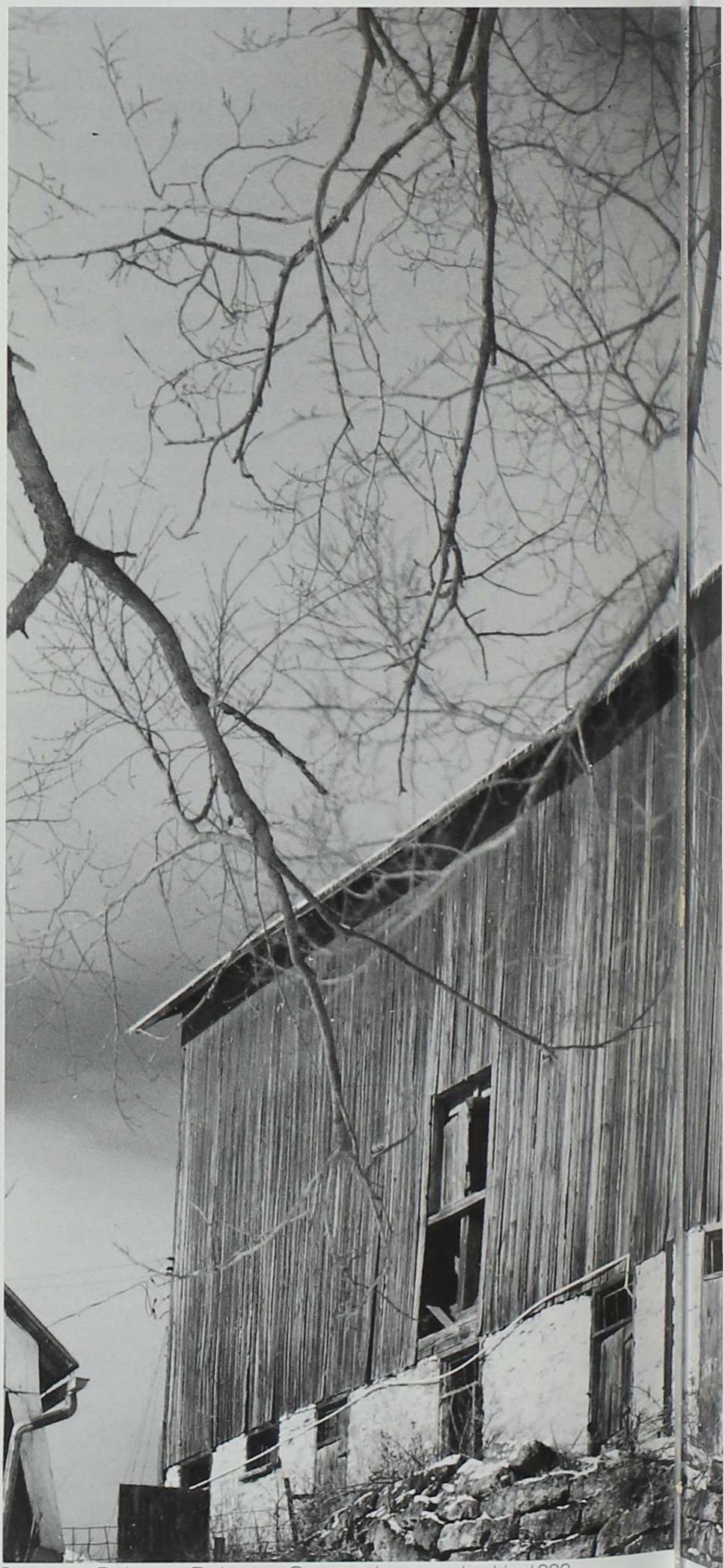


Iowa's Barns

Form & Function

■ Photos by Michael P. Harker

■ Text by Loren N. Horton



Barn near Dubuque, Dubuque County, photographed in 1999



ALL PHOTOS, PAGES 6-26 AND FRONT COVER, COURTESY OF AND COPYRIGHT BY MICHAEL P. HARKER

Iowa's Barns

Form & Function

■ Photos by Michael P. Harker

■ Text by Loren N. Horton

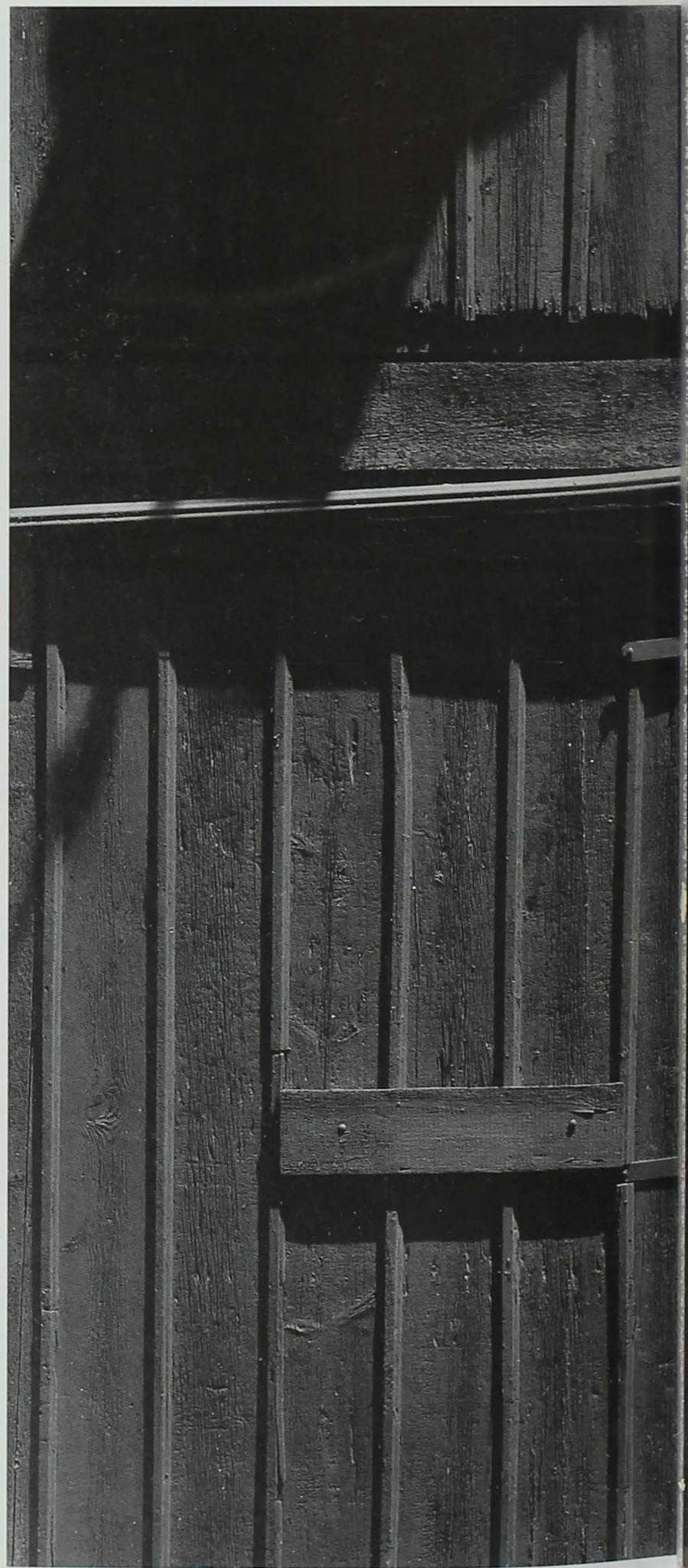
6 Iowa Heritage Illustrated



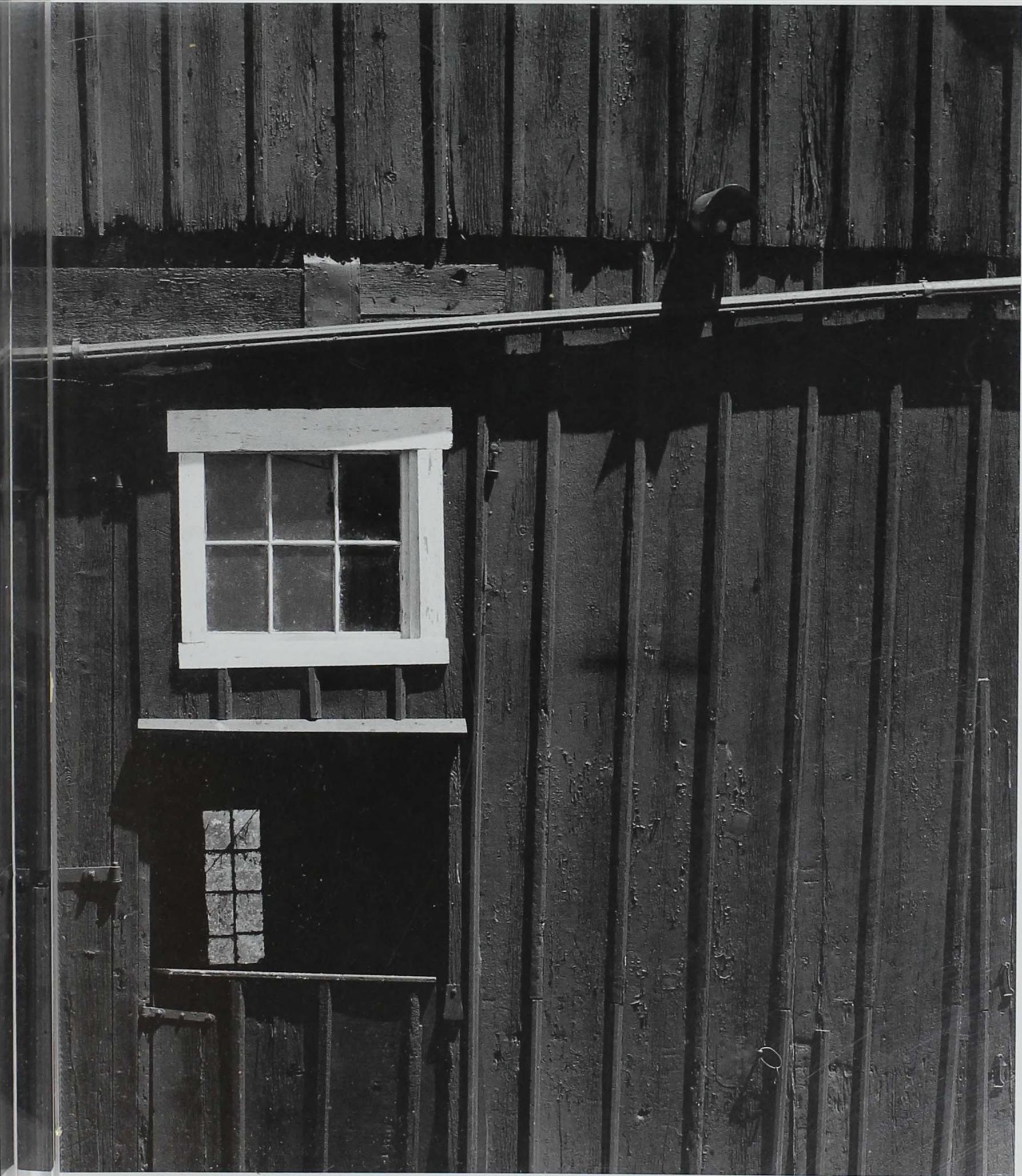
Barn near Dubuque, Dubuque County, photographed in 1999

ALL PHOTOS, PAGES 6-9 AND FRONT COVER, COURTESY OF AND COPYRIGHT BY MICHAEL P. HARKER

Barns are not unique to Iowa, to the Midwest, to the United States, or to any other particular part of the world. Wherever there have been farms and farmers, there have been barns. Barns fulfill a certain function on a farm. When that function becomes obsolete, then so does the barn. Barns have been constructed in a wide variety of architectural styles, using a wide variety of building materials. The old dictum that form follows function is true of barns, to a certain extent, but there are many other factors that determine just what sort of barn is constructed on a particular farm. Barns, like the people who built them, exhibit traits of individuality. The traditions familiar to the farmer are also primary considerations. In Iowa's barns, we see both tradition and change, form and function.



Barn near Mechanicsville, Cedar County, 1998



Barns are not unique to Iowa, to the Midwest, to the United States, or to any other particular part of the world. Wherever there have been farms and farmers, there have been barns. Barns fulfill a certain function on a farm. When that function becomes obsolete, then so does the barn. Barns have been constructed in a wide variety of architectural styles, using a wide variety of building materials. The old dictum that form follows function is true of barns, to a certain extent, but there are many other factors that determine just what sort of barn is constructed on a particular farm. Barns, like the people who built them, exhibit traits of individuality. The traditions familiar to the farmer are also primary considerations. In Iowa's barns, we see both tradition and change, form and function.



Barn near Mechanicsville, Cedar County, 1998



Limestone barn near Charles City, Floyd County, 2000

In many parts of Europe, the barn was combined with other outbuildings. Sometimes they were even combined with the dwelling for the people, in structures known as "housebarns." There was a great deal of practicality involved in such a structure, because the welfare of the animals and the storage of food products were essential to the survival of the farm family. Joining these functions into one elongated structure ensured that the people were close to both the animals and the food supply in times of inclement weather. The warmth of the animals also helped to keep the people warm.

This limestone barn south of Charles City is an Iowa example of what some of the more elaborate European housebarns looked like. Though it is unlikely that it was used in this way in Floyd County, the farmer who built this barn (or who had it built) may have had European traditions in mind.





Limestone barn near Charles City, Floyd County, 2000

In many parts of Europe, the barn was combined with other outbuildings. Sometimes they were even combined with the dwelling for the people, in structures known as “housebarns.” There was a great deal of practicality involved in such a structure, because the welfare of the animals and the storage of food products were essential to the survival of the farm family. Joining these functions into one elongated structure ensured that the people were close to both the animals and the food supply in times of inclement weather. The warmth of the animals also helped to keep the people warm.

This limestone barn south of Charles City is an Iowa example of what some of the more elaborate European housebarns looked like. Though it is unlikely that it was used in this way in Floyd County, the farmer who built this barn (or who had it built) may have had European traditions in mind.





Barn near North Liberty, Johnson County, 2001

Barn fires were something to be dreaded. A fire could easily burn down the entire barn before enough people could assemble from neighboring farms to help put the fire out. Not only was the building lost, so was the hay it stored, and all too often the animals it sheltered. The lightning rods on this barn roof are one of the methods farmers used to guard against fires started by lightning strikes.

Because hay stored in a barn has a tendency to pack down and heat up in the curing process, spontaneous combustion was not uncommon and was another cause of barn fires. Ventilation was vital so that the hay would dry thoroughly. Rooftop ventilators, cupolas, and louvered windows like the ones on this barn were all ways of bringing air into the mow. Another technique was to scatter salt through the loose hay in the mow to speed up the drying.

The long, low roof visible on this side of the structure is typical of shed barns. This attached roof provided additional shelter for animals outside the barn.



Barn near North Liberty, Johnson County, 2001

Barn fires were something to be dreaded. A fire could easily burn down the entire barn before enough people could assemble from neighboring farms to help put the fire out. Not only was the building lost, so was the hay it stored, and all too often the animals it sheltered. The lightning rods on this barn roof are one of the methods farmers used to guard against fires started by lightning strikes.

Because hay stored in a barn has a tendency to pack down and heat up in the curing process, spontaneous combustion was not uncommon and was another cause of barn fires. Ventilation was vital so that the hay would dry thoroughly. Rooftop ventilators, cupolas, and louvered windows like the ones on this barn were all ways of bringing air into the mow. Another technique was to scatter salt through the loose hay in the mow to speed up the drying.

The long, low roof visible on this side of the structure is typical of shed barns. This attached roof provided additional shelter for animals outside the barn.

Although the majority of Iowa's barns were rectangular in shape, octagon barns enjoyed a brief period of popularity in the 1880s among more experimentally minded farmers, especially after they were promoted by Lowan Lorenzo S. Coffin and agricultural journals.

One of the finest examples of an octagon barn in Iowa is the Secrest Barn, near Downey, now being restored to its original splendor by Rich Tyler. Built in 1883 by George Frank Longerbeam, the barn is notable for the octagonal cupola, the number of windows in the side walls, the elaborate circular hay track and hay distribution system in the interior, and the structure's sheer beauty. As historian Lowell Soike explains, Longerbeam "eliminated the usual heavy timber posts [and instead constructed] hand-laminated forty-foot-long beams from 1 x 6 inch strips (18 per beam) that he soaked, curved, and fastened together. The result: a majestic group of [eight] gently curved beams [stretching] . . . to the roof's apex in support of a graceful bell-shaped roof hovering over an immense interior space." The loft held 200 tons of loose hay.



Octagon barn near Downey, Johnson County, 2000

Although the majority of Iowa's barns were rectangular in shape, octagon barns enjoyed a brief period of popularity in the 1880s among more experimentally minded farmers, especially after they were promoted by Iowan Lorenzo S. Coffin and agricultural journals.

One of the finest examples of an octagon barn in Iowa is the Secrest Barn, near Downey, now being restored to its original splendor by Rich Tyler. Built in 1883 by George Frank Longerbeam, the barn is notable for the octagonal cupola, the number of windows in the side walls, the elaborate circular hay track and hay distribution system in the interior, and the structure's sheer beauty. As historian Lowell Soike explains, Longerbeam "eliminated the usual heavy timber posts [and instead constructed] hand-laminated forty-foot-long beams from 1 x 6 inch strips (18 per beam) that he soaked, curved, and fastened together. The result: a majestic group of [eight] gently curved beams [stretching] . . . to the roof's apex in support of a graceful bell-shaped roof hovering over an immense interior space." The loft held 200 tons of loose hay.



Octagon barn near Downey, Johnson County, 2000





Canfield's round barn, Dunkerton, Black Hawk County, 2000

The cousins of the octagonal barn were the "true-round" barns and polygonal barns (with 6, 10, 12, or 16 sides), built mostly in the second decade of the 20th century. This true-round barn near Dunkerton is constructed of hollow clay tile, a popular building material early in the century because of the rising cost and scarcity of lumber, the state's many tile manufacturing plants, and promotion of tile by the Iowa State College Agricultural Experiment Station. Concrete was another new building material for barns, displacing limestone foundations and dirt floors.

In true-round barns, the stalls, mangers, and feeding and cleaning alleys were laid out in a circle, often around a silo. This was more convenient for the farmer, since 20th-century barns often housed feeder beef cattle and dairy herds. Round barns resisted heavy winds better than rectangular barns, and their self-supporting roofs created more unobstructed loft space. Such features may have originally appealed to some farmers, but most turned their backs on the innovation. Very few true-round or polygonal barns were built after 1920, because of their complexity and expense, the difficulty of building additions, and the start of the farm depression. Most important, the champions of the experiment had come to recognize that the rectangular barn had definite advantages.

This is a wonderful example of a monitor barn, and it is heartbreaking to see that this particular barn has apparently outlived its usefulness on this particular farm. Yet there remain the impressive features from the barn's past. The raised portion of the roof, the "monitor," admitted light and fresh air; the same feature was used on railway cars and, much earlier, as the "clerestory" on medieval churches. The slide-down hay door in the gable end is topped by a formidable hay peak. The hay track running along the inside of the ridgepole was probably manufactured by the Loudon Company of Fairfield, Iowa. Farmers looked to Loudon for metal equipment for barns, including ventilators, hay tracks and forks, sliding door tracks, and carrier systems for feed and litter.

Although haymows conjure up romantic images for those who never helped "make hay," the reality of working in the mow was far different. By a system of ropes and pulleys, a set of large forks (tine, harpoon, or grapple style) lifted huge wads of hay from a hayrack and hauled that hay up to the metal track at one end of the roof and then into the barn along the track. When the rope was tripped, the wad of hay (or later, the block of bales) dropped on the floor of the haymow. It then was the job of one or two unlucky people who happened to draw the assignment to mow or stack the hay back into the remote corners of the cavity to make room for the next forkful that would soon be dropped in their midst. Clouds of dust and hayseeds filled the haymow on these occasions, rendering breathing a difficult and hazardous operation.

The windmill behind this barn reminds us of another essential farming practice, pumping water, a tedious chore often done by hand by the children in the family. Until rural electrification spread across Iowa, windpower and windmills made watering thirsty livestock on a hot summer day much easier. What an exhilarating invention! The windmill did the work, and the essential water kept on flowing.



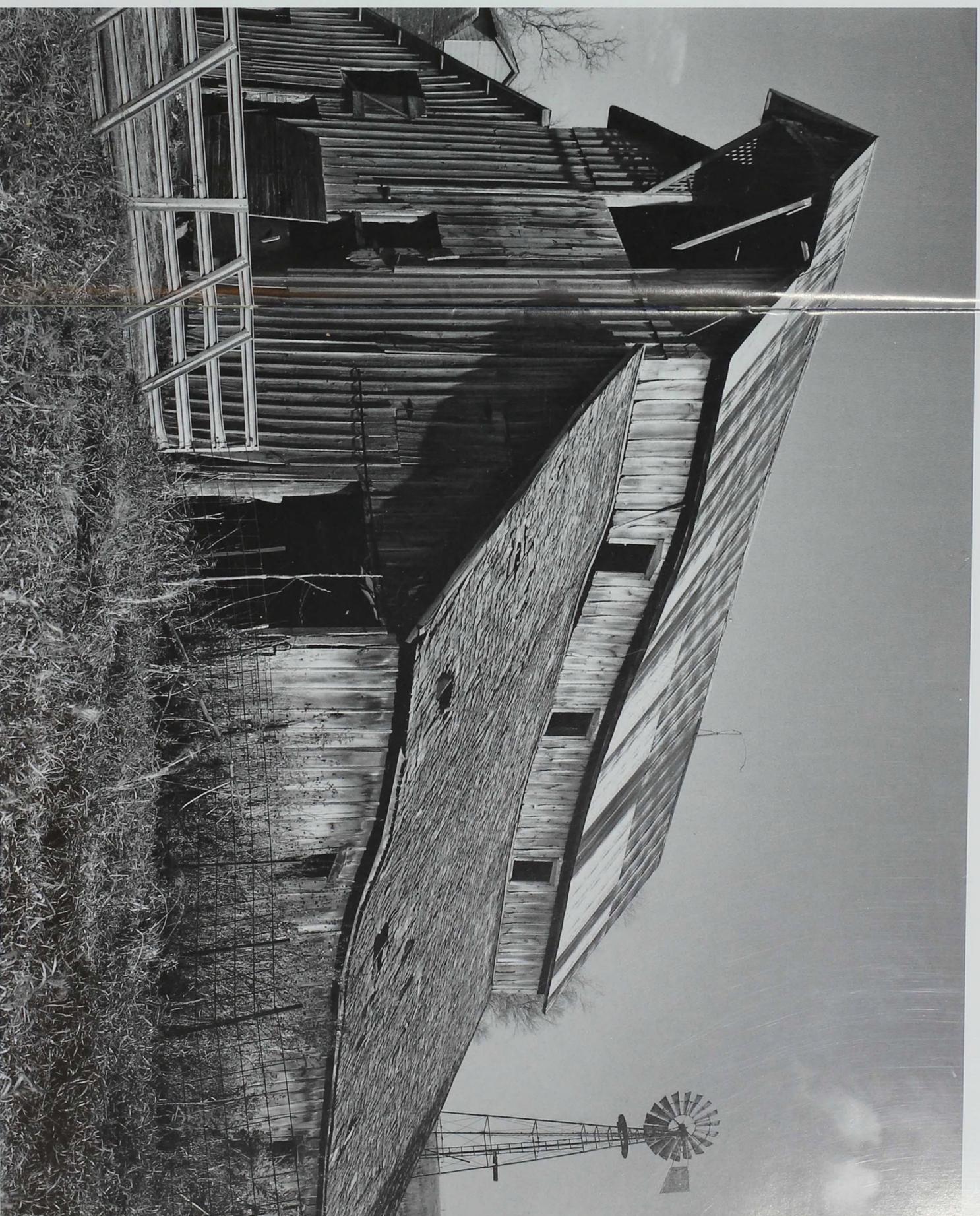
Barn near Chelsea, Tama County, 2000



This is a wonderful example of a monitor barn, and it is heartbreaking to see that this particular barn has apparently outlived its usefulness on this particular farm. Yet there remain the impressive features from the barn's past. The raised portion of the roof, the "monitor," admitted light and fresh air; the same feature was used on railway cars and, much earlier, as the "clerestory" on medieval churches. The slide-down hay door in the gable end is topped by a formidable hay peak. The hay track running along the inside of the ridgepole was probably manufactured by the Louden Company of Fairfield, Iowa. Farmers looked to Louden for metal equipment for barns, including ventilators, hay tracks and forks, sliding door tracks, and carrier systems for feed and litter.

Although haymows conjure up romantic images for those who never helped "make hay," the reality of working in the mow was far different. By a system of ropes and pulleys, a set of large forks (time, harpoon, or grapple style) lifted huge wads of hay from a hayrack and hauled that hay up to the metal track at one end of the roof and then into the barn along the track. When the rope was tripped, the wad of hay (or later, the block of bales) dropped on the floor of the haymow. It then was the job of one or two unlucky people who happened to draw the assignment to mow or stack the hay back into the remote corners of the cavity to make room for the next forkful that would soon be dropped in their midst. Clouds of dust and hayseeds filled the haymow on these occasions, rendering breathing a difficult and hazardous operation.

The windmill behind this barn reminds us of another essential farming practice, pumping water, a tedious chore often done by hand by the children in the family. Until rural electrification spread across Iowa, windpower and windmills made watering thirsty livestock on a hot summer day much easier. What an exhilarating invention! The windmill did the work, and the essential water kept on flowing.



Barn near Chelsea, Tama County, 2000



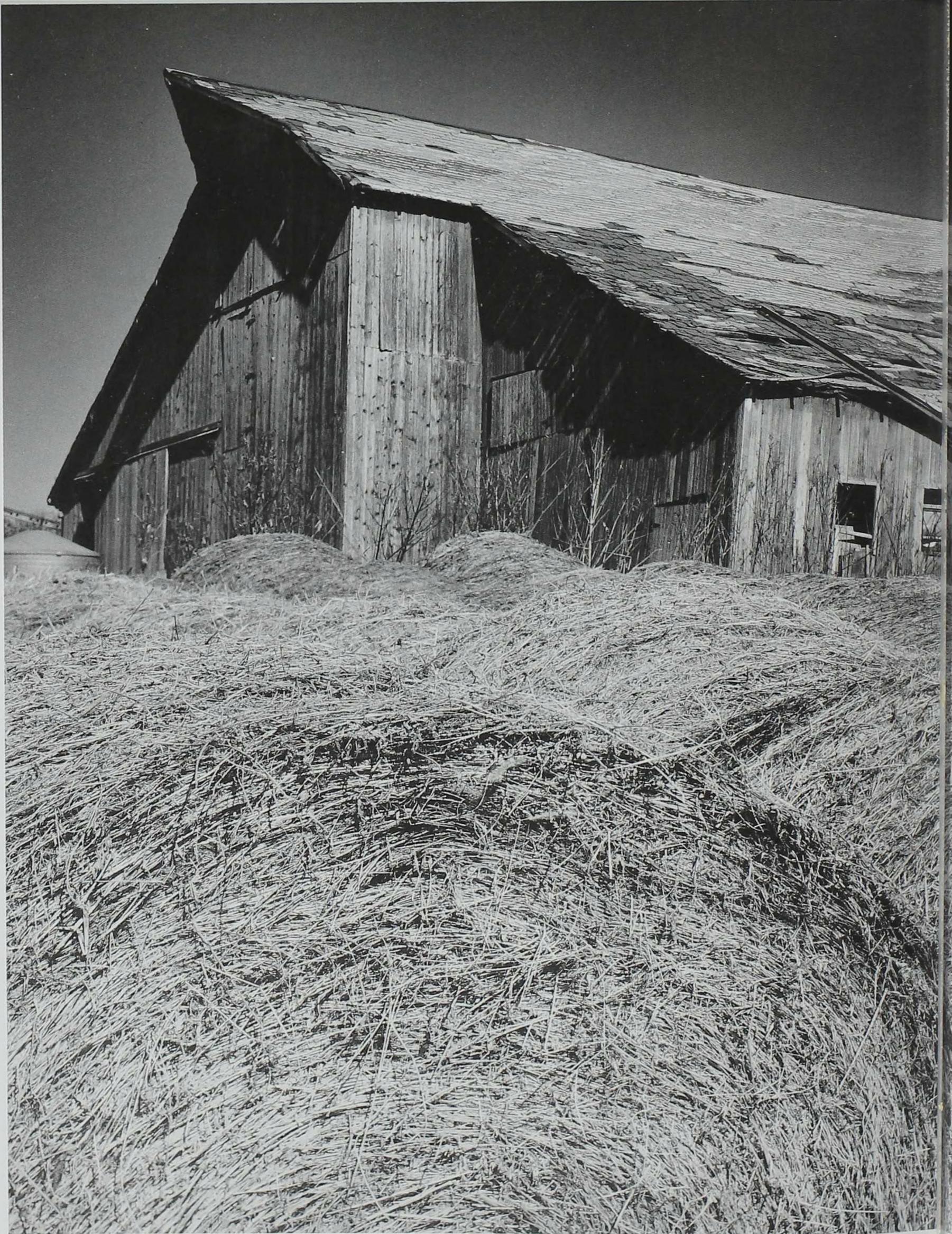
Barn near Mount Vernon, Linn County, 1999

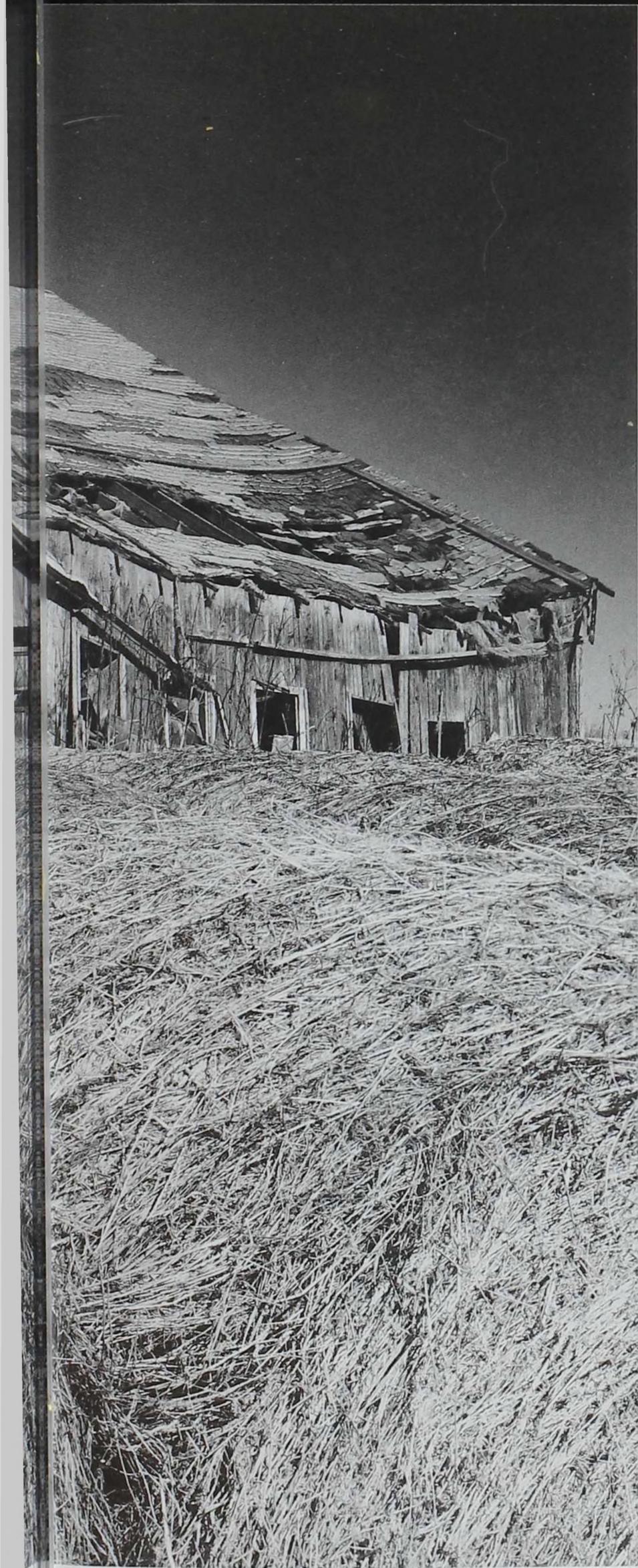
The enormous hay bales outside this barn remind us that each technological change in cutting, drying, and storing hay requires changes in skills, equipment, and structures. Hay was first stored in stacks created in the fields, but exposure to weather brought mold and rot. Bringing the hay into a barn protected it from the elements, but loose hay quickly filled up a haymow.

More hay could be stored in a barn if it was first compressed into bales out in the fields. Bound together by wire or twine, the rectangular bales were of a size that could be lifted by an ordinary farmer, stacked efficiently in a loft, and thrown down to hay mangers and livestock below. But haylofts in earlier barns couldn't always handle the extra weight of bales.

In 1971 came the innovation of large, round bales, by Vermeer Manufacturing of Pella, Iowa. The baler rolls the hay into cylinders roughly five feet in diameter, much larger than traditional barns could accommodate. Wrapping the bales in a protective covering reduced the need for indoor storage away from the elements.

Other technological changes brought more changes in farm structures. As farm equipment increased in size, farmers could no longer fit tractors and other machinery into the traditional barn with its many support posts and low rafters. By the 1970s, single-story metal pole-barns frequently sheltered equipment, livestock, and harvested crops on Iowa farms.





Barn near Mount Vernon, Linn County, 1999

The enormous hay bales outside this barn remind us that each technological change in cutting, drying, and storing hay requires changes in skills, equipment, and structures. Hay was first stored in stacks created in the fields, but exposure to weather brought mold and rot. Bringing the hay into a barn protected it from the elements, but loose hay quickly filled up a haymow.

More hay could be stored in a barn if it was first compressed into bales out in the fields. Bound together by wire or twine, the rectangular bales were of a size that could be lifted by an ordinary farmer, stacked efficiently in a loft, and thrown down to hay mangers and livestock below. But haylofts in earlier barns couldn't always handle the extra weight of bales.

In 1971 came the innovation of large, round bales, by Vermeer Manufacturing of Pella, Iowa. The baler rolls the hay into cylinders roughly five feet in diameter, much larger than traditional barns could accommodate. Wrapping the bales in a protective covering reduced the need for indoor storage away from the elements.

Other technological changes brought more changes in farm structures. As farm equipment increased in size, farmers could no longer fit tractors and other machinery into the traditional barn with its many support posts and low rafters. By the 1970s, single-story metal pole-barns frequently sheltered equipment, livestock, and harvested crops on Iowa farms.



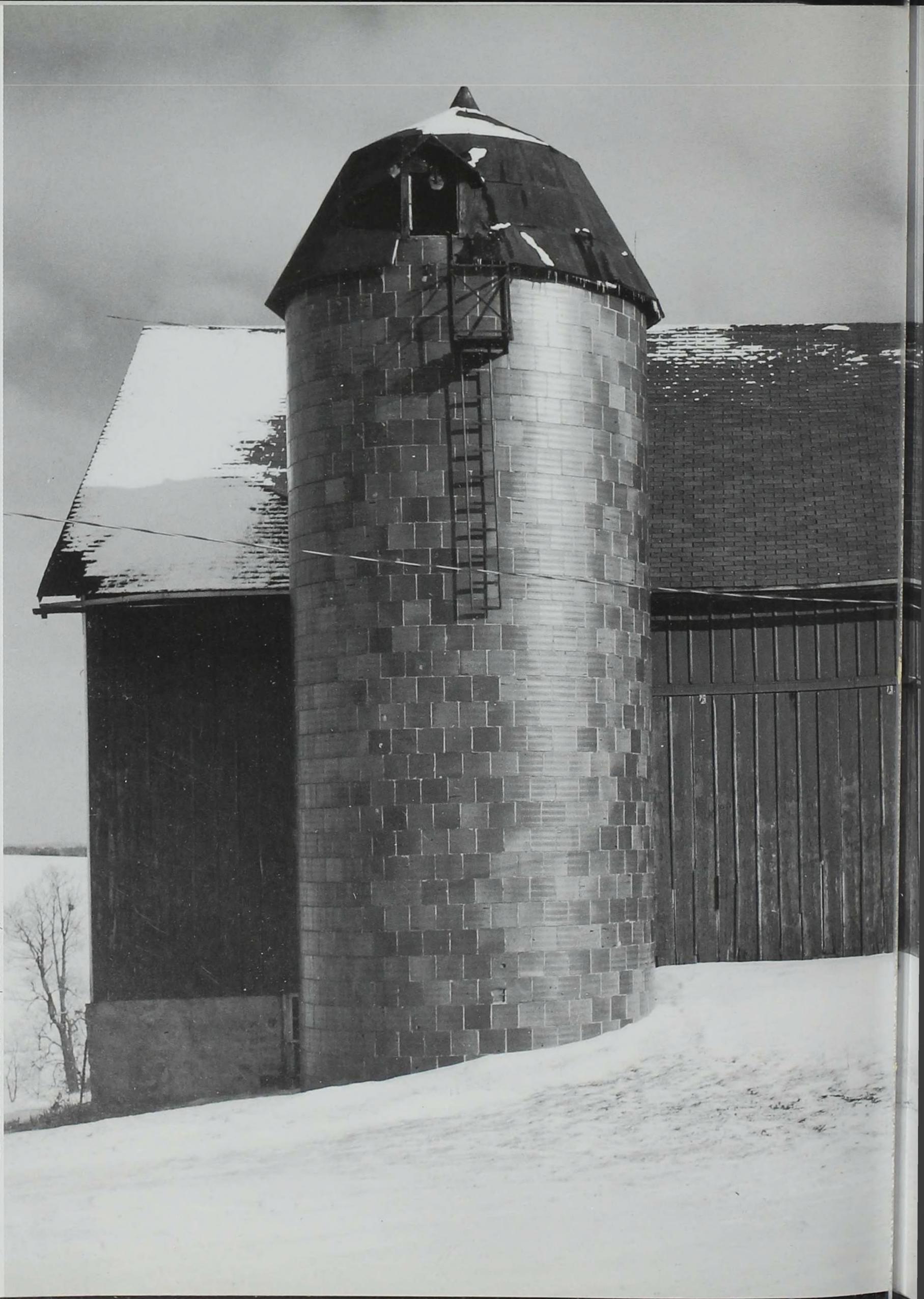
Limestone barn, near Cedar Falls, Black Hawk County, 2001

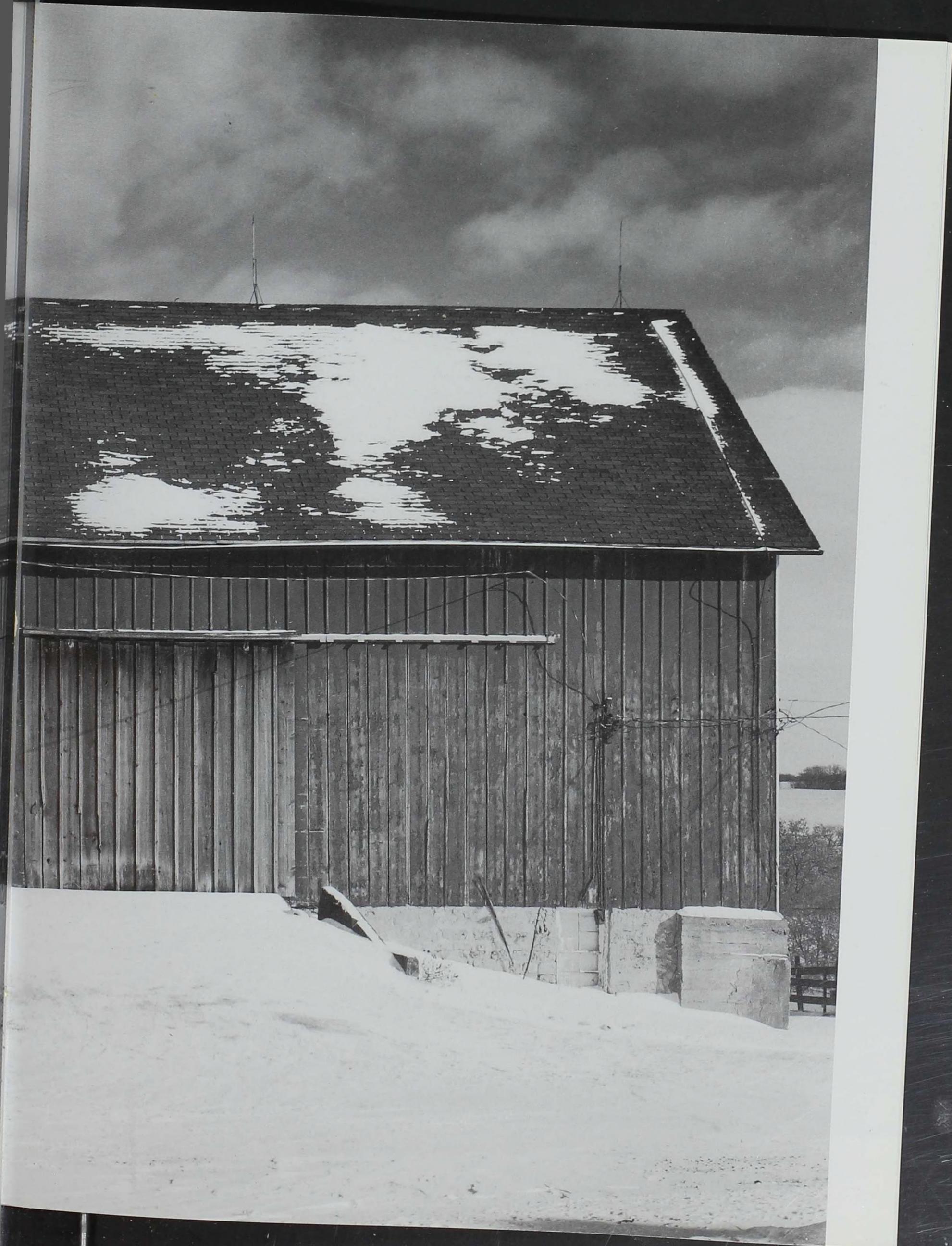
Although this imposing limestone barn with the ornamental roof finials is not a typical Iowa barn, one feature is common: multiple stories. Note the four levels of windows.

In this barn, the entrance on the end opens at ground level, so that the cattle and horses could be brought directly into the section of the barn with stalls, pens, milking stanchions, and hay mangers. The middle level of the barn was accessible through another large door that swung out or slid open (here, barely visible on the facade facing right). This allowed the farmer to drive a wagon directly into the barn for loading and unloading. Hay was stored in the topmost levels. Sometimes barns that are built on two different grades are called "bank barns." Often a ramp constructed of planks or earth leads up to the second level.

On the next page, a bank barn and clay tile silo (photographed in 1999 in Dubuque County) catch the light and shadow of a winter day.

Bank barn with silo, Dubuque County, 1999





Bank barn with silo, Dubuque County, 1999



To someone who grew up on a farm, the memories generally fall into two categories. Either the thoughts are cocooned in a romantic haze of blue sky, green grass, golden corn, and red barns; or the thoughts veer to the other extreme—hard work, long days, hot summers, cold winters, and insufferably repetitive tasks. Most people remember the past as better than it really was, or worse than it really was. Historians who depend upon oral interviews for evidence of what really happened in the past quickly learn to adjust for these two extremes. Some farm life probably was idyllic, and some hellish. Most farm families experienced both joy and sorrow, excitement and boredom, work and play. We cannot remember everything in our own pasts, and therefore the selectivity of memory filters out many incidents.

This magnificent barn was constructed on a particular farm at a particular time for a particular purpose. Its gambrel roof (popular between 1880 and 1920) allowed more storage than a simple gable roof. Two metal Louden ventilators and several windows brought in fresh air and light. Horizontal clapboards side the barn, rather than the more typical vertical boards and battens. The barn appears abandoned, its roof deteriorated, its rafters exposed.

We see all of these architectural details, and, probably, with equal fairness, we can see this barn either as a symbol of the glory of the family farm, or as a symbol of the harsh, isolated, brutal labor of farm life. Regardless of which, the barn speaks of the past.



Barn near Newhall, Benton County, 2000

To someone who grew up on a farm, the memories generally fall into two categories. Either the thoughts are cocooned in a romantic haze of blue sky, green grass, golden corn, and red barns; or the thoughts veer to the other extreme—hard work, long days, hot summers, cold winters, and insufferably repetitive tasks. Most people remember the past as better than it really was, or worse than it really was. Historians who depend upon oral interviews for evidence of what really happened in the past quickly learn to adjust for these two extremes. Some farm life probably was idyllic, and some hellish. Most farm families experienced both joy and sorrow, excitement and boredom, work and play. We cannot remember everything in our own pasts, and therefore the selectivity of memory filters out many incidents.

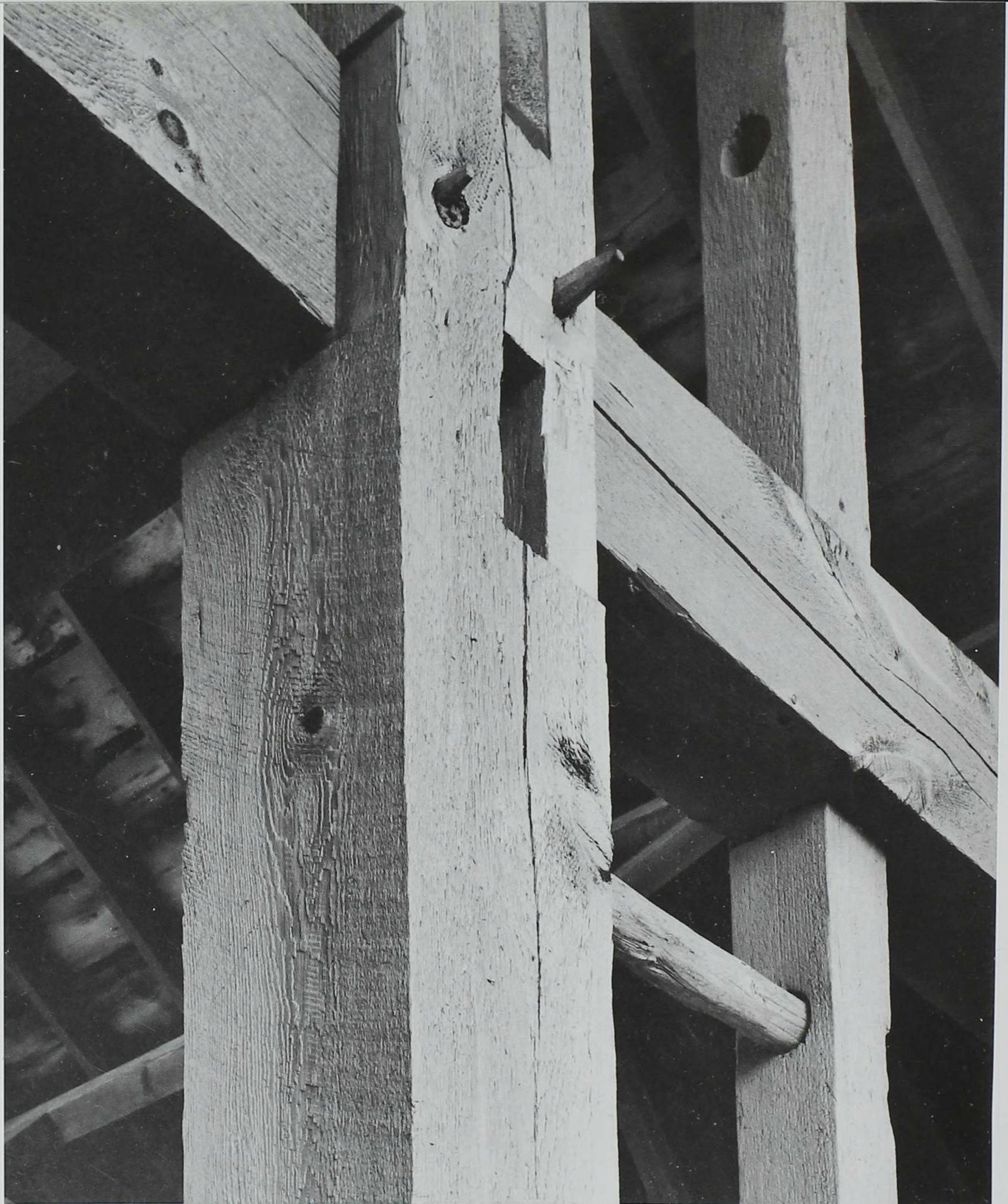
This magnificent barn was constructed on a particular farm at a particular time for a particular purpose. Its gambrel roof (popular between 1880 and 1920) allowed more storage than a simple gable roof. Two metal Louden ventilators and several windows brought in fresh air and light. Horizontal clapboards side the barn, rather than the more typical vertical boards and battens. The barn appears abandoned, its roof deteriorated, its rafters exposed.

We see all of these architectural details, and, probably, with equal fairness, we can see this barn either as a symbol of the glory of the family farm, or as a symbol of the harsh, isolated, brutal labor of farm life. Regardless of which, the barn speaks of the past.



Barn near Newhall, Benton County, 2000





Support beams in barn in Washington County, 2000

*Michael P. Harker is a professional photographer from Cedar Rapids and an ophthalmic photographer at University of Iowa Hospitals and Clinics. Many more of his fine photos appear in Harker's *Barns: Visions of an American Icon*, with text by Jim Heynen (Iowa City: University of Iowa Press, 2003). Harker uses Ansel Adams's zone system for exposing and developing his black and white negatives, which he then prints on silver gelatin paper.*

Loren N. Horton lives in Iowa City. He continues to research, write, and lecture on Iowa history, after 17 years in teaching and 24 years at the State Historical Society of Iowa.

This presentation was developed from "Barns of Iowa," a touring exhibit commissioned by Humanities Iowa, with photos by Harker and text by Horton. Our thanks to Humanities Iowa for permission to adapt the exhibit material for readers of this magazine.

From the photographer

In November 1993 I took a photo of a windmill vane mechanism leaning against a barn in rural Clutier, Iowa. This was the beginning of my exploration of barns as artistic material for fine art photography, but it also led to an epiphany. I came to realize, as have many Iowans, that these barns were disappearing and with them a way of life. Iowa is losing a thousand barns a year, to fire, storm, urbanization, neglect, and removal.

The project that evolved became both an artistic endeavor and a recording process—an “artistic documentary.” The urge to record does not preclude the creation of outstanding visual compositions. The “truth” of my photographs is manipulated, like all truth. I photograph from a personal point of view, a physical point of observation, and

a synthesis of reality, interpretation, and nostalgia. My project's main goal is to leave a long-lasting visual record of what I believe is one of the most significant economic engines and ways of life in our state's history—farming—as portrayed by the icon of agrarian culture—the barn.

The simple process of approaching farmers to ask permission to go on their land to get my photographs led to many conversations about their barns. There was both pride in their family histories and a sadness that changes in the economy of family farming and modern methods of agriculture were ringing a death knell for the viability of the barns. Each barn reflects the plight of the individual farm operation, and I believe that my images act as a barometer of these conditions.

—Michael P. Harker

Further reading on Iowa's barns

- *Harker's Barns: Visions of an American Icon*, photographs by Michael P. Harker, text by Jim Heynen (University of Iowa Press, 2003).
- *Without Right Angles: The Round Barns of Iowa*, by Lowell J. Soike (State Historical Department, 1983; 2nd ed. Penfield Press, 1991).
- *Barns of the Midwest*, ed. Allen G. Noble and Hubert G. H. Wilhelm (Ohio University Press, 1995).
- “Viewing Iowa's Farmsteads,” chapter by Lowell J. Soike, in *Take This Exit: Rediscovering the Iowa Landscape*, ed. Robert F. Sayre (Iowa State University Press, 1989).
- For these and other books, artwork, and posters of Iowa barns, shop at the Museum Store at the State Historical Building Iowa, 600 E. Locust, Des Moines, IA 50319 (515-283-1757). Shop online at www.iowahistory.org. Click on “Museum Store.”

Barn preservation and advocacy

- The Iowa Barn Foundation (www.iowabarnfoundation.org) educates the public, provides barn restoration matching grants, sponsors an all-state barn tour of restored barns, and publishes a semi-annual magazine for members. Contact: Iowa Barn Foundation, c/o Roxanne Mehlisch, 17590 730th Avenue, Zearing, IA 50278, phone 641-487-7690.
- Iowa has 220 barns on the National Register of Historic Places. Yours may be eligible if it fits any of these criteria: • My barn is very old (built before 1870 in Iowa), or very large (more than 40 x 60 feet). • My barn is built with all-stone walls that extend from the foundation to the roof. • My barn is of unusual shape (not rectangular or L-shaped, but square, octagon, round, or U-shaped). • My barn was publicized as a model for new barn equipment, prefabrication, or innovative construction techniques. • My barn was where an important event happened (such as a farm protest meeting, or the founding of a farm organization), where a noted or eminent agriculturist worked while gaining fame, or where the first of a new breed of cattle or other livestock was introduced in this region or state. • My barn was built in accord with blueprint plans that I still possess (for example, Loudon Machinery Co. designs). • My barn is an early known example in my vicinity of curved rafter roof design. • My barn has an unusual series of interior plank trusses supporting the roof (perhaps a Clyde or “Iowa” truss, or a Shawver truss), or an unusual design (architectural form, decoration, or embellishments). • For more information, contact Beth Foster Hill, National Register Coordinator, State Historical Society of Iowa, 600 E. Locust, Des Moines, IA 50319, phone 515-281-4137, e-mail at Beth.Foster@iowa.gov

Barn photography featured at Iowa State Fair in 2004

- The State Fair Photography Salon will salute the barns of Iowa in a special theme category. This is a juried competition. For rules and entry forms, write: Charley Starnes, Photography Salon Supt., Iowa State Fair, Statehouse, 400 E. 14th St., Des Moines, IA 50319-0198.