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THE LANDSCAPE OF CAPITALISM

The land around Iowa City used to be gorgeous, and when I first arrived, in 1965, I often had thoughts of buying an old farm. I would remodel the house, or take the barn and make it into a house, as people did in the East. I would dam up a creek to make a pond and later build a tennis court. Meanwhile, I would rent back the cropland to the farmer, until, as the city grew and land values went up, I would gradually sell off 10-acre parcels, at a nice profit.

The area I had in mind for this combined suburban home and investment, was the hilly area northeast of Iowa City. It delighted me then because it was picturesque, for in addition to the rolling and often quite steep hills it also had many groves of old oaks and hickories and deep little creek valleys lined with cottonwoods and maples. I especially liked the shagbark hickories, with their long strips of bark curling away from the trunks, like old weathered shingles. I'd never seen such trees in Ohio or Connecticut, and they suggested something ragged in this landscape. The honey or spiny locusts appealed to me, too. They grew in old pastures, where because of the fierce clusters of spines on their trunks and branches—as long as sail needles, and ten times sharper—cows had not been able to nibble and destroy them. Red cedars sometimes grew in the same old pastures, and looked especially picturesque in the winter, with their reddish needles and little gray berries dressed up with snowy lace. Such trees were the characters that gave the land identity, a series of stories, natural histories to make up for the human histories that I did not know and presumed were brief. The most I could tell about former human occupants came from the litter of old clothes and magazines in deserted farm houses, the tin cans and toys and farm equipment in the middens, or just the frost-toppled foundations of vanished buildings. Having just come from Europe, and from Turkey and Greece, it seemed amazing that “ruins” could be just fifty years old, and probably less.

But it was mainly the land that delighted me, and when friends and family came to see us, they were delighted too. None of them had ever been to Iowa City before either, and when I drove them over these hurdling hills, they kept repeating, “It’s so beautiful. Nothing like I expected. It’s not flat at all. And everything is so green!” When I described my desire to buy land, they almost

all said I should—even my father, who kept his own money not in land but in common stocks. I remember only one early visitor saying something different. He was the utopian architect Percival Goodman, who was even more enchanted and said, “It’s an oasis in America today. A paradise. Don’t touch it.”

And so, as things happened, I did not. We were expecting to have more children, and did not want to move outside the Iowa City school district. I did not want to drive ten miles to work, although that was much less than most suburbanites in America were beginning to drive. I also learned from a banker that renting land to farmers was not so simple. The people who did it were generally other farmers or former farmers. But another reason was that I just could not choose. From drives and hikes there were scores of places I had come to like, and each had its attractions. One for an abandoned apple orchard. Another for its creek. Another for a hilltop view. When I eventually did buy the “Prairie Frigate,” an old farm stead west of Iowa City, I needed a home fast, and it was the first thing available. It was small and not an investment. And there I realized the wisdom in Thoreau’s advice, “Enjoy the land, but own it not.” Owning even a small parcel of land could turn one quickly into a serf—planting, watering, and mowing lawns, cutting brush and trimming trees and picking up after storms and then burning everything, raking leaves, mending fences, buying sheep to eat the grass and weeds and then having to guard them and water them and give them shots, plowing and planting a garden, weeding it, picking what survived the insects and droughts, shoveling snow, and then starting all over again the next spring. The best moments at the “Prairie Frigate” came when I left it to go cross country skiing across the neighboring fields or sat on the porch on a summer evening and watched the lightning on the ridge two miles to the south.

Don’t misunderstand me. Knowing how hard it is to maintain land, I have great admiration for people who do it properly. Properly caring for one’s real property is as noble and as difficult as properly raising children. Nearly everybody tries at some time, but few do it really well. Both these responsibilities are also social as well as individual ones. My great aunt used to tell my mother not to worry about housecleaning, because in a hundred years no one would know how she kept house, but the whole world would know how she raised her children. We also know now that in a hundred years the whole world will know how we have, or have not, taken care of our land. “Private property” is a beguiling term, like the newer one, “family values.” But in serving to keep other folks out, it turns us away from seeing the vandalism the owners themselves are committing, which is generally far worse.

In 1965, however, despite my pleasure in the landscape of Iowa, I had little idea of its history and how it came to look as it did. I was like all the other Americans to whom prairie, in Aldo Leopold's sardonic words, was simply "a flat place once dotted with covered wagons." It was not till 1975 that I heard someone describe the diverse beauty of a prairie and make plans to try to replant one. It took another ten years before I saw Hayden Prairie, one of the few surviving remnants. Standing there among the spring flowers, I had my first dim sense of what this land once looked like. As bobolinks swooped over my head, their bell-like songs mixing with the wind in the grass, I also began to hear the prairie. No state in the country had been so thoroughly changed by Euro-American settlement and its native landscape so obliterated. The 240-acre Hayden Prairie was the second largest remnant in Iowa; yet it was smaller than an average farm. The old pastures and orchards and woods that I had initially liked and thought "natural," were hardly original, except, possibly, a few old oak trees. But by the 1980s and early '90s, that landscape too was endangered. Farms went out of business in the so-called farm crisis of the mid-eighties, and land near the larger towns and cities was transformed into suburbs. It had become a landscape of capitalism.

Obvious as these changes of the 1980s were, spotting the moment in time when the capitalist economy first changed the American landscape is difficult. In *Changes in the Land*, William Cronon shows how capitalist values of private property and the conversion of nature into commodities (fish, furs, and timber) have been operating in America since the early seventeenth century. Starting in 1785, the U.S. Survey further facilitated the transformation of land itself into a commodity that could be bought and sold in convenient square-mile sections. The transformation was accelerated, as Cronon has shown in *Nature's Metropolis*, with the development of Chicago as a center for trade, transportation, and banking. And yet these changes came to Illinois before Iowa, eastern Iowa before western Iowa, and Iowa and Minnesota before the Dakotas. They also took different forms in different regions, according to what was on or under the land to begin with, what was made of it, and what technologies were available at the time. Exploiting the timber of Wisconsin and Michigan required initial capital only to buy or lease the land and hire teams of lumberjacks. Railroads were not necessary because the logs could be floated down stream. Exploiting the copper of Michigan and the iron of Wisconsin and Minnesota, on the other hand, required very large initial capital, to build railroads, purchase equipment, and construct ore boats. The investors in

the Calumet-Heckla copper mines of northern Michigan were wealthy Bostonians. The major investor in Minnesota iron mining for a time was John D. Rockefeller. The building of the locks at Sault Ste. Marie required a land grant of 750,000 acres from the federal government to the state of Michigan.

We know comparatively little, however, about the impact of capitalism on the prairie. Except for the beaver, buffalo, and, in some places, wildfowl, there was no obvious commodity like ore or timber to be taken out. Once the wildlife was gone, there was only grass, which supposedly had no value. So the next chapter in the American prairie story is conventionally the tale of the hardy but suffering pioneers who broke the sod and then often went broke themselves, plagued by grasshoppers, droughts, and mortgages. These people, as described by Willa Cather and Hamlin Garland are usually not capitalists, but their victims. So we assume that the prairies had only farmers and just the towns and the East had capitalists. Yet the prairies had capitalists too, both entrepreneurs who bought and developed land and farmer-capitalists, who further developed it, and both have deeply affected our land and life.

A fascinating account of early prairie entrepreneurs can be found in Curtis Harnack's *Gentlemen on the Prairie*, the history of a colony of young British aristocrats who bought land in northwest Iowa and briefly lived there a hundred years ago. Harnack grew up on a farm near Le Mars, Iowa, the center of the colony, and as a boy was intrigued by the legends of the polo games, fox hunts, and elegant gentlemen's clubs that had thrived on the Iowa frontier, beginning in the late 1870s and lasting for about thirty years. Thus a large part of his book is a history of manners, comparing the rich and worldly British with the poorer immigrants from the eastern United States and other parts of Europe among whom they lived. But in the process he reveals much more.

The project began in 1876 when William B. Close, a twenty-three-year-old student at Trinity College, Cambridge, came to Philadelphia with the University Boat Club to row in a Centennial Regatta. Close was the fifth of eight children of James Close, an English banker who had acquired a fortune as an advisor to Ferdinand II of Naples. His mother, Susan Close, was also wealthy, receiving 100,000 pounds on her father's death. Yet the Closes had raised William and his brothers to be investors, not playboys, and so when he met Daniel Paullin, a wealthy American from Quincy, Illinois, he became very excited by the opportunities Paullin described for making money from Illinois and Iowa land. Close was also attracted to Paullin's daughter, and so accepted an invitation to Quincy.

There he learned more about western land. Paullin's wife's father was Jonathan B. Turner, the Illinois educator responsible for the legislation, eventually included in the Morrill Act of 1862, which provided for land-grant colleges, and Paullin was both well-connected and knowledgeable. So in the fall of 1876 William, his brother Fred, and Paullin's son Henry set out for Des Moines to meet land agents. They then went 40 miles further west to Stuart, where they engaged a buggy and team of horses. William was impressed by the fertile, rolling prairie, with the grass turning a reddish brown, but land was six to seven dollars an acre, so they returned the team and took the train on to Atlantic, forty miles further. They had to stay with German farmers, and in order not to drive up prices, they tried to look poor. But they were impressed by both the rich loam and the frequent schoolhouses—a sign of the settlers' noble public goals. Still, they made no purchases, mainly because much of the land was very wet and marshy. They returned to Quincy, and William and Frederick went back to England.

But a year later they were back in Quincy, and this time they went to Iowa with Mr. Paullin, who believed that this would be a good year for buying, because 1876 had been a poor year for farmers, and speculators would be trying to sell. Now, near Denison, in Crawford County, they found good land at a reasonable price, but still, on Mr. Paullin's advice, made no deal, though William deposited \$4,500 in a Quincy bank, ready for a purchase. Finally, on August 7, 1877, the Closes closed, buying 2,593 $\frac{1}{3}$ acres from the American Emigrant Company in Des Moines for \$3.25 an acre.

Quickly, they arranged to buy 169 cattle and 100 hogs and to construct rude pens around a small stream that would supply water. It would be possible to buy corn, if necessary, at 14 cents a bushel and send the cattle and hogs by rail to Chicago in January. In the spring they would try to put 600 acres in cultivation, paying \$2.25 per acre for breaking the sod, and an estimated \$1.00 per acre on farm buildings. That would raise their investment in that land to an average of \$6.50 per acre, from which they expected a yearly income of \$2.50 an acre, or over a third of the cost. By contrast, land in England currently returned only 2 or 3 percent, or less.

Such fabulous returns on capital were not only welcome in themselves, they made good selling points to other investors. Therefore, while Frederick stayed in Iowa, William undertook to study law and travel around England and the U.S. seeking capital and promoting settlement. As Frederick had more and more of their land broken, William also hunted for new land to

buy, sometimes traveling alone and sleeping in double beds with strangers, sometimes traveling with Daniel Paullin and his sons. To appeal to both English and American investors, he set up Close Brothers, Limited, with offices in London, Manchester, and Iowa. Soon he also undertook to found a colony of young British farmer-investors, using connections from family, Cambridge, and rowing. By the 1880s, western Iowa was only twelve to fourteen days from London, by fast steamers and trains, and so some of the buyers could shuttle back and forth. In such respects—wealth, class, and access to travel—people in the Close Colony were clearly different from other immigrants. And yet they were not so different from American capitalists like the Paullins, who were the Closes' models. Nearly every county in the prairie states has or at one time had a big house or "mansion" built by one of these early prairie capitalists, who bought land in large quantities, made "improvements" like plowing, draining, and fencing, and then resold it at large profits. Or they farmed it for only a short while, getting returns of twenty-five to thirty-five percent, like the Closes, and then sold it before the original nutrients had been exhausted or it had blown and washed away. Such extractive agriculture or "soil mining," as environmentalists call it today, was the close (and Closes') equivalent of mining and timbering.

In time William and Frederick were joined by their brothers James and John, and other partners. They undertook to build and sell houses as well as land, attracted more capital, and sought land in adjoining counties and in southern Minnesota. They even tried to attract the Duke of Sutherland, the largest landowner in Great Britain. According to Harnack, "more than a thousand farms were created by the Closes in [the] years 1880-1881." Another kind of investment was by planting trees, taking advantage of an Iowa law that gave a \$100 property tax exemption for ten years for every acre of trees planted. In 1882 they ordered the planting of 1,000 acres, choosing mainly fast-growing trees like box elder, ash, maple, and cottonwood, but also many species of nut and fruit trees. Such plantings were very common on the prairies. The first national Arbor Day had been celebrated in 1872 in Nebraska, after agitation in the legislature by Julius Sterling Morton, a Nebraska developer who realized that trees would add to the value of his holdings.

Ironically, these apparent environmental enhancements were often short-lived. Many of these kinds of trees—box elders, soft maples, and cottonwoods—easily broke and split. They served as windbreaks, and the fruit and nut trees provided food to vary the settlers' diet; but many were eventually

cut down for fuel and to make cheap lumber for fence posts and stock shelters. At a later date farmers who wanted to enlarge or combine their fields took them out. Money, more than aesthetics and environmental values drove the investors. And few observers complained. Harnack quotes only one contemporary of the Closes who criticized what they and their fellow capitalists and settlers were doing. A journalist who accompanied the Duke of Sutherland wrote from St. Paul, Minnesota in 1881:

The Mississippi groans under the masses of timber and innumerable keels. How much to admire! What energy! What enterprise! But how nature suffered from it all! The Falls of St. Anthony turned into the overflow of a canal lock! The great river converted into a sewer laden with manure and sawdust! The lovely landscape defaced by hideous mills, elevators, factories! How the poets should rage, and the plutocrats rejoice!

What various members and observers of the Close Colony did note were the ambivalent relations with neighbors. The *Sioux City Journal* criticized the young Brits for having too much money and being wild and unlicensed. The *St. Paul Press*, saying they were too exclusive, frankly attacked them for being capitalists. "If the Close Brothers were to use as much influence toward obtaining some of the laboring class from the manufacturing districts of England, or from some of the suffering counties of Ireland, they would bestow a greater blessing on the northwest than they do by bringing over capitalists, for capital can live anywhere." In the *Press's* opinion Minnesota and Iowa needed labor more than capital. It implicitly held, as many popular leaders did, that labor was what improved the value of land and commodities and therefore that wealth came from labor.

People in the nearby towns like Denison and Le Mars, on the other hand, recognized that the Close Brothers' operation was an economic boon. It brought in settlers who had money to spend on local goods and services. True, some of their money was spent importing English luxuries, but this was forgiven because they also bought wagons, farm equipment, and building materials. And they hired farm hands and serving maids at such a rate that both were in short supply. As we say today, "they created jobs."

However, very few of the wealthy young Englishmen to whom the Closes sold land stayed, and none of the Closes did. Most soon sold their farms, took their money, and returned to England. Fred Close died in a polo accident in

Sioux City. William, the leader of Close Brothers, moved on to British Columbia and Alaska, where he built the White Pass and Yukon Railroad, and then back to England, where he bought collieries and invested in coal-processing schemes. For men like William Close, prairie lands were just a passing opportunity. They also realized that farming and country life did not have status in America. In England owning land was an aristocratic privilege. In America, despite its Jeffersonian ideals, the farmer was considered a drudge, and young men aspired instead to live in town and be in trade.

Such considerations made wealthy Americans more interested in land as an investment than as a permanent place to live and work. Their goal was capital accumulation, not land ownership per se. This is particularly evident in the case of prairie land that was too wet to farm. The geographers Mary McCorvie and Christopher Lant estimate that before Euro-American settlement, 28 percent of the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin was what today would be called wetland. Once called sloughs, swamps, marshes, or simply wet prairies, these lands which were covered or saturated with water for all or part of the year were a formidable obstacle to transportation and settlement. Iowa is estimated to have been twenty-one percent wetland, and it was one of the driest areas. Minnesota, the wettest state, was 36 percent wetland. In all, of the approximately 68 million acres of original wetland in these states, 48 million acres have been drained of the water which once totally or partially covered them. That amounts to nearly as much area as the surfaces of Lakes Superior, Huron, and Michigan, *combined*. Equally significant is the fact that the states where drainage of wetlands has been greatest are the states where agriculture became greatest, in the early cultivation of wheat and later of corn. In Ohio 99% of the original wetland has been drained; in Indiana and Iowa 97%; and in Illinois 90%.

Today we are beginning to relate this wetland loss, combined with the development of cities, suburbs and highways, to loss of wildlife habitat, loss of water purity, declines in groundwater, and increases in flooding. But the draining of wetlands is also very important to the economic history of the old prairie states, because it required so much capital and therefore affected patterns of land ownership and development and the accumulation of wealth. Like the plowing and fencing of the prairie, it has had both an ecological and an economic effect. Even more than with plowing and fencing, the economic gain was an ecological loss, although there were some economic losses as well, in loss of hunting and trapping and eventual losses from floods. Thus

few events better illustrate the modern conflict between economics and ecology, those two words with one root. Yet drainage of the prairies happened rather gradually, during the course of approximately 100 years, from 1850 to 1950, generally attracting only local attention and being done almost exclusively by private landowners and investors. By contrast, the big dams that were built later, to handle some of the water which wetland drainage released, required huge Federal appropriations. The draining of the prairies might be called, therefore, one of the great accomplishments of American private capital. But whether it was a benefit is increasingly dubious.

The principal reason why the draining of the prairies took private capital was that in the Nineteenth Century neither the national nor state governments could afford it. The Swamp Land Act of 1850 turned Federal swamp land over to the states, in hopes they would drain it, and later state laws gave it to counties, which usually then sold it to private interests. They could afford to drain it, and did so to vastly increase its value. The historian Allan Bogue, in reviewing the rising costs of land in Illinois and Iowa in the Nineteenth Century, described each improvement to the land as costing more than the one before but more than doubling its worth. The price of government land was generally \$1.25 per acre. Once it was accessible by railroad, the price would more than double, going up to a minimum of \$3.00. Breaking cost \$2.00-4.00 per acre. With the introduction of barbed wire, fencing cost \$2.00-5.00. Then draining cost \$5.00-20.00 or more.

Drainage was initially accomplished simply by hiring laborers to dig ditches from the low spots in a wet or marshy field to the nearest creeks and streams. It was slow and tedious work. It was not so simple, however, because at the same time bridges or culverts had to be built across the ditches so that a farmer could still get to the field. He also had to be sure that he did not just flood his next field down, or his neighbors' fields. Therefore, as Hugh Prince has written in a history of Midwestern wetlands, "Ditch laws or drainage laws authorized the organization of drainage undertakings which required groups of farmers to participate." Enacted first in Ohio and Michigan in 1847, such laws were soon passed in all the other five central prairie states, with later laws giving the drainage districts greater protection, freedom, and authority. They became, in effect, local corporations with procedures for financing, condemnation of neighboring property, tax advantages, and means of allocating the costs among the participating land owners.

The justification for granting these privileges was that draining wet prairies would improve public health, because swamps and marshes were thought to

generate malaria, or “the ague.” The real cause, the anopheles mosquito, was not identified until 1898, and had to be defeated by other means. But by then land owners, legislatures, and courts defended drainage as promoting prosperity and attacked its opponents as enemies of progress. And there were opponents, because by 1900 farmers and investors had begun to drain whole lakes, bodies of water that people enjoyed for fishing and recreation. Yet drainage associations had acquired great legal and financial power. Moreover, the distinction between a lake and the marshes on its edge was hard to draw, especially in new country and after plowing up the surrounding prairie had radically disturbed the land’s hydrology. So drainage became “reclamation,” and the lake bottoms and marsh bottoms became corn fields.

As the draining of wet prairies became more common and more aggressive, it also became more technologically advanced and more expensive. In the 1850s large landowners in Illinois began to use huge ditching plows, drawn by as many as 40 head of oxen. With them they could drain thousands of acres of prairie and transform it from grazing land into wheat fields. The next developments were revolving wheel ditch-diggers and even larger plows. By 1884 a steam dredge had been developed. Still another method was “mole draining,” which was done with a sort of subsurface horizontal drill which would open a pipe-like hole three or four feet underground. These tended to fill in, however, so the more permanent improvement was to dig open trenches, install clay pipe, or “tile,” and then close them over. This was called tiling, and ultimately it became the most common method. In 1882, Prince says, there were a thousand tile factories in Indiana, Illinois, and Ohio alone, and by 1900 hundreds of thousands of miles of subsurface tile had been laid in these and neighboring states. Still another method was the digging or drilling of holes straight down into the ground so as to empty the water from a marsh or lake into the underlying aquifers, after which horizontal tiling could be added to bring in additional water from neighboring fields. These holes were called Agricultural Drainage Wells (though they were really more like drain-pipes than wells), and hundreds of them have been drilled in north-central Iowa alone. The practice began in the early 1900s and reached its peak during the 1940s and 1950s. New ones are now forbidden, because the water running into them carries manure, farm chemicals, and other pollutants, thus polluting aquifers. But most are still open.

All of these methods of draining the prairies were expensive, as can be imagined from studying old photographs showing the huge, cumbersome

dredges and trenching machines. The dredges were built on shallow barges, and floated out onto the lakes and marshes. As they dug, the soft earth and peat were piled on the side. As the ditches grew, the barges went with them, until some ditches were extended for miles, even diverting water from one river course into another. But once a drainage ditch was complete, the water poured out, and a former lake or marsh became a field. No longer could it shelter ducks, geese, cranes, turtles, muskrats, mink, otters, and beavers. No longer would it purify water or hold back floods. No longer would it reflect sunrises and sunsets and remind people of the glaciers which had once melted here. It now looked like all the other land around it, bare in winter and covered with crops in summer. But it would also have made a lot of money for the investors who had bought it and paid for its drainage.

The financial expense of such projects limited them, at least initially, to people with immense capital. To avoid legal conflicts with other landholders, who might not like water descending on their land, and to gain maximum benefit from the drainage, large blocks of land had to be drained at once. Large landholders could also benefit from provisions in Federal and State policies that lowered the price of land, such as swamps and marshes, that had not sold earlier. The historian Margaret Bogue says that between 1853 and 1856 Michael L. Sullivant of Columbus, Ohio bought 52,600 acres of land in east central Illinois from the Federal Government and 10,470 from the Illinois Central Railroad, as well as 1,130 acres more of swamp land. Such land usually sold for only an eighth or a sixteenth of the \$1.25 per acre that was the base price of Federal land. It had not been bought earlier because it was unfarmable, and smaller landholders did not have the money to drain it. Men like Sullivant used it at first as pasture for cattle. But once they drained it, or sold it to other investors who drained it, it might rent at \$4 an acre or be sold at \$40 per acre. Drainage and the ever more sophisticated means of ditching and tiling required vast sums, and the increases in land value were due to other factors as well. But the cattle ranchers of the 1840s and '50s, who had grazed their cattle on the wet prairies, turned to draining in the 1870s and '80s as a way of increasing the value of their property. They drained thousands of acres at a time, then brought in tenant farmers to raise oats, wheat, and corn. The result, Prince thought, was "territorial aggrandizement by great estates." The profits from one project could also be put into buying out smaller farmers, leading to "landed monopolies."

And yet the prairies did not all of a sudden become vast estates. More often such vast holdings as Sullivant's in Illinois and Paullin's and the Closes' in

Iowa, were sold off in much smaller parcels and then farmed for many years by individual farmers and their families. Today those “small family farms” are indeed being bought up by larger farmers, whose holdings may reach 1,000 or 2,000 acres, but the general pattern in the late Nineteenth Century was for the large speculators and entrepreneurs to sell out and the yeoman farmers to take over, even though they in time became capitalists too.

To understand this seeming paradox it is useful to go to a distinction Marx offers between two kinds of transactions. In one a commodity is sold for money and the money is then used to buy another commodity. Marx abbreviates this as C-M-C, and gives as a simple example the sale of corn for money and the use of the money to buy clothes. The second kind of transaction moves the other way, M-C-M, where money is used to buy a commodity and the commodity is then resold in order to obtain money again. Some one who sells the commodity for less than he paid for it obviously loses money, but since the successful capitalist sells for more, Marx refines this formula to M-C-M[^], and asserts that it is the basic formula for capital accumulation. Thus Marx’s prototypical capitalist is “the possessor of money” whose aim is “the unceasing movement of profit-making.”

Marx’s basic explanation for the increase in the value of a commodity, so that M becomes M[^], is the insertion of labor, which in turn involves his concept of surplus value and the capitalist’s profiting from other men’s work. But I do not wish to get into this issue, which has long been contentious and may be more appropriate to factories than to the making of agricultural land. Rather, I want to use his simple formulae of C-M-C and M-C-M[^] to distinguish between two kinds of American prairie capitalism. M-C-M[^] was the formula used by the initial big landholders like Sullivant, Paullin, and the Closes, and C-M-C, or some modification of it, has been the formula used by the smaller farmers who have mainly owned the land since.

The early farmers of this second class were carefully studied by Allan Bogue in *From Prairie to Corn Belt*, where he used census figures and tax records, supplemented by diaries and account books, to establish the average sizes and costs of farms in Illinois, Iowa, and neighboring states. Typically, they started with farms of under 100 acres, about half of which was broken or they soon broke, and half unbroken prairie which they used for pasture and hay. Their machinery in the 1830s was “a wagon, a couple of plows, [and] a harrow” and their tools an “ax, shovel, scythe, fork, and rake.” Their animals were a pair of oxen or a team of horses, a few cows, and a few pigs. With these they

raised potatoes and vegetables to eat and wheat or corn to sell. It was close to subsistence farming. They also were chronically short of capital, having spent all their savings and usually having borrowed money, too, to get started. But with the surplus from the sale of their small cash crops, supplemented by money from selling milk or butter, working on roads or for neighbors, and even selling the labor of their sons and daughters, they gradually accumulated more land and more machinery. The two—more land and more machinery—almost always went together, as they still do. But one must read an agricultural history like Bogne's to realize how important machinery was, even in the middle and late Nineteenth Century, and how rapidly it evolved. For every farm operation—plowing, spreading manure, harrowing, planting, cultivating, harvesting, and threshing, not to mention haying, milking, and making butter and cheese—there was a steady progression of new inventions. The inventing, testing, making, and selling of farm machinery was a huge enterprise in its own right, requiring masses of capital, which came, of course, not just from bankers and investors but ultimately from the farmers. And the farmers, chronically as short on time and labor as they were on capital, bought the newer and bigger equipment in order to farm the additional land and keep up with or get ahead of each other. City and suburban boys like myself, raised on stories of the ingenuity of Edison and Ford, have no idea of the prior ingenuity of the inventors of things like seed drills, gang plows, corn planters, multiple row cultivators, mowers, hay rakes, many kinds of reapers and binders, steadily improving threshers, and so on—all built to be pulled by horses, decades before there were gasoline tractors.

A Nineteenth Century farm boy like Herbert Quick, on the other hand, could recall the evolution of his father's farm machinery as precisely as I can recall our family cars. In Floyd County, Iowa, in the 1870s and '80s wheat was his father's cash crop, and young Herbert's first memory was of his father driving "an old Seymour & Morgan hand-rake reaper," while a son-in-law "raked off the sheaves into gavels to be bound." But soon there was a McCormick reaper "with its reel to throw the standing grain on the platform back of the vibrating sickle, and its huge rake which rose at regular intervals like a great beckoning hand. . . ." Or one could buy "the Aultman-Taylor type" with "a whole inflorescence of rakes which blossomed from a central root crown of machinery low down at the driver's left." A third kind of reaper was "the Buckeye dropper, which carried the cut grain along on a row of slats . . . to be taken up by the binders." Next came "a great and revolu-

tionary machine called the header.” It cut only the tops of the stalks “and discharged their heads and the minimum of straw into wagons . . . in which the grain was taken to stacks to await the coming of the thrashing machine.” But Quick’s fondest memories were of “the Marsh harvester,” invented by two brothers in De Kalb County, Illinois. They “changed the world,” exclaims Quick, because they “invented a machine which made it possible for two men binding grain to do as much as four or five did before, and do it more easily.” The men rode, and the grain was lifted up to them, making their work so much easier than the back-breaking lifting and stooping men had had to do before. Moreover, a self-binder was later attached, which “multiplied the efficiency of the harvest-gang by something like five.”

Buying such machinery went step by step with renting or buying additional land and the breaking or draining the additional prairie on which to use it. More and bigger machinery made it possible to farm more land; owning more land justified bigger machinery. That was the progressive pattern for the Nineteenth Century farmer-capitalist, as it is today. The only difference is that today the machinery—the plows that run twelve or sixteen rows at a time and the combines that simultaneously reap and thresh—are powered by gasoline or diesel engines and cost in the hundreds of thousands of dollars. The formula is the same: from a commodity (the cash crop that is sold), to money (on which one lives and repays debts and with which one buys more commodities—new machines and additional land). The formula is not exactly the same as Marx’s C-M-C, because the money is dispersed for more things than just enough to live on. It is C-M-C[^], because the surplus money is invested in improvements and enlarged holdings. So even though this prairie capitalist, the farmer, does not usually intend to sell out soon and move on, like William Close, to other investments he is still a capitalist.

My critical use of the words capitalist and capitalism runs the risk of inviting trite and prejudiced responses. Decades of relentless political indoctrination in the United States make many people assume that any user of Marx is a “Marxist” and the only alternatives to capitalism are socialism or communism. But obviously I am a capitalist myself—a buyer and seller of stocks and bonds, as well as houses and land. I also love the romance of men like William Close who plunged into unknown lands, took enormous risks, and made fabulous wealth. They are our cultural heroes. An equally powerful and noble part of every American’s heritage are the prairie pioneers whose suffering and endurance

have been celebrated by Hamlin Garland, Willa Cather, and other prairie authors. To call such men and women “farmer-capitalists” goes against the sentiments of Garland and these other authors because they were usually the victims of the system rather than its beneficiaries. But when such men and women won their struggles, or thought they were winning, like the Dakota wheat farmer in Garland’s story, “Among the Corn Rows,” they surely saw themselves as capitalists—amassing land, buying manufactured goods, and hoping to grow rich and secure. Indeed, many Nineteenth Century Americans did. Capitalists were the fly-wheels and governors of the great steam engine of American society that was transforming the landscape. Everyone—farmers, city dwellers, engineers, and tradesmen, as well as bankers and brokers—were usually proud to be a part of the machine. The farmers generally admired the bigger capitalists who manufactured their machines, like Cyrus McCormick and his rival Obed Hussey, and these men were further celebrated by journalists and politicians. In 1850, according to Craig Canine’s fascinating history of reapers and combines, McCormick was toasted for making 1500 reapers a year. In 1851 he and Obed Hussey exhibited their machines at the Crystal Palace in London, and drew such attention that the American section of the Exhibition was called the “Prairie Ground,” meaning it was flat and bare but immensely promising and productive. A decade or so later Secretary of State Seward said of McCormick’s reaper that it “pushed the American frontier westward at the rate of 30 miles a year.”

The manufacturing of farm machinery made prairie towns rich, too. From Ohio to Iowa, small towns that once served only as sites for grain mills and blacksmith’s shops rapidly became sites of foundries and factories. The Champion reaper, a competitor to the early McCormick reapers, was made in Springfield, Ohio. John Deere moved his plow factory to Moline, Illinois in 1848, from the smaller town of Grand Detour, where he had had his blacksmith shop. J. F. Glidden and Jacob Haish made barbed wire in De Kalb, Illinois, starting in the 1870s. Wagons and buggies were made in Columbus, Ohio, as in many other towns. Racine, Wisconsin; Springfield, Peoria, Decatur, and Rockford, Illinois; South Bend, Indiana; Dubuque and Waterloo, Iowa—there were many cities engaged in farm implement manufacture, as we call it today. Such agro-industrial development, as Brian Page and Richard Walker call it, was therefore not restricted just to large cities like Chicago and St. Louis or to the leadership of just a few dynasts. It spread throughout the region and engaged many entrepreneurs, bankers, and investors.

The fatal flaw in capitalism, as applied to the prairies and to agriculture generally is that, despite its ups and downs, it is ever expansive. Investors invest their capital, say, in draining land, sell the land, make more money, and then have more capital with which to buy and drain more land. Or a farmer-capitalist invests in bigger machinery, increases his yields, makes more money, and so buys more land, more machinery, and more fertilizers with which to increase his yields yet again. Thus the process is driven not by the well-being of the land or even the need of the world for food but by the need of the owners of capital to increase it. And since capital in the aggregate is always increasing (even though some individual capitalists fail), the need to invest is exponentially increasing too. Drainage is a very good example of the folly of this kind of investing, because by putting too much land into production it finally resulted in lower prices and the farm depression of the 1920s. William Berry, a professor at Iowa State Normal College, wrote in 1927 that “drainage has merely contributed to a surplus that has so upset farming conditions as to threaten the very foundations of agriculture.” Draining land was not only bad for groundwater tables and bad for migratory birds, it was bad for farmers. The plowing of the high plains to convert short grass prairie into wheat land was a similar example. As Donald Worster has shown, the land was not really needed for wheat, or was only briefly needed during World War I; it was needed as a place to invest capital. The result was again over-production and, of course, the dust bowl of the 1930s, which has been called “one of the three worst ecological blunders in history.”

By the 1950s and '60s private capital was not the only agent. The Federal Watershed Protection and Flood Prevention Act of 1954 authorized the Soil Conservation Service to use federal money to straighten streams and drain marshes, until by 1971, Ann Vileisis wrote in her history of American wetlands, the SCS “had spent an estimated \$90 million channelizing six thousand miles of waterways,” with more projects being planned. The arguments used for this expenditure of federal capital were that channelizing and drainage would reduce the flooding of fields and thereby add to available cropland. This would increase farm income and increase land values, thereby increasing the tax base. The work itself, of course, provided jobs, created a demand for machinery, and profited contractors—the usual attraction to politicians in all pork barrel legislation. But the entrance of government capital demonstrates that governments are capitalists also, despite both left-wing and right-wing protests that they are not, or should not be. In seeking to promote prosperity, which supposedly depends on the productivity of the land, just as prosperity

also depends, supposedly, on the productivity of labor, they too have drained the landscape, regarding water as a public nuisance and only dry farm land as economically beneficial. The problem is that land has its limits. It cannot be made constantly more productive, without damage elsewhere and to it directly. The channelizing of streams and drainage of potholes worsened the flood damage of the 1990s.

When I came to Iowa City in 1965 I had absolutely no knowledge of the history of the land I looked out on. Although I did notice some abandoned farm houses and falling down barns and hen houses, I viewed Iowa farms as somehow changeless. I had no idea of the impact of the early speculators and entrepreneurs, of drainage, and the development of farm machinery and farm chemicals—nor, I think, did most of my colleagues at the University of Iowa. These forces of our capitalist economy are still at work.

The coefficient of “urban sprawl,” for instance, is rural collapse. Houses and shopping centers fan out into the countryside not just because cities are growing and city people have more money to invest but because farm productivity has become so high that prices fall, farms are consolidated, and people leave farms and small towns. The rural landscape is left with the junked farm machinery, and small town main streets are empty. The farmers lucky enough to live near cities sell to developers, and their land’s last crop is concrete.

The land around Iowa City has suffered the same fate. The level fields to the south and southeast have become low-rent apartment developments and trailer parks, while the picturesque rolling pastures and oak groves to the north and northeast have been broken up into suburban acreages. “Picturesque” land, once regarded as worthless, or worth less, now fetches more than good farmland. Its cash crop is scenery. In other parts of Iowa City the artificially picturesque is provided by man-made ponds that are the centers of clusters of townhouses, so-called. Rock is trucked in to riprap the shores, and fountains or geysers are placed in the middle, apparently for spectacle but actually to aerate water which is full of chemicals from the lawns. Lawn grass and a few spindly new trees are the flora. The fauna are deer, which kill the trees, and Canada geese, which leave their droppings around the ponds. No fishing. No swimming.

Today I sometimes wonder what might have happened had I bought that farm outside Iowa City that I dreamed of buying in the late 1960s, thirty years

ago. Would I have saved it from what has since happened? Or were my plans and desires just like other developers? My tennis court and pond now seem just modest substitutes for the Close Colony's polo fields and race tracks. Would I have grown more responsible and been a better steward than the developers? Or was I simply not bold enough to be a good capitalist?

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