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THE EDGE OF ANOMALY

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Wilderness exists in all degrees, from the little accidental wild spot at the head of a ravine in a Corn Belt woodlot to vast expanses of virgin country. . . . Wilderness is a relative condition. — Aldo Leopold, “Wilderness as a Form of Land Use” (1925, 399)

Our four-car caravan leaves the creekside parking lot, winds across the valley, follows the curves of a narrow road, climbs up a bank of steep oak-forested hills, and rolls through open pastures and upland crop fields toward the ridgetop farm of Joseph Haugen. Most of the twenty university students have no idea where we are. There is no reason they should. Some have come from ten thousand miles away. But here we are, a few miles from the Mississippi River in western Wisconsin, heading to a small farm where eighty-eight-year-old Joseph now lives alone. His older brother Ernest, with whom Joseph lived and farmed this land all their lives, died two years ago. The bachelor brothers had sold their dairy herd some years before but kept three Jersey cows for milk, for company, and for continuity’s sake. The lede of the obituary in the *La Crosse Tribune* read, “Ernest Haugen, a farmer and champion of land conservation, died Thursday at age 90, just five weeks after milking his last cow.”

We pull into the Haugen farm. Its modest old farmhouse sits on one side of the road, outbuildings on the other—a not uncommon arrangement in this part of Wisconsin. The students settle onto the sloping lawn, sip from their water bottles, and enjoy the midmorning summer sun. My friend Jon Lee, who farms nearby, and I go to fetch Joseph and three wooden chairs. Jon knocks on the door. “Good morning, Joseph!” Jon says loudly. Joseph’s hearing has faded. “Hello, Yon.” Joseph speaks with a second-generation Norwegian accent. He is slight and wiry. He’s a smiler and lights up as we meet him at the door. He wears blue jeans, a plaid short-sleeved shirt, and a ball cap and walks haltingly with his cane across the grass. For someone who comes close to fitting the stereotype of the stoic Norwegian bachelor farmer, he enjoys our having come for a visit. But he also tires more easily these days, so we must make good use of the time with him.

The Haugens and their neighbors in the Coon Creek watershed were revolutionaries. In the mid-1930s, the farmers of Coon Valley came to terms with their land, with each other, and with the actions of their own forebears. Three generations of postsettlement farming and flooding had ravaged the watersheds of these steep-walled valleys. The region’s fine loess soils, rendered vulnerable by heavy grazing, constant mono-cropping, and up- and downhill plowing, melted away in heavy rains. Chasmic gullies ate into the hillsides, the eroded soils burying downstream homes, farms, and businesses. Down-valley, in Chaseburg, you can find the tops of chimneys just barely poking out above the ground. In 1935, conservationist Aldo Leopold summarized the situation: “Coon Valley is one of a thousand farm communities, which through the abuse of its originally rich soil, has not only filled the national dinner pail, but has created the Mississippi flood problem, the navigation problem, the overproduction problem, and the problem of its own future continuity” (206–7).

The solution came in the form of a watershed-wide community response, as more than four hundred farmers broke with past practice and adopted novel soil and water conservation methods. The techniques were in many cases experimental, the aims basic. Keep the soil in place. Slow the water. Start at the upslope sources. Moderate the water’s infiltration. Adjust land use to fit the degree of slope. Plow and crop along the natural contours of the land. Intersperse and rotate crops. Take the cows off the steep slopes. Repair and revegetate the stream banks. Plant food and cover for wildlife. To make all this happen, work with the newly established Soil Conservation Service, university specialists (including Leopold), the callow boys of the Civilian Conservation Corps, the town bankers, and local governments.

And don't just do all this for a season, or a year, or until the soil erosion crisis passes, or as long as the government funding lasts. Commit to it. For a lifetime. Or longer.

Beyond the technical details of the innovative field projects, the work at Coon Valley and throughout the region reflected a radical new approach to conservation. Here, conservation focused not on protecting large expanses of public land but on the restoration of private lands and collaboration among private landowners. It did not treat parcels of land in isolation but involved an entire community and a whole watershed. It brought in specialized agronomists and soil scientists and foresters and wildlife biologists, but it integrated their perspectives, skills, and expertise in the field. It recognized the need to rebuild and sustain the economic productivity of the land but saw that this could only be achieved by recognizing a broader set of values and respecting the native qualities and wild ways of the land itself. In repairing the Coon Valley landscape, its people helped redefine the very meaning of conservation.

Joseph is among the last living links to that generation of revolutionaries. That is why we wanted the students to meet him.

We sit in our chairs on the lawn and share a few stories and questions. Joseph, in his lilting accent, recounts how all this looked eighty years before. He remembers the government engineers who helped lay out the contours. He describes the changes in wildlife: fewer grouse and quail now, but the return of deer, turkey, even rabbits. He recalls life on the farm with his brother. There is a famous story told about Joseph. He is said to hold the all-time record for sustained milking, having attended to his cows every single day at 5:00 a.m. and 5:00 p.m. for forty-seven straight years. In all that time, he missed only one milking. And that was because he was called into town—"for y-ury duty!" Before Ernest died, the Haugen brothers put their names to a conservation easement for their 160-acre farm, protecting it forever from development. Their final act of grace. The revolution continues.

Our Q&A session comes to a close. The students have sat rapt for the last half hour, half bemused, half in awe. They gather themselves together and we prepare to head on to the next stop on our tour. We help Joseph back into his house. The mudroom is dusty and weathered. There is kindling in a weathered wood box. Joseph heats and cooks with a wood stove. He smiles as we say good-bye.

Joseph Haugen is an anomaly.

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I live a hundred miles east of Joseph, on the other edge of anomaly.

We both dwell in the Driftless Area, where the flat land wrinkles. Where the back roads and corn rows are not straight but curve around tight bends and through sweeping arcs. Where land uses don't follow the checkerboard grid of the land surveyors' township and range lines—the rigid pattern familiar to anyone who has flown over the American Midwest—but go awry and get twisted. Where reality loosens the fixed grip of the rational and orderly. Where abnormality is not only accepted but unavoidable.

Depending on how it is defined, the Driftless Area embraces between sixteen thousand and twenty-four thousand square miles, mostly in southwestern Wisconsin but also in portions of adjacent Minnesota, Iowa, and Illinois. The Mississippi River runs through it, as do its feeder streams: the Saint Croix, Red Cedar, Cannon, Chippewa, Zumbro, Whitewater, Trempealeau, Black, La Crosse, Root, Pine, Bad Axe, Upper Iowa, Baraboo, Kickapoo, Wisconsin, Yellow, Turkey, Grant, Platte, Pecatonica, Sinsinawa, Galena, Maquoketa, Apple, and a thousand other smaller rivers and creeks, rivulets and cold springs. Geologists describe the characteristic pattern of the Driftless river drainages as *dendritic*—like the branching of a tree or the fingers on our hands, like the splayed-out interconnecting ends of our neurons.

The Driftless Area has other names. Geologists sometimes refer to it as the *Paleozoic Plateau*. Some call it the driftless *zone* or *region*. Around La Crosse, Wisconsin, its municipal heart, people speak about the “coulee region” (from the French Canadian *coulée*, from the French *couler*, meaning “to flow”). In other areas it goes by *Little Norway* or *Little Switzerland* (reflecting segments of its European settler demographic).

Here's the key thing to know about the Driftless: it defies the common image of the American Midwest. Because the landscape was never leveled by the glaciers of the Pleistocene, it is not pancake flat. You can't drive straight through it at eighty miles an hour on the way to Denver. It slows you down. It makes you turn.

The Driftless is an anomaly. Through the recurring episodes of Pleistocene glaciation—seventeen pulses of expansion and shrinkage over two and a half million years—ice hemmed in the Driftless on all sides at one time or another but left its interior ice-free. To the east, Lake Michigan's north-south basin served as a sluice, channeling one great lobe of glacial ice through its periodic advances and contractions. To the north, the ice sheet dove into the depths of Lake Superior's bowl, while the hard bedrock highlands just south of Superior limited ice flow into what is now Wisconsin.

The southern flanks of the ice sheets were relatively thin, and even modest variations in topography were enough to influence the shape of the glacier's edge. To the west, the great ice had an open field—the flatlands of the mid-continent—to ease its way south. As the ice sheets advanced and receded, over and over, they scraped clean the high-latitude and high-altitude landscapes of the continent but missed the Driftless. The most recent advance maxed out some twenty thousand years ago, melted back, and left behind its burden of boulders, gravels, sands, silts, and clays—the “glacial drift.” But this odd exception, this large dent on the southern margin of the North American ice, remained unglaciated and, hence, *driftless*.

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A few miles from the Haugen farm, on the western edge of Coon Valley, a roadside historical marker commemorates the revolution: “Nation’s First Watershed Project.” The text explains that this valley served as “the nation’s first large-scale demonstration of soil and water conservation.” In its own way, this marker might well be placed alongside those that stand at Lexington and Concord, Seneca Falls, Fort Sumpter, Little Big Horn, Pullman, Selma, Stonewall. Those places became emblematic of dramatic changes in our nation’s human relations. Coon Valley, in the heart of the Driftless Area, was, and is, symbolic of far-reaching changes in our human-nature relations.

The Driftless Area is not a “pristine” wilderness. Humans have played a transformative role in the region ever since Paleoamericans, drifting along the edge of the receding glacier, searching for favorable hunting and gathering opportunities, came upon the great gap in the ice wall. Although the debates among New World paleontologists continue, it appears that the newly arrived humans and their descendants were complicit in the extinction of the mastodon and mammoth, the dire wolf and short-faced bear, the giant beavers and ground sloth, ancient camels and horses, and other Pleistocene fauna. Over the next dozen millennia, a series of Archaic, Woodland, and Mississippian peoples made their home in the Driftless, hunting and fishing, growing gardens, running fire through the prairies. In the later stages of prehistory, they inscribed their own distinctive marks on the land: the Driftless Area was the epicenter of the effigy-mound-building cultures of the midcontinent, their varied earthworks dotting the landscape in profusion (and still do, even after widespread destruction of mounds over the last two centuries). Modern tribes of the Driftless landscape include the Ho-Chunk, Sauk and Fox, Santee Dakota, Kickapoo, and Ojibwe. European ex-

plorers and missionaries came into the Driftless starting in the 1600s, to be followed by transient trappers, miners, loggers, and in the mid-1800s, immigrant settlers. By the 1930s, three generations of farming the Driftless ridges, slopes, and valley floors had brought a measure of prosperity but also an accelerating rural crisis in the form of ruinous soil loss, flash flooding, degraded woodlands, and depleted wildlife (as so distressingly exemplified at Coon Valley).

The Driftless Area is, then, a long-peopled and much-used landscape. And as with the rest of the planet, more than four hundred parts per million of atmospheric carbon dioxide (including the 120 post-Industrial Revolution parts) now waft over the coulees. Still, the earth endures and reminds: however changed and however constantly changing the landscape, it is not and will never be a completely humanized one. On the steepest slopes with the thinnest soils and driest conditions, remnants of the pre-European vegetation—"goat prairies" and oak savannas—still hold fast onto the outcrops. The sandstone, limestone, and dolomite bedrock, poking out of the hilltops like impacted molars, ground us in the nonhuman and prehuman cycling of carbon and minerals among atmosphere, ocean, and earth. The region has its share of dams and ditches and dikes, but the dendritic network of branched waterways still utterly defines the region.

And it was the way of water that finally forced necessary changes in land use in the 1930s. In the face of destructive floods, gullied slopes, sloughing soils, and dissolving pastures, people in the Driftless had to *make a turn*. Of all the restorative measures that the region's landowners adopted, and the many that have been retained since, the most readily visible are the alternating contoured strips of crop and pasture, hayfield and woodland edge, that hug the Driftless hills. Retaining soils, recycling nutrients, interrupting the gravity-pull of water downhill, the contours are nowhere uniform; they are unique to each piece of land, expressing its Paleozoic past, its land-use history, and its contemporary land ownership. Each parcel tells a tale of a farmer willing, at some point, to counter convention—perhaps even a neighbor, a friend, a father—to change from plowing straight up and down the slope to following the lead of the land and turning with it. So basic, and so radical. Such a wild thing to do.

If the Driftless Area is not "pristine," nor thoroughly humanized, neither is it like the rest of the agro-industrial American Midwest. It is not wholly engineered to serve as a mere medium for corn and soybeans bound for the global market. It has not been made efficient to the point of diminishing returns. The goat prairies, woodlands, bottomland forests, riparian wet-

lands, rivers, streams, and springs keep the landscape diversified. Smaller-scale dairy and livestock operations, with actual grazing animals, remain relatively viable so that a large portion of the land is covered in permanent pasture. The corrugated topography does not lend itself to ever-expanding economies of scale. Even the big-box stores have a hard time squeezing into the narrow valleys. Whatever algorithms allowed Walmart to proliferate with surgical precision, conquer the flat Midwest, and redirect the flow of capital, they presumably had to be rejiggered in the Driftless.

Like all places, then, the Driftless Area landscape is a complex expression of natural features and processes that are always shaping, and being shaped by, human actions that began long ago and that continue up to this instant . . . including actions unforeseen even a few years ago. The near-surface sandstones so characteristic of the Driftless now make the region ground zero for the extraction and processing of “industrial sand,” an essential ingredient in the hydraulic fracturing (“fracking”) process. The modest economy of the region makes the prospect of quick frac-sand profits attractive to many landowners and local municipalities. The global economy—and the fossil fuel juggernaut that feeds it—leaves no place untouched. Here, it scrapes land bare in a way that seventeen onslaughts of glacial ice over two thousand millennia could not.

And so the human impressions on the land emerge and fade, accelerate and slow, intensify and wane. Since Joseph Haugen was a boy—since the Haugens and the other farming families along Coon Creek signed up for the watershed restoration project—the Driftless landscape around him has changed. In many ways, it’s grown wilder. Its soils are healthier, more stable, more productive (agriculturally and ecologically). Its surface waters, slowed in their overland flow, clarified by infiltration, chilled by their passage underground, now support thriving populations of trout (and a thriving fishing economy). Its remnant prairies and savannas are treasured. In the last two decades, black bears have come into the region from the north in increasing numbers. Gray wolves have reestablished themselves along the northeast edge of the Driftless, with occasional dispersers crossing over and testing the levels of human tolerance. Phantomlike, cougars come and go amid the coulees, caught on trail-cams as they arrive from as far as the Black Hills, and head off stealthily to points east.

Even as the American Midwest was surveyed and settled, gridded and sodbusted, plowed and ditched, simplified and commodified, the Driftless Area in its midst took a different path. The patterns and methods of land exploitation that worked so smoothly in the flatlands—that assailed the native

flora, fauna, and peoples, that disrupted the region's soils and waters, that imposed supposed efficiencies—met their match in the convolutions of the Driftless. Here, the main stream of culture had to self-correct. Here, that culture had to admit to itself that self-correction was in fact called for and that progress does not always entail going full bore, heedless, straight ahead.

Over the last decade, several “five-hundred-year” floods have come to portions of the Driftless. The Haugen farm was among those in the path of several epic rainstorms, intense downpours of the sort that are expected to become more common with accelerated climate change. Even the professional soil and water conservationists who most closely monitor these rain events were surprised and encouraged to see how well the watersheds responded. The conservation measures first adopted seven decades before did their job—performed, in fact, beyond their design specs. Here, where the nation's first watershed project was undertaken, we learn vital lessons for the uncertain future: as we ignore the particular qualities, needs, and opportunities of the land, we put ourselves at risk; as we work with the wild, the land grows more resilient; and as the land grows more resilient, so do our communities.

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Throughout its history, the Driftless Area has regularly attracted renegades, refugees, resisters, and adventurers. Ho-Chunk who were removed time and again from their homeland but whose love of the land kept them returning. Fur trappers from France. Lead miners from Cornwall. Homesteaders from out east. Quakers who came in shortly after Wisconsin became a state in 1848. German “Forty-eighters” and Scandinavian farmers. Escaped and freed slaves who, before and after the Civil War, built their own community, Pleasant Ridge, in Grant County, Wisconsin. Black Hawk and Frank Lloyd Wright and Aldo Leopold. Since the 1960s, the Amish have come into the Driftless, drawn by its rural character and relatively affordable farmland. The Driftless remains a tolerant home to the unconventional: independent farmers, seed savers, organic growers, aging hippies, young agrarians, outsider artists, Wiccan worshippers, unpredictable voters, river rats, trout bums. Anomalies all.

Another visit, another farm.

Just a few miles away from the Haugen farmstead, and just a couple years before, I am at work with a film crew documenting a bit of Coon Valley's conservation history. My filmmaker friends Steve and Dave—from California and Colorado, respectively—are new to the Driftless. We ask the indispensable Jon Lee if he can help us locate an Amish farm where we might

be able to film. We do not want to impose, especially on a mellow midday in early October—prime harvest time. But soon we find ourselves on another ridgetop farm. The farmer is hitching his team of brown-and-white Paint/Percheron horses, preparing to bring in hay and oats. He agrees to let us film but requests that we not record any closeup images. He also asks us, by way of barter, to help him pitch a load of straw bales.

After finishing the chore, we wait for the farmer to harness his team and come around the fields. We stand gazing across the valley, where the local Amish schoolhouse sits on an adjacent ridge. Recess has just been called. Fifteen boys and girls, dressed in brown and blue, bonnets and suspenders, emerge and commence playing baseball. We watch with fascination. A right-handed pull hitter has it made: one line drive into the clover, in the steeply pitched Driftless left field, and the ball will roll on until it reaches the Mississippi River. We listen to the click of bat on ball, the laughter of the children, the rustling of the leaves in the autumn breeze, the whinnying of the horses behind us.

During a pause in the action, Steve offers color commentary. Then he says, balanced perfectly between joking and seriousness, “I have never felt so American in all my life!”

A bucolic moment, caught on memory, framed by the billowing hills and odd angles of the Driftless and by the unsettling tensions and restless discontents of our times. But even the Amish—*especially* the Amish—are nowhere near as simple as they appear to be. It is not a simple life that can defy pressures to conform, or simple convictions that can maintain modesty. It is not simple routine that allows a man to milk cows for forty-seven uninterrupted years, or simple warmth that allows an octogenarian to smile when strange students come knocking, or simple need that causes farmers and tractors to turn with the contour. It is not a simple notion of the wild, or the human, that brings us around. We try to impose our will, yet we are shaped fundamentally by the wild, the spontaneous, the nonhuman, by forces that are greater than us, by realities that are older than us, by futures that draw us out. We are always finding ourselves on the edge of anomalies. And anomalies—with proper care and cultivation, exploration and contemplation, coordination and action—can seed revolutions.

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