THE IOWAIN

IOWA BREEDING BIRDS SHOW THEIR FEATHERS

RESTORATION STORY:
FRANK LLOYD WRIGHT
HOUSE IN MONONA

ART MURALS OF SOUTHWEST IOWA

BIG LEAGUE BASEBALL FINALLY ARRIVES AT FIELD OF DREAMS

HUMBOLDT COLLEGE:
GONE AND MOSTLY
FORGOTTEN



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ART MURALS OF SOUTHWEST IOWA

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features

FIELD OF DREAMS WRITES A NEW CHAPTER

by Ira Lacher

Thirty-plus years since its creation, Field of Dreams, lowa's most celebrated ball field, will host the New York Yankees and Chicago White Sox in a regular season game.

WINGS AT WETLANDS

by Jay Gilliam

Up-close views of breeding birds you can find at marshes, sloughs, potholes, and other wetland environments throughout Iowa.

GETTING IT WRIGHT

by James Augustus Baggett

Restoring Frank Lloyd Wright's only American System-Built Home in Iowa has become a personal passion for an intrepid couple with a respect for the past.

ART MURALS OF SOUTHWEST IOWA

by Brian Abeling

The towns of Creston, Bedford, Cromwell, and Shenandoah come alive with bold and colorful works of art created, in large part, by students from the region.

RECOVERY TIME ON THE IOWA DRIFT PLAIN

by Keygan Sands

Keygan Sands takes time for personal reflection during a camping trip to Maquoketa Caves State Park, a landscape that reminds her of the scale of the world.

50 THE OLD COLLEGE TRY

by Avery Gregurich

Before it could hit its stride, Humboldt College (in the town of the same name) failed and scarcely a trace of it remains a century later.

departments 4 around iowa & points of interest

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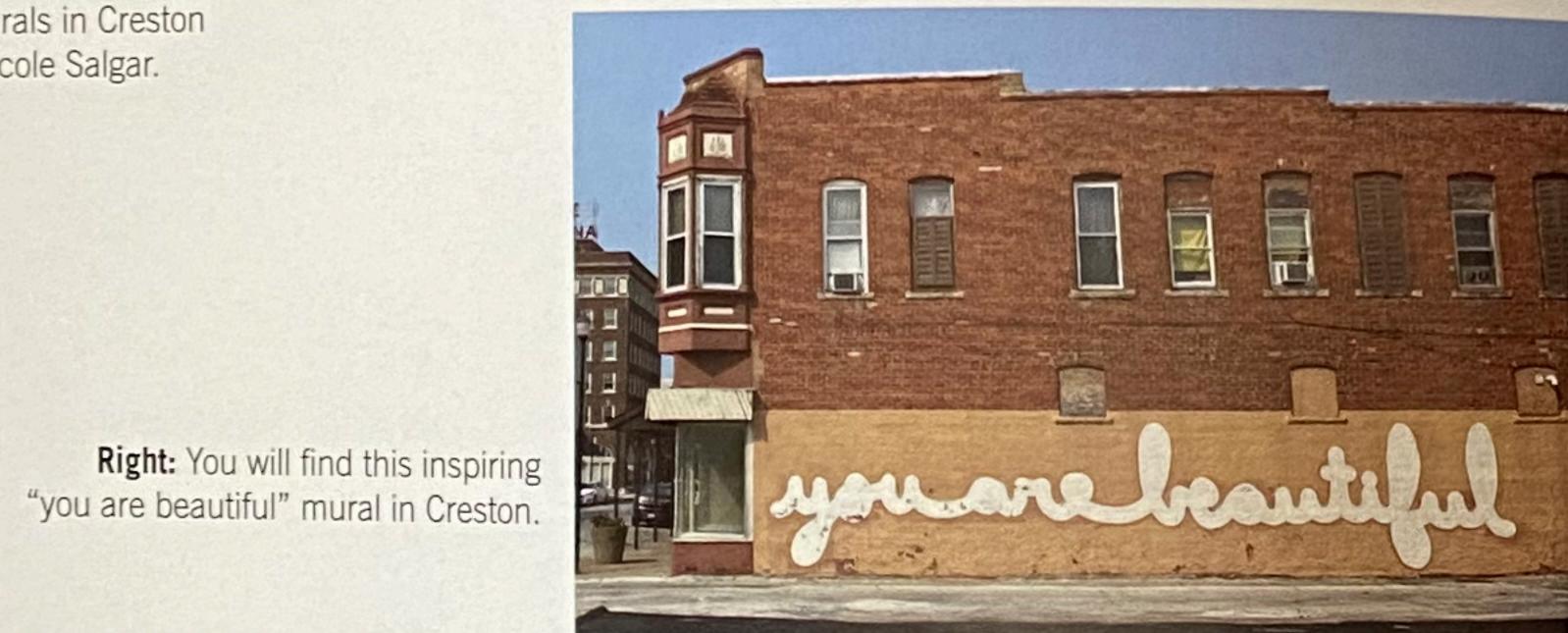
ON THE COVER

A cottonwood tree grows in the middle of a rural intersection near the western lowa town of Brayton. (Photo by Brian Abeling)





Above: Among the largest murals in Creston is this work by mural artist Nicole Salgar.



Above: College student May Ling Chuong, a native of Creston, returned home to create this lotus-inspired mural.



Above: Star Wars and Coca-Cola inspired this pop-culture-inspired mural in Creston.



Above: In Cromwell, visit the Cromwell Tap to see this American flag building facade.



Above: Artist Zet Gold of Des Moines created this cat-themed mural in Creston.



Above: Below: amesakes and the area's agricultural heritage are celebrated on a mural. on created this inspiring mural in Bedford.





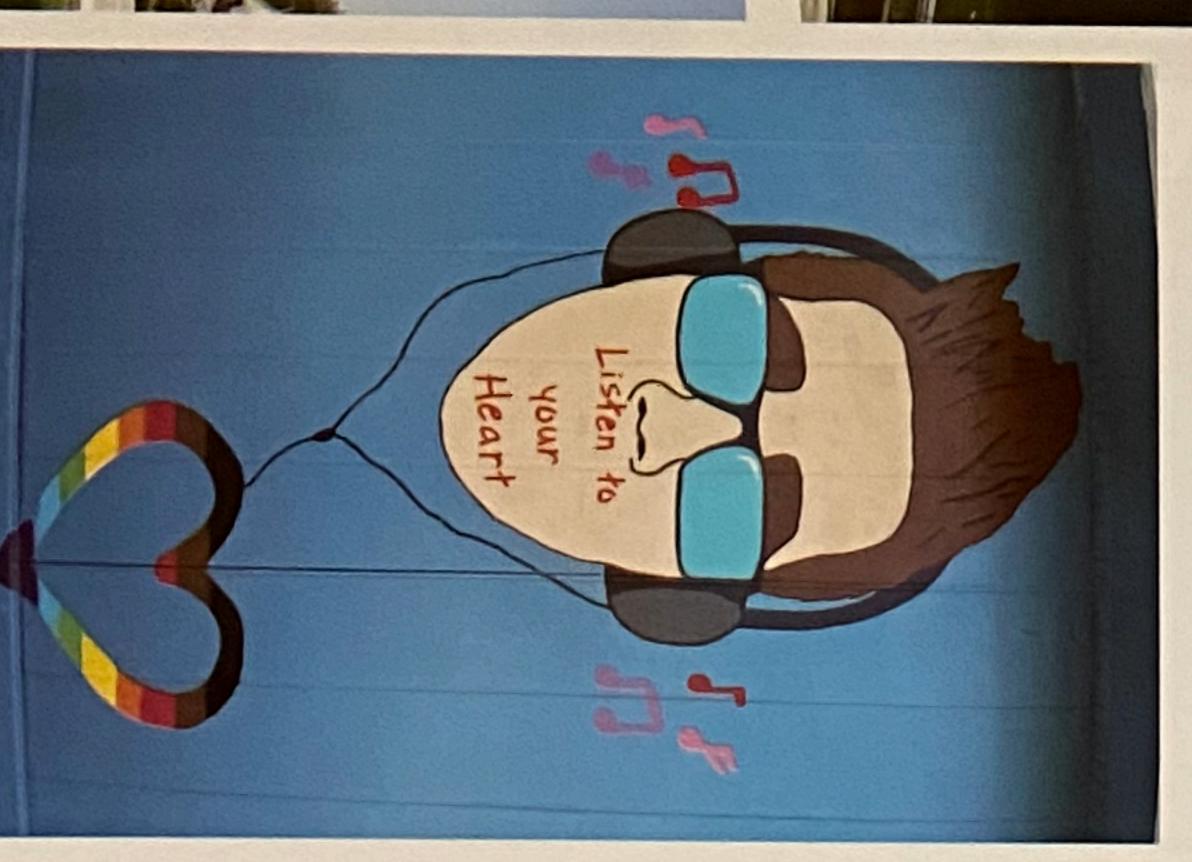
Above: In Shenandoah, stude exterior walls at the Greater S student-created murals line the ater Shenandoah Historical Museum.





Above: Artist Jordan Weber created this bicycle-themed mural in Creston as part of the town's hosting of RAGBRAI in 2016.

Left: Supreme Cleaners in Creston made of its long side facade (the mural extends to the front of the building as well). ne most pround

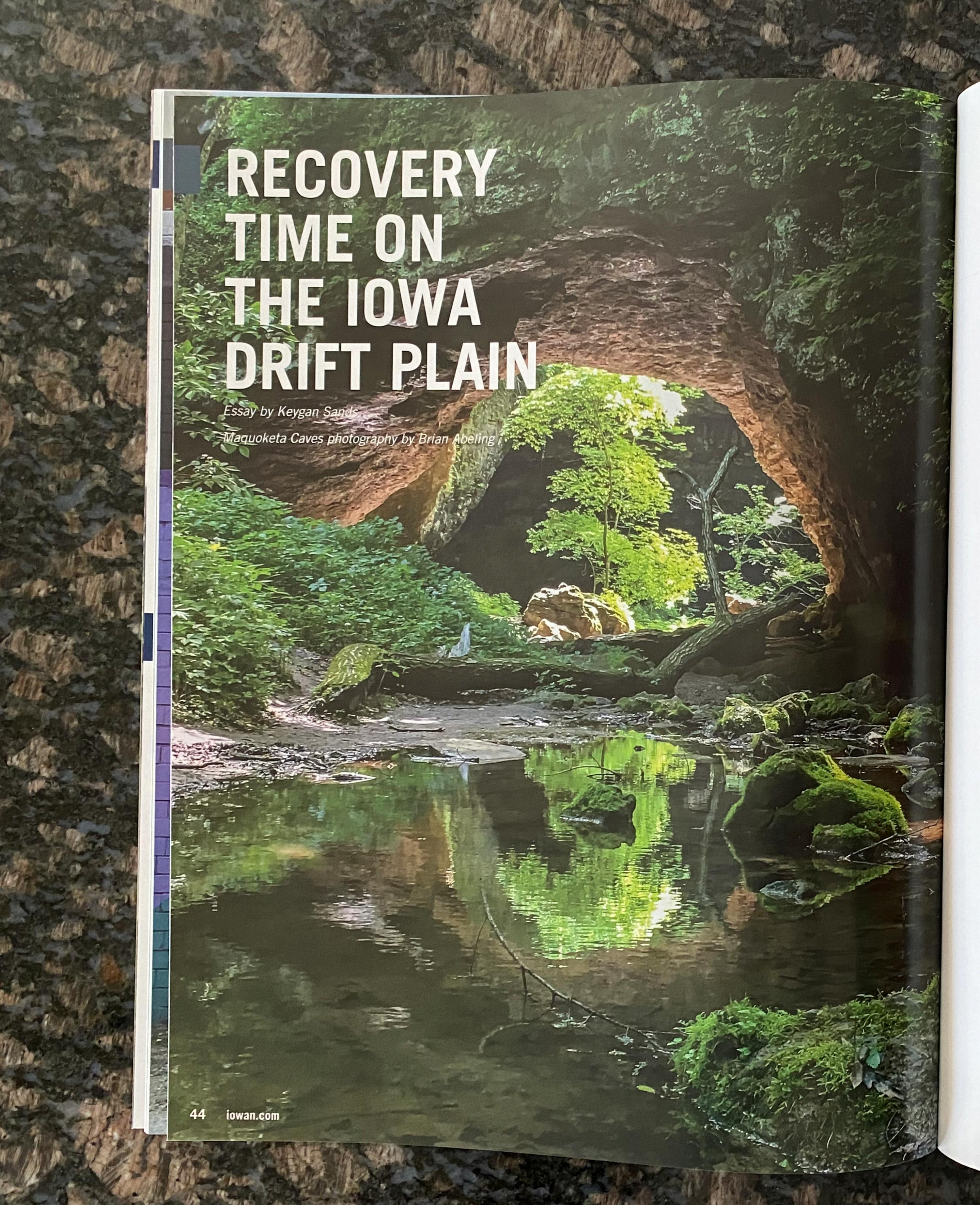


Above: High school student Brenda created this mural in Creston. an Millslage

Above: Students fro created this mural of

from the Southwest ral celebrating the t

College Art Club



In the eastern stretches of the Iowa Drift Plain's rolling hills, which last saw glaciers about half a million years ago, cropland sprouts across the earth like a pastoral fungus. The slow creep of my own kind—growths of tremendously fecund homogeneity boil and roll, traced by lines of oak and honey locust. Amidst this landscape, Maquoketa Caves State Park remains as a 200-acre fragment of the old world. Places like these are necessary: necessary for recovery and for reminding us of the scale of the world—this is something I will learn over the next few days. I take the Southern Loop Trail on September 30, 2017, the cusp of autumn, and escape the claustrophobic press of civilization—if only for a while.

I've just begun my first semester of graduate school, and I'm already feeling the pressure toward academic perfection that won't let up until I graduate in 2020. I'm the mother of an irascible toddler who isn't yet in daycare. My partner is also a fulltime student; we need to juggle our schedules with parenting, homework, keeping ourselves and our home healthy and clean, and caring for our own mental health. There simply isn't enough time. Moments pile up on top of each other; tasks spill into the allotted time of other tasks so that I am forever multi-tasking; busyness cascades and catches me in its currents. On top of all that, I have a cold. How can I deal with mountains of reading, writing to do, a child to feed, when I can barely clean up my nightly pile of tissues?

This is all to say that, in this phase of my life, I don't have spare moments. I don't have time to recover. I just don't get enough space to take a breath. Without time to live, I certainly don't have time to ponder why I feel this way.

Perhaps I suffer from that curious affliction assumed by sporting goods companies to plague the modern, middle class American. When we escape to the great outdoors, from what are we escaping? Perhaps we're slipping free of the vice. Time is short for every busy person. The nature of our society turns our lifespans into a compression—growing up in the countryside and dealing daily with social anxiety, I think I feel this more head off to public land to camp, or than most. I come home from classes exhausted, not from the mental load, but the social one. Something in the nature of my species harangues me, snatches at me like a flock of blackbirds dive-bombing a solitary hawk.

I saw this happen near my old home in rural Wisconsin and still relate. The red-tailed hawk, grumpy and ruffled, waited on a telephone pole above the road. It hunched its shoulders, exuding an air of stubbornness. Male red-winged blackbirds, flakes of jet with tiny glints of fire pricking their shoulders, darted in quick ellipses like comets pulled to orbit the sun, swooping at the hawk's mottled back and arcing, slowing, away. They shrilled alarms, harried and pressed, outraged that a predator dared impede upon their sacred shrubland territory.

Before passing out of sight, I glimpsed the hawk tip its body forward and fall from the pole. Its broad wings opened and scooped at the air almost lazily. It gave the impression that leaving was, despite the onslaught of its pursuers, its own idea.

In the same way, all of us can only endure so much harassment before we do something to rectify the situation. But what is so angry-blackbird-like about my situation? What gives my body the impression that cars and streetlights and upright figures pose threats, that artificial sounds are

winged aggressions? Every so often, I have to relax my shoulders, open my primaries, and stoop from my stubborn, uneasy perch into open

So, to the probable delight of the chain store where I purchased some last-minute camping equipment—and nervously avoided every sales associate I noticed trying to sneak up on me—I in other words, to let my pinions straighten and unruffle and to nurse the countless shallow cuts of tiny claws: to recover.

Thirteen caves speckle the interior of high cliffs along a creek-sheltering gorge that gouges the southern half of Maquoketa. A rich forest community surrounds me as I start down the trail: scattered, stately oaks reign; I can feel the brittle crunch of acorns and the thicker, soggy give of old walnuts beneath my hiking boots. Most of the trees around me are smoother, younger ash, elm, and walnut. Light glimmers through leaves and onto the layers of cloth coating my body as I tread down the hiking path, padding on packed earth and clapping on wooden stairs. I see skittering squirrels and chipmunks and hear the high, clipped calls of chickadees and nuthatches. A blue jay's saurian cree pierces the air from some distant place; there are parts of the forest I'm not privy to.

After a miserable night of sniffling and shivering, the sun is a blessing. I pause often to take in my surroundings. The aches I built up over the cold and restless dark hours strain and burn, slowly loosening through my joints.

The ancient origins of this place immediately become apparent. Dancehall Cave, the park's largest, shutters out the warm sunlight; cool air wafts up from Raccoon Creek as it trickles along the cave's bottom. I follow the stone, eyes charting the texture of dolomite layers. The bedrock of the park is composed of two distinct slabs of dolomite: the Hopkinton Formation (visible only in the lowest parts of the canyon) and the younger Scotch Grove Formation. About 430 million years ago, when the bedrock originally formed, the world was different. During the Silurian Period, Iowa rested in the southern tropics, covered by the waters of a shallow, warm sea. North America's interior seaway was the deepest it would ever be, the nearest shoreline hundreds of miles north, allowing thick layers of limey mud and the remains of calcareous shells to pile up and harden on the seabed without input of terrestrial sediment. For that reason, today I find almost pure dolomite: chemically altered since its original deposition but unmarred by bands of clay or quartz. I run my fingers over the stone near the floor of the cave, marveling at the homogenous, gritty solidity.

Already I can feel my body relaxing and resettling. There are still people here—plenty of other autumn migrants enjoying the sun and warm breeze-but they aren't accompanied by the things that really disturb me. Living in town means constant engine rumble, flashing lights in my peripheral vision, shrill mechanical noises, screens and glaring signs demanding attention. It feels, to me, like a combination of overstimulation and claustrophobia. The world, now, is fully and properly organic. Even the stone was alive at one time.

The Southern Loop Trail follows Dancehall Cave through its entire length—over 1,000 feet—and then winds through the gorge, climbing the cliffsides and angling back down and across the creek at several points.

I follow its meander, picking out the waxen, emerald splotches that mark scaly liverworts and spongey mosses on the dolomitic crags around me.

Prior to the park's inception, the creeping tendrils of agriculture seeped down into the gorge. Industrious farmers clear-cut trees for cropland and thinned them for grazing land. In studies of ecology, this would be called a disturbance: an event that disrupts an ecological community the living things inhabiting a specific habitat—and which changes the physical environment. A disturbance removes individuals, alters structures, and usually reduces the resources that are available to organisms. By wiping out trees, the farmers eliminated habitat and food sources. Cows became the emissaries of destruction.

Only two sections of original forest were spared the disturbance, one each in the north and south sides of the park. They are considered old growth and are what the rest of the habitat is measured against. A goalpost: this is what full recovery will look like.

Iowa's state government safeguarded the ecosystem in chunks, with the original purchase of land taking place in 1921, another purchase in 1931, cluster of caves was already famous in and many plants were spared. the area and a popular dance location. If the public was already using this land, why not make it public land? Since then, Maquoketa's habitats, unlike the vast majority of Iowa's environs, have been recovering from the onslaught of plows and bovines. The oak-dominated old growth forest remains, and the elm-dominated second-growth now covers what was once pasture and ploughed fields. Mixed prairies of grasses and thick goldenrod bloom in the margins.

Because I'm interested in recovering. today, I wonder at timescales. How long do different systems take to get back to a state of equilibrium? How much time is necessary to achieve an ideal condition? There is a relationship between complexity and time. A single organism, like me, won't take as long to recover as an entire habitat My observations of the stages of forest growth here are snapshots of the process.

After a disturbance, the habitar gradually changes, loosely following a set of broadly-defined stages, until it reaches some kind of climax community—the process of succession. The climax community is relatively stable. It usually possesses some resilience (it returns after a disturbance event) and resistance to being disturbed. The climax community in Maquoketa is the oakdominated old-growth. Other, lesser trees fill in the underlayers, but the broad and lobe-leaved oaks umbrella the canopy. The crunch of acorns reveals a stable system.

The forest here is undergoing secondary succession. In primary succession, the disturbance is severe enough to wipe out layers of topsoil—this would be events like and then a series that doubled the size volcanic eruptions and landslides. But of the park in the 1960s and '70s. The agriculture is a gentle destruction. Soil

> Succession occurs for many reasons. The climax community is usually composed of the most resistant and resilient organisms: those with long lives or high adaptability. Early colonizing species to a disturbed area, in this case woody shrubs at the prairie margins and young walnut trees, can even render the habitat less favorable to themselves as they grow, using up soil nutrients or crowding each other out. In this forest, the oaks are the survivors.

The climax community isn't merely happenstance. It usually also has the greatest benefit to its inhabitants. Succession in forests accompanies an increase in species diversity, an increased retention of nutrients in the system, increased biomass, and increased biological productivity (productivity being defined as the amount of organic mass and energy produced by the ecological system: the products of respiration, photosynthesis, and consumption of nutrients). All around me, the forest is becoming richer and bigger and more alive. If I could look past the current autumn die-back at trends over years, I would see a steady growth since the park's creation. The climax community, the old-growth, is the pinnacle of life.

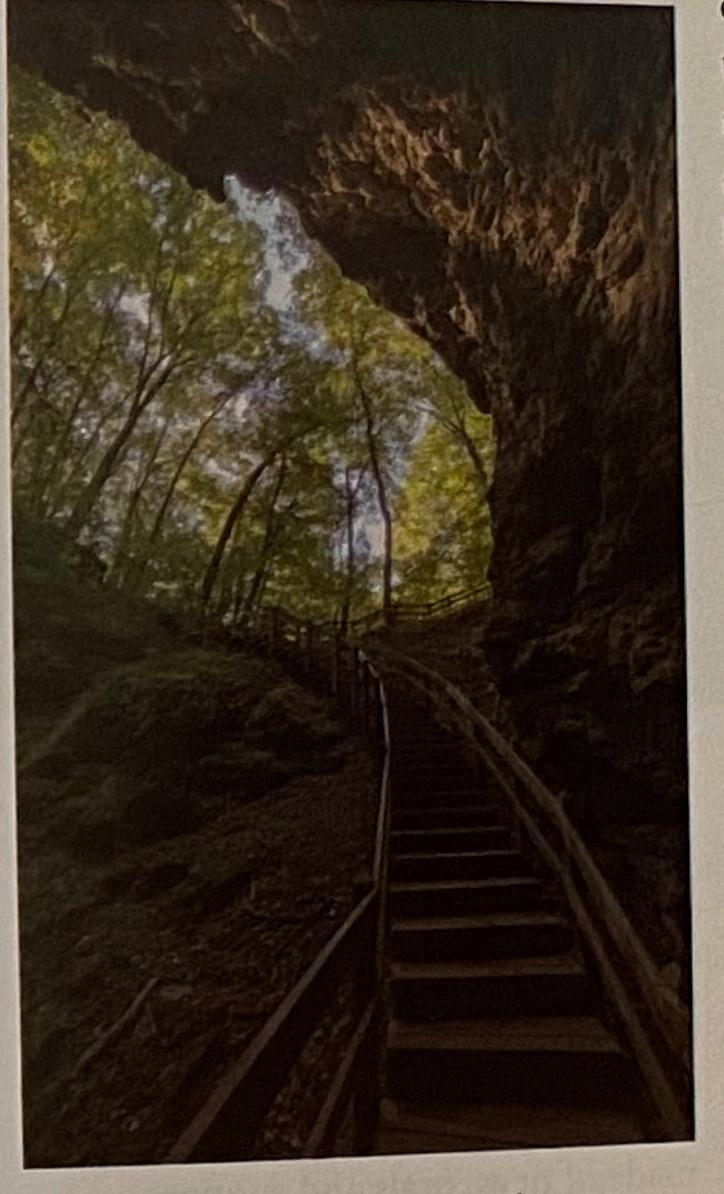
> Based on this, I realize that forest recovery occurs with the successful implantation, growth, and maturation of the dominant hardwood trees. Time in the forest is oak trees. Time is measured in the greatest pillars of the green cathedral; it's measured in layered woody tissue, in the pull of water from root to leaf, in the fractalizing growth of branches, and in the yearly accumulations of acorns. Tree rings are the primary unit of time in the forest, not the ticking second-hand.

The successional stages of forest occur over a span of decades and centuries, nothing like the timeline I'm asking of my own brain. I have less than a day to recover from human stressors. Here, though, that time seems to inflate. No longer bounded by numbers or my usual constant rush of activity and deadlines, time slows. By understanding the trees better, I can take something of them into myself.

It takes a little extra work to assume this mindset. Achieving wellbeing means centering oneself, finding that happy place. As a naturalist,

my center happens to be a seat of knowledge. I try to take in my surroundings and understand them in minute, scientific detail. Before this trip, I read the Iowa Geological Society's publication on the natural history of the park; my urge now is to apply it to everything I see and feel.

I stoop as something in a cliffside stone catches my eye. I find a series of neat, tiny, radiating ridges and stroke them with my fingers: the fossil remains of a 430 million-year-old brachiopod. It's about an inch long. I place myself in its time of life.



Sedentary, filter-feeding and siphoning organisms like brachiopods, clams, and flower-like crinoids thrived in the Silurian seabed community that once existed here. That community has a unique name: the tabulate corallamellar stromatoporoid community, and it formed limey reefs across the continental shelves. To simplify, it can be called the coral-sponge community.

A crust of life scabbed over the shallow sea floor, tiny gelatin polyps forming their reefs and winding around enormous silica-skeletoned

sponges. This living layer housed other sedentary animals: brachiopods sifting minute organic particles with their tentacled lophophores, crinoids snatching plankton from the water and curling it to the central mouth with feathery arms, and familiar clams burrowed into sand pockets. There were also bottom-feeders like the segmented, oval trilobites and hunters like the shelled nautiloid cephalopods (relatives of squids).1 Life encrusted, built shells, and was for the most part impermeable.

It's impossible to tell if the living ocean crust was as colorful as today's coral reefs, but I like to think of it that way. I like to think my ancestors, the very early jawed fish coated in armorlike scales, plied waters lit above by scintillating sunlight and below by multihued reflections.

Like the successional forest today, the Silurian coral-sponge community was also in a recovery state. Several million years before this fossilized brachiopod lived, at the end of the Ordovician Period, a pair of oceandesiccating glaciations caused one of the most severe mass extinctions Earth has seen—a loss of 85 percent of all species. The shallow ocean receded and lurked beyond the continental shelf, stranding that magnificent living crust on dry land—a death sentence. Countless species of sedentary brachiopods, corals, sponges, crinoids, clams, and even mobile species like trilobites and cephalopods lost their sun-drenched habitat and so lost themselves.

When a species is extinct, it's forever—the Earth never saw any of the lost species again. But following the extinction, Silurian ecosystems regained a structure and function very similar to their Ordovician counterparts rather than being altered dramatically as in other mass extinctions. A new living crust formed

when the oceans rose, composed largely of new species but functioning in much the same way as a vast filtering system for the water. It took about 5 million years for ecosystem complexity to recover completely.

Time is inflating, expanding, stretching away from me. It's time so large that the only way to see it is pressed into rock. The gradual, miniscule dribble of organic debris on the sea floor turned into a few dozen feet of stone and my sole method to make sense of all that time. If the state park is a goalpost for recovery after human disturbance, then the Silurian ecosystem is a warning for what we could face if we allow the forces of extinction to run unchecked. The power that creates a mass extinction and that requires millions of years for recovery is almost incomprehensible.

Almost. But I try to comprehend it.

The Ordovician extinction was a major disturbance, requiring primary succession to bring back the lost ecosystems. But, unlike the case of a barren mountain slope shattered by a mudslide, the old species had nowhere to go-no refuge. Every suitable habitat was affected by disturbance, not just one: the process of succession was disturbed. Communities would never be able to recover to their exact old states; there was no more climax community to measure everything against. Life had to start virtually from scratch. Modern Earth isn't quite there yet, but the global disturbance that is humanity is leaning in this direction.

A few hardy species survived the Ordovician extinction and set about colonizing habitats again, instinctively following their easiest evolutionary paths. But there weren't enough survivors to recreate a complex, stable habitat. The process of evolution itself was required.

Speciation, the generation of new species, occurs over millions of years. Evolution is the change in frequency of genes within a population, such that the population changes usually to be more suited to its habitat. Sometimes individuals of the same species will be separated (by space, food source, or behavior) and will eventually diverge into separate species—but this requires a timespan of generations, each one of which undergoes a slight mutation process.

From 1811 to 1898, peppered moths in Europe shifted almost entirely from being light-colored to dark. This century-long process followed the smudging effect of incumbent industrial pollution on the land. Since then, as air pollution has lessened, light-colored moths have risen back to abundance, but it is still something to consider: a century for a shift from light to dark. It's one of the most dramatic evolutionary changes humans have been able to scientifically document, and it's only color.

consider those hundreds of moth generations, shifting one trait over a hundred years. To regain ecosystem complexity, thousands of new species must come into being, not just change a little. Magnify the moth-shift and you get a coral-sponge reef made of new corals and sponges, populated by new filterers and combers and hunters.

Millions of years: a timescale far vaster than forest succession, and unfathomable next to the sparking of my neurons. The recovery of a devastated Earth is not something humans alive today can hope

Life requires time, and time is measured against life. Rock layers, tree rings, and my thoughts are the rulers I've summoned today. It's

helped me break away from the tight timescales of my daily life. By investigating recovery time, I've arrived at some kind of definition for the measurement of human time_ but there's one more investigation to make.

Last, I think about my own internal timescale.

As soon as I entered the forest, chemicals in the air and in my body went to work.

The body's response to stress is well-known. Popularly, it's called the fight-or-flight response, and involves quick action by the systems that produce and regulate hormones. The pituitary gland, a tiny nodule at the base of the brain, releases a hormone called adrenocorticotropin (its name is a mouthful—it's usually shortened to ACTH). ACTH travels—rapidly to the pair of adrenal glands seated wetly atop the kidneys, where stress hormones are generated in response: these include cortisol, adrenaline, and noradrenaline.

The stress response occurs in seconds, but the hormones persist for several minutes. The level of hormones produced and the time for them to return to normal levels vary from person to person. Long-term, persistent stressors, of course, result in continually elevated hormone levels. My body has been on edge for a while, now. In ecological terms, my squishy insides underwent a disturbance—a shift out of the ideal state. Cortisol depresses my immune system, which is great for that invading cold virus. Adrenaline presses at my heart, urging it faster and harder.

Lucky for me, time in green spaces has been shown to lower levels of cortisol, adrenaline, and noradrenaline. The effects persist for days after exposure.



The zoo of hormones, enzymes, and neurotransmitters flowing like static Detween my cells will return to a sort of climax community: the ideal to be measured against.

I climb the trail up and over the gorge wall, into a rocky, shallow-soiled grove of eastern red cedars. The ground feels drier here, rasping under my feet instead of squishing. The path

Time is hard to comprehend for people, and it gets harder as you deal with more of it. We can barely plan our lives beyond the day, week, month ... how can we plan for future generations? Vast reams of time don't sit well in our minds, but I'm trying

to understand them better. Time is physically all around us: huge swaths of it are pressed and recorded in the land, stored in the genetics of our bodies. If we can understand time better, maybe we can understand better just how much time we need for true recovery. Maybe we can realize that we need quiet moments to gather and reform ourselves. Maybe we can even start to think ahead, generationally, to reveal the effects our actions will have across eons.

The key to these thoughts, more specifically, is the existence of places where time can be seen in the land. More than places of personal recovery and relaxation, public lands invite us to expand ourselves beyond the

moment-to-moment existence we box ourselves into, to see that the world is bigger than we realize.

I rest under a pavilion at the top of the small peak, leaning in sunlight against an ancient, twisted, smoothbarked cedar that clings to the edge of the cliff. I trace the dendritic network of its root system under my hands. Civilization sometimes presses in around me, overwhelming and frenetic; here I can fade back. Instead of measuring time, I can let it pass. I can recover from my disturbance. I don't expect it to take millions of years or decades. A few hours will do.

Keygan Sands is an Iowa-based writer, naturalist, and artist.

