

VOLUME III, ISSUE 2, SPRING 2017





Rootstalk, Spring 2017

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***A note on this issue's multimedia features:*** This latest issue of *Rootstalk* features multimedia content, including live hyperlinks and embedded sound files. When you encounter one of these features, you'll need to use your mouse or trackpad to point to and activate the feature.

*Cover image: Artist Lee Emma Running, sorting the bones she carved, polished and gilded with 24-karat gold leaf for her 2016 work, "Cure." Photo by Barry Phipps.*

*Cover design: Mark Baechtel, Jonathan Andelson*

*Table of contents image: Justin Hayworth*

*Layout: Jonathan Andelson, Mark Baechtel*





"MARSH," PAPER, GOUACHE ON PANEL, 10 1/2" X 10 1/2", BY KEREN LOWELL, 2016



## Publisher's Note



PHOTO COURTESY OF JON ANDELSON

### JONATHAN ANDELSON

DIRECTOR, THE CENTER FOR  
PRAIRIE STUDIES, GRINNELL COLLEGE

Welcome to the Spring 2017 issue of *Rootstalk: A Prairie Journal of Culture, Science, and the Arts*, published by Grinnell College's Center for Prairie Studies. This issue, like all of our spring issues to date,

was produced through the joint efforts of students in a class—Humanities/Social Studies 295: Journal Publishing—co-taught by Mark Baechtel and myself. Our students in the class acted as an editorial board, soliciting and generating content, and editing the content once it came in. Mark and I are grateful for our students' creativity, and their dedication to mastering the skills needed to produce a journal like ours.

With this issue we inaugurate a new [website](#), arranged in what we hope is a more user-friendly way and with many new features, including a calendar of upcoming regional themed events in the prairie region. By dint of a herculean effort by Mark, our editor-in-chief, assisted by students and staff in the College's Information Technology Department (especially Mark McFate, Bazil Mupisiri '18, and Tapiwanashe Zvidzwa '19), our previous issues have been reconfigured as part of the new website. We have also developed a presence on social media, and we invite you to follow us on Facebook [[facebook.com/rootstalkonline](#)] and Twitter [[twitter.com/rootstalkonline](#)]. We offer a special thanks to Ben Brosseau '17 (who also was taking the class) for getting us on our feet in the world of social media. We hope you enjoy the spring issue as much as we have enjoyed producing it! 🌿

### EDITOR-IN-CHIEF



**Mark Baechtel** has nearly 30 years of publishing experience behind him. He received his B.A. with honors in print journalism from The American University in Washington, DC, and his M.F.A. in fiction-writing from the Iowa Writers' Workshop, where he was selected as an Iowa Arts Fellow and a Summer Teaching/Writing Fellow. He is author of [Shaping the Story](#), a textbook guide to short story writing (Longman, 2003) and has taught writing and publishing classes at the University of Iowa, Grinnell College and various art centers, as well as working as a professional book editor. His writing has appeared internationally in newspapers, magazines, journals and anthologies, and he has been a regular book reviewer for *The Washington Post*. He is currently polishing the stories in a collection of short fiction, entitled *What Moves and What Is Still*, and is at work on a novel entitled *Renovation*.



# Editor's Note



*Rootstalk Student Editors, Spring 2017, at Grinnell College's Macy House, home of Rootstalk and the Center for Prairie Studies*

*From left: Bazil Mupisiri, Mineta Suzuki, Ben Brosseau, Noah Herbin, Sonia Chulaki, Ceci Bergman, Tapiwa Zvidzwa, Evan Cooper, Rhett Lundy, Marie Kolarik*

*Not pictured: Aditya Nag*

In discussing the prairie region, we often fall to talking about communities, and the various ways we define them. There are the interwoven communities of the natural world, on which the web of a functioning prairie ecosystem's life depends; there are the communities of thought, conviction, or scholarship, formed by those concerned with studying and legislating various aspects of life in the region; then there are the physical communities in which we, the human residents of the prairie, settle: the cities, towns, villages, neighborhoods, and streets through which we define our civic lives.

A classroom is another type of community. It is a kind of biome, and the people who gather in it—though strangers at the semester's beginning—quickly become a unit by dint of the shared experience, the hard work, and the sense of discovery which a well-run class entails.

This is as it should be. Engaging in this type of "community work" enables us, at last, to form the sort of truly educated opinions which we need to guide us in our unfolding citizenship in our region. If our community is functioning as it should, then learning to tell the prairie's stories becomes a kind of "prairie restoration" work, in which we tend to the soul of our home place with as much care as any work crew shows in gathering seed, weeding out invasive species, or setting back-fires during a prairie burn.

In that spirit, I am pleased to introduce you to one of the prairie's newest communities—small, but mighty—which took up its residence here in the Spring of 2017. 🌿

*—Mark Baechtel, Editor-in-Chief*



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The prairie region encompasses the vast North American grassland that once overspread the central part of the continent from the Rocky Mountains to Illinois and from Mexico to Canada.

*Rootstalk* is published in Iowa, which lies within the easternmost portion known as the tallgrass prairie.

Since 1850, 99.9% of the tallgrass prairie in Iowa has been destroyed, arguably the fastest and most complete destruction of an ecosystem in human history.

**99.9%**  
completely  
destroyed

The major cause of the destruction of the tallgrass prairie has been its conversion into farmland.



Many groups of people have found a home in the prairie region, including indigenous peoples – who were here first – then beginning around 1850 Euro-American and African-American settlers, and most recently people from Mexico and Central America, Laos, Bosnia, and Somalia.

The prairie region has been a wellspring for the arts, including art, architecture, music, and literature.

## CECILIA BERGMAN



PHOTO BY SONIA CHULAKI

Cecilia is a second-year Spanish major with a Global Development Studies concentration at Grinnell College. Her experience with layout design in high school, combined with an interest in environmental justice, led her to create this infographic. Cecilia hails from the Washington D.C. area but has always spent her summers outdoors. She cares deeply about protecting the environment.



PHOTO COURTESY OF KEN SAUNDERS II, TAKEN JULY 3, 2015, AT THE SUGAR CREEK AUDUBON NATURE SANCTUARY IN RURAL JASPER COUNTY, IOWA

**Song:** Male indigo buntings whistle a bright, lively song of sharp, clear, high-pitched notes that lasts about two seconds. They are voluble, singing as many as 200 songs per hour at dawn and keeping up a pace of about one per minute for the rest of the day. Notes or phrases are often repeated in pairs: “what! what! where? where? see it! see it!” This pattern is recognizable, although the precise tune varies from place to place. Young indigo buntings learn their songs from males near where they settle to breed, and this leads to “song neighborhoods” in which all nearby males sing songs that are similar to each other, but that are different from those sung more than a few hundred yards away. (Description courtesy of the [Cornell Lab of Ornithology](#).)

## Birds of the Prairie: Indigo Bunting

*Passerina cyanea*

The all-blue male indigo bunting sings with cheerful gusto and looks like a scrap of sky with wings. Sometimes nicknamed “blue canaries,” these brilliantly colored yet common and widespread birds whistle their bouncy songs through the late spring and summer all over eastern North America. Look for indigo buntings in weedy fields and shrubby areas near trees, singing from dawn to dusk atop the tallest perch in sight or foraging for seeds and insects in low vegetation. (Description courtesy of the Cornell Lab of Ornithology.)

Click the icon below to hear an audio recording of the indigo bunting, captured by Paul Marvin, courtesy of [xeno-canto](#).







PHOTO COURTESY OF SANDY MOFFETT

**Sandy Moffett**, *Emeritus Professor of Theatre at Grinnell College, joined the Theatre Faculty in 1971 and continues to teach and direct plays on campus on occasion. Currently he spends most of his time restoring prairie, writing songs and stories, entertaining his grandchildren, and playing with The Too Many String Band. His most recent short stories are scheduled for publication in [The Wapsipinicon Almanac](#) and [Gray's Sporting Journal](#).*

## Dead Gun

SANDY MOFFETT

It was nine o'clock, breakup time for Wade MacPherson's Wednesday breakfast group at the South of the Tracks Cafe, an unlikely mixture of two of his retired faculty colleagues, two hunting buddies, and another guy who had sat down with them a couple of years ago and joined them almost every Wednesday since. Conversation was always spirited, laced with arguments over inconsequential matters. But on this morning they had come as close to angry disagreement as he could remember. The topic was hard to avoid, CNN blaring out of the TV above the counter saw to that. Another shooter marching into another school firing ARs and automatic handguns, killing as many as he could before he is shot or shoots himself. "If more people in that room had been carrying guns he wouldn't have killed so many people." "No...dammit no. If one person had had no guns, no one would have died." And so it had gone. Wade was troubled as he left the diner, started his Jeep, and headed east toward the gravel road that would take him home.

Four hundred yards from his driveway he slowed his Jeep to crawl, then a stop as he looked out the dusty right window. He took off his Pheasants Forever baseball cap, scratched his head, and ran his hand over his two-day's growth of stubble. He guessed the doe on the side of the road had been killed around dawn, he hadn't seen it when he drove into town—likely hit by someone late to work and going too fast on the gravel. There were shattered pieces of a headlight and barely visible skid marks. At least the driver had tried to stop. He figured the deer had come out of the small timber on the south side of his little farm, or at least he called it his farm, but the only thing he really farmed on his hundred plus acres was pheasants, deer, turkeys, and prairie grass. He

opened the door and got out, walked over to the deer, and ran his hand down her side. Not a lot of damage except for two broken hind legs. She was still warm, not yet stiff. He spent a long minute looking at her delicate head, beautiful long lashed eyes, tongue out with a thin trickle of blood from the side of her mouth, forming a small pool on the dry road side. He reached down and smoothed her eyes closed. He knew that legally he wasn't supposed to move the deer, but it was going to be warm and clear, and contacting the DNR would probably take half the day and the meat would begin to spoil. She wasn't a large animal, not very heavy, so he didn't have much trouble, even at his age, dragging her across the road. A little tougher to get her through the ditch and under the fence, but within five minutes he had her in the small clearing, carpeted with maple and walnut leaves, in the center of his timber. He took out and opened his lock back folder he had sharpened two days earlier, checking its edge with his thumb just to make sure he had done a good job.

He straightened the doe, moving the legs, front forward and rear back, and made a long incision from back to front about five inches from the center of her belly, careful to cut skin only and not pierce the abdominal wall. Slowly he cut and peeled the skin back and over until he reached the ridge of her backbone so that the skin, hair side down, almost seemed like a picnic cloth as he detached it. He skinned the hindquarter and shoulder, throwing the skin into the bushes at the clearing's edge, satisfied that he had taken everything off he needed to, leaving the meat clean and exposed. He ran the blade of his knife the length of the deer's spine, cutting from the base of her neck to the point where the ribs ended and, after making a parallel cut along its lower edge, peeled the two-foot long loin out with his fingers and laid it on his "picnic cloth." The rump roast, which he was able to remove almost perfectly as one piece of muscle, looked like an undersized

football. The shoulder came off with its bone intact, and he removed the rest of the meat from the exposed side in random pieces to be ground later or cut up for stew, sausage, or jerky.

Wade stood up and stretched, trying to work any kinks out of his back and neck, then sat on a fallen tree to admire his work. He liked the process of making these animals into food, liked the knowledge that nothing was being wasted, liked to think that getting his food this way was good for him and, he thought, good for, or at least did no harm to the planet. He couldn't remember the last time he had bought meat at a grocery store.

He thought back on his hunt the previous week. It had been early in the season, only his third time out. He usually didn't kill his buck that early, but what a lovely hunt it had been. There was a light drizzle, just a heavy fog really, but the ground was wet and there was enough early morning light to allow him to get into his stand with no noise at all. He saw no deer for the first hour, but there were nuthatches, chickadees, woodpeckers, and

squirrels. At seven thirty a small parade of six adolescent raccoons ambled by in a perfectly straight line, fading into the mist toward some destination known only to them.

Around eight-ten he saw the first deer, a small fork horn that looked a bit worse for the wear, as if he had already been in a couple of scuffles with bucks he should have scrupulously avoided. Almost immediately a second buck, much bigger, with antler points going in all directions like some kind of overfed thorn bush, appeared and went for the little interloper, intent on chasing him out of his territory. Wade made a grunting sound, almost as if he was clearing his throat, and stopped the bigger deer, but only for the briefest moment, before it disappeared after the yearling. He took his rattling antlers off the limb where they had been hanging since the beginning of the season, gave them a

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He straightened the doe, moving the legs, front forward and rear back, and made a long incision from back to front about five inches from the center of her belly, careful to cut skin only and not pierce the abdominal wall.

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couple of light ticks, waited a couple of beats, then really whanged them together two or three times making a sound not unlike a minor car crash. Almost immediately bushy head came crashing out of the trees like a rodeo bull exploding from a bucking chute, stopped ten feet from his stand dead down wind, smelled him, saw him, and was off, flag waving, into the timber the same way he came in. Wade chuckled. “Busted.”

*What the hell, he thought, Maybe I’ll just make some more noise to see if there is another one crazy enough to come looking.* And another one did, a nice buck, hair raised on his back, nostrils flared, right down the trail that would take him in front of the stand. Wade had always been attracted to the Native American idea that animals gave themselves to good and ethical hunters

and that when that happened, when that chance came, and it might be rare, the hunter should take the gift. That is exactly what the deer did, crossing fifteen yards in front of his stand and stopping perfectly broadside on his grunt. Wade put the sight pins of his crossbow (he had hunted with a crossbow for the past three years, being unable to draw a bow with enough weight to be sure of a good clean kill) on the spot that would send the arrow through both heart and lungs, and pulled the trigger. The buck barely flinching, trotted fifty yards up the slope, stopped, looked around, and collapsed. Before he could climb down from his stand there was more noise and crashing of limbs and another buck, the biggest Wade had ever seen, charged in front of his stand looking for a brawl. Thrilled at just being able to see the monster, he stopped him with another grunt and then watched him wander down the trail and out of sight. Wade laughed out loud. Thirty years earlier, maybe even twenty years, he would have been devastated at having missed a chance at this huge deer, but now he felt he had been allowed a second, perhaps even more valuable gift just being able to see the animal.

Now, Wade got up, stretched again, and rolled the doe on to her other side. When he had repeated what he had done on the first side he walked back to his Jeep, got a tarp and some rope. He wrapped the meat, dragged the carcass into the brush at the edge of the clearing where an eagle might see it and the coyotes could smell it, and drove to his house.

It was still hard to walk through the kitchen door—had been for the six, no almost seven years now, that he had been mostly alone. Not superficially alone. He saw people, had lunches, fishing buddies, the breakfast guys. Old students, some of whom he had taught to hunt, would come by from time to time and they would talk for half a day, he asking the questions now, payment for any shreds of knowledge he might have given them at some gone by time. But he was profoundly alone.

Maybe he was getting better at it. He thought so. She had died the way she had always said she’d wanted to, quick, with no pain—at least no pain she had let him see. But she had died too soon, oh Lord she had died too soon. “Got our meat for the winter.” He still talked to her in the kitchen. He almost told her how he had



PHOTO COURTESY OF KEN SAUNDERS II

gotten the meat, knew she'd have been interested, maybe proud, but by then he had made it to the basement.

He laid the meat out on his cleaning counter, cut the loins into steaks, cut up the scraps for stew, wrapped it all in small packages, labeled it and put it into the freezer, thankful that he had the time to do it right. Some of it would go to friends who didn't hunt and wouldn't dream of butchering a road-kill deer. He would keep that part of it a secret.

Back in the kitchen he poured a cup of cold left over coffee, dumped in some milk, heated it in the microwave, sat down with a couple of big chocolate chip cookies he had bought at the fall farmer's market. Nice

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He remembered his first squirrel, his first rabbit, and much later his first quail. "You kill it, you eat it," his uncle would say. And his mother, "if you clean it I'll cook it."

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greasy ones with lots of chocolate. He smiled at his notion that at his age unhealthy food didn't have enough time to work its ill effects on him. Those cookies had missed their chance.

Thoughts returned that he had tried to avoid since leaving the Diner: Roseburg, Oregon. Umpqua Community College. English classroom, writing class. October first. A student, in a writing class, with five handguns walked into a classroom and shot nine people then shot himself in the head before he could tell anyone why. A teacher, dead, could have been Wade's colleague. Eight students, these were the kids just like the ones that used to call him "Professor MacPherson." Dead. Five handguns.

Other places going through his head: Charleston, Isla Vista, Fort Hood, Newtown, Blacksburg, Phoenix, Aurora, Columbine, how many more? What had these places, these people, done to bring the terror down? What the hell did they have in common? What kind of pact had somebody made with Mephistopheles to send some zombie with screwed up chemicals in his brain or some idiot zealot thinking he had a direct connection with his god, walking into classrooms and shopping

malls and movie theatres with guns blazing, cutting down whoever happened to be in his way. Five handguns. Five handguns.

Wade MacPherson loved guns. He had loved guns ever since he was six years old and he shot his grandpa's sixteen gauge Ithaca double for the first time. He had cried from the kick and had to endure kidding about that shot ever since. "Bang—waaaaa" from his uncle, or any one else in his family, whenever hunting or shooting entered a conversation. It was that uncle who had taken him into the woods with a Colt Woodsman twenty-two. They shot tin cans off fence posts and puffballs to watch them smoke. They would go to the dump and

shoot rats (or rather shoot at rats, since he couldn't remember hitting a single one), watching them dive for cover in the garbage. He remembered his first squirrel, his first rabbit, and much later his first

quail. "You kill it, you eat it," his uncle would say. And his mother, "if you clean it I'll cook it."

He had inherited guns, bought guns, traded guns, shot them at targets, game, and more tin cans off fence posts than could ever be counted. He liked the smell of gun smoke, of gun oil, of Hoppes' Number 9 solvent. He liked the musical note of spent shells ejecting from a bolt action, the ka-chunk of a pump chambering a round, the four clicks of a hammer being cocked on a single action army. He liked the delicate engraving on a fine shotgun, the smooth machined perfection of a good automatic, the intricately figured grain in a walnut butt stock. He liked the solid weight of a rifle and the way a revolver fit his hand and bucked when he fired it. He liked knowing that a good gun would last many lifetimes, would retain, even gain value, would not need to be replaced in a year, or a month, by a newer model. He knew the mantra well, "Guns don't kill people—people kill people." He had heard it that very morning.

Wade walked back down the stairs and to his safe and turned the dial: thirty-two left, twenty-eight right, forty-seven left, fifty-six right, and swung the heavy door open. On the top shelf were his handguns—five



handguns. Five handguns. He thought of the joke called a training class he had taken to get a legal carry permit so he could take a pistol hunting or to the target range without having to lock it in the back of his vehicle. "There are three kinds of people in this country," the instructor had said, "the sheep, the wolves, and the sheep dogs who protect the sheep from the wolves. We are the sheep dogs."

Crap. He took each pistol out, held it, and pulled the trigger on an empty chamber, then put them all back except for a Ruger Red Hawk forty-four magnum revolver and a Kimber forty-five automatic. He had owned the revolver for years, carried it as "bear protection" for his annual solo camping trips into the Rockies, even though he knew that an aerosol can of pepper spray was a surer and safer way to keep a bear from punching you around or having you for lunch. Still, its weight felt reassuring. It felt good to have it lying beside his sleeping bag. And it was a hell of a hunting handgun. The Kimber—he wasn't sure why he had it. He'd traded for it at a gun show. Thought he'd gotten a deal. It was a beautiful gun, brushed stainless steel with checkered walnut handles. Maybe that was the reason. But it had no range. It was only good for very close up shooting. At what? Most likely a person—a very close person. He held the two guns for a long moment. "Two out of five," he thought. "That's a start."

He dug out all of his forty-four and forty-five ammunition and put it in a small range bag, then put the pistols in. He walked over to his work bench, put a small anvil in the bag, and zipped it up. He knew what he was going to do but he was moving almost as if compelled by something other than his own volition. He got in the Jeep, put the bag in the seat beside him, drove a half-mile down the gravel road, turned into a small grove of cottonwoods, and shut off the ignition. He had left a sledge hammer by the gate while doing some fence work earlier in the week. He grabbed it and his range

bag and walked along a path mowed through prairie grass, plum thickets, and young oaks, stopping to watch a rooster pheasant and two hens flush as he came over a low rise. In five minutes he was facing a dirt road that bisected his property, a shallow ditch on one side and a steep bank covered with gone to seed cone flowers and blazing star on the other. Scattered all over were obsolete TV sets, a vacuum cleaner, a kitchen chair and half a table, and black garbage bags full of trash. Some slobs had thrown it there the week before. He had intended to take it all to the dump but now it had one final use. He lined the TVs on the bank, stood the vacuum cleaner up, and put a clip in the automatic.

Wade's first shot kicked up dirt about a foot away

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He walked over to his work bench, put a small anvil in the bag, and zipped it up. He knew what he was going to do but he was moving almost as if compelled by something other than his own volition.

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from the first TV. He was closer on the second and the third was dead center on the screen. He marveled at the small size of the hole it made, but didn't all the detective novels say "small hole in front and the one in the back is big enough to put your fist in without getting blood on your fingers." The next shots were better but the Kimber was anything but deadly accurate in his hands. He put in a second clip and emptied it as fast as he

could. Blam, blam, blam. He began to chuckle. After reloading the clips he turned his back to the junk. It was attacking him from behind, he had to protect himself. That's what these guns are for isn't it? To protect ourselves and our families and our country against... junk television sets. He whirled and emptied two clips into the next TV and this time he laughed as the screen exploded. The only thing that could have made this more fun would have been to have dumb commercials playing on the sets. Two more forty-five rounds left. "Ah, ha, the vacuum cleaner. It's coming after my old Granny. I'm a sheep dog. Got to protect her." Blam, blam. Slowly the old Hoover toppled and rolled down the bank. He was so overcome with laughter he had to sit down. Wade MacPherson was keeping his country safe.

With the Ruger he was more deliberate. He was a

good shot with it and the gun was accurate. By the time he had finished shooting the forty-four ammo his hand was sore and he was tired of holding the heavy pistol up. The appliances were demolished—it was going to take a shovel to get all the junk collected to haul away.

Wade stood with both guns in his hands. He pulled back the hammers and clicked them, smelled the barrels, ran his fingers along the smoothness of the warm steel, felt their weight. He laid the Kimber on the anvil. Three direct hits with the sledge and it was a twisted mess: the barrel and hammer broken off, the clip bent and stuck, and the wood on the handles shattered. The Ruger was a different matter. The trigger guard came off first, then the hammer became inoperable. The cylinder

popped out after about ten hits and it took him another fifteen minutes to seriously bend the barrel, but then it was done.

Wade blinked and wiped his eyes. He picked up the pieces of his guns and walked down the trail to the small pond surrounded by river birch and sycamores. One by one he threw the pieces as far as he could toward the middle. The last thing to go was the hammerless, triggerless, cylinderless frame of the Super Redhawk, the bent-but-still-not-broken barrel turning round and round in the air like some clunky helicopter crashing into the cold water. Wade watched the widening rings of the splash until they came to the bank at his feet in tiny waves. 🍃



PHOTO COURTESY OF SANDY MOFFETT





PHOTO BY ANJALI JONES

Born and raised in Toronto, Canada, [Tara Shukla](#) has a BFA from [Queen's University](#) (Kingston, Ontario), an MFA from [Concordia University](#) (Montreal, Quebec) and a Digital Media certificate from Toronto's Digital Media Studios.

Her work has been in the [Greater Des Moines Botanical Garden](#), the [Edith Smith Gallery](#) at Grinnell College, the [Waldemar A. Schmidt Gallery](#) at Wartburg College and the [University of Iowa Hospitals' Art Project](#), as well as being part of the University of Iowa's online archive, [The Daily Palette](#). She's had drawings in the two most recent International Drawing Annuals (INDA 9 and 10) produced by Cincinatti's [Manifest Gallery](#). In 2015 she was the Minnesota Museum of Science's Artist at [Pine Needles Residency](#).

She has taught drawing, painting, graphic design and art appreciation in art schools, museums and colleges. Most recently she has taught observational and experimental drawing at the [Des Moines Art Center](#), the Greater Des Moines Botanical Garden and for the [Grinnell Area Arts Council](#).

## Drawings

BY TARA SHUKLA

"For some years ... he had felt the need to ... supply himself, by measurement and delimitation, with spaces which were hardly more than "forms on paper" but which, for a short while at least, enabled him to construct himself and make himself invulnerable."

Peter Handke, "The Long Way Round"

My recent drawings of organic objects were inspired by traditions of trompe l'oeil painting, natural history and scientific illustration. I work from specimens, sketching and photographing to compose a larger image. I'm absorbed by the task of paying attention and rendering forms and surfaces. During this process, objectivity gives way to a personal interpretation that explores the limits of observation, our connection to the natural world and our joint vulnerability.

Specifically, these three drawings show bone and animal specimens of local animals (opossum, and deer) borrowed from the specimen collection of the Biology Department at Grinnell College. They are part of a larger series I'm working on, in which I explore and juxtapose elements from this collection. 🌿



*"INCOMPLETE QUADRUPED," CHARCOAL ON PAPER, 30" X 12", BY TARA SHUKLA, 2016*





*"JAWBONE," CHARCOAL ON PAPER, 30" X22", BY TARA SHUKLA, 2016*





*"PELVIS," CHARCOAL ON PAPER, 30" X22", BY TARA SHUKLA, 2016*





*PHOTO COURTESY OF KEN SAUNDERS II, TAKEN FEBRUARY 25, 2012, AT OTTER CREEK MARSH WILDLIFE MANAGEMENT AREA IN TAMA COUNTY, IOWA*





"CURE" DETAIL OF SKULL. CARVED AND POLISHED ROADKILL DEER BONES, 24 KARAT GOLD LEAF, BY LEE EMMA RUNNING, 2016. PHOTO BY DANIEL STRONG.

## Cure

BY LEE EMMA RUNNING

[Lee Emma Running](#) is an Associate Professor at Grinnell College. She received her MFA from the University of Iowa in 2005, and has been teaching sculpture and drawing at the College since then.

Running has received residency fellowships from the [Santa Fe Art Institute](#) (2015), [Penland School of Crafts](#) (2016); [Constellation Studios](#) (2016), and the [Jentel Foundation](#) (2017) in support of her recent work. She has exhibited her work at [Concordia University](#), [Western Carolina University Fine Arts Museum](#), [The Des Moines Art Center](#), the [Charlotte Street Foundation](#) (Kansas City, MO), [Tacoma Contemporary](#), and [Pyramid Atlantic Gallery](#), (Washington DC) She is represented by [Olson Larsen Gallery](#), in Des Moines, IA.



PHOTO BY BARRY PHIPPS

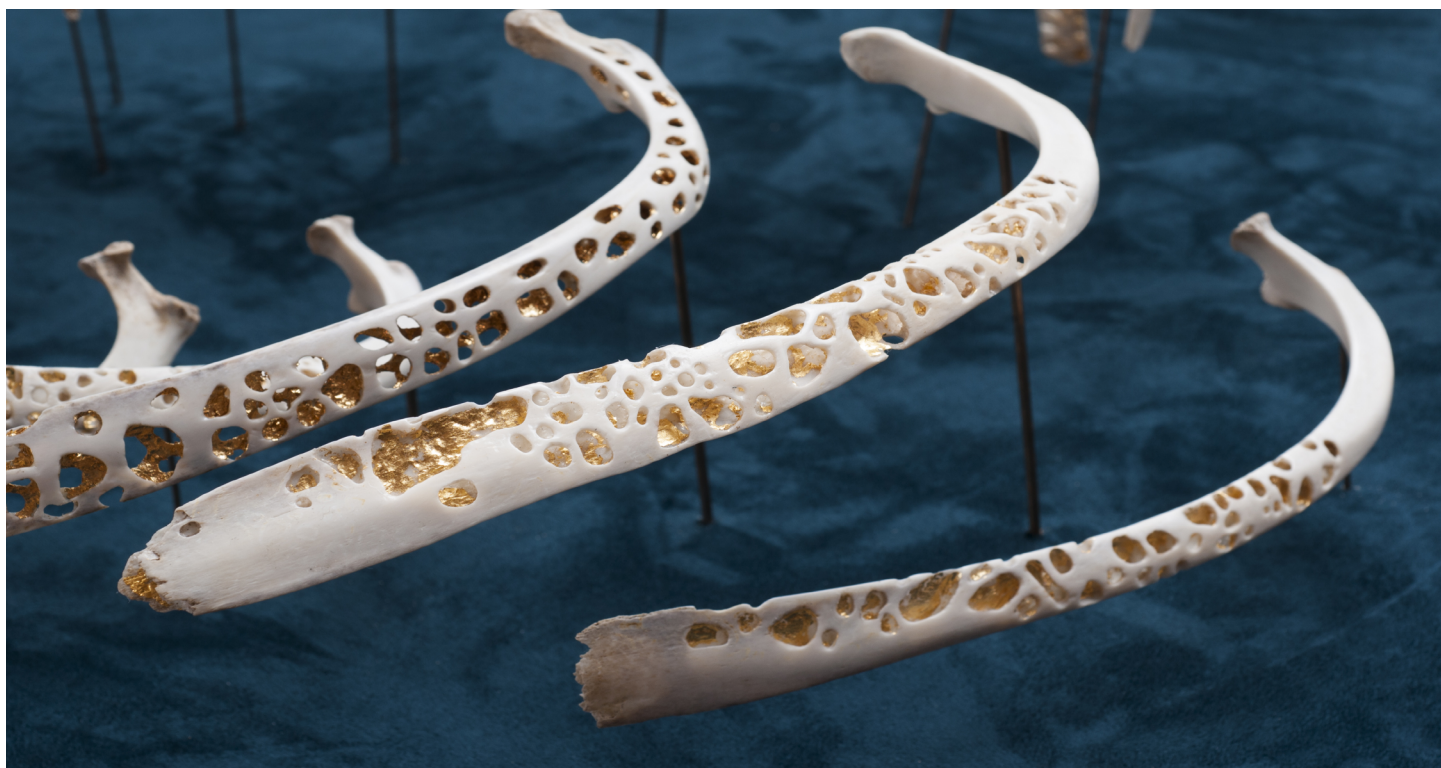


Running says: “My inspiration is time spent walking in Iowa’s wild places. On these walks I notice common materials and complex patterns. I look for pattern networks that recur at different scales, a common web of leaf veins mirrors a web of bone marrow, or the fingers of Iowa’s river systems on a map. In-scribing these universal patterns onto various materials has shaped my thinking about our human relationship within the ecosystem.”

When asked about her recent project, “Cure,” she says: “My home in Central Iowa is 6 miles from Interstate 80. Here the deer herd numbers 400,000. They were nearly hunted to extinction in 1900. Now, with no natural predators the animals feed and shelter in endless rows of feed corn. In my agricultural state they are both vermin and trophy.

“Year round, the highways are littered with road kill. In the early spring I walk creek beds and ditches to retrieve their bones washed away and cleaned by vultures and insects. The incomplete nature of these skeletons carry evidence of the automobiles that struck them and the gnawed marks of the scavengers they sustained.

“I polish the bones to a porcelain shine and then engrave an image of a lacy network onto their surface. With a jeweler’s tool, I carve the bones and remove the marrow from their core. Once the bones are hollow and clean I gild the internal chamber with 24 karat gold. I am building a precious relic of something silent and wild that lives and dies by our agriculture, our economies, and our speed.” 🍃



“CURE” DETAIL OF RIBS. CARVED AND POLISHED ROADKILL DEER BONES, 24 KARAT GOLD LEAF, BY LEE EMMA RUNNING, 2016. PHOTO BY DANIEL STRONG.

*“CURE”* DETAIL OF VERTEBRAE. CARVED AND POLISHED ROADKILL DEER BONES, 24 KARAT GOLD LEAF, BY LEE EMMA RUNNING, 2016. PHOTO BY DANIEL STRONG.



*“CURE”* DETAIL OF FORE-LEG. CARVED AND POLISHED ROADKILL DEER BONES, 24 KARAT GOLD LEAF, BY LEE EMMA RUNNING, 2016. PHOTO BY DANIEL STRONG.



TO LINK TO A VIDEO PRESENTATION BY THE ARTIST CONCERNING “CURE,” CLICK THE IMAGE ABOVE. PHOTO BY BARRY PHIPPS.





*"CURE" DETAIL OF PELVIS AND LEG BONES. CARVED AND POLISHED ROADKILL DEER BONES, 24 KARAT GOLD LEAF, BY LEE EMMA RUNNING, 2016. PHOTO BY DANIEL STRONG.*





ALL PHOTOS COURTESY OF TRISTAN ASCHITTINO

**Tristan Aschittino** is a third year Biology and Philosophy major at Grinnell College from St. Paul MN. He enjoys being outdoors, hiking, reading, and being in the company of family and friends. Additionally, he is the media head of the *Hair of Samson*, an editorial newspaper at the College that is critical of the status quo.

## My Growth at Mustard Seed Community Farm

TRISTAN ASCHITTINO

I worked just over two months on [Mustard Seed Community Farm](#) as an “agro-ecology intern”. I think the full two months was in order to allow outdoor rural Iowa to deprogram me from the alienated technology-saturated life I had been leading, and to get me acquainted with the more raw conditions of living. The farm's setting is quite a bit more rural than Grinnell, about twelve miles north of Ames which is a city of about 60,000 (although over half are Iowa State students who migrate with the academic cycle). Both Nate and Alice, who are the primary owners and operators of the farm, have part-time jobs at a cooperative in Ames, and they could drive me to town on weekends. Otherwise, Story City—a town of about 2,000—is only about seven miles away, and I would bike there every weekend with my laptop in my backpack to a cute little independent, goat-themed coffee shop to use the wifi and take care of my duties on the cybernetic grid. To provide me with small dosages of internet or calling, my phone could usually pick up 4G on the farm, and there are a couple outlets, though not many, for power.

The immediate location of the farm and its surroundings is, in my view, pretty great. Iowa may not have the best natural landscape, considering that so much of the state is developed, but it does have a monopoly on gorgeous, expansive skies. At times they are golden, other times celestial and bluish purple with elegant clouds seemingly hiding a magical, floating kingdom. Rainbows at times arc above the fields; I once saw a double rainbow over the prairie while a lightning bolt ignited the air. The summer greens clash vibrantly with the blues and golds and the feeling of vastness in open space would be enough to scare the pants off of any agrophobe. The farm is bordered on three sides by large



-scale family farms (which, like most family farms, follow industrial monoculture practices), so you kind of grasp the magnitude of opposition to the sustainable way of life. Mustard Seed is a little ten-acre island in a sea of 1,000-acre operations. But across the gravel road from the farm is some fantastic natural prairie and forest land, owned by a family that allows interns to explore. A large creek flows through it, and as long as you bring long pants to thwart the thistles, you can hike around the bluffs it has carved into the landscape. Several acres of the farm are devoted to prairie restoration and buffering pesticide and fertilizer runoff from the surrounding industrial operations. An artificial pond, recently stocked with fish and surrounded by cattails and other native plants, served as a cooling swimming hole. It occupies the side of the farm primarily devoted to rehabilitation of the land.

The farm itself really got me thinking about sustainability, and I discovered that it had the capacity to alter my way of living. During my internship, we washed

our clothes by hand and our showers were outdoors, with solar heated water. There was no indoor plumbing; only an outhouse with a toilet seat constructed over a bucket which we periodically emptied into a designated pit, its contents meant to be buried and, after two years, the land sown with inedible plants like flowers. I shared a small, uninsulated loft with a steel roof and a wooden floor, above an outdoor kitchen where we cooked the majority of our meals. The roof was too low to allow standing up, but the mattress was comfortable. A set of screened windows kept out many insects, but a few managed to breach our living quarters. Toward the end of June and throughout July, the small compartment was as hot as an oven—one day it was 97°F, not that bad until you factor in the 97 percent humidity—so we would seek shelter in the kitchen, where the shade and airflow refreshed the body. I finished several books in the shade, including *Moby Dick*, which seemed oddly fitting amid the agricultural sea of corn.

The farm made me realize how simple living can



be, and how much waste “normal” life generates. The focus I found of the farm was to contribute as little as possible to the injustices of the world while simultaneously maximizing positive contributions.

Our daily work consisted of planting, weeding, harvesting, and organizing, and we watered a large variety of fruits and vegetables. There was a lot of crouching in the dirt, contorting our bodies so as to not trample any

fragile plants. Potatoes were a soggy business. In groups, we would spread decaying leaves over hand-made ditches as mulch for moisture retention and nutrients. The slight elevation of the potato patch and the blazing sun kept the soil dry and hard, requiring significant blows with the steel-bladed hoe. Sometimes I got to lead teams on harvest days after I had grown accustomed to the process. I learned such meditative skills as how to mow fallow land with a scythe. Evening and morning chores included doing dishes, helping make meals (with all the organic vegetables), collecting chicken eggs and turning on or off the little electric fence that keeps deer from destroying the farm's crops. Emptying the latrine bucket was the least pleasant of the chores, but it wasn't that bad. Aside from small chores, meal prep and cleanup, the actual farm work expectation was thirty hours a week, but I could choose what days I wanted off or distribute them as I wanted.

An average work day for me began around 8 am, though I was usually the last one up. A bell would ring in the kitchen below my bed, and I would groggily throw on work pants, shoes, a shirt, and a straw hat my grandmother had given me. I never had to check the tempera-



ture on my phone before getting dressed; I just had to sit up in bed and feel the air around me. I would open the hatch into the open air and descend the ladder, eating a protein bar I kept in a plastic bin. Usually, I would also fill my water bottle from the water jugs (refilled at the cooperative) kept in the Red Shed, a cabin-like shed with a table, chairs, and several bookshelves, a refrigerator, and a lot of storage (food, cooking supplies, tools, seeds, etc.).

A couple of interns before me had written a poem on the latrine wall—a sonnet in honor of summer chard. If I had any similar legacy, it would concern the water jugs. I wrote ridiculous labels on them, such as “trombone oil,” “vodka,” and “orphan tears.”

But back to the routine. After getting amply hydrated, I would sit at the outdoor kitchen table with my companions, and we would discuss the day's duties, take notes, and read the duties neglected in the days before. We would set priorities for the smooth functioning of the farm and then go out into the field. We would do things like plant cantaloupe in measured rows for a couple of hours and then switch to weeding raspber-

ries. The fruits and vegetables we cared for fluctuated daily. The person on lunch duty would begin cooking lunch around 10:30 or 11 am, whether preparing a kale, turnip, and onion quiche, and cooking it in the farm's solar-heated oven, or preparing a big salad full of garden veggies. We would usually break for lunch around noon. If anything was certain, that there was no shortage of good food on Mustard Seed Farm. We would say a nondenominational prayer to “Mr. E” (mystery) and lively conversation would usually ensue around the



kitchen table. We would make jokes, or discuss current events or personal values. After briefly regrouping, we would move on to the next task at hand, whatever it might be until whoever was on dinner duty rang the bell signalling more good food and conversation. In the particularly dry weeks of the summer, we would water the more fragile crops with water pumped up from an underground well. Plants were watered at night to minimize evaporation. I could hear the motorized pump hum whenever I was on dish duty. Work was a great time for either conversation or meditation or a little bit of both. Thinking while accomplishing a task is rewarding. Peter Maurin, the French Catholic social activist who founded the Catholic Worker Movement with Dorothy Day in 1933, wanted to create “agricultural universities” and allow manual workers to be intellectual and intellectuals to work with their hands, to foster growth. That idea

middle school about vegetables and healthy eating. It was fun, but in my experience it's been hard enough to get my younger siblings to eat their vegetables; getting a classroom full of young children excited about them was that much harder. I had read in *National Geographic* that astronauts had successfully grown lettuce at the International Space Station that led to several of our classes being space-themed. We pretended turnips and beets were comets and we helped the children make “seed meteors” out of mud, soil, and several different types of vegetable seeds. When the children threw their meteors in their yards, we told them, if enough rain fell, vegetables would sprout up. This was a kid-friendly adaptation of the “guerrilla gardening” movement’s “seed bombs” practice, in which a bunch of dedicated food activists and environmentalists would throw their seed bombs into public places like the median strips of highways, parks, and other areas.

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[T]here are certain thought patterns you can only have while you are sweatily engaged in muscling a hand plow through mammoth weeds under an enormous sky.

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strikes me as particularly ingenious because there are certain thought patterns you can only have while you are sweatily engaged in muscling a hand plow through mammoth weeds under an enormous sky. Other brilliant ideas require quiet, restful contemplation.

Before bed I would engage with the latter on most nights, reading political philosophy such as the Slovenian philosopher Slavoj Žižek’s correspondence with the imprisoned Russian feminist activist, Nadya Tolokonnikova, or Noam Chomsky’s short survey, *On Anarchism*. I would curl up on my bed, inundated by the drone of chirping toads in the nearby pond and read under the weak light of a solar powered lamp. When I would get up in the night to use the latrine or get some water, I would always pause to gaze at the night sky over the shadow-blanketed fields, the only sounds the white noises of insects, toads, and a soft breeze.

As far as less routine activities are concerned, I also did things like teach a class of K-3 students at a local

I also helped write passages for the farm’s weekly newsletter and did some illustrations. The newsletters were distributed with boxes of food and to volunteer harvesters.

From time to time—about every other week—we would have a farm team meeting, either on the farm or at team member’s house in Ames. It was always over a delicious supper with fresh vegetables. We would talk about the things we had to do on the farm, both long term and before the next meeting, such as hosting events, conducting community outreach and public relations, renovating farm buildings, and more. Several times during the season the farm hosted community roundtables and discussions-potluck style (I learned in *Moby Dick* that Americans have been saying “potluck” at least since 1852). For instance, one farm team member hosted a discussion on class issues, another on Catholicism and environmentalism. I led an on-farm discussion about left-wing ideology after a communal supper. In our free time, a couple of other interns and I went to an anti-Dakota Access pipeline protest, where we and many other demonstrators piled into canoes and protected the water in a small—but not insignificant—way.

As for the people who will definitely be there during anyone's internship, the farm managers, Nate and Alice, are both very nice. Nate is a bit of a paradox because he is one the chilliest easy-going guys you will talk to, but at the same time he has an insane work ethic. He's always fun to talk to about the world and farming and everything, and he knows a lot about native prairie plants and ecosystems. Alice is always super busy, but she is easy to work with and she keeps the farm functioning smoothly which is very challenging considering the incessant labor demands of low-input, sustainable organic farming. She did some really cool work with the Catholic Worker Movement in Des Moines and elsewhere. She does great things and is very interesting to talk to. Aside from those two it is really variable whom any given intern will be with. The farm team that comes for a couple of hours twice a week for harvests is somewhat stable, all very nice local people or students from Iowa State or an occasional international (I met a Turkish family and a group of African refugees). A very important factor is who interns with you. I was fortunate to be with some really

cool people: a fellow Grinnellian who I became great friends with and a neighbor to the farm who came over occasionally who had just recently graduated from college. A 28 year old architect involved with the Catholic Worker Movement in Texas was also super cool. And a Buddhist friend of Alice's came for two weeks. The mission of the farm, that everyone in the world should have good, healthy food to eat, attracts some really cool people regardless of the year to year uniqueness. Also there is a cat named Shadowbeast who is always a friendly companion.

My time on Mustard Seed Farm showed me ways to sever some of the connections that I have come to see as contributing to global, national, and local problems. In the process, I asserted myself, albeit in a minuscule way, on the side of nonviolent dissent against business as usual. I kept fuel and electricity use to a minimum, and my labor was not alienated from human welfare,

because (we produced food for local consumption. I contributed to the restoration of delicate ecological relations that had long since been destroyed by industrial farming.

Of course, it's hard to do any of this perfectly. I drove around with my parents for several days when they visited me from the Twin Cities, looking for fun things to do. Some of the food I ate came from unsustainable sources, but we tried to do our best with what we had, and so reduced our contribution to the problems of the world. We supplemented our farm-grown diets with expired food from the local cooperative; we ate meat, but not daily. And one third of the food we produced was donated to local clinics and food pantries. The rest was either given to workers or paying members in the local area. It seemed to me that we were trying to reduce harm maximally, but at the same time

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**Mustard Seed Community Farm still must operate in larger society. But it is a beacon of dissent, of living differently from the norm, affecting good, reducing harm instead of merely acting with profit in mind...**

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to be of the greatest help. This was in keeping with the inherently political tradition of the Catholic Worker Farm. We operated amid the reality of business as usual at all times.

Mustard Seed Community Farm still must operate in larger society. But it is a beacon of dissent; an example of how we can live differently from the norm, affecting good and reducing harm, instead of merely acting with profit in mind or maintaining power or convenience. Life on the farm was therefore stressful. There were always many tasks at hand that had mostly to be done by hand or with a small arsenal of non-electric tools. Relying on bikes for transportation proved to be near impossible at times, or dangerous. Refraining from the convenience of washing machines and microwaves also had its temporal drawbacks, and the farm's reliance on a variable volunteer workforce and a handful of seasonal interns kept things interesting. Unavoidably, many of



the farm's tools were produced unsustainably, or in way that were exploitative of workers—but no labor is exploited in the production of the farm's vegetables, and transgressions against humanity were kept low.

As you can likely see, when you take the concept of interconnection to heart, almost everything bears problematic elements, enough to drive even a diligent do-gooder insane. People are often trapped in terms of the choices are available to them. If you don't get a job, it's hard to support your family (especially if you don't own land or have a benefactor); if you don't drive to work, you get fired unless you can jump through the hoops and inconveniences of biking. At a certain point I had to recognize the inevitability of imperfection, of some small harm slipping through the cracks of justice-oriented action, but I had to keep it from discouraging me to the point that it kept me from achieving my goal of pushing back at the notion that the status quo can reign indefinitely, that Evil triumphs and Good is pointless. The challenge is to be as conscious as it is possible to be; to try hard to analyze the costs and benefits when we

have the choice.\*

I would recommend working on Mustard Seed Community Farm! The work I did there was hard, but I grew as a person doing it, and I learned a lot about myself. The lack of air conditioning was a trial at first, but I adjusted, and it felt great being outside all the time. What skill could be more useful, in the face of global warming, than learning how to sustainably grow your own food? Your cooking improves, you make new friends, and you get lots of exercise. I am very happy with my experience.

\*This paragraph and the preceding two appeared, with minor changes, in an article I wrote for the Summer of 2016 Our Daily Work issue of *The Catholic Worker Farmer* while on the farm titled "Political Dissent is Our Daily Work." 🌿





PHOTO COURTESY OF TOBY CAIN

A native of Southern Illinois, **Toby Cain** graduated from Grinnell College in 2012 with a degree in Anthropology. After pursuing graduate studies in Italy, Toby moved back to Iowa in 2014 to work for [Seed Savers Exchange](#). She is now the Education & Outreach Coordinator for the [Iowa Organic Association](#) and the Co-Founder and Creative Director of a small antique shop in rural Colorado.

## A Shared Heritage: Preserving Genetic Diversity and Cultural Traditions through Seed Saving

TOBY CAIN

*Humans have always shared. It's in our nature to share. Sharing creates and sustains relationships and enhances knowledge, it protects us from ignorance. It's powerful. It confirms identity. It helps reach goals, increases competence, and brings rewards. And knowledge sharing, not just germplasm sharing, is going to be the other major feature here. Knowledge sharing is a fundamental process of civilization, it is central to learning, it deepens identity, and it creates community... And sharing knowledge and information about the genetic diversity in our seed banks can help farmers and breeders to enhance the sustainability and resilience of our agricultural systems.*

Dr. Susan McCouch<sup>1</sup>

The industrialization of agriculture and the transformation of the seed industry during the last century have dramatically changed the way farmers and consumers think about and interact with our agricultural and culinary heritages. However, industrial agriculture has undermined the once-common process of creating and maintaining local plant varieties. In response, many organizations and individuals have been trying to reconnect farmers and gardeners with this process. I have been lucky enough to be part of this effort through my years as an employee at Seed Savers Exchange. Sharing knowledge, as Dr. McCouch said, really is the most important part of creating dynamic and resilient seed systems. Let me share with you the story of Seed Savers Exchange, the networks that its members have created, and offer you a personal look at one family's seed story.



I listened to Dr. McCouch's speech under the shade of a large yellow tent at Heritage Farm, the 890-acre headquarters of Seed Savers Exchange. Seed Savers Exchange is an agricultural non-profit and the largest non-governmental seed bank in the United States. Seed Savers' story began in 1975, when Diane Ott Whealy and Kent Whealy received a gift of morning glory seeds from Diane's grandfather in Festina, Iowa. That day, Diane learned that the flowers had been passed down to her grandfather from her great-grandfather who immigrated from Germany. She immediately felt a connection to a country she had never seen and a generation of her family that she had never met. When Diane and Kent moved away from the Midwest, she took these seeds with her so that she would have a living memory of her grandparents' garden.

Diane realized when she inherited this family heirloom flower that many other Americans must have similar stories. She and Kent put out a call for gardeners to share their seeds. That first year, in 1975, thirty people

shared almost a hundred varieties of seeds. As the organization grew, people began entrusting their family and community heirloom seeds to Seed Savers Exchange for preservation. Diane and Kent decided to buy a farm and make Seed Savers Exchange their life's work.

Over the next decade, the seed collection became so large that Seed Savers Exchange established a formal department to handle these acquisitions. The preservation department at Seed Savers Exchange now maintains a collection of over 20,000 unique varieties from over 80 crop species. This collection includes annual crops as well as perennial plants like apple trees and grapevines. Every year, the department's curator chooses 500-800 varieties that will be grown out for evaluation. The evaluation team spends its days measuring plants, taking notes on leaf shape, flower color, and a host of other crop-specific characteristics. Crops are also grown out by the preservation department for seed regeneration. Gardeners still mail small quantities of their heirloom seeds to Seed Savers Exchange for preservation. These



A MESSY SCENE AFTER A SEED SWAP AT SEED SAVERS EXCHANGE IN 2016.

seeds are often accompanied with letters from grandmothers and granddaughters, fathers and sons, describing the history of the seed. The preservation department must grow out these seeds to ensure adequate population sizes for storage and future plantings. Additionally, two seed historians work to document the stories behind these varieties. The preservation department now has a staff of around fifteen people who work together to steward the histories of the 20,000 varieties of plants that have been entrusted to Seed Savers Exchange.

I've come to realize that Seed Savers Exchange has two seed banks. One sits in a hill on the campus at Heritage Farm. The other is not situated in a place and does not have a vault door or a thermostat or an elaborate back-up generator. That seed bank is broken into pieces that are tucked away in cupboards and pantries all around the country. The gardeners who participate in the Seed Savers Exchange are all managers of this

large, dispersed seed bank. Every member holds a small fraction of the total sum of seeds in the Exchange. The value of this seed bank can be seen in the connections it creates among gardeners, the diversity it saves from disappearance, and the beauty and flavor of the countless plants that we all grow and love.

This decentralized seed bank has a name; it is called the Yearbook. The Seed Savers Yearbook has a long history, stretching back to those original thirty gardeners who shared seeds in 1975. In 2016, more than 800 people offered more than 16,000 unique varieties through this seed exchange. The Yearbook is a 600-page volume, printed annually, that lists thousands of plant varieties offered by individual gardeners around the world. Most of these varieties are not available through any other seed catalogs or stores. In some cases, only one or two people steward these varieties and their stories. The researcher and author Renée Vellvé ex-



THE FLOWERS OF A CALIFORNIA POPPY, *ESCHSCHOLZIA CALIFORNICA*, GROWING AT SEED SAVERS EXCHANGE IN 2015. THE AUTHOR COLLECTED SEEDS OF THIS VARIETY AT THE INTERNATIONAL SEED LIBRARY FORUM IN TUCSON, ARIZONA.





THE OGLE-RICCELLI FAMILY VISITING SEED SAVERS EXCHANGE FOR THE FIRST TIME IN 2016. PHOTOGRAPH COURTESY OF SEED SAVERS EXCHANGE.

plains the cultural importance of seed saving and genetic diversity in this passage:

The crops we grow did not fall out of the sky. They are a living heritage. Generation after generation, people have been tailoring plants, watching them, learning from them and passing the good results on. Be it a certain potato that could withstand late spring frosts in Sweden or a radish that wasn't so sharp that a Spaniard would find it inedible, gardeners and farming families have created, hands-on, an incredible panorama of different crop varieties to suit their own needs, customs, and tastes. And in so doing they lay their story down and give that story a name, often suggesting the plant's origin or qualities. Just as stories have to be told, plants have to be reproduced—or they simply fade out of existence.<sup>2</sup>

### **Portrait of a preservation**

I have learned that relationship-building and storytelling are perhaps the most important parts of seed saving. In 2015, I had the opportunity to meet three generations of a family who all share a special connection to their Italian heritage, to gardening, and to each other through the preservation of an heirloom pepper. This story is representative of hundreds of similar stories that have unfolded through Seed Savers Exchange's network throughout the decades. But, in certain ways, this story is also exceptional. This is the story of the Ogle-Riccelli's and the Ausilio pepper.

The story starts in the late winter of 2015 in the basement office of our preservation department. I was sitting next to our collection technician and our seed historian. They were talking excitedly about a series of documents that had just arrived. Our seed historian ex-



THROUGH THE OGLE-RICCELLI FAMILY'S GENEROSITY, AUSILIO PEPPERS HAVE BEEN ADDED TO THE SEED SAVERS CATALOG. PHOTOGRAPH COURTESY OF SEED SAVERS EXCHANGE.

claimed that this was the most thorough documentation of any variety in our collection. Through letters, emails, and phone calls, our collection technician had gathered over 20 pages of information about the Ausilio pepper from the Ogle-Riccelli family in Des Moines, Iowa. That day, we started planning a trip to visit the Ogle-Riccellis. Although Seed Savers Exchange's collection is composed of thousands of home-grown varieties of fruits and vegetables, we hadn't often made time to visit the homes where those varieties were grown. Our contact with the Ogle-Riccellis made us want to change that, and our visit to their home was the start of a new vision for seed history documentation in our department.

On a rainy Monday in October of 2015, three colleagues and I drove through the tidy suburbs of southern Des Moines to a quiet neighborhood of brick ranch houses. We were met by Chad Ogle-Riccelli, his wife, Michele, his mother, Theresa, and his three children. They quickly walked us through the house and made their way out to the garden. They had a lot to show us. Our seed historian and our collection curator talked with Chad and Michele about their garden. I stood by and chatted with Chad's 90-year-old mother, Theresa.

Theresa remembers her parents growing and cooking with these peppers throughout her childhood. She was charmed when I pronounced her name in Italian, saying that she hadn't heard anyone say her name like that since her parents passed away.

Theresa's parents, Giovanni Ausilio and Rachel P. Scarcello, moved to Des Moines from Italy in the early 1900s. They met each other in their Italian-American neighborhood and were soon married. The pepper is so central to the family's food culture that, several years ago, they created a cookbook with recipes that utilize the pepper and many photographs of Ausilio family members. When Chad and Michele invited us inside for supper, we were treated to three of these dishes. As an appetizer, we had Sardas, a savory roll made with pepper paste and anchovies. Our main course included a pasta topped with pepper sauce and spicy roasted peppers preserved in oil. We shared glasses of Italian wine and offered our gratitude for the family's hospitality.

After supper, we gathered in the family's living room. We talked for hours with Theresa about her family history and about their Italian-American neighborhood. Chad and Michele had been discussing the possibility of donating their family heirloom to Seed Savers Exchange. We talked with them about the steps we would take to preserve the seeds and their history. Ultimately, Chad and Michele said, the decision was up to grandma Theresa. They were her seeds. At the end of the night, Theresa handed us a jar of Ausilio pepper seeds. It was a quiet, sacred moment of trust. We thanked her for her stewardship of the pepper and promised her that we would cherish it and its story.

Last year, we invited the Ogle-Riccellis to visit Heritage Farm. The family stayed in the farmhouse where Kent and Diane once raised their children. Our facilities manager took them on a tour of the property; our preservation department showed them through the field where we were growing out their pepper, and the kids got to run around the farm and see hundreds of different varieties of vegetables that had been shared with us by other families like theirs. Shortly after their visit, Chad and Michele sent us three jars of canned pepper sauce, some Parmigiano-Reggiano cheese, and handmade Italian pasta. We cooked up a feast in



our department kitchen and sat down to a traditional Ogle-Riccelli meal.

This is what seed saving is all about. In one of the many letters he exchanged with Seed Savers Exchange, Chad wrote, “As Grandma would tell you, they are her family seeds. Something that special, you love and pass on for generations to come... These peppers are part of our heritage.”

### The story behind the seeds

It is not simply the flavor of the Ausilio pepper that makes me want to grow it, save its seeds, and serve it to my friends and family. The story behind the pepper is the most compelling reason for me to plant it in my garden. For me, the Ausilio pepper’s story perfectly captures the importance of Seed Savers Exchange’s work.

One organization cannot steward a nation’s agricultural biodiversity, though. Stories like this one need to be

shared in order to keep the genetic diversity that accompanies them alive. It is the networks and relationships that Seed Savers Exchange and other grassroots organizations have created which will be key players in preserving this biodiversity for years to come.

So get out your gardening gloves, head over to the farmers market, find a local seed library, or talk to your family and explore your own seed story. All it takes is one person to save a seed, a story, and an important piece of our shared cultural heritage. 🌿



THE FLOWERS OF AMISH COCKSCOMB IN BLOOM IN THE AUTHOR’S 2015 GARDEN AT HERITAGE FARM. THIS PLANT, A VARIETY OF *CELOSIA CRISTATA*, WAS FOUND IN AN AMISH GARDEN IN ARTHUR, ILLINOIS AND DONATED TO SEED SAVERS EXCHANGE BY ORRAL AND JOAN CRAIG.



PHOTO COURTESY OF BORAAN ABDULKARIM

**Boraan Abdulkarim** is an anticipated Biology major at [St. Olaf College](#) '20. Born in Chicago and raised throughout the Midwest, she has always harbored an appreciation for the artfulness of science in harmony with the humanities, and hopes to capitalize on that in a career as a physician. Her interests include the Spanish language and Latin American culture, calligraphy, high fashion, and Jane Austen novels. She is a part of St. Olaf's Spanish Club and Student Tutors Program.

## A Syrian-American's Experience in the Midwest: An Interview with Boraan Abdulkarim

INTERVIEW CONDUCTED BY MIRIAM TIBBETTS

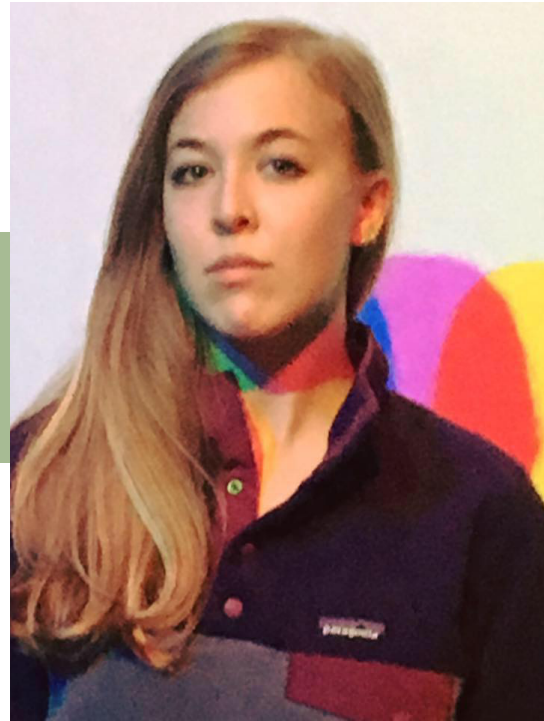


PHOTO COURTESY OF MIRIAM TIBBETTS

**Miriam Tibbetts**, Grinnell College class of '20, is an intended English major with plans to pursue Grinnell's teaching licensure program. Born and raised in the Twin Cities, she attended [St. Paul Academy and Summit School](#) in St. Paul, and spent time also in Minneapolis, where she wrote, sang, and participated in ballroom and swing dance. She currently dances at Grinnell with Contra and Salsa, writes when she can, and plays frisbee for the "Grinneleanor Roosevelts".



*TIBBETTS*: To you, what does it mean to be a Syrian-American living in the Midwest? What is a defining aspect of that identity.

*ABDULKARIM*: I guess I have two answers to that question. My instinctive answer is that it's just like asking any person what it's like growing up in the Midwest, but the reality is that it's like, yeah, I wear two pairs of socks in January, I have a really bad Minnesotan accent, and sometimes I get death glares depending on what the headlines have been like recently. I've lived in the Midwest my whole life, so I don't know any different. This is my only reality, you know?

*TIBBETTS*: Before the interview, you told us that you were from the Minneapolis area, which is generally quite liberal. Do you feel accepted by this region? Does that change when you go to other parts of the Midwest?

*ABDULKARIM*: I get a lot of people who don't think I speak English, and talk to me in hand signals until I'm done laughing to myself and speak up. Those are the funny times. But the glares are poisonous. I remember when I was waiting in line to get my picture taken after I passed my driver's test, a gentleman with his wife looked back at me, shook his head in disapproval, and scoffed. And with things like this, it's easy to not take it personally and channel inner confidence, but I've had to do this since I was five years old. I've been attacked based on visible declarations of my faith and it's gotten worse as I made it more visible and as the blatant ridicule and antagonization my faith has been more and more normalized. It's exhausting—and of course, there's that character from my senior speech who asked why my religion oppresses women. One hundred percent of the time I feel like I'm Muslim before I'm me because I feel like I need to be a positive ambassador. I feel like the weight of all the stereotypes rests on my shoulders and that I personally need to prove all of them wrong, and

that's exhausting, too.

*TIBBETTS*: Do you feel that the Midwest is a different experience from other parts of the country?

*ABDULKARIM*: My only frame of reference for that is trips or vacations, but I remember once in Georgia my family had pulled up to park in a restaurant we were about to brunch in, Hijabs and beard and all, and before we had even gotten out of the car, we had all the eyes from the restaurant on us. We didn't eat there that day, we just went to a Chick-fil-A. My optimist mind wants to say it's just because the population there doesn't see people who look different that often, but I've been proven wrong too many times since to be confident in that assumption.

*TIBBETTS*: Did these experiences and this feeling of needing to be Muslim before yourself influence your choice to attend St. Olaf College?

*ABDULKARIM*: Nope, that was a totally independent decision. My parents were hesitant to send me to a residential campus in this political climate, but I always insist that I'm not willing to base my life decisions on threats posed by racists. That's giving into their attempt to alienate and differentiate us from society. I won't let them hold me back and turn my community into the backwards, less educated population they want and expect us to be. I hesitate to use "us", because I belong to many "us's", and the Muslim community is only one of them. I don't consider myself exclusively a part of an isolated Muslim community, nor do any Muslims I know. We're all parts of our neighborhood, school, etc., communities as much as any other American.

*TIBBETTS*: Along these lines, why did you choose to go to a Christian-affiliated college in the Midwest, especially considering today's political climate?

*ABDULKARIM*: I trusted that a Christian-affiliated

college wouldn't be any different than another liberal arts college, and that its defining traits and strengths had nothing to do with that affiliation (granted I'd been assured no religious curriculum or conversion efforts would be forced on anybody). I guess it turned out to be a reciprocation of what I wish people would see in me - I'm a person with unique personality traits and I want that to define me, as opposed to attracting or repelling friends solely based on my religious affiliation. And so far, I made the right decision. I often forget that mine is a Lutheran college on a day to day basis.

*TIBBETTS:* Has going to this college affected your daily religious practice at all? Is St. Olaf drastically different from home and high school in that respect?

*ABDULKARIM:* I've found a balance of daily practice and incorporate religious philosophy and perspective into my everyday life. What I like about doing this away from home is that I get to expand core religious beliefs into tiny little mindfulness exercises during my independent activities. I actually find myself strengthening my faith at college, because I'm the only one holding myself accountable for the daily prayers and small practices, etc. Islam really stresses individual connections with God, and I get a lot more of that at college. Of course, I appreciate the community aspect I get at home, but this is another flavor of religious affirmation.

*TIBBETTS:* Where do you find your allies?

*ABDULKARIM:* I find my allies in friends who make it clear that they would defend me come what may - the fact that I wear the Hijab (which is a declaration of many things, only one of them being my faith), marks me as a Muslim even to strangers I hardly talk to in class, but who take pains to make sure I feel safe and supported when the political climate takes a hateful turn.

*TIBBETTS:* In connection, what communities are you involved with on campus? How do they contrast with those you interact with at home?

*ABDULKARIM:* I'm involved with the MSA and the Spanish Club, most formally. I don't think the types of communities I am involved with have really changed, but the extent to which we can interact and blend on the same campus makes it a little more three dimensional. We see each other in passing when getting breakfast or when studying in the library, and seeing a familiar face that shares a cause or an interest with me makes me feel safe and understood.

*TIBBETTS:* Moving to a broader scope, Minneapolis recently elected a Muslim woman as a political representative. What did this mean to you?

*ABDULKARIM:* I wish I could say it was enough to ensure that my voice is heard, but I would like to see more national representation before I can be content. Not because Muslims deserve more marked representation than any minority, but because of the deliberate and blatantly voiced intent of borderline ethnic eradication of Muslims from this country. I made a promise to myself the night Trump was elected, and part of it was that I'd never allow myself to be treated as a second-class citizen in my country (The United States). My rights as a citizen are at stake and allowing that to happen to the Muslim denomination should be alarming to everyone, because it sets the precedent that the equal rights clause has loopholes if fear and lack of education about any group of citizens reaches a certain threshold.

*TIBBETTS:* From your unique perspective, what does the future look like?


*ABDULKARIM:* I wish I had the clarity to see. Hope is not gone, but I think I've already seen the best



of America that I will live to see. If we get lucky in 4 or 8 or 80 years, I still think Trumpism is a blemish on the supposed American morals that I still retain faith in.

*TIBBETTS*: To wrap our conversation up, we want to give you the chance to take the floor. Is there anything you want to tell us? Any questions that we should, or must, be asking?

*ABDULKARIM*: It's unfortunate, and this is a realization I've made at college, that half of my relationship with my religion is defending it from stereotypes, racist attitudes, and a misinformed, antagonizing stigma. My religion is one of peace, and I've lost sight of all the beautiful things that religion provides as a spiritual adherent because mine is under such disproportionate attack. I'm still learning to compartmentalize defense of my religion and separate it from my social activist side that wants to correct every attitude. But that's not my job.

Any religious affiliation is a personal meditation of the most private and intimate nature. It therefore baffles me when being Muslim is falsely portrayed as an anti-nationalist political statement, or any political statement at all, let alone one that would appear on an ID. One's adopted doctrine on how to live a life and idea of how the universe was created does not formulaically dictate probability for any kind of destructive behavior; not for Islam, any more than Buddhism, Christianity, or dozens of others. So, I don't like to entertain the idea that I have to justify my validity as an American, peaceful world citizen, or success in any academic or extracurricular area. All people should judge me for is what I do and how I treat others. 



**John Lawrence Hanson**, a Wisconsin native, teaches at Linn-Mar High School in Marion, Iowa. John and his family lived in Norway during the 2015-2016 school year as a [Fulbright Roving Scholar](#). He holds an earned doctorate from the University of Northern Iowa and received the Governor's Award in Environmental Excellence. Dr. Hanson also is a voting member of the [Linn County Conservation Board](#). He tweets @JohnL\_Hanson.

## Obedience and Resistance

JOHN LAWRENCE HANSON

There are battles which never make the news, at home or abroad. Yet, they are as deep and hard-fought as any you will find. The battles are over the will of the people, the dictates of a distant capital, and the struggle to maintain a sense of place in a dynamic world. In a constitutional democracy, there is an obligation to follow the law. But when some laws hurt or threaten, is there an equal mandate to resist?

I spent my last year traveling and teaching in Norway as a [Fulbright Scholar](#). My sojourns in that northern kingdom were mediated by my Wisconsin roots and an adulthood spent in Iowa. I found that the people, culture, climate, and geography of Iowa and Norway intersected in various ways—some obvious, as is so with their ethnic roots, while others are more nuanced, as with the similarities that can be found in the cultivation of salmon and the operation of Iowa hog lots. In my travels, I found that some of the same battles which we fight out on the prairies of Iowa resemble those fought out along Norway's fjords. These places—so geographically distant from each other—share a surprising bond in how they sometimes have to fight to maintain their identities and existence in a world which often seems to have turned its back to traditional communities.

If you think Norway is a rich country with no problems, then you are mistaken. Does the Kingdom of Norway have wealth? Yes, of course. But there are pressures brought to bear on its society by the difficulties of modern governance and the competing demands of neoliberal disruption and conservative parsimony. During my time there, I saw that these pressures are evident in the small towns of Norway. Many of struggles and fears I discussed with people around Norway sounded uncomfortably similar to those I knew first-





*"THE CLOCK IS WRONG." STREET SCENE, SPRINGVILLE, IOWA. 6:46 PM. ALL PHOTOS COURTESY OF JOHN LAWRENCE HANSON.*

hand in the Hawkeye State.

In one town in the south of Norway, Agder, I commiserated with teachers about the pressures of school consolidation. Theirs was a small but a proud school, with a rich history and an intimacy between faculty, staff, students, and the community of which I was envious. "According to the numbers..." is the way every tight-fisted bean counter starts the argument that per-pupil costs are too high, and that's how it was in Agder, too. I personally find it galling when we attribute agency to inanimate things like numbers. Numbers never say anything; only people do. If you have been convinced that numbers speak, then it is difficult to engage in the debate; no one has ever won an argument against a number). So: their cozy school is doomed. Shouldn't policy makers take into account things like per pupil happiness?

Iowa is still 56,000 square miles, and still has 99 counties. Yet the abundance of school districts has gone the way of the Prairie Chicken. School districts have come to need more resources; accordingly they have tended to swallow up their neighbors or form marriages of convenience. In the 1985-86 school year there were 437 public school districts, over one

thousand fewer than in 1960.

Since the 1980s the public school enrollment has been flat, but the number of districts has shrunk. The new millennium welcomed 374 school districts; fifteen years later there were 338. I understand that school districts might need to get

bigger to survive, but the needs of our children haven't changed. How does a community respond to the needs of its most precious members when the community itself has become a byzantine jumble of letters, featureless characters spread across the prairie? Where are ARWE-VA, STARMONT, and BCLUW? The road maps are silent on this subject. Ask Siri.

In north-central Norway I had conversations with people who were alarmed by similar trends. The battles,



*"AFTER TARGET PRACTICE." KIRKENES, NORWAY. DESTROYED BY RUSSIAN BOMBS DURING WWII, IT'S A PRAGMATIC POST-WAR REBUILD.*

in this case, were two. First, there was a change in airport priorities, with one town getting the upgrade and another town having its airport closed. Additionally, medical facilities were facing policies which employed back-biting economic strangulation to force a change. Medical specialties were purposely divided among three communities instead of being housed in an “efficient” single location. The small towns rightly understood that hosting a medical specialty was a statement about their right to exist in a world where efficiency was a new god.

Mount Pleasant, in Iowa, has similarly been a victim of this obsession with efficiency. More than the town’s [Old Threshers Reunion](#), held each year in late summer, or [Iowa Wesleyan University](#), which is based there, the Iowa Mental Health Institute had long been the consistent economic and symbolic pillar of the community. It substantiated Mount Pleasant’s right to exist, its claim on a future. No longer.

In the spring, I got to experience the Arctic outpost of [Vardø](#)—please take a moment to find it on map. Vardø is hard to get to, but it has a remarkably long and important history in a nation full of towns with long and important histories. In some ways Vardø reminded me of so many towns in the Midwest and Great Lake States. Maybe you have heard the slur, “Rustbelt?”

Vardø stands on the edge of Norway, and on the edge of western civilization. Outposts like this naturally

hold perilous positions. In Vardø the weather is merciless, the Russians are next door, and the ups and downs of the fishing industry have left the town a shell of its glory days. Think of Fort Dodge, Iowa in 1979, compared to its reduced state today.

Vardø has to weather literal and figurative storms. Like so many other small communities in Norway, or in Iowa for that matter, Vardø resists. They resist having more of their administrative duties and positions reallocated to central locations. They resist going quietly. In Vardø, after all, the Norwegian flag flew longer in defiance of the Germans than anywhere else in occupied Norway.

The People of Vardø also resist through art. There, the handiwork of God and man is evident, with the latter being more sublime than the former. The town’s art is compelling and surprising, though. It resists through declarative street art, most of it sanctioned, some of it guerrilla, and none of it kitsch.

The street art necessitates serendipitous viewings. To walk with no plan in mind other than to be confronted with work that is familiar but strange at the same time. A colorful and cartoonish scene of sailors on leave wraps a building on the main street, while down another street, English words cover a warehouse. Across the harbor an oversized exhortation hugs a factory. On viewing it, I assumed it was pedestrian until a double



*“SUBTRACTION BY ADDITION.” ALBURNETT MIDDLE/HIGH SCHOOL, ALBURNETT, IOWA. THE HISTORIC BUILDING IS ON THE LEFT. SUBSEQUENT ADDITIONS DO NOT COMPLIMENT THE ORIGINAL.*




take revealed it was indulging in blasphemy. Or was it playfulness? I guess I was supposed to wonder.

On another corner I was confronted by a giant bearded face. I wondered: did I know that face? Had I heard that phrase before? How come it was written in English? Those were typical questions that came to my mind, and as I mulled them I wondered how people resisted similar pressures back in my prairie home.

The small communities of Iowa and Norway are homes—to people, of course, but also to potential. Our plethora of small towns has infrastructure, utilities, housing...present but underutilized. We spend tax dollars to subsidize the building up of infrastructure in larger cities where it seems like they don't need it, while

we wring our hands, saying that our small towns are dying.

In a democracy, you get a vote and a voice in the process. But even in peerless democracies like Norway, there are many who feel like they are being ignored or worse, exploited. There are options: vote, lobby, organize...or fight. After her arrest for attempting to vote, Susan B. Anthony testified that she would not pay the fine, and instead would fight. She used a Quaker maxim to characterize her defense saying: "Resistance to tyranny is obedience to God." 



*"YOU ARE HERE." ABANDONED WAREHOUSE WITH STREET ART, VARDØ, NORWAY.*



PHOTO COURTESY OF CHRIS GAUNT

## Bracing Her Feet: Chris Gaunt and A Life of Activism

CHRIS GAUNT

Many of our readers, on learning that someone is a farmer, might automatically assume that person is conservative. Chris Gaunt turns this notion on its head. She is both an Iowa farmer and a dedicated activist for social justice. For this issue of *Rootstalk*, editor Tapiwa Zvidzwa interviewed her to trace the arc of her career as an activist.

*Chris Gaunt is a deeply rooted Iowa farmer. She has worked part-time, nights and weekends, at Grinnell College Libraries for the past twenty-six years. Her life partner, Jay, is a pig farmer, and together they have raised three children.*

*After the events of 9/11, Gaunt felt drawn to become involved in peace work, both in Iowa and in Washington, D.C. . She has been jailed for dissent numerous times between 2002 and 2012, most often protesting the American government's policies concerning war and torture.*

**Rootstalk:** How did you initially become an activist?

**Gaunt:** I didn't do much of anything until after 9/11/01. I watched and paid attention for the next year and it really tore me up to see my country make a choice to seek revenge through the military. That is, to bomb another country. I was already aware of the sanctions against the Iraqi people at that point, and I had been resisting that, like kind of from a distance. After 9/11, after witnessing this wave of fear that ran across the United States and literally took over government decisions, I braced my feet and said: "Not me." I didn't know what that would mean, but it ended up meaning I would be joining the resistance movement. I first joined in with some people in the Catholic Worker [community] in Des Moines. Then I started getting [involved in] more things nationwide, and that ended up taking me to Washington D.C., where I met friends from all over the country.

**Rootstalk:** I'd like to focus a bit more on the most recent



**Gaunt:** Well, for me it's you know it ends up being [about connecting] with a lot of like-minded people. If people have gotten together on an issue, and are willing to take that extra step of crossing a line, of being willing to risk arrest, that for me is very life-giving. [Because of] the spiritual changes in me, it's now coming from a different place. So I think that's a really good thing.

**Rootstalk:** What is the atmosphere like when you're at these protests?

**Gaunt:** That's something that has changed [for me] too, because part of the negative, the part that was drawing my energy down previous to my rejoining efforts to Standing Rock, was the court procedures. We were getting arrested, and in a lot of [these protests I was] by myself, and a lot of them were in Washington D.C. But I ended up learning. I got so many trespassing charges. They were always non-violent offenses; criminal misdemeanors. But I got so many charges and I kept getting in front of judges and I thought, *OK; this is like speaking truth to power.* But the judges kept sentencing me and these friends of mine who were passionate, good people—sentencing us to really irrational prison sentences. I was served a three-month sentence and a six-month sentence. I witnessed my friends go to trial and get sentenced for six months for nonviolently resisting armed drone attacks. We knew in Afghanistan, at the Pakistan border, they were killing,

our drones were attacking like young boys like they were [stacking] firewood. And we knew the bombs were dropped on wedding parties and then maybe even a second bomb would be dropped when rescuers came to get in. I've been to Afghanistan; we were hearing these stories from the ground.

**Rootstalk:** And the atmosphere...

**Gaunt:** I'm still kind of putting this together in my own head. I had always thought that nonviolent effort and going to the court [and] civil disobedience would change things. That was the way it was in the past; the laws changed because people have resisted. But I think I hit a point where I saw, where I felt literally with my body, the futility [of trying to do things this way]. My eyes were opened to [the implications of the Supreme Court's] Citizens United [decision]. Our elected officials were being bought and paid for. The Occupy Movement, which I was a part of, showed me this, and then [I had this sense of] futility sinking in. So actually, right now, I can say I no longer believe that those kinds of efforts can get

the change we need, the legislative change. I'm really sad to say that. So then you are in limbo land and trying to figure out something else out, and then Standing Rock comes up and Occupy before that; Occupy, Black Lives Matter. [These movements] give me great hope, because they're going a little bit of a different path, and I think more and more grassroots organizations are joining. So it's going to come from the people, and that gives me hope



CHRIS GAUNT OUTSIDE THE FENCE—WHICH SHE WOULD SHORTLY CROSS—AT THE SCHOOL OF THE AMERICAS, FORT BENNING ARMY BASE, COLUMBUS, GEORGIA, IN 2011. IT WAS HER 14TH CONSECUTIVE YEAR ATTENDING THE ANNUAL PROTEST.

protest you attended, at the Dakota Access pipeline. What prompted you to join this particular fight, and how did it fit in with the other protests that you've gone to?

**Gaunt:** Well it's really interesting because from 2002—a year after 9/11—to 2012, I was involved in just about every protest movement, every nonviolent effort to change government policy concerning torture, that I could get myself in. Sometimes I couldn't get myself into any protests, because the price I had paid [for previous activism] was going to jail for a number of months at a time, but I just kept [up with that involvement]. I was dedicated to it when I braced my feet, like I told you about a while ago: it [meant I] was dedicating my life to nonviolence, whatever that meant. I think I've learned that participating nonviolently [means] putting love into action. That's where my stand was and is. I had decided I would risk arrest, which I did many times, and I would have to accept the consequences that might have come from [that choice]. That's part of how I was seeing a nonviolent movement.

When 2012 got here, there was a switch in me. I can't really explain it, but I backed off from really participating in the arrest scenarios. I just kind of quit without a lot of understanding, and I'm still trying to understand that. But the mood for me as I'm seeing it now has become more spiritual. Now, I'm tied into several movements across the country that are based in nonviolence, but yet I backed off. So from 2012 until last fall November, I really didn't [become as involved in] arrestable scenarios—maybe two, during that time. I really had gone to a different place

spiritually. I don't know if that's a good way to explain it.

But then the Standing Rock effort came up. Protecting the oil or water and this pipeline it's just—I mean it's just this grossest thing—so part of my spiritual development meant me reconnecting with Mother Earth. I did Vision Quest in California in 2010 and in 2012, and that was part of how I got reinforced for continuing this work. I just got reconnected with Mother Earth, and that took some time. So when this protest

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[T]he turning point for me was 9/11, after witnessing this wave of fear that ran across the United States and literally took over government decisions and so I braced my feet and said not me.

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came up after [I had taken this] little sabbatical, it was definitely the one for me because it was the Native Americans as I was seeing it; their water is life, and that's something to stand for, for everybody. It's not really an *against* thing. I recognized that my efforts before I stopped in 2012 [had been] based in my personal sense of anger at my government policies. Now that I had gone

through this spiritual thing, the Standing Rock [protest] was perfect for me, because it was a prayerful movement. That's how it seemed to me, and then I got the chance to go to Standing Rock and experience it, like *really* experience it in my body.

So now it doesn't come from a place of anger [for me] anymore. The actions I take in the future are going to come from a place of love. That's a huge hurdle. And I guess to say that I processed that through in four or five years is probably ok and it doesn't matter how long it takes. So that's what attracted me to Standing Rock: a prayerful approach to this serious issue.


**Rootstalk:** Can you describe what the atmosphere was like when you were at some of these protests?



**Rootstalk:** That leads in to our next question. Has the recent Executive Order to continue construction of the pipeline maybe dampened your spirits in some way?

**Gaunt:** [chuckles] Yes sir, uhmm, yeah [long pause]. So being involved in the movement to shut down the pipeline, we know we are connected to social media, cetera, email. The resistors are still connected. So we're not just going to throw up our hands and say, *Well you know we're going to do nothing*. I mean, you know, this is connected to survival of the planet. So that's not an option. So yeah; I do have hope, because of the people connection. Will it get worse before it gets better? Can it get any worse? I don't think so. That last executive order to go ahead and continue that pipeline, yeah it dampened things. But on Monday (April 24) through Saturday (April 29) there's a march from Cedar Rapids Iowa all the way to Des Moines, for a big rally that's to stop the pipeline, and a whole different set of groups are going to participate. We'll be walking like six, eight miles a day, and [the route runs right by Grinnell], so I've already got it all planned. We are already signed up to participate in that march. So I'm going to walk all day on the road together with people, and I'm going to camp with them at night. Different groups are going to meet. We are going to meet with small communities [along the way]. So I'm going to walk with those people and that gives me great hope, because we're going to bring ourselves together we're going to listen to people in rural Iowa and take the message to Des Moines, the capital, that this is important to so many people. There's no giving up hope. With the kind of people that I know who are in this movement and all, what is happening is that people are joining forces with the different movements around these really important issues. So even as the Executive Order says this is going to go through anyway, the resistance is staying, its going to be there.

**Rootstalk:** What advice would you have for other people who want to voice their opinions, but who may be scared to go out and do so?

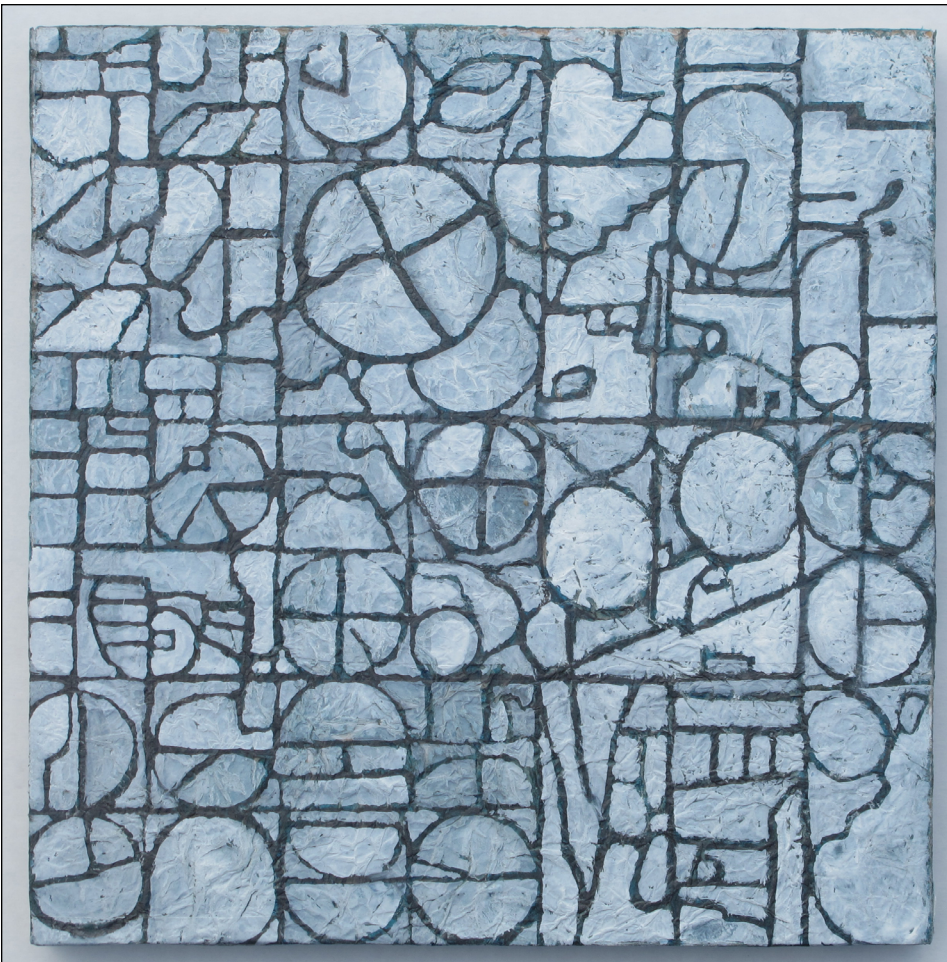
**Gaunt:** You know what I saw here [in Grinnell] on March 1st? The student day of resistance. I saw the most beautiful thing I've seen in a long time because Grinnell College students worked their tails off. They worked right here with the local population, and they created a day of protest and education and art music. So they created a day and a way to make people putting their voices out there safe; they did that. I witnessed it. They had organizers, and whoever organized it, they did a great job and it was a lot of work I'm sure. They wanted to march downtown to get themselves in the streets, so they called the Grinnell police and got a police escort. They made sure that everyone was safe going through the streets. They created their own artwork for the rally; there was singing, there was music, and there was a rally where students spoke and other people spoke. [One of the Native Americans involved in the Standing Rock protest] spoke about [that] issue, and so it was a nice conglomeration but they made it safe and I think effective. So I would say: Involve people who you know might not [know, and encourage them to] just say what they have to say or, you know, publicly speak it That's a great way to start. We're going to need everybody [if we want to make change]. If change is going to come, it's going to come from the bottom up. 

# Roots Talk! Episode 1:

## A Podcast Interview with Bill Stowe, CEO of the Des Moines Water Works

In this inaugural podcast, *Rootstalk* audio producer Noah Herbin interviews Bill Stowe, the CEO of [Des Moines Water Works](#) (DMWW) and a Grinnell alumnus, class of 1981. Stowe gave a talk at [Drake Community Library](#) in Grinnell last March, in which he discussed the need to bring about cleaner water in Iowa, and outlined DMWW’s ongoing court case. Under Stowe’s leadership, the DMWW filed suit against

three county boards of supervisors in north-central Iowa for failing to adequately regulate the use of farm chemicals, particularly nitrates, resulting in enormous expense to DMWW to remove the nitrates from the city’s drinking water. Mere days after his talk, the lawsuit was dismissed. In this short interview, Stowe describes his thoughts on the court decision, and what the decision means for the future of Iowa and the broader Midwest. 🌿



“HEARTLAND,” PAPER, GRAPHITE, INK, GOUACHE ON PANEL 11 1/2” X 11 1/2”, BY KEREN LOWELL, 2016

Click the icon below to hear an audio recording of the Podcast.







PHOTO BY RICHARD DORBIN

*Will Fellows is the author of [Farm Boys: Lives of Gay Men from the Rural Midwest](#), [A Passion to Preserve: Gay Men as Keepers of Culture](#), and [Gay Bar: The Fabulous, True Story of a Daring Woman and Her Boys in the 1950s](#). After Wisconsin voters approved an amendment to the state constitution in 2006 barring legal recognition of same-sex marriages, Fellows collaborated in creating a traveling exhibit, “[Shall Not Be Recognized: Portraits of Same-Sex Couples](#)”. With a master’s degree in human nutrition from Cornell University, he worked for 20 years as a nutrition educator. He and his husband live in Milwaukee, where they operate a retail eyewear shop.*

## Nostalgia, the Nineteenth Century, and the House Next Door

WILL FELLOWS

American culture tends to disparage nostalgia. To hold a pronounced affection for things and ways of the past is seen as simple-minded at best, reactionary at worst, and frankly rather un-American. This nation has always seen itself as the land of the forward-looking, a nation of promising frontiers and fresh beginnings, grand opportunities, inventive entrepreneurs and new machinery. To participate fully in the mainstream flow of American life today, one must live always on the cusp of tomorrow.

I want to make a case for the legitimacy and value of the basic human response of love and longing that we call nostalgia, a state of “homesickness” that arises when things familiar and beloved are lost. In making this case I will describe the pronounced change-induced distress experienced by many Americans in the late nineteenth century and early twentieth century, and the modest but noteworthy contributions made in that era by one singularly nostalgic Midwestern gentleman, Ralph Lorenzo Warner.

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From the mid-1800s to the early 1900s, the United States underwent a profound, technology-driven transformation: the nation changed from largely agricultural to highly industrial, and from a decentralized, production economy to a centralized, consumption economy. The rise of an extensive transcontinental railroad network was central to these changes. Industrial cities boomed, with millions leaving their rural and small-town homes to work in urban factories alongside newly arrived immigrants. Electricity enabled many life-changing technologies, such as the telephone, incandescent lighting, and refrigeration. And there was large-scale tapping of petroleum coupled with the in-

vention of the internal combustion engine and the mass production of the automobile—nothing else has changed the U.S. and the American way of life so greatly and rapidly.

The advent of this urban, industrial, polyethnic, railroad- and then automobile-oriented nation elicited a compelling range of responses among Americans who were reluctant, even unwilling, to let go of the country's earlier ways of life. I have been interested for some time in these responses and have been drawn to explore the life and sensibilities of one particular individual, Ralph Lorenzo Warner (1875-1941). Warner's response to the disconcerting agitation and upheaval of American life during his first several decades led him, in his mid-thirties, to create a little "land of long ago," as he sometimes called it, in which to live and provide a respite for others.

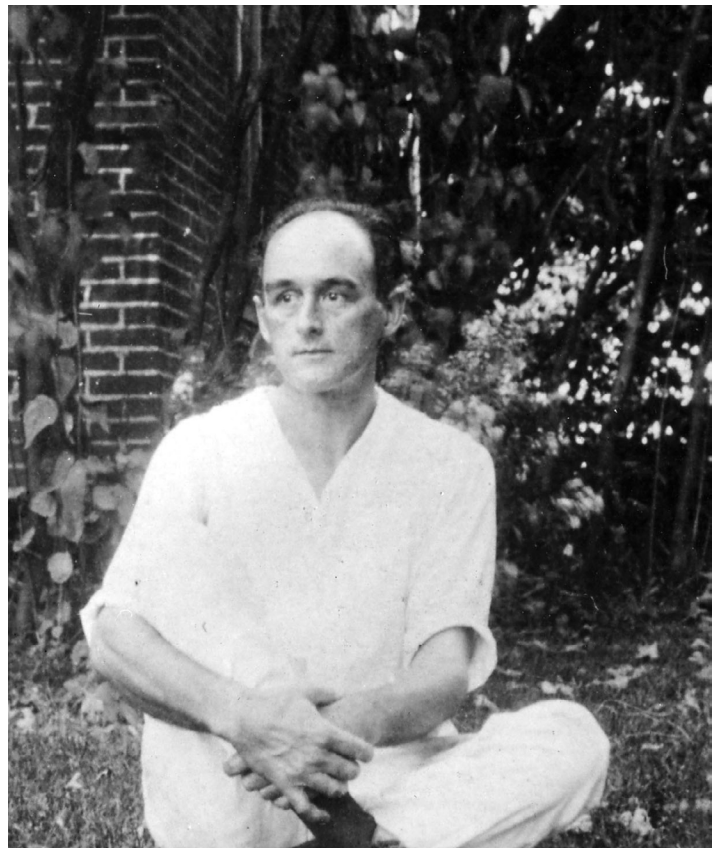
I first ventured into Warner's story when I was doing research for my book, *A Passion to Preserve: Gay Men as Keepers of Culture*. Warner created his little land of long ago in the unincorporated village of Cooksville, near Madison, Wisconsin. His house remains a private residence while many of his home furnishings and personal memorabilia have become part of the Cooksville Archives and Collections. I became fascinated with Warner as a pioneer in historic preservation, and as the first in a several-generation lineage of preservation-minded gay men who made their homes in Cooksville in the twentieth century.

Warner manifested an extraordinarily rich, quintessential mix of the five traits I came to identify as characteristic of preservation-minded gay men. These include *gender nonconformity*: being male with a significant feminine streak; *domophilia*: exceptional love of houses and things homey, a deep domesticity; *romanticism*: relating with extraordinary imagination and emotion to things and people of the past; *aestheticism*: artistic eye and aptitude, design-mindedness; and *connection- and continuity-mindedness*: valuing a sense of personal relationship with the flow of history.<sup>1</sup>

In 1911 Warner bought an 1840s house in Cooksville and proceeded to furnish and live in it in a manner as consistent with the 1840s as he could manage: no indoor plumbing (water pump and outhouse in the

backyard), no electricity (only candles and early oil lamps, kerosene being too modern), no central heating (fireplace only, stoves being too modern), and of course no telephone. His main concession to modernity was having a kitchen stove that burned kerosene rather than wood.

Warner called his place the House Next Door. Starting in 1912 and continuing until he suffered a disabling stroke in 1932, Warner hosted thousands of paying guests, one party at a time and by reservation only, from spring through fall. They came for luncheon or tea or dinner, to see the house and the antiques with which it was furnished, to tour the old-fashioned garden, to enjoy conversation with Warner and his piano artistry, and perhaps to join in singing. Old English ballads were a favorite—"Lord Lovel," "My Man John," and "The Raggle Taggle Gypsies, O!" Warner would sometimes



RALPH LORENZO WARNER, SEATED BEFORE THE LILAC BUSHES AT THE HOUSE NEXT DOOR. ALL PHOTOS CIRCA 1920, COURTESY OF LARRY REED, FROM THE COOKSVILLE ARCHIVES AND COLLECTIONS



dress in nineteenth-century frock coat, waistcoat, and top hat. Occasionally he provided bed and breakfast accommodations. Some guests visited numerous times. “It’s strange that the same people keep coming,” Warner told a reporter. “They bring others, of course, but they are always coming back themselves.”<sup>2</sup>

Warner’s Cooksville home kept him very busy and the fees he collected from guests, supplemented by his piano students’ fees, constituted his modest livelihood. Although he depended on the income, he viewed the House Next Door not as a business but as a refuge from modern life. Feature articles in newspapers and magazines helped to publicize the place, which, in summer, was largely hidden behind a tangle of trees, bushes, and vines. Warner did no advertising and erected no signs to help people find the House Next Door. He preferred to have his guests learn of it personally, through word of mouth, and to experience it not as a restaurant or museum but as a gathering

place for kindred spirits who felt out of step with the mainstream of modern life, and who found romance and beauty in the things and ways of the olden days.

Ralph Warner was ambivalent about engaging with the world in such an intimate way, having strangers come into his home. He was a creative homemaker, cook, and gardener, a gifted musician, bright, sociable, and talkative. But his heavily scarred facial complexion, the result of childhood smallpox, made him self-conscious, as did his rather feminine voice and manner. And as his flow of visitors grew through the years, his workload grew heavier. Ten years into operating the House Next Door, Warner asked a reporter not to write about him. “I already have too much to do,” he said. “I like company but not too many. I must be left alone. I have all this garden to care for.”<sup>3</sup>

Newspaper and magazine writers described Warner as an artist, a musician, a pleasant, romantic gentleman. He was likened to Thoreau at Walden Pond, an exponent of simple living. A 1926 article in the *Wisconsin State Journal* described him as “a genial, cordial man, who enjoys people and guests more than anything in the world, with the exception, perhaps, of antiques.”

“Let me live in a house by the side of the road, and be a friend to man.” For most of us these lines represent a pretty sentiment, pleasant enough to repeat in idealistic hours, but out of the question for practice in this materialistic age. Yet occasionally we find a man, who, weary of the bustle and the petty bickerings of modern life, finds courage to retire to the side of the road and live his life in as idealistic a manner as his fancy may dictate.<sup>4</sup>

Some writers hinted at Warner’s queerness, calling him a “delightfully temperamental antique collector” and a man whose tangled garden grew strange medicinal herbs that in earlier times would have assured his burning at the stake.<sup>5,6</sup> Near the end of Warner’s life, when he was no longer operating the House Next Door, a *Milwaukee Journal* reporter wrote, “He was a bachelor and he was different. ...He always pattered around the house—cooking, making hooked rugs, collecting an-



RALPH WARNER, IN NINETEENTH-CENTURY ATTIRE, AWAITS VISITORS AT THE HOUSE NEXT DOOR



INSIDE THE HOUSE NEXT DOOR: THE VIEW FROM THE PARLOR TO THE FRONT HALLWAY

tiques and the like. Strolling around the village in his white pants, he always had plenty of time to talk when the farmers were busy with their chores. It was never 'hotter'n the hubs' to him. He would mop his brow with a silk handkerchief delicately and say, 'Death, it's so wahn.'<sup>7</sup>

Warner seems to have been remarkably self-possessed for a man whose coming of age in a working-class family coincided with Oscar Wilde's much-publicized trial and imprisonment. When one visitor to the House Next Door asked, "Where is Mrs. Ralph?" he gave an evasive reply that was no doubt well-rehearsed: "All the ladies nowadays belong in the tomorrows and next days. I've never found one that fitted into my land of long ago." As the visitor continued her inquiry with a comment on the matrimony vine growing over the door, Warner was quickly out the door and into the garden, intent on shooing a blue jay away from the pool.<sup>8</sup> Not all who visited were so nosy. Some of them, enchanted by Warner's creation, sent him poems they composed in the afterglow of their visits.

To understand what Ralph Warner's Cooksville haven meant to him and to those visitors in the 1910s

and 1920s for whom it had great appeal, we must consider it in relation to Warner's life and the realities of those times. It is telling that Warner viewed a house and garden from the 1840s—just seventy to eighty years earlier—as his land of long ago. Writings about the House Next Door from the 1910s and 1920s give us some idea of how very far back in time the 1840s seemed to Warner and his contemporaries, how completely American life was felt to have changed during the intervening seven or eight decades. One writer described the House Next Door as being "like a page from...an historical novel...filled with romance and glamor of the long ago."<sup>9</sup> Another said that "in the midst of a bustling twentieth century environment" the house was a reminder of "an almost forgotten past."<sup>10</sup> Today, a house recreating the domestic life of seventy years ago—the 1940s—would not likely attract so much attention, serve as a restorative for those discomfited by modern life, or be likened to a romantic novel harkening back to an almost forgotten era.

Ralph Warner was harkening back to his grandparents' early-marriage years in Dodge County, Wisconsin, a farming region about sixty miles northwest



of Milwaukee. With most needed goods and services produced locally, they did not often have to venture far—occasionally to the larger market towns of Columbus and Watertown, ten to fifteen miles away. A trip to Milwaukee, the nearest large city, required a long day of travel by horse-drawn carriage each way. It was a pattern of human settlement, movement, and commerce that had shaped their ancestors' lives for centuries, with relatively small and gradual changes through time. Then the railroads came, revolutionizing land transport and thus transforming the human senses of time, distance, and place.

By the time Warner's parents, James Warner and Alice Woodward, married in 1871, the railroads' re-

shaping of life was well underway in the Midwest and throughout the nation. James Warner and his brother moved to Milwaukee for jobs with the Chicago, Milwaukee & Saint Paul Railway, whose line ran through their home township in Dodge County. Both resided a few blocks from the railway's depot in the Milwaukee's Walker's Point neighborhood. Ralph Warner was born there in 1875 and was joined by two sisters through the next ten years.

The family lived in Milwaukee for Warner's first eighteen years, mostly in the neighborhood of his birth. During this period the city's population grew from about 100,000 to about 250,000, reflecting not only the nation's shift from agricultural to industrial but also the arrival of large numbers of immigrants from Germany, Ireland, Poland, Italy, and other European countries. Living in the railroad district, his father a locomotive engineer, young Warner would have been familiar with the growing size and diversity of the city's populace.

Ralph Warner's childhood visits to the home of his maternal grandparents, Stephen and Eveline Stewart Woodward, in their Dodge County farming community exposed the city boy to the quieter, cleaner, greener, more old-fashioned place his parents had come from—and to which he may have already had some longing to return. But along with the noise, pollution, and congestion of his Milwaukee neighborhood, the city offered Warner key advantages: good public schools and excellent musical instruction. He began taking piano lessons at age seven and demonstrated great talent. After going on to study at Chicago Musical College in 1896 and 1897 he returned to live with his parents, who had moved to the Racine area. He taught piano students and was noted for his fine piano performances in the community.

By 1900 Warner had taken a position as piano instructor at Morningside College in Sioux City, the Iowa move being his first significant departure from his parents' home. Warner taught at Morningside until at least 1904 and was active in the city's Beethoven Club. A local newspaper praised his "delicate yet strong touch and intelligent interpretation." Other reviewers observed that "Mr. Warner unites delicacy with fire and vim by his technique," that he imparts "an air of vagueness and mystery to all of his selections," and that "his playing is



*RALPH WARNER AS A GENTLEMAN OF THE 1840S*

marked with brilliant technique and poetic style, which gives excellent promise for his future.”<sup>11</sup>

After several years as one of Sioux City’s finest pianists, Warner moved back to Wisconsin. During his years away the last of his grandparents had died—his mother’s parents, whose Dodge County home had been a feature of his childhood. After about ten years in the Racine area, his parents moved to Delavan, a small Wisconsin city about fifty miles west of Racine. Warner lived with his parents in Delavan and then in Walworth, a smaller city nearby. After living for many years amidst the unquiet of industrial cities, it was in tranquil little Walworth that Warner’s mother died in 1908, when she was 58. His father soon left for Florida, where he would reside until his death.

Alice Warner’s death seems to have been an important turning point for her son, then 32. Warner soon moved back to Racine, where he took a position as an instructor in arts and crafts, weaving in particular, at the North Side Boys’ Club, a charitable center for disadvantaged children and youth. In early 1909 he suffered a serious “attack of blood poisoning.” In the fall of that year he left Wisconsin for Forest Grove, Oregon, an 1840s-settled college town near Portland where, the Racine newspaper reported, “he will make his future home.” This venture to the West did not last long. In the fall of 1910 a Racine news article about the North Side Boys’ Club mentioned that Ralph Warner “will continue to have charge of the arts and crafts work classes.”<sup>12</sup>

As industrial cities like Milwaukee and Racine were places of opportunity, they were also sites of unhealthy living conditions for many. Noise, overcrowding, air pollution, poor sanitation, and infectious diseases took a great toll. By the first decade of the 1900s, urban campaigns for public health had developed into integrated, citywide programs in many places, including Racine. In 1910 the North Side Boys’ Club joined with several other Racine social welfare organizations—Associated Charities, the Day Nursery, and the Big Sister move-

ment—to form the Central Association, which received financial support from individuals and employers. In this era before government played any significant role in the social welfare arena, Racine’s Central Association was a progressive enterprise that was well supported by the community.

Living and working in Racine enabled Ralph Warner to meet others with similar interests and sensibilities who appreciated him as the rare bird he was. One such person was Susan M. Porter, sixteen years his senior and a history teacher at Racine High School. She

had grown up in Cooksville and her affection for the place led her to purchase, in 1910, one of the village’s old brick houses facing the public square. Warner was just one of numerous Racine residents that Susan Porter introduced to Cooksville, but Warner’s visit in the spring of 1911 had special significance for both him and the village. Enchanted by the place, he learned that the brick house just south of Miss Porter’s was for sale, for five hundred dollars, and decided to make it his own. The seemingly whimsical name he gave it, the

House Next Door, was actually born of his strong connection- and continuity-mindedness. His house’s name represented an important strand in his bond of friendship with Miss Porter.

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The “go-ahead fellow” was a much-admired type in nineteenth-century popular culture, the sort of fellow many young men aspired to be: optimistic, ambitious, and energetic in pursuit of success and wealth in the business arena. Ralph Warner was not, by any stretch, a go-ahead fellow and he knew it. Several poems he saved from newspapers and magazines as a young man illustrate this awareness: “If I take the path to song and you take the road to gold, I wonder if we shall meet when the years are old?”<sup>13</sup> A newspaper-clipped poem sent to him by his cousin Ella observes: “He’s getting past the flush of youth, at times we think he’s lacking steam—some people say, to tell the truth, he’s less disposed to

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**The “go-ahead fellow” was...optimistic, ambitious, and energetic in pursuit of success and wealth in the business arena. Ralph Warner was not, by any stretch, a go-ahead fellow and he knew it.**

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do than dream.”<sup>14</sup>

Warner was a dreamer, but that did not mean he was indisposed to doing. However, the focuses of his doing were not of the American go-ahead variety. They had to do with things domestic, musical, artistic, and historical. And they were of the ministerial sort—attending to the needs of others, as in his secular ministry at the boys’ club in Racine. “Our greatest happiness in life consists in giving ourselves to the service of others.” This maxim must have had great resonance for Warner, considering that it is the only quote he copied into his poetry scrapbook twice. For several years in Racine his desire to serve others also earned him a modest living as a teacher and friend of needy boys. And then he discovered a new way in which he could serve, one that would enable him to escape the industrial city: creating his little land of long ago, where he would find his own fulfillment while ministering to those scattered souls who were similarly dismayed by the character of modern life and who shared his love for the things and ways of the olden days.

Historic preservation in the U.S. was in its infancy in the early 1900s, and was limited largely to the Northeast, where the Society for the Preservation of New England Antiquities was founded in 1910. (The ministerial inclination was at play there as well, with many ministers, former ministers, and seminarians among the group’s founding members.) For the recently settled Midwest, the House Next Door was an eccentric creation and a pioneering endeavor in the preservation arena. Ironically, it was the automobile that put Cooksville within reach of both Warner and his visitors, even as it was the automobile that was driving so much of the change that riled preservation-minded Americans. Warner didn’t ever operate a car, but his friends and acquaintances included numerous automobilists.

In furnishing his apartment rooms in the decade before he found his 1840s house in Cooksville, Ralph

Warner combined an eclectic mix of furniture and decorative objects that were interesting, attractive, “old-fashioned things”—as what we now call antiques were then commonly called. Warner favored the spare, sturdy Arts and Crafts aesthetic and was well acquainted with Elbert Hubbard, the Roycroft community, and the periodicals, books, furniture, metalwork, and leather goods they produced in East Aurora, New York. And his work teaching weaving and other manual arts to boys in Racine was very much in line with the Arts and Crafts ethos.

For his scrapbook Warner clipped inspiring bits of text from Roycrofters periodicals and copied by hand choice sayings from books they published. In Elbert Hubbard’s *Little Journeys to the Homes of Eminent*

*Artists* Warner read about the sixteenth-century Italian Renaissance painter Antonio Allegri da Correggio. Hubbard described Allegri as an artist who “had come up out of a family that had little and expected nothing” and who, when traveling, “stopped with peasants along the way and made merry with the children, and outlined a chubby cherub on the cottage wall, to the delight of everybody.”<sup>15</sup>

Warner would have had affinity with Allegri’s humble background and his way with children, but it was the final sentences of this paragraph

that Warner copied into his scrapbook: “Smiles and good-cheer, a little music and the ability to do things, when accompanied by a becoming modesty, are current coin the round world over. Tired earth is quite willing to pay for being amused.” Warner would apply this formula quite effectively in his role as creator and proprietor of a refuge from modern American life.

Elbert Hubbard’s use of the phrase “tired earth” in the first decade of the 1900s is a reminder of the immense and exhausting ways in which American life changed through the first decades of Warner’s life. Walt Whitman remarked on this shift: “Singleness and normal simplicity and separation, amid this more and more

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“Tired earth is quite willing to pay for being amused.” Warner would apply this formula quite effectively in his role as creator and proprietor of a refuge from modern American life.

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complex, more and more artificialized state of society—how pensively we yearn for them! How we would welcome their return!”<sup>16</sup> But most observers writing in this period—including even Whitman in some of his poetry—celebrated American industry and invention, describing with particular reverence big machinery made in the United States.

The widespread acclaim with which this technological progress was met in American culture is evident in “Dawn of the Century,” a popular piece of sheet music published in 1900. Prefatory words set the tone for the piece, characterizing the new century as a man-child born sturdy, strong, and beautiful, and bearing a shining scroll with predictions of peace and justice, love and truth, the end of wars and enmity—God’s fatherhood, the brotherhood of man.

The artwork on the cover of “Dawn of the Century” depicts the promise of the twentieth century, which is all about technology. A woman in flowing gown, crowned by an electric light bulb, stands on a winged wheel of Progress. Arrayed around her in the heavenly red-gold horizon of dawn are the promising machines: typewriter, telegraph, electric streetcar, dynamo, gasoline engine, telephone, sewing machine, camera, mechanical reaper, railroad locomotive, automobile.<sup>17</sup>

This ethereal image does not depict the nervous distress wrought by technology-induced change, especially among those living in America’s rapidly growing cities. As the rhythms of daily life were accelerated, there was an intensified pressure to be “on time,” the phrase a colloquialism born with the rise of factories and railroads. A widespread nervous syndrome, known popularly as neurasthenia, was said to be the result of “overwork, crowdedness, ennui, and other tensions associated with metropolitan living.” The New York Health Commissioner stated in 1895 that “in no nation at any time have the demands on the nervous forces been as great as in these United States.”<sup>18</sup>

Neurasthenia changed the course of Wallace Nutting’s life. Born in 1861, Nutting was an early member of the Society for the Preservation of New England Antiq-



RALPH WARNER CAREFULLY MAINTAINED THE HOUSE NEXT DOOR’S GARDEN. PICTURED HERE ARE ITS POOL, RUSTIC ARBOR, AND BIRDHOUSE

uities. He had been a Congregational minister, but after recovering from neurasthenia he found a new ministry: creating a commercial enterprise centered on the Old America theme. The Wallace Nutting company sold millions of hand-colored photographs, signed *Wallace Nutting*, of evocative scenes of the olden days—colonial house interiors and exteriors, bucolic settings, some featuring models in period attire. With the huge nationwide popularity of these pictures, Nutting expanded his brand to include colonial furniture reproductions. He also developed a chain of restored colonial New England “house museums” as showrooms for his lines of pictures and furniture.

Warner was a regular reader of such magazines as *Ladies’ Home Journal*, *House and Garden*, and *Country Life in America*, so he would have become familiar with Wallace Nutting’s enterprises. Nutting’s pictures proba-



bly informed Warner's interest in creating photographs of himself and women dressed in attire of the early nineteenth century. One of Warner's photos is especially reminiscent of Nutting's pictures: a shadowy view of his parlor, the backs of old chairs silhouetted against the snowy glare of windows, the floor dressed with hooked

and woven rugs. Below the image he penciled *Winter—House Next Door* and signed it *Ralph Warner*.

Escaping to the countryside from the rapid pace of noisy, crowded, polluted industrial cities was a significant alternative-lifestyle impulse in the first decades of the 1900s. In 1909 Gustav Stickley observed, "Psychologists talk learnedly of 'Americanitis' as being almost a national malady, so widespread is our restlessness and feverish activity, but it is safe to predict that, with the growing taste for wholesome country life, it will not be more than a generation or two before our far-famed nervous tension is referred to with wonder as an evidence of past ignorance concerning the most important things of life."<sup>19</sup>

An influential proponent of this simple-living ideal, Ray Stannard Baker (1870-1946) was a confessed go-ahead fellow who made a decided change of course. Baker grew up in Michigan and through his twenties and early thirties pursued a career in reform-minded journalism, reporting on labor unrest and other social issues. Having burned his candle at both ends, Baker was in his mid-thirties when his book, *Adventures in Contentment* was published in 1907 under his pen name, David Grayson.

I came here eight years ago as the renter of this farm, of which soon afterward I became the owner. The time before that I like to forget. The chief impression it left upon my memory, now happily growing indistinct, is of being hurried faster than I could well travel. From the moment, as a boy of seventeen, I first began to pay my own way, my days were ordered by an inscrutable power which drove me hourly to my task. I was rarely allowed to look up or down, but



*THE HOUSE NEXT DOOR'S PARLOR IN WINTER*

always forward, toward that vague Success which we Americans love to glorify.

My senses, my nerves, even my muscles were continually strained to the utmost of attainment. If I loitered or paused by the wayside, as it seems natural for me to do, I soon heard the sharp crack of the lash. For many years, and I can say it truthfully, I never rested. I never thought nor reflected. I had no pleasure, even though I pursued it fiercely during the brief respite of vacations. Through many feverish years I did not work: I merely produced.

The only real thing I did was to hurry as though every moment were my last, as though the world, which now seems so rich in everything, held only one prize which might be seized upon before I arrived. Since then I have tried to recall, like one who struggles to restore the visions of a fever, what it was that I ran to attain, or why I should have borne without rebellion such indignities to soul and body. That life seems now, of all illusions, the most distant and unreal. It is like the unguessed eternity before we are born: not of concern compared with that eternity upon which we are now embarked.

All these things happened in cities and among crowds. I like to forget them. They smack of that slavery of the spirit which is so much worse than any mere slavery of the body.<sup>20</sup>

This is a vivid description of the Americanitis to which Stickley referred, and a resolute rejection of city-centered life in favor of a restorative rurality. Never mind that Baker's beloved farm existed only in his imagination. The millions who read his *Adventures in Contentment* and the books that followed found solace and inspiration in his critique of mainstream American life and his philosophy of right living. Given the strongly conformist character of life in that era, a dissenting voice such as Baker's—railing against America's "slavery of the spirit"—was extraordinary.

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The lash under which Ralph Warner spent his twenties and early thirties—pursuing musical studies

and a career as a pianist, losing his grandparents and his mother, making an aborted move to the West, engaging in urban social work—had taken a different sort of toll than that suffered by the hard-driving Ray Stannard Baker. But Warner was an artist, not a journalist, and creating the House Next Door was as central to his response as writing about fictional farm life was to Baker's. It was Warner's simple-living retreat from the hazards and hard edges of life in an industrial city, his quiet but eloquent rejection of the American go-ahead-and-don't-look-back mentality. It was his aesthetically pleasing land of long ago, enabling him to create a home and engage in daily village life in ways that linked him to his grandparents and their rural lives in the early to middle 1800s, back before everything changed.

Much as Baker's books were a reassuring revelation to frazzled Americans in the early twentieth century, so was Warner's Cooksville home. For some visitors the House Next Door was notable mostly as a repository for the antiques with which it was furnished. For some, the house and its old-fashioned garden and the man who kept them were curiosities, the focus for an unusual automobile outing in the countryside. But for many who visited—whether in person or through feature articles in the pages of *House and Garden*, *House Beautiful*, *Ladies' Home Journal*, and numerous Wisconsin publications—the House Next Door was valued as an inspiring respite from an unlovely American way of life.


Ralph Warner's creation, born of nostalgia, was a gentle but insistent act of defiance. It was an artistic statement in celebration of things lost, and in opposition to many of the ways in which American life had changed and was continuing to change. Warner rescued and revived a house and garden which others had abandoned in their all-American pursuit of something better somewhere else. In lavishing his affection and creative artistry on the place, he created a haven not only for himself and his beloved flowers and birds, but also for many others who might have never imagined any alternative to the dictates of American consumer culture. 





PHOTO COURTESY OF KEN SAUNDERS II, TAKEN SEPTEMBER 13, 2015, AT ROCK CREEK LAKE STATE PARK, IN JASPER COUNTY, IOWA

## Birds of the Prairie: Western Osprey

*Pandion haliaetus*

Unique among North American raptors for its diet of live fish and ability to dive into water to catch them, western ospreys are common sights soaring over shorelines, patrolling waterways, and standing on their huge stick nests, white heads gleaming. These large, rangy hawks do well around humans and have rebounded in numbers following the ban on the pesticide DDT. Hunting ospreys are a picture of concentration when they dive with feet outstretched and their yellow eyes sighting straight along their talons. (Description courtesy of the Cornell Lab of Ornithology.)

Click the icon below to hear an audio recording of the western osprey, captured by Paul Marvin, courtesy of [xeno-canto](#).

**Song:** Western ospreys have high-pitched, whistling voices. Their calls can be given as a slow succession of chirps during flight or as an alarm call—or strung together into a series that rises in intensity and then falls away, similar to the sound of a whistling kettle taken rapidly off a stove. This second type of call is most often given as an unfamiliar osprey approaches the nest. As the perceived threat increases, the call can build in intensity to a wavering squeal. (Description courtesy of the [Cornell Lab of Ornithology](#).)





PHOTO COURTESY OF SOPHIE NEEMS

**Sophie Neems** graduated from Grinnell College in 2016 with a double major in Anthropology and Spanish. Among many activities at Grinnell, Sophie was honored to serve on the Center for Prairie Studies Board for three and a half years, during which time she learned a great deal about placemaking and environmental stewardship. She now works for [Brainfood](#), a youth development non-profit in Washington, DC. Although Sophie is loving her big city adventure, her heart will always live on the prairie.

**Note:** The conclusions presented here result from ten semi-structured interviews with women identifying themselves as alternative farmers, who live and farm in and around Iowa City or Grinnell, Iowa. All interviews took place during January and February of 2016 as research for Neems's senior thesis project in Anthropology. All names have been replaced with pseudonyms.

## Chore Boots, Checkbooks and Chalkboards: Women Alternative Farmers and the Fourth Paradigm of Agriculture

### SOPHIE NEEMS

The address, 3418 Osage Street South West, nestled in the hills between Johnny Meier's ramshackle farmhouse and Old Man's Creek, is my place. A hobby farm dedicated to sustainability amidst the industrialized conventional fields of Iowa corn. It is not my home, nor any of my relative's, but it is the Iowa farm where I have attended summer camp—Country Camp—every year since I was seven. It is here that I learned to be enchanted by the treasure of potatoes dug from their home beneath the soil, invisible to the onlooker. It is here that I discovered the vitality of the symbiotic relationship between humans and the ecosystems of which we are a part. Time spent at [Country Camp](#) taught me to desire—no, to *require*—the sustainable future of our Earth.

This appreciation for Earth and my subsequent interest in sustainable agriculture persisted beyond Country Camp and into my experience in higher education at Grinnell College, where I became a part of the [food justice community](#) on campus. Throughout my involvement in the food community at Grinnell I began to wonder why women outnumbered men in the alternative agricultural movement despite the fact that agriculture on the whole is traditionally dominated by men. Furthermore, I wondered why these women remain marginalized within agricultural discussions. So began my academic inquiry into a group often forgotten: women farmers.

Bringing together women alternative farmers' motivations, their identity as farmers, and the ways in which they conceptualize and share knowledge, I would



argue that these women are actively engaged in developing an agricultural system that is unlike any that has existed before. Through their motivations to farm, these women reconfigure the link between farming and nurturing; through their identities, they claim the title of farmer and imbue it with new meaning; and, through their desire to share their local, farmer-generated, and partial knowledge, these women establish themselves as contributing consciously to a new system of agriculture. Within this system the title “farmer” has been redefined as identifying a person who is concerned with environmental—as well as economic—sustainability, and within which all genders are included.

### The First, Second and Third Paradigms of Iowa Agriculture

I define a “paradigm of agriculture” as the nature of mainstream farming in a particular historical period, including certain values, knowledge, beliefs, farming methods, market priorities, technology, transportation and distribution. The First Paradigm of Agriculture began with the settlement of Iowa roughly during the 1840s and continued into the 1860s, when the railroad arrived (Bogue 1994). It is defined as the time when Iowa farmers engaged almost entirely in subsistence farming. This is to say that most agricultural products were produced by the family and for the family, rather than being sold to others.

Once railroads crossed Iowa, agriculture began to change, ushering in the Second Paradigm. This phase lasted from the 1860s through World War Two and is characterized by an increasing focus on the sale of agricultural products to local, regional, and even national markets (Nordin and Scott, 2005; Bogue 1994). On a traditional farm during either the First or Second Paradigm, a heterosexual married couple farmed together and both the man and the woman would have been responsible for equal amounts of labor. However, despite this apparent equality, a patriarchal power hierarchy prevailed and work was divided by gender. Men

were likely engaged in more fieldwork and women likely maintained a garden, kept house, and prepared and preserved food.

Following the Second Paradigm, the Third Paradigm, under which we mostly live today, began roughly at the end of World War Two, and it continued gendered divisions of farm labor. What mainly set this period apart was the introduction of synthetic chemicals—specifically pesticides and synthetic fertilizers. Many of these were developed for the war effort, but were now modified and repurposed for agricultural use (Nordin and Scott 2005; Anderson 2009). During this period, farming also became more mechanized, and gasoline and electricity were increasingly used as energy sources on farms. In addition to the sharp turn into use of synthetic chemicals and machinery, the Third Paradigm is characterized by its prioritization of production and its emphasis on maximizing profit. It is large scale, chemical intensive, and male-dominated. It produces commodity crops and sells them through middlemen as

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opposed to bringing them to markets where consumers purchase them directly. Today, the Third Paradigm is also called *conventional agriculture*.

Although Third Paradigm farmers produce the majority of crops and livestock in Iowa, the story of modern agriculture does not end with them. Alternative farmers also comprise an important, albeit small, section of the Iowa agricultural system. The women whom I interviewed for this study are hopeful that their distinctive approach to agriculture will soon, either by choice or necessity, become mainstream, at which point it would become its own paradigm.

It is this developing system that I have termed the Fourth Paradigm of agriculture. According to Curtis E. Beus and Riley E. Dunlap (1990), alternative agriculture, when defined in opposition to mainstream con-

al agriculture, is characterized by small-scale farms, organic-type practices, the direct marketing of products, and the inclusivity of all genders (601-608). However, beyond these methodological, I define the Fourth Paradigm in terms of motivation, identity, and knowledge sharing. Thus, the Fourth Paradigm is a system in which all farmers, regardless of gender, are motivated to farm as a way in which to nurture others, nurture the self, and nurture a sustainable agricultural system. The farmer's identity within the Fourth Paradigm necessitates being both a community builder and a businessperson. Finally, Fourth Paradigm farmers share knowledge with the intention of improving not only the lives of individuals and communities, but also the system of food production itself. Based upon this definition, the women whom I interviewed would likely feel as if they are already a part of a new paradigm. However, as long as the new paradigm is simply an "alternative" to the mainstream, conventional agriculture system, it has not yet realized its full potential.

### Motivation: nourishing versus nurturing

In all systems of agriculture, farmers—Fourth Paradigm farmers included—want to nourish the world by feeding people. For example, Shannon\* said, "Good clean healthy food is an inherent right that all people have and many people don't have access to...the most basic service I can provide to people and the community I care about is to grow good food." Alice went so far as to say, "In my mind, farming is the most noble thing

\* All names have been replaced with pseudonyms.

that a person could possibly do. What's more important than raising the food for people to eat?" However, alternative farmers are motivated to do more; they also wish to nurture others and themselves, as well as to promote the ideals of the alternative agricultural community.

In light of these ideals, Fourth Paradigm farmers nurture individuals and communities by fostering both reciprocal and educational relationships. The women



SHANTI SELLZ, OF MUDDY MISS FARMS, AT HARVEST-TIME. PHOTO BY JESSICA RILLING.

whom I interviewed feel compelled to act as role models and teachers for customers, employees, and other farmers. Lena said, "My CSA customers need to learn a lot of stuff about food and the environment, and so I take my job of teaching them very seriously. And I also think it's my job to teach young farmers because I am one of the old timers and I lived to tell about it." Lena demonstrates the alternative farmers' impulse to nurture the minds of individuals by sharing knowledge and experiences about food production. Additionally, the Fourth Paradigm is inspired by personal relationships built with others. This paradigm is more conducive to these types of relationships because Fourth Paradigm farmers market their goods directly to customers, thus creating more opportunities for contact between farmer and consumer. This is exemplified by Shannon's love for the stories her customers regularly share with her at the Farmers Market regarding recipes and preparation of the foods she grows. She said that she is motivated to farm because of "the stories and relationships that define us and our relationship to food."

Finally, these women demonstrated that a need for independence motivated their decision to become farmers. They talked about a deep appreciation for be-

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ing in control of their own day to day activities. Alice said, “My favorite part about farming is when I have plenty of time and I can be outdoors directing myself in whatever I want to do, and I can completely lose myself in my work.” These women also discussed their love for working outside on the farm, as opposed to being in an office. Jane said, “The best part [of farming] is being outside almost all the time for so much of the year and just feeling really in the world. Not having to look through a window.” These women reject the bureaucratic constraints of the corporate world through their decision to farm and instead find a sense of freedom in their self-determined daily schedules. A cross-cultural study

is not static or uniform. Disparity exists between women’s historical identification as “farm helpers” (Sachs 1983: 108) and the identification of the farmers whom I interviewed for this project as “primary farmers.” Golubovic (2011) says, “The basic meaning of identity refers to where one (a person or a group) belongs.” Further, individuals claim multiple identities based upon the different social contexts in which they exist (Stryker 1986 cited in Brasier et al. 2014: 287). An exploration of identity within the current agricultural context reveals that Fourth Paradigm farmers do more than grow food for others. Instead, their “farmer” identity encompasses concepts of community builder and businessperson,

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and is also inclusive of women in a way that previous paradigms have not been.

Fourth Paradigm farmers claim characteristics of caretakers and activists, demonstrating that building

by Carolyn Sachs (1983) supports this idea: “it is clear that the women who are independent producers have more control over their labor and the farm operation” (108). By choosing to farm alternatively on their own operations, as opposed to working within bureaucratic, and often patriarchal, office cultures or even on farms run by men, these women reclaim control over their own labor.

At first glance, these women’s motivations appear ironic. They seek independence from the patriarchy, yet choose to join the traditionally male-dominated domain of agriculture. They are driven by an intention to nurture others, a concept gendered as feminine in this society. However, closer examination reveals that this paradox exemplifies these women’s innovative brilliance. By choosing to enter farming, these individuals reconstruct the meaning of “farmer.” They are self-reliant women who also maintain the motivation to nurture.

### **Identity: money, community and gender inclusivity**

The identity of women farmers in the United States



GREENHOUSE SPROUTS AT MUDDY MISS FARMS. PHOTO COURTESY OF SHANTI SELLZ

communities of healthy and happy people is a large part of their identities. For example, Alice sees herself as a caretaker of her land: “I think of myself as a steward of the farm. I think that the farm is my legacy, at least I intend for it to be.” Lisa sees herself as a caretaker of her livestock: “I really like to be a caretaker when livestock are birthing. Especially sheep. Lambs. They’re unique... sheep are almost like human beings.” Sandra identifies as a caretaker of many living things, both human and non-human: “...of animals, of children, of grandchildren. Sometimes of volunteers, employees. Yes. All of the above. And plants.” In addition to being caretakers, these women identify as activists, though they could also mean educators. Alice declared that she is an activist because she has a “strong opinion against industrial agriculture. I support local food, local farmers. I support family farms and am against CAFOs and integrators.” Lisa identifies as an activist through her efforts to educate people about her work: “If people are curious about how we are doing things, we invite them to the farm...”

Through their self-identification as activist educators and caregivers these Fourth Paradigm farmers partially fulfill societal stereotypes of women farmers. However, because they also identify as businesspeople, they push back against stereotypes. Eight of the ten women responded that they identify as businesspeople, and one is working towards identifying in this way. For example, Lena says, “You gotta make money. More is better...Every time I plant something, I say, ‘ok, we’re gonna make a lot of money on this crop.’ We usually don’t. But we make enough.” Here Lena demonstrates how a Fourth Paradigm farmer, no matter their gender, must consider financial gains and losses to maintain viability. She also exemplifies the way in which the Fourth Paradigm accepts that agriculture must function within the existing capitalist system and be able to generate profit, but that it also differentiates itself from the Third Paradigm by understanding profit to be but one criterion of a farm’s success.

Finally, the Fourth Paradigm differentiates itself on the topic of identity through its acceptance of women as farmers and its inclusivity of individuals who identify with the LGBTQ community. This is made evident primarily due to the simple fact that the women whom I interviewed identify as primary farmers and as women. Take Sandra, for example, who said that her identity as a farmer grew out of the sexism she faced as a woman in agriculture: “I was the fulltime farmer, and I think I started [identifying as a farmer] just out of annoyance, frustration and anger...I took on that identity as a way to fight back and say ‘Ok, you can’t ignore me any



ONE OF THE FIELDS AT MUDDY MISS FARMS. PHOTO COURTESY OF SHANTI SELTZ

you can’t ignore me any



longer.” This impatience was also made evident when the women said they do not wish to farm with a male counterpart because they feel this would inhibit their ability to learn the skills necessary to be farmers in their own right. Charlotte said, “I’m really glad that I’m doing this on my own actually...I also think that there are so many ways in which it would be easy to accidentally defer and not learn how to do things and not ask the questions.” Further, the only instance in which a woman whom I interviewed identified as a “farmer’s wife” was in the context of Tanya’s female-female relationship in which she felt part of an equal team of farm contributors. In sum, these women balance the economic aspects of their farms alongside the agrarian ideals of community building, while also rejecting the gendered hierarchy that has characterized all types of farming up until now.

### Knowledge and knowledge-sharing

These women farmers conceptualize knowledge as partial and believe it is necessary to participate in knowledge sharing communities in order to enrich themselves, their communities, and the alternative agricultural system. This understanding of knowledge coincides with that of postmodern theory. Sachs (1996) shares that within postmodern theory there is no one single “Truth,” but instead a multiplicity of truths. No one person or institution is capable of possessing all knowledge and thus a knowledge community is necessary through which to share information (19). In the Fourth Paradigm of agriculture, this means that knowledge produced by individual farmers is valued in addition to that produced institutionally. Further, knowledge is not considered to be universally applicable, but instead exists only within the context of a specific place and time. In the words of Donna Haraway (1988), knowledge is understood to be “situated...which is to say that knowledge is generated within, and applicable to, particular circumstances” (590). Put into an agricultural context this means that although a farming meth-

od may work for one particular farmer it will not necessarily work for all farmers on all farms.

Looking to the farmers themselves, Shannon explained that she gains insight on how to improve her own agricultural methods from visiting others’ operations and learning from fellow alternative farmers. She said, “any time I visit someone else’s farm, I’m always picking up little hints of how they do things, and just conversations, sitting with someone else and just talking about all the things.” Shannon seeks to gain knowledge from her peers in order to enrich her capabilities as a farmer. Charlotte described the value of alternative agriculture conferences as space in which farmers share knowledge with each other with hopes of benefiting all members of the farming community. She discussed

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[Practical Farmers of Iowa](#) (PFI) in particular, saying: “...there are just some really incredible networks for knowledge sharing. PFI is one of them, and I’ve really appreciated the welcome of a lot of PFI farmers to ask questions...” Finally, Kari said that she shares knowledge with some farmers who would be considered her biggest competitors because they all understand that they hold the same core values and all wish to see the system of alternative agriculture flourish. Kari justified this po-

tentially counterintuitive decision, “We have a relationship and a trust level that we know that we’re not going to undercut each other. We know that we care about each other’s best interests. We know that we both care about the same philosophy.” This common philosophy demonstrates that these farmers share knowledge in order to support the system of alternative agriculture as a whole. In sum, these women’s conscious contribution to a new paradigm of agriculture, one that they believe to be more sustainable, by engaging in reciprocal relationships of knowledge sharing defines a fundamental characteristic of the Fourth Paradigm.

### Conclusion

As members of the global community, we are faced



*ANOTHER VIEW OF THE GREENHOUSE AT MUDDY MISS FARMS. PHOTO COURTESY OF SHANTI SELTZ*

nine” drive to nurture, as well as the culturally defined “masculine” need to be independent and in control of one’s own labor. They claim multiple identities related to farming, some of which are associated with stereotypically male roles, such as farmer and businessperson, and some of which are associated with stereotypically female roles, such as teacher and caregiver. Finally, they conceptualize knowledge as a multiplicity of truths, and they wish to engage in knowledge sharing as a way to benefit themselves, their direct community, and the alternative agriculture system as a whole. Thus, they express their desire to transform Iowa agriculture and feel as if they are an important part of this change. In the words of Tanya: “If you’re gonna complain about something, then you need to see what you can do to change it. And I feel like even on just our acre and a half, I have an opportunity to be an example.” 🌱

with the challenge of an expanding population within the confines of a finite planet, a challenge to which agriculture must adapt. The question becomes: how? What will be the future of agriculture? Some people believe that agricultural adaptations should prioritize long-term sustainability of our earth, while others place the primary focus on increasing yield. However, I believe that the hope and innovation embodied by these women alternative farmers demonstrates that the Fourth Paradigm of Iowa Agriculture, a system that considers both yield and sustainability, could be, and should be, that future.

The Fourth Paradigm draws from each of the three previous paradigms in the sense that farmers wish to feed others, while also advancing its own unique characteristics. Farmers within this paradigm are motivated to farm both because of a culturally defined “femi-





PHOTO COURTESY OF GLEN SCHWARTZ

**Glen Schwartz** grew up hunting morels in Minnesota until he moved to Iowa in 1974. He joined the [Prairie States Mushroom Club](#) (PSMC) 11 years ago, serving as club President for the last seven years. He has been a Senior Engineering Technician at Rockwell Collins in Cedar Rapids, IA for the last 43 years.



PHOTO COURTESY OF DAVE LAYTON

**Dave Layton** has hunted edible mushrooms for over 40 years. He joined PSMC in 2001 and is currently the Vice-President of PSMC and Editor of its newsletter [Symbiosis](#). He has done many mushroom presentations and cooking demonstrations.

## Mushrooms in the Midwest:

An Interview with Glen Schwartz and Dave Layton

INTERVIEW CONDUCTED BY SONIA CHULAKI

The prairie region is a hub for mushroom lovers. As the weather starts to warm up, thousands of Iowans gather their wicker baskets and walking sticks and hit their favorite parks and wooded areas. The Midwest is a goldmine for popular edibles like morels, oysters, and boletes, yet this subculture of mushroom enthusiasts is still underground and unfamiliar to most of the public. For some, mushrooms are an acquired taste and the idea of eating anything that was found on a tree stump is gag-inducing. With the right training and recipes, however, mushroom newbies too can enjoy the delight of finding dinner in the dirt. Many of us don't know how and where to start looking, and expert foragers are not too keen on giving away their secret mushroom spots to inquirers. However, mycological associations bring together the experienced and the amateurs, so that people with no background in mycology have the opportunity to learn the ins-and-outs of Iowa's mushroom scene from serious mushroom hunters. To gain some insight into this esoteric Midwestern tradition, the president and vice president of the Prairie States Mushroom Club (PSMC), Glen Schwartz and Dave Layton graciously shared their advice from 13 years in PSMC for those of us who want to know what the mushroom craze is all about.

**ROOTSTALK:** How did you get started as a mushroom hunter?

**SCHWARTZ:** I grew up on a dairy farm in north-central Minnesota and we hunted morels every Spring. After I moved to Iowa for my job, I continued to hunt for morels. I still had trouble finding them. Eventually, I figured out that the morels are



MORELS ON THE FOREST FLOOR. ALL PHOTOS COURTESY OF GLEN SCHWARTZ

in different locations: In Minnesota, they are found at the edge of the swamps, while in Iowa, they are in the upland forest. In September of 2005, I was visiting my sister on her dairy farm just a few miles from where I grew up. My brother-in-law and I picked buckets of fall mushrooms from a nearby woods. We had to throw them all out because we could not identify any of them, despite using several mushroom books. A few months later, my friend Roger asked if I was interested in joining a mushroom club, where he serves as treasurer. I jumped at the opportunity to learn more about mushrooms, especially those that appear in the fall.

**LAYTON:** When I was 18 a friend had me try morels and I was hooked. I was also haunted about finding a hillside full of them a couple years earlier with an older friend who just shook his head when I said, “They don’t look edible to me.” I didn’t take any. When I was 19, on a walkabout, I found a nice patch of morels. This time I found a recipe for stuffed morels and cooked them

for my family. For a brief time I was a favored son. I wasn’t so lucky in subsequent morel searches, but one time I found these big floppy mushrooms that were tan on top with white gills growing on wood. I got a mushroom book and soon learned they were also a tasty edible—oyster fungus. I fried them with eggs and breadcrumbs. Every time I found a new mushroom I checked out all the mushroom books from the library. Within a few years I identified dozens of species of mushrooms—many of those very tasty.

**ROOTSTALK:** What do you enjoy about mushrooms?

**LAYTON:** I enjoy so many things about mushrooms, like the mysteries of their growth and interactions with their habitat or the beauty of their bold shapes against an otherwise drab backdrop. I also enjoy how they turn a walk in the woods into a combination of an Easter egg hunt and a new learning experience. However, what I enjoy most is finding and identifying a new (for



me) species. So really what I enjoy most about mushrooms is knowing from experience that somewhere in my future, as long as I keep my eyes open, I'll find something amazing!

**SCHWARTZ:** The general population knows almost nothing about mushrooms and fungi, and it doesn't take much knowledge to become an "expert" in the eyes of most. Before I joined the Prairie States Mushroom Club (PSMC), I knew about morels and giant puffballs, and that was it. Once I joined the club and started looking for mushrooms, they were everywhere! I was amazed at the enormous variety of colors, sizes, and shapes of fungi...and I had never noticed them before. It was like looking through corrective glasses for the first time, and being amazed by how much I could see. Within a few years of joining the club, I was able to make actual scientific contributions. Out on a walk in the woods one day, I found a large quantity of two different mushrooms. One had not been positively identified in Iowa since the 1930s, the other had never been recorded west of the Mississippi River. Turns out, the fungi kingdom has a lot yet to be discovered. The experts are constantly reordering the fungi Class, Family, and Genus, and giving mushrooms new species names based on DNA studies. This indicates that there is much left to learn, and amateurs with no formal training, like me, are able to add to the knowledge base.

**ROOTSTALK:** What attracts people to mushroom hunting and brings people to forays (group gatherings to pick and identify fungi)?

**LAYTON:** I could smugly answer that what attracts me to forays is the chance to act like a mushroom know-it-all and scoop up all the edibles left on the identifying table. The truth is that I love seeing so many mushrooms that I wouldn't have found on my own and I've learned more from others at forays than I've taught to them. Overall, the same thing brings me to forays as it does the first time novice—the quest for knowledge.

**SCHWARTZ:** Most of the people of Iowa know of morel mushrooms, and maybe half have actually eaten them. One of our most popular forays is our annual morel hunt at Wickiup Park. We specifically encourage people to attend that have never found a morel before. And most years, we are able to bring them to a place in the woods



OYSTER MUSHROOMS.

with morels. Most of them are thrilled to find their first morel, and I enjoy their excitement almost as much as they do. For most people, that is enough. However, there are many outdoor enthusiasts that have observed other mushrooms while out turkey or deer hunting, or during a hike in the woods. Some are curious about what they have seen and if it is edible. Like me before I joined the club, they assume

there are 30 or 40 total species to be found, and that anyone leading a foray will know all mushrooms encountered. Once informed that Iowa probably has 10 to 20 thousand species of fungi, a few are fascinated with the idea of finding out more about the mushrooms they have previously found, and learning from local guides.

**ROOTSTALK:** How can people get started?

**SCHWARTZ:** Joining a local mushroom club like PSMC is really the key to an enjoyable mushroom hobby. You will learn as much in a single outing

with the club as you could learn on your own in a year. You don't really need much gear, just a pocket knife and a basket. To be safe, however, you will also need a compass (or a GPS unit), long pants, waterproof boots, bug spray, hat, and a walking stick. The stick can be found after you enter the woods, or you can purchase one, or even use a ski pole. Most people don't bother with a stick at first, but once you start using one, you will realize how valuable it can be. A really high percentage of the mushrooms are found in the woods. Generally speaking, the more mature the woods, the more mushroom species can be found. Having said that, there are also a lot of mushrooms to be found in town. One of our club members even considered writing a book on urban mushrooms. Several years ago, I had three species of slime molds and six species of fungi in my yard at the same time (I live in suburban Cedar Rapids on a typical city lot).

**ROOTSTALK:** How do people avoid getting poisoned?

**LAYTON:** Know exactly what each and every mushroom you pick is. Don't assume that just because mushrooms are the same general color and in the same location at the same time they are the same. There are no rules of thumb! Don't eat old, desiccated mushrooms of any kind. Know what they're like fresh.

**SCHWARTZ:** It is easy for me to avoid mushroom poisoning, as I only eat mushrooms I am certain will be edible. Michael Kuo (who runs the website [MushroomExpert.com](http://MushroomExpert.com) and is an accomplished amateur mycologist) suggests that you positively identify a mushroom at least three times before you eat it. Last year, I found a Bolete that I had never found before. I consulted several

books and multiple websites before deciding to eat them. I was, and still am, certain that I had properly identified them, and they were delicious, but they did give me diarrhea. This brings up the point that, just because a mushroom is known to be edible, does not mean that everyone can eat it without any problems.

**ROOTSTALK:** Are there any mushroom guides you recommend?

**LAYTON:** I have at least two dozen mushroom guides. I never use just one to identify a mushroom. I

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also use the internet once I get narrowed down to one or two genus. [Mushrooms Demystified](#) by David Arora is probably one of the most comprehensive and he has some pretty witty comments.

**SCHWARTZ:** I always go to [Mushrooms of Northeast North America](#) by George Barron first. This book is organized in a unique way that makes it exceptionally easy to use. It is really geared to the beginner, but it is so good that I always start there. The absolute best guide to edible mushrooms is [Edible Wild Mushrooms of Illinois & Surrounding States](#) by Joe McFarland and Gregory M. Mueller. My favorite website is the aforementioned [MushroomExpert.com](http://MushroomExpert.com).

**ROOTSTALK:** How are mushrooms best cooked and eaten?

**SCHWARTZ:** I am not much of a cook, and I prepare all mushrooms like they were morels...that is, I fry them in some butter and add a little salt. This works for about half of the mushrooms that I



have eaten. Unfortunately, I have cooked some “choice” edibles that were not very good because I fried them, and they should have been prepared a different way.

**ROOTSTALK:** How are mushrooms important to Iowa and prairie culture?

**SCHWARTZ:** Mushroom hunting in eastern Iowa is extremely popular. In Linn County (Cedar Rapids), I like to say that we have a population of 200,000 and that 150,000 hunt morels. That is a bit of an exaggeration, but when you are two miles from the nearest road and the woods has been stomped flat, you will agree that the number of morel hunters is impressive. In Cedar Rapids, this can be traced back to the large number of Czech immigrants in the 1800s. They brought with them a love of the outdoors and a taste for wild mushrooms. This is still honored today with the Houby Days celebration every May in the Czech Village neighbor-

hood in Cedar Rapids.

**LAYTON:** We could start with fungi being essential to the existence of all life and try to get more specific from there. Mushrooms signal the health of a habitat. Mushrooms are critical for healthy woodlands where they form a multitude of beneficial relationships with trees and break down dead wood into nutrients for all the forest plants. This is especially important in Iowa where sometimes it seems that trees themselves are endangered. Our remaining parkland is critical to preserve, and mushrooms help to demonstrate the diverse ecology represented in parks and preserves. Corn and beans are great, but we need oak savannas, mixed hardwood valleys and bluffs, trout streams and forest surrounded rivers and lakes if Iowa is going to be a great place to live. 🍄



A FRESHLY CLEANED BATCH OF ENOKIS.

# Oyster Mushroom Recipe

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## INGREDIENTS:

- 8 ounces fresh oyster mushrooms (rinsed)
- 1 tablespoon garlic (minced)
- 2 teaspoons olive oil
- 1 teaspoon rosemary (minced)
- 1 teaspoon butter
- 2 teaspoons all purpose flour
- 1 teaspoon dry white wine (or sherry)
- 1 tablespoon soy sauce



Step 1: Slice mushrooms into pieces. Sauté garlic in olive oil for 15 seconds. Add mushrooms and sauté 3 minutes.

Step 2: Add rosemary and butter and stir fry until butter is melted. Sprinkle mushrooms with flour and stir fry.

Step 3: Add wine and soy sauce and cook until liquid slightly thickens and the mushrooms are tender.







## Birds of the Prairie: Cooper's Hawk

*Accipiter cooperii*

**A**mong the bird world's most skillful fliers, Cooper's hawks are common woodland hawks that tear through cluttered tree canopies in high speed pursuit of other birds. You're most likely to see one prowling above a forest edge or field using just a few stiff wingbeats followed by a glide. With their smaller lookalike, the Sharp-shinned hawk, Cooper's Hawks make for famously tricky identifications. Both species are sometimes unwanted guests at bird feeders, looking for an easy meal (but not one of sunflower seeds). (Description courtesy of the [Cornell Lab of Ornithology](#))

**Song:** Outside of the breeding season, Cooper's hawks tend to be silent. The most common call is a loud, grating cak-cak-cak, 2-5 seconds long, given by both sexes in defense of the nest. This call is also given during courtship. Males frequently make a kik call to tell their mates where they are; females make this call too, but less often. Females make a whaa call when approaching or receiving food from males. (Description courtesy of the Cornell Lab of Ornithology.)

Click the icon below to hear an audio recording of the Cooper's hawk, captured by Richard E. Webster, courtesy of [xeno-canto](#).



PHOTO COURTESY OF KEN SAUNDERS II, TAKEN MARCH 2, 2014, IN SAUNDERS' BACK YARD IN NORTHWEST GRINNELL, IOWA



PHOTO COURTESY OF KELLY HANSEN MAHER

*Kelly Hansen Maher lives in Grinnell, Iowa, and is the author of one collection of poetry, [Tremolo](#) (Tinderbox Editions, 2016). Her work has appeared in [Briar Cliff Review](#), [New Orleans Review](#), and elsewhere. Kelly teaches creative writing in prisons, and is currently working on a new book about prairie, loss, and memory.*

## The Pines, in Concert *Above the Prairie*

KELLY HANSEN MAHER

An eager crowd of about 80 guests packed the seats and floor space of the Grinnell Arts Center's Loft Theater on January 27 to see Iowa-turned-Minneapolis band, [The Pines](#), perform from its latest album, *Above the Prairie*. The band had been invited to Grinnell by both the [Grinnell Area Arts Council](#) and the [Center for Prairie Studies](#), to perform in the town. Tickets were sold out more than a week before the show.

The evening kicked off with a lively reception on the first floor of the Arts Center, the castle-like old Stewart library building in which the Grinnell Area Arts Council resides. Local restaurants contributed beer, wine, and venison stew, as guests of all ages milled in and filled the building. Local duo [Pink Neighbor](#), (Katie In and Erik Jarvis), played before the lounge's fireplace while people gathered around and finished their drinks. Pink Neighbor's themes of rambling and seeking were a good setup for The Pines. The songs were playful, with an upbeat Indie-Americana vibe. In and Jarvis took a turn at keyboard, guitar, and lead vocals, but it was In's clear singing that was most memorable. After this opener, smiling ticket holders were ushered to the fourth floor, and into the black box theater of the Loft, where three chairs and instruments awaited The Pines.

David Huckfelt and Benson Ramsey started The Pines in 2002, and have since honed their sound—a moody and acoustic alt-country blend, mixed with Midwestern folk lyricism. Joined by bandmate Alex Ramsey, Benson Ramsey's brother (the Ramsey brothers have ties to Iowa folk music royalty, as they are the sons of guitarist Bo Ramsey, who is husband of Pieta Brown, Greg Brown's daughter), on keyboards, the trio took the stage, sat down, and played without a word of greeting. The band opened with the wonderfully evoc-



ative “Hanging from the Earth,” and the audience was immediately spellbound.

Ramsey and Huckfelt alternated lead vocals throughout the set, but they were smart to have Ramsey start off with this first song, as it had an aching, emotional quality that lasted throughout the evening. The Loft hummed with atmospheric chords, the pair’s guitars, and Ramsey’s emotive voice. The band seemed to have cracked open a kind of communal landscape of memory in the intimate room; a shared sense of loss, edged with hope. Fight or flight, oh I’m flying over the

fields, Ramsey sang, and if I say I’m alright, then I’m lyin’ / Am I dreamin’ or is this real / Am I dreamin’ or is this real / Skeletons of buffalo, roam the great plains / And the rooster on the arrow is bleeding in the rain”

The band members are native Iowans, now living in Minneapolis and contributing to the Twin Cities’ acoustic sound with their signature ambient chords and loops. Their move was the reverse of mine, coming from my native Minneapolis to Iowa only a few years ago. And perhaps that’s why I felt such an instant sense of recognition in their music and lyrical imagery. My feeling of familiarity and commonality seemed to be one that the entire audience shared. Was everyone adrift in thoughts of lost times, as I was? Throughout the concert I found myself thinking of my father, a lifelong railroad man who had passed away less than a year ago. I also thought of the times I’ve spent alone on the road. I thought I could hear similarities to some of my other favorite road musicians—J.J. Cale, Lucinda Williams, Bob Dylan, and Townes Van Zandt. But if those musicians have laid claim to their parts of the country, The Pines own the Midwestern freeways that traverse the farms and grasslands. In fact, the first time I heard The Pines, it was on the car radio while I drove alone on I-80, just after twilight, headed east, cutting past acres and acres of farmland that, itself, had once cut through prairie. It was a perfect backdrop for their music. It seems that The Pines have tapped into the viewpoint that prairies exist, now, more often in

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**The band seemed to have cracked open a kind of communal landscape of memory in the intimate room; a shared sense of loss, edged with hope.**

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memory or imagination than as a feature of the landscape. What we try to recapture in prairie restoration is something the band aims to recapture in song.

The three musicians, who remained seated through the concert, slowly loosened into enjoyable conversation with the audience. They wore stocking hats and brown sweaters, each in a different style; and each guy wore a chain around his neck, on which hung metallic pieces I couldn’t identify, but which reminded me of my dad’s old railroad switch keys. We work hard, the band seemed to be telling us. We are of the land, we aren’t bet-

ter than you. We’re not here to put on a show, just to share our music.

At times the concert was haunting—straight up Midwestern Gothic—rife with musical nods to dead towns, pioneer ghosts, and collapsed barns. Songs like “Sleepy Hollow,” brought all three voices together, briefly, on the chorus, and the effect was like hearing the howl of wind through the fields, or the birdcall of a distant train whistle. We in the audience knew such sounds,

because we live in these open spaces, these “flyover” states. What The Pines brought to us in *Above the Prairie* was, in part, access to the peculiar anxiety of life on the prairie: What can we make of the land here? How can we prosper, how can we sustain what’s good? And also, What can never be ours? What are we missing out on?

At other times, the group’s sound was grounded, modestly proud, and even optimistic. And this was the tone that the concert favored overall—leaving out songs like “Villisca” (an instrumental about the small Iowa town known for its 1912 axe murders), but soaring on songs like “Where Something Wild Still Grows.” Their closing song, “Aerial Ocean,” was what Ramsey laughingly referred to their “one happy song.” In it, he cried out, hold on / hold on to me, and I felt it as a prayer to the Earth.

When their set was finished, the crowd called them back out for an encore. By that time, the mood in the theater was pure camaraderie. When asked whether the audience had any questions, someone up front said,

said, “How do you feel connected to the prairie?” There was a long pause, and laughter, as Huckfelt wasn’t sure how to answer. But the band’s connection was apparent and organic, one expressed better in music than talk. “It’s so rare,” Huckfelt observed, “to have so many prairie lovers in one room!”

What I loved about the band’s music is what I love

about the prairie. While it can seem unchanging, its steadiness is one part of its unique expression. If you have an opportunity to know it more intimately, you can see that it is rich in cooperative diversity. It is abundant in detail—and beautiful—in all its subtle, tonal wildness. 🌿



CLICK ON THE ALBUM COVER ABOVE TO LISTEN TO "AERIAL OCEAN," A CUT FROM *ABOVE THE PRAIRIE*. IMAGE COURTESY OF THE PINES.





PHOTO COURTESY OF THOMAS ROSBURG

**Thomas Rosburg** grew up on a farm in western Iowa and was self-employed in sustainable agriculture from 1981 to 1986. He earned a Ph.D. in Ecology and Evolutionary Biology from Iowa State University. Early in his career, he worked as a wildlife biologist for the Bureau of Land Management (Wyoming), the Fish and Wildlife Service (Colorado) and the Iowa Department of Natural Resources. In 1996 he joined the Biology Department at Drake University and currently serves as department chair.

## The Making of the Midwestern Prairie:

### Plant Migration and Climate Change

THOMAS ROSBURG

The North American grasslands stretch across the vast interior of the continent, occupying nearly 1.4 million square miles. We in the Midwest are proud of our section of the biome – the tallgrass prairie, which spreads from Manitoba south through the center of the continent to the Texas Gulf Coast, and reaches from Iowa eastward to Ohio and southern Ontario (Fig. 1). Like all biomes across the world, and other grasslands, the prairie was a product of climate, soils and the organisms that thrived in its environment. Most grasslands share several underlying environmental factors. Foremost is a climate that delivers 10-40 inches of annual precipitation, and which varies seasonally in a way that supports high primary productivity on one hand, and its subsequent senescence and accumulation as litter on the other. Here also, summer heat and thunderstorms combined with low humidity and warm winds to promote lightning-caused fires, an essential factor in making the tallgrass prairie. Ice storms and tornadoes helped thin tree canopies, and the presence of such browsers as buffalo, elk, and deer suppressed woody shrubs along grassland-woodland edges.

Climate is the central factor distinguishing the Earth's biomes from one another. (Fig. 2). Annual mean temperature and precipitation, along with their interaction, are key to understanding biome creation. So how has climate change—so often in the news nowadays—affected the making of the tallgrass prairie, over time?

First, it's important to understand that climate change is far from a new phenomenon. In fact, it has been an enduring feature of Earth's long 4.6-billion-year history. My goal with this paper is to use global climate change as a lens to explore its role in shaping what we now recognize as tallgrass prairie. I begin by asking two questions: 1) How have Midwestern environ-

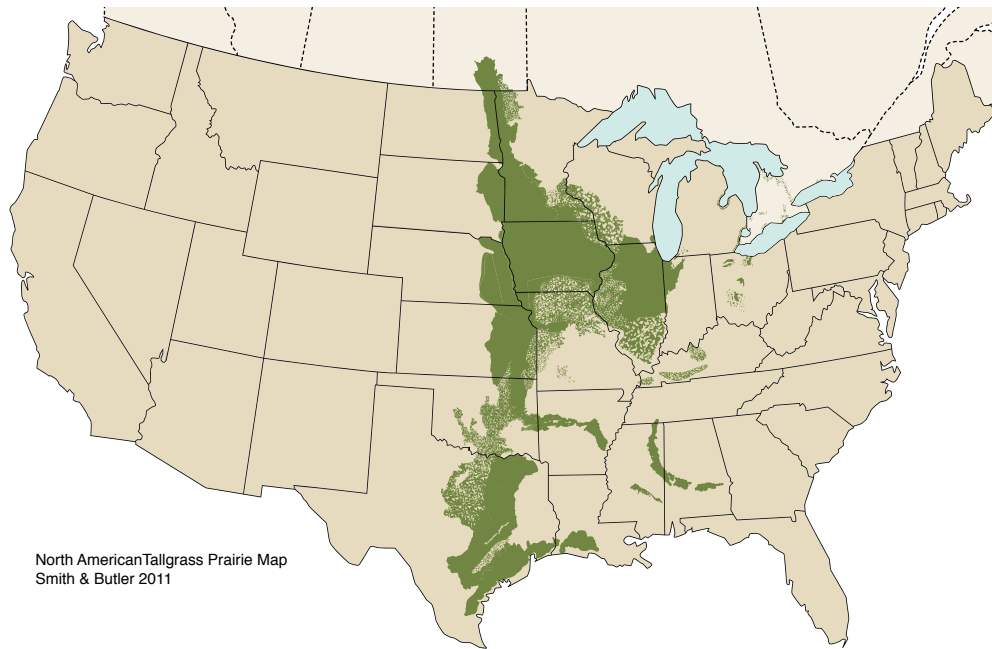


FIGURE 1. THE TALLGRASS PRAIRIE ECOSYSTEM IN NORTH AMERICA.

ments, especially climate, changed over time? 2) How has plant migration, in response to climate fluctuation, shaped our perception of tallgrass prairie?

Before getting too far into these questions, though, there are a few important concepts we ought to review:

1. *Ecology* is defined as the investigation (in biology) of the distribution and abundance of organisms in time and space. The more time or space we examine, the greater the likelihood there will be significant changes in the environment during that time or over that space.
2. The most important influences acting on our extant prairies are those that are among the most recent. The further back in time one looks, the less impact there is on the present.
3. Science's ability to explain climate change diminishes the further back in time one looks. For the timeframes relevant to this article, we gather evidence of temperature fluctuation using various indirect methods, looking for patterns

in temperature change evidenced in chemical and structural signatures in rocks, fossils, crystals, ocean sediments, fossilized reefs, tree rings, and ice cores (Scott and Lindsey 2014).

4. The immense periods covered in this paper are foreign to our thinking and experience. We cannot begin to appreciate what a million years

means in terms of day-to-day existence and the potential for environmental change and evolution, let alone what ten million or one billion years means.

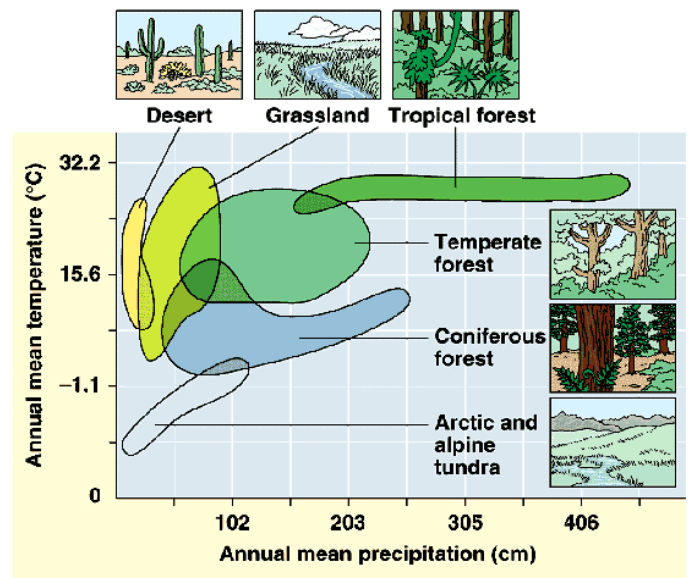
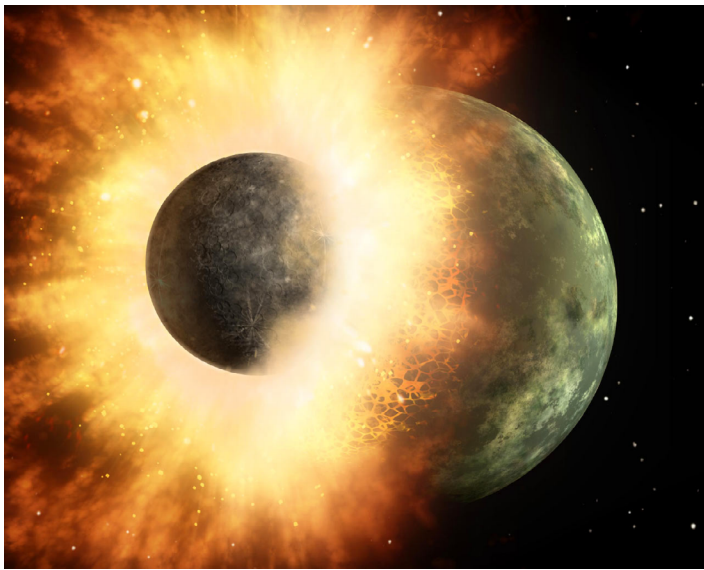


FIGURE 2. CLIMOGRAPH OF NORTH AMERICAN BIOMES.





THEIA COLLIDING WITH THE PRIMORDIAL EARTH. FROM THIS COLLISION CAME THE MOON AND ITS TIDAL EFFECTS, AS WELL AS THE EARTH'S SEASONS AND DAY/NIGHT CYCLE. IMAGE FROM [sci-news.com](http://sci-news.com).

### Birth of earth to 1.5 billion years YBP

It's safe to say that the climate of Earth's first 3.1 billion years (67 percent of Earth's history) had nothing to do with today's tallgrass prairie. While Earth's environment during this time is more mystery than certainty, there is evidence that temperatures were much warmer, perhaps 200 percent higher than now (some data suggest an ocean temperature in the Archean as high as 85°C, or 185°F) (Zalasiewicz and Williams 2012). This points to a very long-term trend in climate, with gradual cooling during the entire Precambrian. There are signs the cooling trend was punctuated by periods of deep cooling that caused glaciation, some which may have covered most of the Earth (Zalasiewicz and Williams 2012).

Other very important events are believed to have occurred during this time, some of them having had a direct effect on climate. First was the collision of Earth with a planetoid known as Theia, which not only produced our Moon and its tidal effects on Earth, but also affected the tilt and spin of the Earth. The collision is the cause of our planet's seasonality and the day/night cycle.

Secondly, plate tectonics was born, causing continental drift and the subsequent formation of mountain ranges and ocean basins, both of which affect regional climates through rain shadows and ocean currents

(Zalasiewicz and Williams 2012). Third, life on Earth began when prokaryotic bacterial cells evolved 3.5 billion YBP (years before present). The fourth crucial event was the oxygenation of the atmosphere by photosynthetic bacteria.

But a main point in this time period, highly relevant to the question of how climate change affected the evolution of the prairie, is that global climate change is represented by alternating periods of warm and cold, featuring glacial and interglacial phases. These phases occurred on Earth several times before Earth reached half of its current age and multicellular life evolved. We will see that these swings in temperature eventually became more prevalent in Earth's history and very important to the tallgrass prairie.

### 1.5 billion to 2 million years before present

This period of Earth's history represents 99.87 percent of the last third of Earth's 4.6-billion-year history. The starting point of 1.5 billion YBP is an arbitrary point, chosen because it represents the appearance of multicellular life forms. The end point of 2 million YBP marks the beginning of the Pleistocene epoch, the most recent period of recurrent ice ages. During this huge span of time, there were multiple events which had some bearing on Midwestern prairie. There is strong evidence the Precambrian ended with a series of glaciations—at 740 million YBP, 650 million YBP and 580 million YBP—and that the first two of these were especially cold with massive ice sheets (Zalasiewicz and Williams 2012).

The fluctuation between periods of glaciation—which lasted between 25 to 50 million years—and very warm ice-free periods, is characterized as fluctuation between icehouse and greenhouse. During an icehouse, continental glaciers grow and ebb in coverage during glacial and interglacial periods lasting in the range of one million years. In contrast, there are no continental glaciers present on Earth during a greenhouse. Three major icehouses have occurred during the last 540 million years—at 440 million YBP, at 300 million YBP, and the one beginning in the early Cenozoic (Zalasiewicz and Williams 2012, Brink 2015), which is the one we are still in.

Considering the extreme levels of natural climate variation the Earth has repeatedly experienced, it becomes clear that global climate change has had a profound influence on earth's history and all of its biomes. The environmental changes—from tropical during greenhouse to the absence of life on ice-covered land during an icehouse—caused massive movement, mixing and exposure to natural selection for much of Earth's life.

The time periods during which these changes occurred is enormously important; the natural time frame for these changes is over tens of millions of years. The time frame for the climate change the Earth is experiencing now—driven by human activity—is on the order of decades.

Global climate variation, combined with continental drift over the first 500 million years of the Phanerozoic, was integral to the shifting pattern of marine, coastal and terrestrial environments that created the bedrock record of the Midwest. The exposure of bedrock is central to the ecology of limestone and

sandstone prairies. It restricts soil depth, impacts soil fertility and increases surface runoff. Continental drift also played an important role in these changes, relocating the Midwest from the equatorial tropics to its current temperate location with a continental climate. The tropical-like vegetation of the Late Carboniferous Period (318-299 million years ago)—the source of Iowa's coal deposits—was forever lost, its presence now confirmed by fossils of *Lepidodendron* and *Calamites* (large tree-like plants that are now extinct).

An event that was crucial to the making of the prairie and its climate occurred in the early Tertiary at

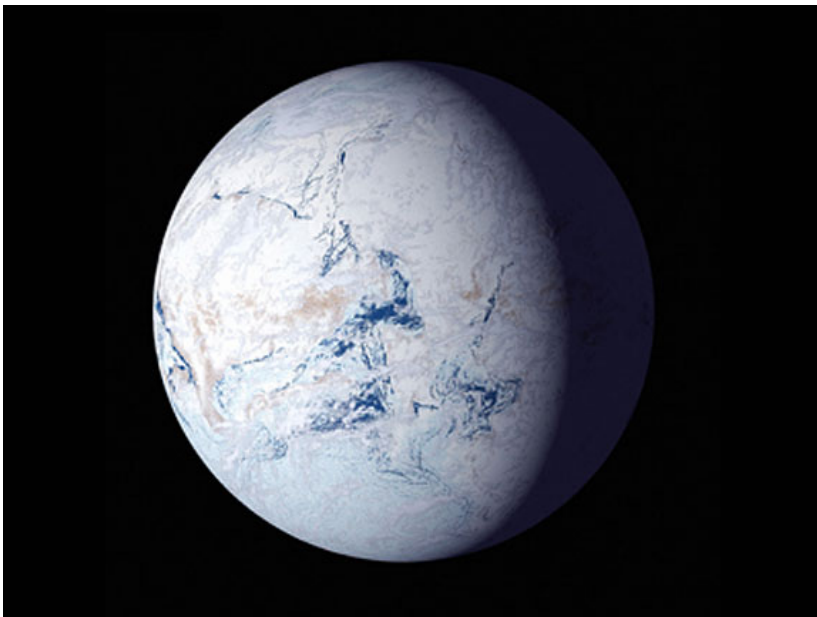
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Considering the extreme levels of natural climate variation the Earth has repeatedly experienced, it becomes clear that global climate change has had a profound influence on earth's history and all of its biomes.

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the beginning of the Cenozoic. The Laramide Orogeny (*Laramide* in reference to the Laramie Mountains in southeastern Wyoming, *Orogeny* meaning folding of the earth's crust to form mountains) was responsible for the rise of the Rocky Mountains between 65 and 40 million YBP. A rain shadow developed to the east of the mountains which gave the Great Plains the aridity that was essential to Midwestern grassland formation.

An extremely warm global event occurred during the Laramide Orogeny that reinforced the greenhouse that had been present through much of the Mesozoic. This spike in global temperature, lasting about 150,000 years, is called the Paleocene-Eocene Thermal Maximum (PETM) (Zalasiewicz and Williams 2012, Scott and Lindsey 2014, Hansen and Sato 2012). During the Mesozoic greenhouse, global surface temperature is estimated to have been around 25°C (77°F) on average. During the PETM, global surface temperature may have risen to 28°C (82.5°F). Considering that the current global



INDICATIONS ARE THAT, AROUND 700 MILLION YEARS AGO, A "SNOWBALL EARTH" COVERED IN GLACIERS PRECEDED THE CAMBRIAN EXPLOSION OF LIFE. IMAGE CREDIT: NASA.



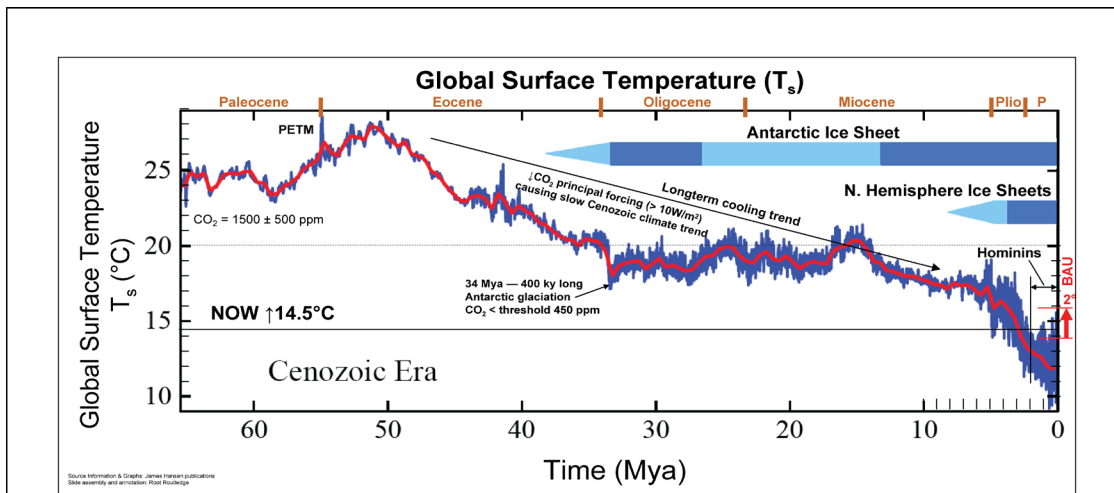


FIGURE 3. GLOBAL SURFACE TEMPERATURES DERIVED FROM HANSEN AND SATO (2012). GRAPH ANNOTATED AND ASSEMBLED BY R. ROUTLEDGE, PHD, PRESIDENT, ALPINE ANALYTICS (DEEP TIME: THE STORY OF MOTHER EARTH).

surface temperature is approximately 14.5°C (58°F), the temperatures during the Mesozoic and early Cenozoic represent an Earth that was 24°F warmer than what we experience now. Tropical to subtropical environments, with palm trees and crocodiles, existed above the Arctic Circle (Scott and Lindsey 2014), with 74°F summer water temperature at the North Pole. Such temperatures, combined with a rain shadow that limited precipitation in the Great Plains and Midwest, surely increased aridity in the region, and fostered an environment very conducive to grassland formation.

Ten million years or so after the PETM, the Earth's climate began a long-term cooling trend that initiated the current Cenozoic icehouse. Global surface temperature stabilized around 18° to 20°C (64° to 68°F, or about 9°F warmer than today) for roughly 35 million years, from the Oligocene through the Miocene to the early Pliocene, and the Antarctic ice sheet began to grow around 35 million YBP. [Ashfall State Historical Park](#), near Orchard, Nebraska, provides a remarkable glimpse of this period, from the middle Miocene 12 million YBP. Fossil skeletons representing 13 mammal species, 2 bird species and 2 reptile species have been discovered, preserved in a deposit of volcanic ash that settled on this grassland/savanna ecosystem from an eruption in southwest Idaho.

Animal fossils, such as those at Ashfall, provide direct evidence of the fauna from past times, and indirect evidence of the flora and ecosystem present. The hors-

es, camels, rhino, tortoises, deer and cranes found at Ashfall are species that nowadays are associated with grassland or savanna. When we combine our assumptions about the period's ecology with the fossil evidence, it furnishes a more complete story. We know that the Midwest, from the middle Miocene

to late Pliocene, was warmer than at present, and that it supported a grassland ecosystem. Direct evidence of the plant life also confirms that this grassland was a precursor to our present-day tallgrass prairie. Phytoliths are microscopic silica bodies that precipitate in and around cells in many plants. When plant tissues decompose, the silica is deposited in the soil, forming a record of past vegetation. An analysis of phytoliths from Nebraska and Kansas indicates that habitats varied substantially in openness during the middle to late Miocene, but became more uniformly open, corresponding to relatively open grassland or savanna, during the late Miocene and early Pliocene. There was also an increase of phytoliths characteristic of C4 grasses between 8 and 5 million YBP, which indicates the proportion of C4 grasses reached up to 50-60 percent of the grasses (Strömberg and McInerney 2011). C4 species use a more efficient type of photosynthesis than C3 species do—a type of photosynthesis that is especially adaptive in warm, dry environments. The dominant grasses of the tallgrass prairie—big bluestem, Indian grass, switchgrass, little bluestem—are C4 species. The climate and mountain-building of the early Cenozoic set the stage for the development of the North American grassland biome and the evolution of plant and animal characteristics.

### Two million to 100,000 years before present

The Pleistocene epoch, beginning about two

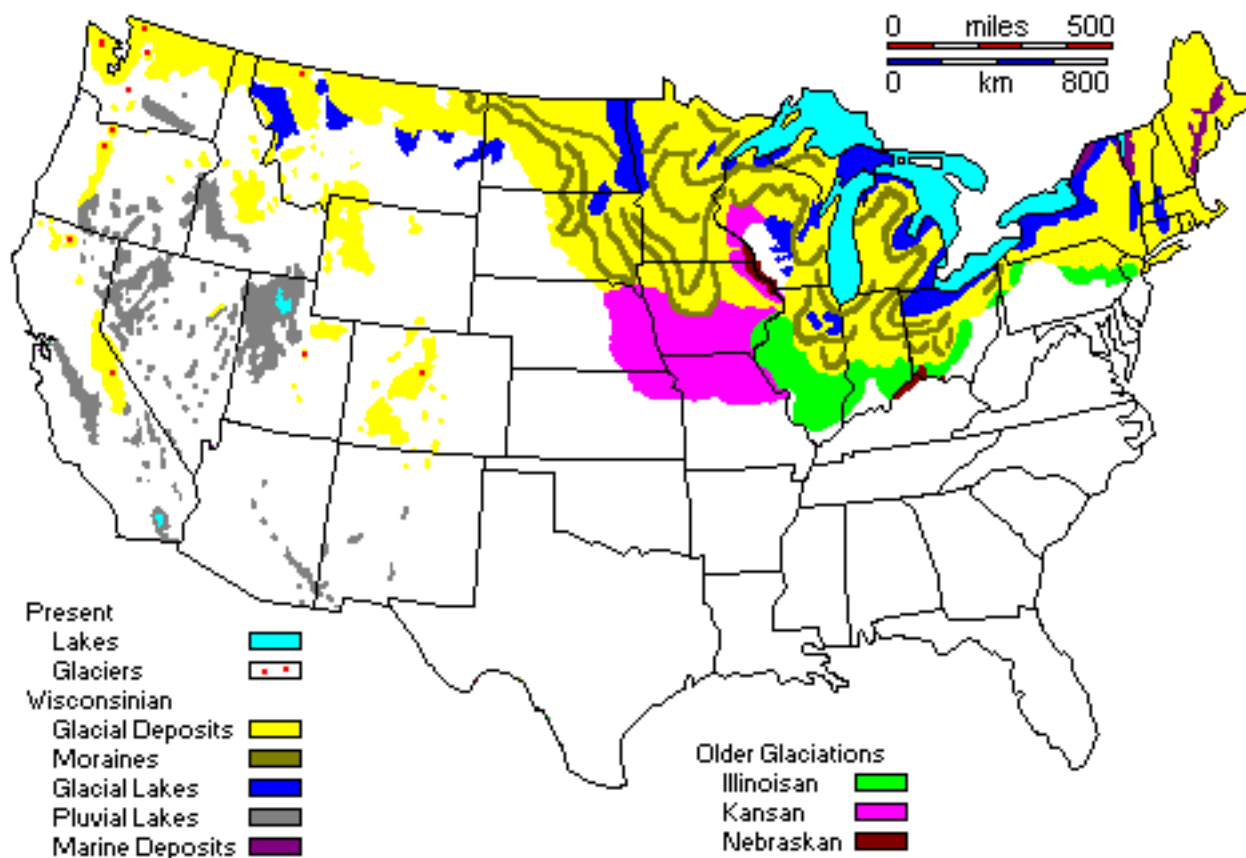


FIGURE 4. AREAS OF IMPACTS DUE TO PLEISTOCENE GLACIATION IN THE UNITED STATES. (FROM DUTCH 1999)

million YBP, and after about 50 million years of cooling trend since the end of the PETM, marks the beginning of a period of more intense cooling and a series of glacial and interglacial stages (Fig. 4). There is an amazing regularity in the record, where at least 20 glacial-interglacial cycles occurred at regular intervals of about 40,000 years until about 800,000 years ago when the interval became 100,000 years. The early cycles exhibited a temperature difference between glacial and interglacial of about 4°C (7°F), while the later cycles exhibited a temperature difference of about 9°C (16°F) (History of Earth's Climate).

There are two useful observations to make about the Pleistocene climate record. First, there is a strong correlation between global temperature and CO<sub>2</sub> levels (Fig. 5, page 7). While CO<sub>2</sub> levels don't necessarily tell us how climate change impacts the tallgrass prairie, CO<sub>2</sub> levels do impact the growth rates of plants, com-

petition between C<sub>3</sub> and C<sub>4</sub> plants, and water conservation in plants. The challenge is in the nature of the correlation—are both responding similarly to another factor, or is one factor actually dependent on the other?

The second observation is extremely relevant to the question of global climate change impacts on tallgrass prairie. The climate record documents an environment that displays very little if any long-term stability (e.g., tens of thousands of years) during the one million years or so that predate the emergence of the tallgrass prairie in the current interglacial. There must be a substantial ecological effect to any region and ecosystem that experiences this level of long-term climate fluctuation. In the next section, we will look into what that effect might have been.

### 100,000 years to present

This time frame encapsulates the last 88,000 years



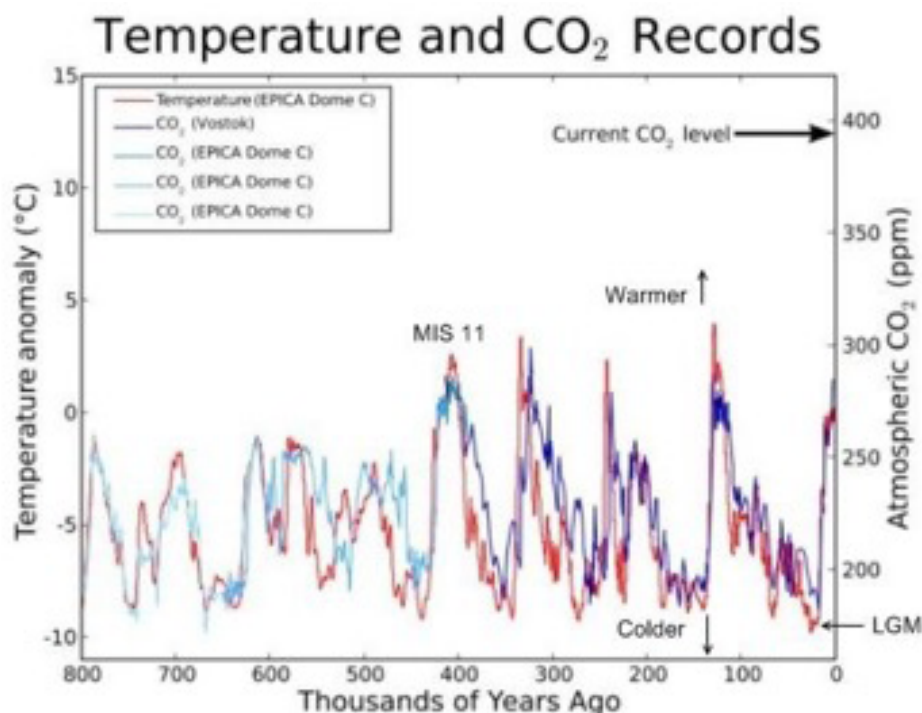


FIGURE 5. GLOBAL TEMPERATURE AND CO<sub>2</sub> DURING THE PLEISTOCENE. RECONSTRUCTED FROM VARIOUS SOURCES, ESPECIALLY THE EPICA DOME C ANTARCTIC ICE CORE. THE COLD SPIKES CORRESPOND TO ICE AGES. THE WARM SPIKES CORRESPOND TO INTERGLACIAL PERIODS LIKE THE PRESENT ONE (THE HOLOCENE). “LGM” STANDS FOR LAST GLACIAL MAXIMUM (FROM PEAK WATCH 2009).

of the Pleistocene, which ended 11,800 years ago, and the Holocene, the epoch we are currently living in. Obviously, this time frame is very important, since it brackets the most recent portion of Earth’s history and furnishes the most accessible evidence for patterns of vegetation change over millennia. This evidence is most commonly and accurately provided by the science of palynology—the study of plant pollen, spores, dinoflagellates, and other microscopic “palynomorphs.” Palynomorphs are microscopic (5 to 500  $\mu\text{m}$ ) plant and animal structures composed of highly resistant compounds such as sporopollenin, dinosporin, or other related compounds (AASP—[The Palynological Society](#)).

Palynology studies from all over the world furnish a collective body of data that has given us great insight concerning paleoclimates and ecosystems. Figure 6 provides a pollen diagram for a site in Illinois, on the eastern edge of the tallgrass prairie, which covers 14,000 years of vegetation (King 1981). Spruce parkland (grass pollen indicates some openness in the structure) was

dominant 14,000 years ago, and was replaced a 1,000 years later with an ash-elm community that was more closed. The ash-elm ecosystem persisted until about 9,000 years ago, when oak-dominated woodland or savanna become more prominent. The coverage of oak woodland/savanna increased as the spruce parkland faded away, and was well represented on the landscape through recent time (at 1,000 years ago, the end of the time frame). It appears to have contracted somewhat between 5,000 and 3,000 years ago, coinciding with a rise in prairie. By 1,000 years ago, the oak woodland/savanna was dominant again, but this time a rise in the presence of weedy species (such as goosefoot, a species that colonizes disturbed ground) suggests that human disturbance was a more frequent factor (King 1981).

### Plant migration and succession

The patterns of vegetation in the central Great Plains, where plant communities associated with a given location changed over time, exemplifies the concepts of plant migration and plant succession. Ecological succession is an ecosystem process that is central to the study of plant communities. It is a change in vegetation type over time due to an extended and consistent change in environment. Plant migration is the expansion of a plant species occurrence in space, caused by the movement of seeds and resulting in a change in the species range. Migration, for any organism, spans generations, so it encompasses both time and space. The series of plant communities present in the central Great Plains and Midwest from 32,000 to 2,000 years ago (Fig. 10) is the result of plants responding to environmental change. The warming climate was a primary factor in the environmental change, but other factors were likely

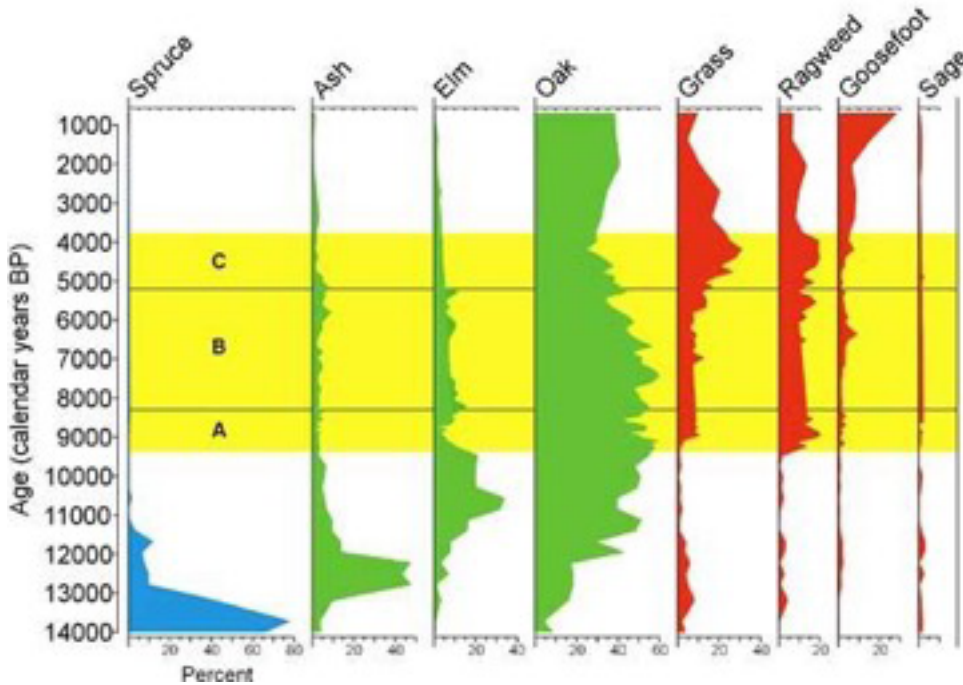


FIGURE 6. POLLEN DIAGRAM FROM CHATSWORTH BOG, LIVINGSTON COUNTY ILLINOIS (KING 1981).

important too—for example changes in the soil and disturbance caused by glaciation and the eventual deposition of glacial drift when the ice melted. Palynological studies have clearly shown that plant migration, induced by climate change, is a principal factor in understanding the prairie’s native plant communities.

Perhaps the single most important global climate event that has impacted the North American grassland biome, other than the rain shadow cast by the Rocky Mountains, is a relatively recent period in the Holocene, during which global temperatures climbed—the Holocene Climatic Optimum (HCO) (Fig. 7). There are different viewpoints on this period’s exact beginning and ending dates, but generally, the

timeframe is between 8,000 and 5,000 years ago. It is the period of highest global temperatures since the last interglacial over 100,000 years ago.

The extreme warmth, abetted most likely by an increase in fire frequency, produced an environment more favorable to prairie than to forest. The “war” between grassland and forest (in terms of which ecosystem occupied the landscape), which played out along the edge between these two biomes, was won by grassland for 3,000 to 4,000 years. Plant migration of tallgrass prairie species pushed prairie eastward from what was then the heart of the prairie, into Indiana, Ohio and parts of Michigan and Pennsylvania, in

what is referred to as the prairie peninsula (Fig. 8). At

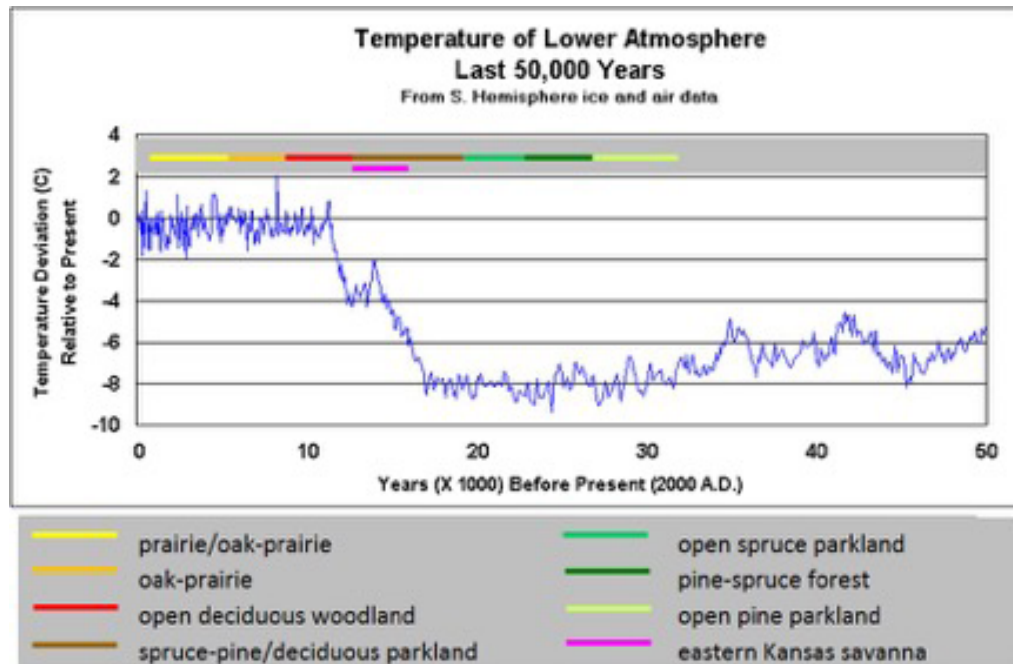


FIGURE 7. GLOBAL TEMPERATURE DATA FOR THE LAST 50,000 YEARS FROM SATELLITE STRATOSPHERIC DATA, SOUTHERN HEMISPHERE GROUND TEMPERATURE DATA AND VOSTOK ICE CORE DATA (FROM GLOBAL WARMING: A CHILLING PERSPECTIVE). MIDWESTERN PLANT COMMUNITIES BASED ON PALYNOLOGY STUDIES (FREDLUND AND JAUMANN 1987).



the same time the tallgrass prairie was expanding eastward, species from the mid-grass prairie in the Great Plains (the western and drier version of the central grassland biome) were also migrating in that direction, advancing into central Iowa. Pollen studies covering North America's last 18,000 years suggest that the peninsula began 8,000 years ago. Eventually, as the Holocene climate cooled and the Midwestern environment become more cool and moist and the wild fires waned, the forest began to win the war with grassland. Forest encroachment reclaimed landscapes that had been lost during the HCO. Plant migration shifted the forest, tallgrass prairie, and mid-grass prairie back to the west, making a landscape more similar to the present.

### Plant migration and the tallgrass prairie

A good case can be made that the global climate, with its proclivity to change over time, has at several times throughout Earth's history played a role in shaping today's tallgrass prairie. Fluctuating sea levels caused by fluctuating climate were integral to the formation of

Midwestern bedrock layers (through formation of sedimentary rock in marine or coastal environments) and its effects on ecosystem soils and topography. Grassland expansion was favored by the climate which mountain-building brought about, and the climate during greenhouse conditions pushed plant evolution in the direction of C4 photosynthesis, an important characteristic of prairie grasses. Icehouse environments, with their pattern of alternating glaciation and interglacial periods, were responsible for much of the Midwest's soil and topography. However, in the end, the most significant factors in this process of landscape creation are the most recent ones. Plants responded to climate change by migrating, and during the retreat and advance of glaciers over the last one million years, this has had dramatic effects on our tallgrass prairie.

The central North American grassland biome—the precursor to tallgrass prairie as we know it—was in place for millions of years. Then a long sequence of glacial episodes occurred, during which both plant and animal species moved first southward to locations of

refugia during glaciation and then most likely spread back northward during interglacial periods. The southward migrations would have occurred through secondary succession (succession on sites that after disturbance still retain soil, seeds, roots, and organisms), as colder weather removed sensitive species and created space for southward-moving species. Northward migrations would have incorporated primary succession (succession of sites

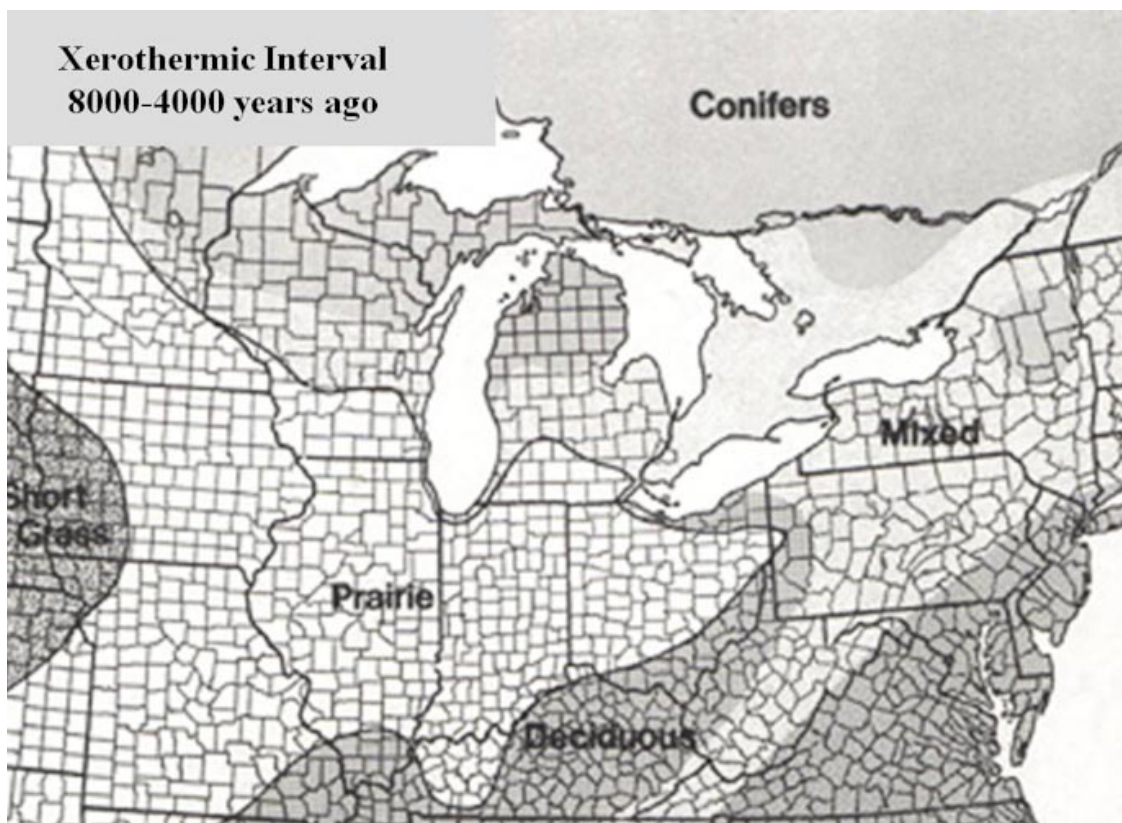


FIGURE 8. THE PRAIRIE PENINSULA. (FROM OHIO PLANTS 2017).



A VISITOR WALKS THROUGH THE RESTORED PRAIRIE AT THE COLLEGE'S CONARD ENVIRONMENTAL RESEARCH AREA (CERA). PHOTO BY JUN TAEK LEE.

disturbed so severely all biological legacy is removed), as melting glaciers exposed new geological deposits and landscapes.

Plant migration is fundamentally different from animal migration. It involves four processes: reproduction (seed production), dispersal of offspring, establishment (seed germination and seedling survival) and growth to reproductive maturity (to produce more offspring). Dispersal occurs via transport of seeds, spores or fruits. Anemochory (wind dispersal), endozoochory (inside of animals) and ectozoochory (on outside of animals) are the principal mechanisms plants use for dispersal. Because migration over long distances is a generational process, short-lived plants (annuals or biennials) can migrate faster than long-lived plants (perennials). The life history strategy of species, which describes its allocation of energy to survival, growth and reproduction, is central to how quickly a species migrates. Migration happens at the levels of individuals and of populations; communities do not migrate as units. Each species' unique life history and niche affects

its ability to establish and grow, and give it a unique migration behavior. As in a gigantic mixing bowl, where the ingredients are independently added and subtracted at different rates and from different parts of the kitchen, the mix of the region's vegetation was produced by the complex interaction of species-specific migration behavior, different regional refugial locations (places species migrated to during ice advances to survive), and the long sequence of many glacial episodes in the north central U.S.

### **Implications for today's prairie**

The effect of this species mixing is twofold. One is that endemism (when a species is restricted to a single place, location or region) is very rare in the tallgrass prairie. Endemism is fostered by isolation, climate and environmental stability, as well as rapid rates of evolution and speciation. Madagascar, an isolated tropical island off the coast of Africa in the Indian Ocean, has one of the highest endemic rates—80 percent of its plant and animal species are endemic (found nowhere else on





“THE ASTER FAMILY, WHICH EMPLOYS A FEATHERY TOP TO ACHIEVE WIND DISPERSAL (AS THE FAMILIAR DANDELION DOES), IS THE MOST SPECIES-RICH FAMILY REPRESENTED IN TALLGRASS PRAIRIE.” PHOTO BY JUSTIN HAYWORTH.

earth). Nearly all of the plant species that inhabit the tallgrass prairie also occur in other ecosystems in other parts of the country. There are three species that are exceptions, and their endemism in the tallgrass prairie is highlighted by their rarity. All three are federally threatened species—western prairie fringed orchid (*Platanthera praeclara*), slender prairie bush clover (*Lespedeza leptostachya*), and Mead’s milkweed (*Asclepias meadii*).

The second consequence of species mixing and migration is the establishment of geographically-restricted species—that is species which occur in only a specific part of a state or region (as with yucca in Iowa, which is restricted to the western tier of counties, but it is not endemic to Iowa because it occurs throughout the Great Plains). Most of the tallgrass prairie species in Iowa are geographically-restricted within Iowa; they are not distributed state-wide. This has very important implications in prairie reconstruction and the design of seed mixes. To ensure that reconstructed prairies function and look like remnant prairies, the species that are seeded should be native to that region of Iowa. A sense of place is imperative; simply being native to Iowa does

not insure a sufficient level of accuracy in recreating a prairie. It’s the geographically-restricted species that furnish a prairie with its unique signature, a locally-determined factor that distinguishes it from other prairies in the state and expresses an area’s home-grown natural heritage. Since the biogeographical ranges of organisms do not recognize political boundaries, every state has geographically-restricted species.

Each species’ unique migration behavior means that species with adaptations that facilitate the greatest dispersal distance would be more likely to reach the Midwest and become a member of the tallgrass prairie. High dispersal may be one reason why the Aster family, which employs a feathery top to achieve wind dispersal (as the familiar dandelion does), is the

most species-rich family represented in tallgrass prairie. Differential migration rates explain the biogeography of woody species in the Loess Hills along Iowa’s western border. Tree and shrub species that migrated northward from southern refugia after the last glaciation exhibit a range of success as one moves from south to north. There are 32 woody species present at the south end of the Loess Hills, but only 14 species at the north end. The difference has provided greater protection from woody encroachment in the north, where larger tracts of higher quality prairie are present.

A final consideration on the impact of plant migration on the prairie is the species migration associated with the prairie peninsula. The eastward shift of mid-grass prairie from the Great Plains into Iowa explains the occurrence of many western species in Iowa, especially in the Loess Hills. For example, dotted blazing star (*Liatris punctata*) and scarlet gaura (*Gaura coccinea*) only occur in the Loess Hills and on dry micro-environments at a few other sites, also in the western third of state. These species probably arrived in Iowa

during the Holocene Climatic Optimum (HCO) and spread throughout most of Iowa at that time. However, when cooler, damper environments returned, most populations died out except for those located in micro-environments (southwest slopes in the Loess Hills, dry gravelly soil on glacial moraines) that mimic the arid habitats in the Great Plains. Large-flower beard tongue (*Penstemon grandiflorus*), a species centered in the central Great Plains, also occurs in the Loess Hills and many other gravelly or sandy sites into eastern Iowa. It can also be found in disjunct populations on the sand dune ecosystems at the south end of Lake Michigan in Indiana. Its current biogeography, with outlier populations in Ohio and Michigan, seems to follow the prairie peninsula.

From all the evidence discussed, it is certain that global climate change and plant migrations have greatly impacted the Midwestern tallgrass prairie in its structure and composition, and possibly in other additional ways we can never know. Perhaps the most important outcome

of the HCO and the expansion of the prairie peninsula is that prairie was firmly established in Iowa at a time (5,000 years ago) that is recent on a geological timescale. Mid-grass and tallgrass prairie likely covered all of Iowa by the end of the HCO, a period when it was very difficult to be a tree in Iowa. So even though climate in the Midwest has been favoring forest for the last 3,000 years or so, the prairie was so deeply entrenched in Iowa, its resilience and stability has enabled it to resist forest encroachment. This greatly helped to insure Iowa's legacy as the heart of the tallgrass prairie, and it has furnished us with a rich array of prairie communities to appreciate, study, honor and protect.


Looking back into history and examining the patterns of global climate change on Earth has helped to address questions concerning function, process and pattern on our present-day ecosystems and landscapes. So what does the climate data suggest to us concerning the future? Out of the large body of scientific research on Earth's past climates—some of which has been cit-

ed in this paper—two important philosophies emerge. First, natural climate change, with magnitudes much greater than humans have experienced, has been a consistent pattern in Earth's history. During those changes, there must have been massive shuffling, mixing, crowding and killing of the Earth's biodiversity during glacial advances. But each time, during periods of glacial retreat or greenhouses, life rebounded, and evolution likely produced species more adept at coping with the Earth's fickle climate. Second, the time frame for these oscillations in climate—during which the amount of change was astounding—ranged from 50,000 to more than 10,000,000 years. Patterns in the Earth's orbit around the sun and plate tectonics are the principal forces that drive long-term climate (Zachos et al. 2001). These are forces that proceed over incredibly long time

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**It's simply not possible for the climate change currently underway to be explained by the Earth's natural cycles. We ought to be in a downward temperature trend...**

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scales; far beyond any individual's concept of time. Current climate is changing at a much quicker rate. Global temperature, in just the last 100 years, has completely reversed a downward temperature trend that occurred over the last 7,000 years. It's simply not possible for the climate change currently underway to be explained by the Earth's natural cycles. We ought to be in a downward temperature trend—the pattern expected at the end of an interglacial. Instead, global temperature is increasing at rate faster than ever experienced. So the outlook for the future is somewhat disconcerting and ambiguous, except that temperature is likely to continue to increase and that time and evolution are probably not on our side. It is in its way, a grand experiment. What happens when vast amounts of carbon from Earth's vast, long-term, carbon storage pools are released to the atmosphere? I usually like experimental study and exploring science to satisfy my curiosity. But this is one experiment most of us wish could be stopped. 



## Birds of the Prairie: Great-Horned Owl

*Bubo virginianus*

**W**ith its long, earlike tufts, intimidating yellow-eyed stare, and deep hooting voice, the great-horned owl is the quintessential owl of storybooks. This powerful predator can take down birds and mammals even larger than itself, but it also dines on daintier fare such as tiny scorpions, mice, and frogs. It's one of the most common owls in North America, equally at home in deserts, wetlands, forests, grasslands, backyards, cities, and almost any other semi-open habitat between the Arctic and the tropics. (Description courtesy of the [Cornell Lab of Ornithology](#).)

**Song:** Great-horned owls advertise their territories with deep, soft hoots with a stuttering rhythm: hoo-h'HOO-hoo-hoo. The male and female of a breeding pair may perform a duet of alternating calls, with the female's voice recognizably higher in pitch than the male's. Young owls give piercing screams when begging for food, while adults may scream to defend the nest. Adults make an array of other sounds, including whistles, barks, shrieks, hisses, coos, and wavering cries. (Description courtesy of the Cornell Lab of Ornithology.)

Click the icon below to hear an audio recording of the great-horned owl, captured by Lance A. M. Benner, courtesy of [xeno-canto](#).



PHOTO COURTESY OF KEN SAUNDERS II, TAKEN MAY 7, 2016, AT ARBOR LAKE CITY PARK IN GRINNELL, IOWA

## Ekphrasis\* on the Prairie

TEXT BY BENJAMIN BROSSÉAU

ART BY THERESE BROSSÉAU



PHOTO COURTESY OF BENJAMIN BROSSÉAU

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PHOTO COURTESY OF THERESE BROSSÉAU

**Therese Brosseau** is a Natural Science Illustrator from Seattle, Washington where she lives with her husband, two sons, six chickens and one honey bee hive. She finds that providing viewers with an up close, detailed perspective of the natural world is one of the most rewarding aspects of her practice.

\*An *ekphrasis* is a poem about a picture





*"DICKCISSEL AND PRAIRIE CLOVER,"*  
(WATERCOLOR BOARD) 9" X 12," THERESE BROSSEAU,  
2017

## Rest, Clover

Thank you, prairie clover,  
selfless servant,  
whose stems, flowers,  
seeds, roots, are ground  
beneath the ceaseless churning  
of seasons, as migratory wanderers  
seek proliferation  
in pastures beyond your own.

Their weight bends, breaks,  
butchers your body, but no  
matter, for you only ask  
that winter claim your broken  
frame and bring it forth  
anew next season  
when the snow seeps  
into the soil. Then you spring  
forth, ready to host  
more searching souls, your  
subtle flowers singing toward the sun.

## Flowers Fall

Keep running, ground  
squirrel, running  
to the burrows,  
seeking food, satisfy  
the hunger, that need  
for running: the pace,  
or price, of survival.

Don't pause to consider  
the cone flowers, little  
creature, don't let their fleeting  
beauty distract from your  
mission. Soon they will be gone,  
winter come or fire,  
storm, they will wither.

The flowers can afford  
to wait, watch the passing  
sun and accept winter's kiss.  
They are already cold,  
inert as the earth beneath  
and you are warm,  
warm, warm so run,  
ground squirrel, run,  
and find your home  
before the petals fall.



*"THIRTEEN-LINED GROUND SQUIRREL AND LONG-HEADED CONEFLOWER," (WATERCOLOR BOARD) 9" X 12," THERESE BROSSÉAU, 2017*



## Look at her wings

pinned back against  
one another, touching  
like dancers displaying  
their act. A kiss.

The owl's eye watches  
from its lucid landscape,  
clashing colors melding in  
a simulacrum of church  
on Sunday morning,  
panes cutting sunlight,  
splashing distortion over  
thistle arms reaching  
toward the sky.

A pause. Soon  
the scene will dance  
again, colors  
blurring, bending  
the dancers quicken  
their routine. Climbing,  
climbing, they dance  
so that she may alight  
elsewhere.



*"AMERICAN LADY AND MILK THISTLE,"  
(WATERCOLOR BOARD) 9" X 12," THERESE BROSSEAU,  
2017*

# Endnotes

## "NOSTALGIA, THE NINETEENTH CENTURY, AND THE HOUSE NEXT DOOR"

- <sup>1</sup>Will Fellows, *A Passion to Preserve: Gay Men as Keepers of Culture* (Madison: University of Wisconsin Press, 2004), 25-35.
- <sup>2</sup>Adelaide Evans Harris, "The Man in The House Next Door," *The House Beautiful*, Jan. 1923.
- <sup>3</sup>Author unknown, "House Next Door, Secluded Home of Naturalist and Collector of Antiques, Draws Wide Attention," *Wisconsin State Journal*, April 8, 1923.
- <sup>4</sup>Richard Brayton, "Antique Collector in 'House Next Door' Dislikes Modernism," *Wisconsin State Journal*, August 8, 1926.
- <sup>5</sup>Author unknown, "Fascinating History Pulses through Dull Sheen of Dean's Unique Pewter Collection," *Milwaukee Journal*, July 21, 1946.
- <sup>6</sup>Eleanor Mercein, "Adventurous Cookery," *Ladies' Home Journal*, March 1933.
- <sup>7</sup>Author unknown, "Sleepy and Picturesque Cooksville Scorns Gasoline Pumps, Highways," *Milwaukee Journal*, May 26, 1940.
- <sup>8</sup>May I. Bauchle, "The Land of Long Ago," *The Wisconsin Magazine*, Sept. 1925.
- <sup>9</sup>Author unknown, "Picturesque Cooksville House Reproduces Days of Century Ago in Detail," *Beloit Daily News*, June 10, 1921.
- <sup>10</sup>Ethel S. Raymond, "I Step into Paradise," typescript, publication and date unknown.
- <sup>11</sup>Sioux City, Iowa, newspaper clippings, Nov. 25, 1902, Feb. 1904, and undated.
- <sup>12</sup>*Racine Daily Journal*, local news items, Feb. 17, 1909, Oct. 7, 1909, and Oct. 17, 1910.
- <sup>13</sup>Arthur Wallace Peach. "A Question." Clipping, date and publication unknown.
- <sup>14</sup>Author unknown. "Some Day." Clipping, date and publication unknown.
- <sup>15</sup>Elbert Hubbard, *Little Journeys to the Homes of Eminent Artists*, Vol. XI, No. 2 (East Aurora, NY: Roycrofters, Aug. 1902), 43-44.
- <sup>16</sup>David Shi, *The Simple Life: Plain Living and High Thinking in American Culture* (New York: Oxford University Press, 1985), 156.
- <sup>17</sup>E. T. Paull, "Dawn of the Century" (New York: E. T. Paull Music Co, 1900).
- <sup>18</sup>Shi, *The Simple Life*, 176.
- <sup>19</sup>Gustav Stickley, *Craftsman Homes* (New York: Craftsman Publishing Co, 1909), 194-205.
- <sup>20</sup>David Grayson [Ray Stannard Baker], *Adventures of David Grayson* (Garden City, New York: Garden City Publishing Co, 1925), 3-4.

## "A SHARED HERITAGE: PRESERVING GENETIC DIVERSITY AND CULTURAL TRADITIONS THROUGH SEED SAVING"

- <sup>1</sup>McCouch, Susan, "Genetic Variation - A Case Study in Rice" (speech, Decorah, IA, July 19, 2014)
- <sup>2</sup>Vellvé, Renée, *Saving the Seed: Genetic Diversity and European Agriculture*. GRAIN. Barcelona. 1992.

## "CHOREBOOTS, CHECKBOOKS AND CHALKBOARDS"

- Anderson, J.L., 2009, *Industrializing the Corn Belt: Agriculture, Technology, and Environment, 1945-1972*. DeKalb: Northern Illinois University Press.
- Bogue, Allan G., 1994 *From Prairie to Corn Belt: Farming on the Illinois and Iowa Prairies in the Nineteenth Century*. Ames: Iowa State University Press.
- Brasier, Kathryn J. with Carolyn E. Sachs, Nancy Ellen Kiernan, Amy Trauger and Mary E. Barbercheck, 2014 *Capturing the Multiple and Shifting Identities of Farm Women in the Northeastern United States*. *Rural Sociology* 79(3): 283-309.
- Beus, Curtis E. and Riley E. Dunlap, 1990 *Conventional versus Alternative Agriculture: The Paradigmatic Roots of the Debate*. *Rural Sociology* 55(4): 590-616.
- Golubovic, Zagorka, 2011 *An Anthropological Conceptualization of Identity*. *Synthesis Philosophica* 51(1): 25-43.
- Haraway, Donna, 1988 *Situated Knowledges: The science question in feminism and the privilege of partial perspective*. *Feminist studies* 14(3): 575-599.
- Kloppenborg, Jack R. Jr., 1991 *Social Theory and The De/Reconstruction of Agricultural Science: Local Knowledge for an Alternative Agriculture*. *Rural Sociology* 56(4): 519-548.
- Nordin, Dennis S. and Roy V. Scott, 2005 *From Prairie Farmer to Entrepreneur: The Transformation of Midwestern Agriculture*. Bloomington: Indiana University Press.
- Sachs, Carolyn, 1983 *The Invisible Farmer: Women in Agricultural Production*. Totowa: Rowman & Allanheld.
- Sachs, Carolyn, 1996 *Gendered Fields: Rural Women, Agriculture, and Environment*. Boulder: Westview Press, Inc.



# Endnotes

## "THE MAKING OF THE MIDWESTERN PRAIRIE: PLANT MIGRATION AND CLIMATE CHANGE"

AASP – The Palynological Society. Accessed at: <http://palynology.org>

Adams, J. North America during the last 150,000 years. Oak Ridge National Laboratory, Oak Ridge, TN Accessed at: <https://www.utdallas.edu/~rnix/GEMweb/sm-index.htm>

Brink, H.-J. 2015. Periodic signals of the Milky Way concealed in terrestrial sedimentary basin fills and in planetary magmatism? *International Journal of Geosciences* 6 (8): 14 pages

Dutch, S. 1999. Pleistocene glaciers and geography. Accessed at: <https://www.uwgb.edu/DutchS/EarthSC202Notes/GLACgeog.HTM>

Fredlund, G.G. and P.J. Jaumann. 1987. Late Quaternary palynological and paleobotanical records from the central Great Plains. Kansas Geological Survey

Global Warming: A Chilling Perspective. Accessed at: [http://www.geocraft.com/WVFossils/last\\_50k\\_yrs.html](http://www.geocraft.com/WVFossils/last_50k_yrs.html)

Hansen, J.E. and M. Sato. 2012. Paleoclimate implications for human-made climate change. In *Climate Change: Inferences from Paleoclimate and Regional Aspects*. A. Berger, F. Mesinger, and D. Šijački, Eds. Springer, pp. 21-48.

History of Earth's Climate 7. Cenozoic IV - Holocene. Accessed at: <http://www.dandebat.dk/eng-klima7.htm>

Kennedy, C. and R. Lindsey. 2015. What's the difference between global warming and climate change? *Climate Watch Magazine*. National Oceanic and Atmospheric Administration. Accessed at: <https://www.climate.gov/news-features/climate-qa/whats-difference-between-global-warming-and-climate-change>

King J.E. 1981. Late Quaternary vegetational history of Illinois. *Ecological Monographs* 51(1): 43-62.

Marcott S.A., J.D. Shakun, P.U. Clark, and A.C. Mix. 2013. A reconstruction of regional and global temperature for the past 11,300 years. *Science* 339(6124):1198-1201. Accessed at: <http://www.realclimate.org/index.php/archives/2013/09/paleoclimate-the-end-of-the-holocene>

NOAA. Mid-Holocene warm period—about 6,000 years ago. Accessed at: <https://www.ncdc.noaa.gov/global-warming/mid-holocene-warm-period>

Ohio Plants. 2017. Ohio prairies. Accessed at: <http://ohioplants.org/prairie>

Peak Watch. Regaining perspective on things that matter. 2009. Accessed at: [http://peakwatch.typepad.com/peak\\_watch/2009/02/climate-change-and-resource-depletion-regaining-perspective.html](http://peakwatch.typepad.com/peak_watch/2009/02/climate-change-and-resource-depletion-regaining-perspective.html)

RealClimate. Paleoclimate: The end of the Holocene. Accessed at: <http://www.realclimate.org/index.php/archives/2013/09/paleoclimate-the-end-of-the-holocene>

Rutledge, R. Deep Time: The Story of Mother Earth. Alpine Analytics. Accessed at: <http://www.alpineanalytics.com/Climate/DeepTime.html>

Scott, M. and R. Lindsey. 2014. What is the hottest Earth's ever been? *Climate Watch Magazine*. National Oceanic and Atmospheric Administration. Accessed at: <https://www.climate.gov/news-features/climate-qa/whats-hottest-earths-ever-been>

Smith, D. and B. Butler. 2011. Map of the mid-continent tallgrass prairie. *Tallgrass Prairie Center Newsletter*, Spring. University of Northern Iowa, Cedar Falls, IA

Strömberg, C.A.E., and F.A. McInerney. 2011. The Neogene transition from C3 to C4 grasslands in North America: assemblage analysis of fossil phytoliths. *Paleobiology* 37(1):50-71.

University of Nebraska State Museum. 2016. Ashfall Fossil Beds State Historical Park. Accessed at: <http://ashfall.unl.edu>

Zachos, J., M. Pagani, L. Sloan, E. Thomas, and K. Billups. 2001. Trends, rhythms, and aberrations in global climate 65 Ma to present. *Science* 292: 686-693.

Zalasiewicz, J. and M. Williams. 2012. *The Goldilocks planet: The Four Billion Year Story of the Earth's Climate*. Oxford University Press Inc., New York





