

# Land Report

Number 119, Fall 2017 • The Land Institute



# About The Land Institute

## MISSION STATEMENT

When people, land and community are as one, all three members prosper; when they relate not as members but as competing interests, all three are exploited. By consulting nature as the source and measure of that membership, The Land Institute seeks to develop an agriculture that will save soil from being lost or poisoned, while promoting a community life at once prosperous and enduring.

## OUR WORK

Thousands of new perennial grain plants live year-round at The Land Institute, prototypes we developed in pursuit of a new agriculture that mimics natural ecosystems. Grown in polycultures, perennial crops require less fertilizer, herbicide and pesticide. Their root systems are massive. They manage water better, exchange nutrients more efficiently and hold soil against the erosion of water and wind. This strengthens the plants' resilience to weather extremes, and restores the soil's capacity to hold carbon. Our aim is to make conservation a consequence, not a casualty, of agricultural production.

## LAND REPORT

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# Land Report

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## Cover

*Come fall in Kansas, birds cover power lines, here just west of The Land Institute. In summer, blackbirds pried their way into mesh bags meant to protect the seed of perennial sorghum plants. To learn how that was addressed, and how another pest, aphids, provided opportunity in breeding the new crop, see page 5. Scott Bontz photo.*



*A sorghum meeting held at The Land Institute included, from left, Bantte Kassahun, from Jimma University in Ethiopia; Ethiopian-American Hailu Wordofa, from the US Agency for International Development in Washington, DC; and Nemera Shargie, from the Agricultural Research Council in Potchefstroom, South Africa. Others came from Kenya, Mali, India, Georgia (USA), and Kansas State University. Scott Bontz photo.*

# Land Institute shorts

## World collaborators gather

Two August meetings each drew about a dozen researchers from across the country to collaborate with us, and a September conference gathered more than a dozen, most from Africa and India. This last meeting was for sorghum, both perennial and more drought-tolerant annual varieties. The annual event until now has been held in Africa.

The first meeting in August was for silphium, a perennial oilseed crop in the making, and brought researchers from North Dakota, Minnesota, Wisconsin, Argentina, and elsewhere in Kansas. The next meeting was about benefits and ways of growing more than one species in a grain field. All of our crop researchers played a part, as did three soil life specialists from University of Kansas and Allison Miller, who, at Saint Louis University and Missouri Botanical Garden, is assembling a list of candidate species from around the world.

## From adversity with sorghum

About 430 hybrid sorghum plants survived winter and shot up in May from underground stems called rhizomes. One group seeded in 2016 emerged late and was overwhelmed by the yellow sugarcane aphid, a southern pest that breached central Kansas last year. A few plants survived, perhaps with aphid tolerance. “This is a golden opportunity for us to select for resistance,” researcher Stan Cox said.

Survivors were moved from different plots to one, for breeding. Cox said many looked more like crop plants than did their wild progenitors: shorter, seed heads tighter, stalks thicker, branches fewer. In June he and his crew bred them with annual crop sorghum and with one another. Weather was good, and allowed far more pollinations than in any year before. Seed set. Then came the birds.

Before, birds had been kept from grain by mesh bags over seed heads. This year red-winged blackbirds pried pencil-thick gaps in the mesh to get at grain. Paper bags kept them out, but trapped air and moisture, which nurtured mold. Trial brought this solution: staple only one side of the bag base and rip the other side halfway up for air flow. The birds didn’t think or want to work their way under the bags.

## Press and presentations

Among “American Food Heroes” featured in the September/October issue of Eating Well magazine was The Land Institute’s Lee DeHaan, who is developing intermediate wheatgrass as a perennial grain crop. The October 30 issue of The Nation published a long story about wheatgrass and turning it into food products as Kernza, our registered trademark. Land Institute staff members made presentations in Colorado and Minnesota.



*Farming with horses keeps farm acreage relatively small, increasing the ratio of eyes to acres. The animals and their gear demand cultural knowledge. And travel by horse keeps people rooted in place. Scott Bontz photo.*

# Dauids versus Goliath

*We need not a hero, but a constituency, and not just technology, but Amish scale*

JACOB MILLER

Early evening, July 20, Holmes County, Ohio, otherwise known as Amish country: Joan and Wes Jackson – my grandpa – and I began a journey featuring friendship coupled with a question: What mix of culture and technology will be required of us to correct the problems of soil erosion, fossil fuel dependency, chemical contamination of land and water, the decline of agrarian culture, and the problem that sums all of this best, climate change?

The friendship part began with a cookout of freshly caught fish and grass-fed steak at the home of Michael and Martha Kline. They were raised Amish but left. They own tractors, cars, smartphones, and a computer. They operate in the business world. Martha manages their rental cabins and Michael works in dairy as a part of Organic Valley, a farmer's cooperative. They raise organic beef, broilers, and turkeys. They don't seem "modern," in the sense that they engage with one another without glancing at screens. Our time together reminded me of my family cookouts when I was young, because my family too had meals where we only ate what we raised and produced on our own. Therefore, though the general society would consider their family lineage abnormal, to me it seemed normal. Michael and Martha are not Amish, but the residual traces solidify their agrarian way, and relationships to Amish

friends and relatives remain intact.

The next day we visit the homestead and farm of Michael's parents, David and Elsie. David speaks as he writes, in short sentences sprinkled with comments about the local milkweed, temperature, rainfall, church members, relatives, and food. Elsie is extremely well-read, an excellent cook, and keeps David in line by correcting his memory. As an Amish woman, she says she is fed up with being the subject of sociological study. David has an 1830s log cabin for an office, where stacks of books become walls.

We drove through small communities with names like Charm, Becks Mills, Saltillo, Mechanic Township, and Walnut Creek. We saw old friends of Wes and the Klines. We visited the steep hill farm of the late Monroe Miller, a place well remembered by Wes. He visited 33 years ago with his son, Scott, Wendell Berry and his son, Den, and Maury Telleen, founder of The Draft Horse Journal. Monroe's hill farm was diverse, and he planted on the contour. He carried dirt from the bottom of the hill back up to the top. We met Monroe's son, Kevin, an alert, middle-aged man whose shirt was soaked with sweat not even halfway into the day. Kevin continued farming where his father left off. For years Kevin has toiled in the heat, and not in the comfort of an air-conditioned cab.

We had dinner Friday evening with



*The Adam Joseph Lewis Center at Oberlin College in Ohio captures more energy than it uses, and purifies all of its wastewater, in part with a wetland planted to native species. Jennifer Manna photo.*



Tim and Katie Kline. Tim is David and Elsie's oldest son, and he met Katie when he lived in Kansas. They moved back to live closer to David and Elsie. They are full of energy, have a large and well-kept garden, a pond for their kids, and wake up at 4 a.m. every day to milk their cows. The tenant who originally rented out their land sold it to them because he liked how they farmed. I rode the seven miles in horse and buggy with Maggie, daughter of David and Elsie, and with Maggie's husband, also named David. As we bounced around the buggy, we discussed language, cultural differences, education, their horses, and game seven of the 2017 NBA finals. David is a LeBron James fan (of course, we were in Ohio) and used to play basketball himself. His team even beat a local college team. Basketball and volleyball are the most popular sports for Amish. We arrived later than Wes and Joan, who drove, but I didn't lose out on good conversation, a sentiment I typically feel when I'm running late travelling by car. I didn't need to rush to conversation when I had it in the buggy, so what was the point of taking the car? In hindsight, I see the appeal of a horse and buggy way of life.

Late Saturday afternoon we traveled, 64 miles north of Berlin, in Holmes County, to Oberlin, where we spent the evening with Oberlin College environmental studies professor David Orr and his wife, Elaine. We talked about basketball, a topic that I love and usually instigate, as well as president number 45, including when he will go, and current ecological catastrophes. For two nights we stayed at The Hotel at Oberlin, the first in the nation to incorporate solar, geothermal, and radiant heating and cooling. Its website claims it is one of the most environmentally sustainable hotels in the world.

On Sunday David graciously showed us around. He told us about The Oberlin Project, which aims to make the town and college carbon neutral by 2050, while fostering the community and agricultural economies. From the looks of Oberlin and the accompanying slew of statistics, David and his associates have done a remarkable job. The first step of the project was the college's Adam Joseph Lewis Center, built in 1996. It captures more energy than it uses, purifies all of its wastewater, and is the first college building in the United States powered entirely by sunlight. The Department of Energy calls it "One of 30 Milestone Buildings in the 20th Century." David sees it as "a laboratory in sustainability that trains some of the nation's brightest and most dedicated students for careers in solving environmental problems." In David's office in the Lewis Center, the walls strain with stacks of books.

The Oberlin way addresses our problems through buildings and recent technology, clearly different from the assumptions underlying the Amish way. Both ways offer sustainable solutions. Both are necessary.

David encourages sustainable development, though with the hope of growth, given that he wants the new hotel and housing to bring in more young entrepreneurs from Cleveland. More people means more cars, restaurants, housing, solar panels, and so on, most of which require more money and maintenance.

And more questions. None are hostile. But what happens when the money from the growth economy runs out? What happens if Oberlin grows to over 10,000, 12,000, or over capacity, whatever the number? What if Cleveland swallows Oberlin? Will the added people share the same cultural capacity to buy into the carbon-neutral system? How are limits imposed? Where do

you shun obstreperous Oberlinians? How does the city maintain its borders without cutting corners or becoming a gated community? How much can one tinker with the terms sustainable and carbon neutral? Any seasoned pragmatist surely has answers to these questions, but most seem to rely on “more.” Does the broader culture have time for more? Should the larger society consult Oberlin as the model for their efforts, or will the model writ large simply lead to more consumption masked as sustainability? The Amish recognize climate change, but prefer to talk about their crops, chickens, and dairy cows. As a result, it is not out of their way to engage in solutions to ecological catastrophe. Because their culture is a solution.

David Orr is a smart man who certainly knows more than I. My questions do not suggest he is wrong, or even that cities shouldn’t strive to operate as Oberlin does. But can we assume an America sprinkled with several cities like Oberlin will be sufficient without also a place-based, radical movement back to small communities built around small farms? I say no, and I think David would agree. Not all cities aspiring to be like Oberlin hold the same capacity for change, because Oberlin’s history, of being a leader in social justice, and its geography, being close to Cleveland and Lake Erie, makes it unique. But I think most small towns could come to learn to operate like the Amish do, because that’s how their predecessors worked.

Both Davids signed their latest books for me – Orr’s “Dangerous Years” and Kline’s “The Round of a Country Year.” Two of my trip highlights. For the most part David Orr provides a thorough “Ain’t it (climate change) awful?” whereas David Kline’s focus is “Ain’t it (life) great?” I

recommend reading both. Orr provides a comprehensive, fact-stuffed, seat-of-your-pants eye-opener about the impending doom humanity hath brought, topped off with dashes of hope. Kline nurtures Hemingway-esque syntax that observes the natural, Edenic beauty of Holmes County.

I went into the trip with sharp “culture versus technology” delineations, but returned blurred. It’s not fair to dichotomize Kline as cultural and Orr as technological, even though I’ve already done so for the sake of comparison. The Amish have not been impervious to the flood of technology. Cell phones are permissible for business, though their use is discouraged in the home. Tractor implements are adapted for a team of horses or mules. A fore cart with a 38-horsepower engine can connect to almost any piece of farm equipment – swather, baler, manure spreader, etc. It is essentially a small tractor except that it relies on two to four horses or mules for traction. To an outsider it seems easier to use a small tractor. However, the team cannot work thousands of acres without tiring, so the farmer is forced to keep his acreage small, where the “eyes-to-acres ratio,” to use Wes’s words, is appropriate. The size determines the scale. The same holds true for travel by horse and buggy. Tim Kline told us that the most important utility of horses and mules is keeping Amish from traveling too far and too fast, rooting them in place. With the horse there is little “grass is greener” mentality or want to escape to a big mall, movie theater, or game in a city, all of which offer false promises of a happier life. The horse helps create an attitude described by 19th century Austrian Novelist Marie von Ebner: “To be content with a little is difficult; to be content with a lot is impossible.” With cultural restraint comes an elegant frugality.

When we were with the Klines on Saturday, we strolled around Mount Hope, a small town, where we saw people at auctions, buying from produce stands, shopping at stores selling Amish-made goods, leaning against the general store's wood posts, and best of all, talking with one another. As in looking each other in the eye and not pulling out a square block every minute during conversation lulls. Mount Hope gave me hope because it reminded me of a scene out of a Wendell Berry novel. On Sunday, there was a similar sense of community as Oberlinians flocked to Shakespeare in the Park, but with eyes glued to smartphones.

Here's my Shakespearean aside. My biggest fear for the future of my generation is smartphones. They are pervasive, addicting, and culturally destructive. In his book "Irresistible: The Rise of Addictive Technology and the Business of Keeping Us Hooked," Adam Alter lays out humanity's terrifying addiction to smartphones, a fact that The Atlantic of August 25, 2017, says is leading to decreased empathy levels and increased rates of depression and suicide. On average, Millennials check their smartphones 160 times per day and spend six to eight hours online. Smartphones perpetuate narcissism, disconnected connection, and fake news, and make it easier to ignore the other and never be in the moment. The Kline family told us that even among the Amish there are teenagers who can operate a phone but not harness a team, which is abnormal for most Amish teens.

Before the Biblical David fights Goliath, Saul arms him with the best war technology of the time – a brass helmet, a coat of mail, and Saul's sword. But David tells Saul he "cannot go with these," sheds them for five stones, and promptly slays the Philistine. Wes spoke on David and

Goliath during the 2013 Prairie Festival. He posited whether this underdog story serves as an appropriate analogy for ecological transformation, and ultimately concluded no. He said the metaphor breaks down because we're not facing one monstrous human, but the monstrosities of many humans. Indeed, we don't need a David, a lone ranger who singlehandedly saves the town with a silver bullet. As Wes stressed, ecology has no silver bullet to offer. We need millions of Davids, a constituency, to slay the extractive Philistine we've beckoned. The constituency must take a transformative worldview, one seen through the eyes of horses and mules.

But how to get there? Maybe we can glean a valuable insight by returning to our dinner with Michael and Martha. After dinner their son, Jackson, "vroomed" his toy combine over dirt, grass, and around trees. When his mother asked him to pick tea leaves, he did, with combine in one hand and clippers in the other. Upon returning from his mission, he looked at each hand, dropped the combine, and intently studied the leaves with both hands. The leaves provided a fascination that the combine could not. To get to a draft-animal economy is a long road ahead, but perhaps we can start our journey by trading in our armor for stones, and dropping the combine to study the leaves.

*Miller graduated this spring from Bethel College in North Newton, Kansas, and this summer worked at The Land Institute to advance ecosphere studies. He is working on a master's degree in communications study at Kansas State University.*

# Ethos, pathos, logos, wholeness

*The old art of persuasion as new  
conversation with the ecosphere*

COLENE LIND

Land Report editor Scott Bontz recently asked me, “Do you like to write?” Anyone who writes regularly can sense the troubles evoked by this innocent interrogation. First, there’s a question of definition: what does he mean by *like*? Does he mean enjoy? I enjoy writing when the muse is close or passions burn hot or the argument seems brutally clear. But often I must force myself to stay in the chair. Even when writing seems pleasant, I always feel relief when the essay, email, or report is finished. How can I say that I like *writing*? Wouldn’t it be more accurate to say that I like the ends, but not the means, of writing?

Then there are the more existential entailments of writing, including the potential for misunderstanding, rejection, offense taken and given, criticism, or even charges of falsehood or fraud. Ultimately all writing reveals its author in some way. In a sense, anyone who writes lives the unsettling dream in which one forgets to dress before leaving the house, realizing that one is naked only upon arriving at work. What kind of a person would admit to liking *this*?

Scott’s query brought all these and other concerns to my mind. For questions do many things, but most importantly they make us vulnerable, and it is only in vulnerability that we might learn anew.





Scientific abbreviations, charts of time and quantity, cartoons of plants, the spoken word – English with Spanish flavor – eye contact, furrowed brow, hand gesture: a nuanced understanding presents all communication as rhetoric. In recent ecological thinking this might include what is represented by the whole, wild, nonhuman world. Human communicators presented

here are, from left, Land Institute legume breeder Brandon Schlautman; Valentine Picasso, a longtime institute collaborator from Uruguay who now works with perennial grains at the University of Wisconsin; and Damian Ravetta, visiting from Argentina to help with one of the institute's perennial crops, silphium. Photos by Scott Bontz.

In my career as a rhetorical scholar who teaches writing, speaking, and criticism, I ponder the rhetorical force of questions. By rhetorical force, I mean how questions influence audiences within particular contexts. Thanks to my participation in The Land Institute's ecosphere studies conference this summer, I am now also grappling with the place and purpose of rhetoric in what Wes Jackson calls a new cosmology. I previously suspected, though never seriously considered, how public talk about sustainability might be masking our true problem, namely human hubris and its unwillingness to accept our interconnectedness with the earth. As professor Walter Burkert puts it, "the 'environmental' perspective remains anthropocentric, nay egocentric: nature environs us but we remain at the center."

In response to this dilemma, ecosphere studies offers an amelioration through a new definition of life itself. It would be impossible and ill advised for me to detail here the philosophy underlying this worldview. Suffice to say that I am now asked to reconsider this thing called rhetoric. Among my scholarly colleagues, rhetoric is understood to be central to our pursuit of the common good. But how can rhetoric help achieve this when "common" includes not just the welfare of humanity but the entire ecosphere? And what good is this thing if only humans are rhetorically adept?

What follows is my ongoing attempt to answer such questions. I suspect that when introduced to ecosphere studies, others may be vexed by similar concerns about what they hold dear. And in the process of my inquiry, I have come to realize that mostly we have been asking the wrong questions about communication and the environment. So please follow along, dear reader. I hope you learn some things about queries, rhetoric, and our common future.

Rhetoric and the natural environment have long captured human attention. About three hundred years before the common era, Aristotle wrote "Rhetoric," which still serves as the foundation for classical approaches to persuasion. At about the same time, he described Greece's deforestation and soil erosion. Two millennia later, in an example of the rhetorical calculations we make daily, Rachel Carson strove to keep her breast cancer diagnosis private before the publication of "Silent Spring." She thought antagonists might use the illness against her, discrediting her arguments about indiscriminate pesticide application as personal vendetta. As Aristotle encouraged his students to do, Carson considered her ethos, her credibility with her audience, as she sought to use all available means of persuasion.

It is ironic that Carson, a science writer, and the publication of her book are widely accepted as the beginning of the modern environmental movement, the failure of which is often attributed to poor communication. Some fault environmental organizations for too much public relations and not enough of the product advertising that made Madison Avenue wildly successful. Others point to the movement's penchant for religiously inflected discourse, approaching nature with reverence and devotion, but limiting effectiveness in the secular, civic domain. Still others blame an overreliance on fear appeals, which psychologists contend have limited utility. Too much gloom and doom, they argue, can lead to anxiety, guilt, and paralysis.

But a quick scan of public discourse reveals that others are just as convinced that the environmental movement has failed not because it is rhetorically maladroit, but because it fails to take up the call to arms. As linguist and philosopher George Lakoff summarizes, "Folks trained in public policy, sci-

ence, economics, and law are often given the old, false view. As a result, they may believe that if you just tell people the facts, they will reason to the right conclusion.”

Overall, critics charge environmentalism with either a) failing to fully heed the rhetorical dimensions of communication, or b) not using rhetoric effectively to win hearts and mind. But these positions are different ends of the same worm: both presume that rhetoric is a tool that humans use to achieve their intentional, strategic ends. Those who call for savvier rhetorical efforts generally see rhetoric as a potent force for good, while those crying out for the facts suspect rhetoric does more harm than help. Students of classical rhetoric will recognize this debate, for Plato discounted rhetoric as an unseemly necessity at best – only a handmaiden of the pursuit of truth through dialectic. His student Aristotle, on the other hand, was much more sympathetic to the value of rhetoric and the first to clearly identify it as a morally neutral art that could be used for good or ill.

Despite their differences, supporters and detractors implicitly agree on rhetoric’s essence and ultimate purpose. We can imagine either side declaiming thusly: “We need rhetoric to put forth the best arguments and strongest evidence and most compelling emotional appeals so that the facts of our environmental crisis make sense and move others to action. We need rhetoric to save the planet.” In the same spirit, Scott posed to me this rhetorical question: “Ecosphere studies needs rhetoric, doesn’t it?” Don’t we?

At the time that he asked, I wasn’t so sure. I had spent three days reading and listening to very smart folks argue that the world is not composed of objects and subjects, but of *processes*. For example, while I perceive the maple tree outside my window as an object distinct from myself, me and

tree are the result of a long and complicated series of mutually influential events – respiration and photosynthesis being two obvious examples. Less obvious but equally so, the limestone on which the tree sits, hidden by just a few inches of topsoil, is composed of relational events, right down to its humming quarks. The tree, I, and limestone emerged from a complexity of occurrences that have happened and are ongoing. It is therefore ultimately impossible to say where the tree stops and rock starts.

Thinking about life this way turns “rhetoric as tool” into nonsense because it upends the distinction between speaker and audience, symbol and referent, truth from its telling, and knowing from knower. Those attuned to academic debates on such matters will recognize this deconstruction as nothing new. But for the first time, I was confronted with a philosophy that wiped away subject-object dualism *and* was based on systematic observations of the material world. And unlike the naivetes of post-structuralism, process philosophy is built on something real: our interconnectedness. Thanks to science – from the observations of Charles Darwin and the field of evolutionary biology to Albert Einstein’s mind-bending propositions and their refinement by quantum physicists – our anthropocentric understanding of existence no longer abides.

Plus I had the rhetoric of Wes Jackson ringing in my ears. As he said this summer and likely has said a hundred times before and since, the earth does not need us. In other words, whether human life is sustained in the ecosphere is immaterial to the existence of the system. Either way, the ecosphere will find equilibrium. Traditional environmental appeals ask audiences to take responsibility for their personal actions and the resulting effects on the environment. That’s why the polar bears need us to turn

off the lights when we leave the room. But as Andrew Pilsch, rhetoric scholar and author of “Transhumanism,” asks, “Given the scale at which the climate is being destroyed by consumer culture, how does remembering to turn off the light in the bathroom help?” It only makes sense inside our distorted, human-centered thinking. As media and communications scholar Joanna Zylinska suggests, “The anthropocene can therefore perhaps be seen as articulating, alongside the ecological disasters, this crisis of critical thinking.”

Of course, the polar bears and all other species must deal with our outsized effect within the ecosphere. But ecosphere studies asks us to recognize that we are constrained by the system, too, and ultimately are just as vulnerable as the polar bear floating on a small patch of melting ice. To paraphrase Jackson again, we have to unlearn everything we thought we knew.

Most of us know what we think we know about rhetoric thanks to schooling, where students encounter rhetoric in



*What can be said by one word and an assemblage of rusting farm implements on a rural road? And what by the road's mined gravel, the drying annual crops, the green perennial trees, and the mid-Kansas clouds?*



skills-based courses such as expository writing or public speaking. Social experience teaches us how to think and behave as rhetorical beings, but formal education allows us to reflect on the choices we make as we seek to persuade and influence others. In Western culture the earliest teachers of rhetoric were the Greek sophists, who were paid to travel from city-state to city-state, training pupils in the oratorical skills of legal defense. In the United States, rhetoric as academic discipline went through a divorce at the beginning of the century. Consequently,



one can today take rhetoric courses in either English or communication departments, with the former emphasizing writing and the later teaching public speaking.

Rhetorical scholars research the theory and criticism of symbolic communication, but their existence primarily is justified through teaching. By presenting itself as an applied art necessary for full participation in professional, civic, and political affairs, rhetoric has mostly maintained itself in liberal arts as well as trade, technical, science, and engineering curricula. To be clear, rhetoric as discipline hardly thrives compared to the sciences. But because our culture views rhetoric as a tool necessary for success in contemporary society, it has mostly maintained its small corner within the academe. While scholars certainly understand rhetoric as something more than a tool, the common perception is maintained at least in part as an act of self-preservation.

A more nuanced understanding presents rhetoric as a quality that all communication possesses in greater or lesser amounts. Rhetorical educators Roderick P. Hart and Suzanne Daughton suggest that rather than looking for rhetoric as an independent object, *all* communication must be examined for its rhetorical potential. A Coca-Cola commercial, for example, more obviously contains rhetorical features (“Drink diet Coke!”) than does the company’s support for a childhood obesity-prevention curriculum that emphasizes exercise over nutrition. Indeed, rhetoric’s attempt to hide itself in the second example makes it all the more important that we take notice. But here, too, rhetoric maintains its status as tool, for this perspective suggests that if we are not careful others will use rhetoric against us.

Nevertheless, in ecosphere studies rhetoric cannot start or end as tool. This perspective is incoherent with the ecosphere

perspective, and supports the old mythology of human prowess to solve any problem through ingenuity. Most profoundly, ecosphere studies demonstrates that it is wrongheaded to speak of using rhetoric or any other human tool to save the planet. We must find a different way to think and talk about rhetoric in the ecosphere.

Fortunately, many people are thinking about rhetoric anew, in an ecological context. Some work to reformulate rhetorical communication in light of growing evidence that other species – not just humans – are capable of communicating via symbols. Others ask how we might listen to watersheds, mountains, or grasslands as equal participants in public deliberations on environmental policy. Still others respond to questions prompted by artificial intelligence, robots, and cyborg technologies. Chatbots such as Apple’s Siri and Amazon’s Echo have moved such speculations squarely into the realm of the real: what are the rhetorical dimensions of human-machine communication? Science communication scholar Steven B. Katz collects this diverse and growing field under the title *New Materialism*. It considers a world in which the human physical body is not the only site of meaning. I see promise in many of these approaches. Rather than detailing each, I here briefly review one, Casey Boyle’s reformulation of rhetorical practice.

Working from an ecological perspective, Boyle demonstrates that current rhetorical instruction emphasizes critical self-reflection so that students might gain a sense of their own power to persuade, influence, and effect change. It is a laudable goal in a world that seeks to silence contrarian, socially marginalized voices. Unfortunately, Boyle continues, “rhetoric in this vein ultimately reinforces ... developing one’s ability

to articulate decisions through increasing an individual’s agency.” What we need instead, Boyle argues, is a way to understand rhetoric as interaction, with cognition distributed throughout the system rather than centered in the reflective, subjective, human self. Therefore, a truly ecological practice of rhetoric would emphasize *capacity* in place of personal power.

Boyle offers two metaphors to clarify what a capacity-developing rhetorical practice might look like. The first is that of reciprocal “tuning” between humans and other elements in the environment as they repeatedly interact and respond to one another. The birds at my feeder, for example, have learned that I put out new sunflower seeds at about sunrise each day. Likewise, when I see the juncos, cardinals, and jays staged in the trees around my yard, I am reminded to fill their tray before I drink coffee. This is an influence for which traditional conceptions of rhetoric cannot well account, for it is mutual (rather than me training the birds) and it builds systemic capacities (rather than getting the birds to do what I want or vice versa).

A second illustration comes from Bruno Latour, who writes of perfumers literally developing their noses through repeated exercise. Via training the perfumer physically changes, as the ability to sense smells previously undetected emerges through practice. It is a lovely example of how capacity, rhetorical or otherwise, emerges from processes of interaction and interdependence.

Beyond its comportment with an ecospheric perspective, rhetorical practice has appeal as engaged learning. Boyle reminds us that in ancient Greece, education took place in the gymnasium, with physical exercises integrated with routines in oration and declamation. While some of my students might balk at the idea of exercise,

they increasingly clamor for an educational experience of authentic engagement with the world. Driven by their disillusion with college costs and debt, and, I suspect, by the alienation that comes with media dependence, my students rightly ask if they should be sitting in a classroom or out learning in the field. Boyle's concept of rhetorical practice is well tuned to their sense of what an education should be.

Also, in a world where partisanship seemingly determines what we know to be true about everything from global warming to genetic engineering, we can also appreciate the moorings of Boyle's framework. Rather than consulting historical epochs, social or economic power, or language structures as the arbiters of knowledge, rhetorical practice grounds knowing in an ecological community – which is a fancy way of saying rhetorical practice consults the genius of the place. Classical theorists have long championed the concept of *phronesis*, which is practical wisdom tied to a community. A rhetorical practice for the ecosphere simply extends the community beyond civic affairs, grounding knowledge in what works for the entire web of life.

Which isn't to say that certainty reigns supreme in the ecosphere. Quite the opposite is true. Andrew Pilsch writes, "Deep ambivalence does not amount to ignoring the world around us; rather it is an awareness that the unpredictable responses from the wild mandate a constant renegotiation of our approaches to living on the planet, a kind of mindfulness to the 'footprints' all life leaves in various modes of living."

Finally, readers might also appreciate the sense of liberation that I found in Boyle's closing. He says that the central ethic for a rhetoric framed beyond the human is "to exercise the humble, open-ended claim that we do not yet know what a (writing) body can do; after

which, we attempt to find out, repeatedly." As others have observed, writer's block is a desire to be brilliant. If we can let go of this desire, borne of the egocentric assumption that writing is our brilliance revealed, wouldn't it be much easier to stay in the chair? And if we have become paralyzed by the magnitude of environmental disaster, then here perhaps is a useful substitute: a commitment not to perfection or solving the crisis or even acting locally while thinking globally. Instead, we only need to continually exercise humble engagement within a system. No human heroics required.

In her presentation at this year's Prairie Festival, Severine von Tscharner Fleming provided a grotesque but pertinent example of our continuing rhetorical deficit. Recalling her recent participation in the national FFA convention, a gathering of 60,000 young people, she reported that the monstrous implications of the conference theme, "The Hunger Games," were lost on almost everyone there. As George Lakoff has noted, "If you are at all sensitive to framing, examples like this jump out at you every day." And yet most of time, to most people, they go unnoticed.

I have argued that instead of using rhetoric as a way to protect ourselves from becoming, as von Tscharner Fleming suggested, a tribute to corporate agribusiness, we might instead think of ourselves as embedded in an ecosphere through consistent and repeated exercises of interaction. Only through such rhetorical practice might the capacity to notice and understand such messages emerge. We can no longer ask if we need rhetoric nor what is the right kind of rhetoric. We can only engage in practice. I suggest starting today.



*Listening at The Land Institute's Prairie Festival to how the fundamentally rural tradition of agrarianism and the burgeoning urban agriculture movement might put their ideas together. Photos by Scott Bontz.*

# On urban agriculture and rural agrarianism: a perennial future

FRED IUTZI

*From a Prairie Festival talk.*

We have just gaveled in the annual session of this movement of ours. “And are we yet alive, and see each other’s face,” as the Methodist gathering hymn goes. We are here for many of the same reasons. We like folding chairs and dust. We like to listen to the gentle creaking of the barn as the talks unfold. We are really keyed up about Kernza pancakes – Prairie Festival speaker Amy Halloran told me the other day that pancakes are her national anthem. We want to be in a place where art, music, logic, rhetoric, sustainability theory, and agricultural praxis all meld together. We’ve probably all had an experience of Wes Jackson tugging at our heartstrings. But we are not all coming here exactly the same. Some of us are taking time away from the desk and some from the tractor. Some of us are from the Great Plains and some from the Corn Belt, some from the East Coast, the West Coast, from the South. And we have people here from the largest city in the US, and people here who have no neighbors for five miles, and people from everywhere in between.

Close your eyes for a moment and picture what “sustainable agriculture” looks like to you. Your picture was not necessarily the same as your neighbor’s. That’s a good

thing – it reflects a diversity of perspectives and visions. We have the good fortune right now, in the sustainable ag movement at large and in this room right now, to have two essential visions for the future. One of them is fundamentally rural in origin, the tradition we call agrarianism. The other is partially to entirely urban, the urban agriculture movement, and related portions of the local foods movement. We do a pretty good job at times of attending each other’s conferences, reading each other’s books, and the like. But how often do we genuinely put our ideas in real conversation with one another?

Rural folks, if you closed your eyes and thought about sustainable agriculture, I’ll bet many of you thought about field crops – probably at least three or four in an extended rotation. I hope at least some of you imagined a perennial polyculture. You probably also had ruminants on pasture, and I’ll bet you made most of your money from your operations rather than from subsidies. How many acres did you have? I’m sure you didn’t need as many as your conventional neighbors. But land is still expensive, even at your scale: how does a young farmer access it besides inheritance? Is it accessible at all to people from a socially or economically disadvantaged background? Are your customers anywhere in the picture? What is

your accountability to them – not just in the abstract, but how are you tied in?

Urban folks, I'll bet some of you pictured the kind of farming that makes your city a vibrant place. You're producing healthy, high quality food in a food desert, you're revitalizing your neighborhood, bringing young and old together, and connecting farmers and consumers. But even after you eat all the vegetables that you're

actually supposed to, your diet is still based on staples like whole grains, healthy oils, vegetable proteins, maybe animal proteins too – where are your staple starch and oil and protein crops coming from? How were those crops grown? What is your relationship to those farmers? For the production you're doing, I'm sure you're doing a good job of recycling your soil fertility, but where did it come from initially? How about all



*Amy Halloran, author of “The New Bread Basket” and a Prairie Festival speaker, said, “We’re a long line of people and plants working together to eat.”*

that compost you use – where did that come from?

Don't get me wrong, these are each beautiful visions. But in my experience it is not unusual to have beautiful visions, sweeping in scope relative to the physical and mental setting we inhabit. But these sweeping visions are often revealed to in fact be incomplete when we widen our boundaries of consideration and grapple with the full set of biophysical feedbacks that govern our planet and the full set of cultural and economic feedbacks that govern our society. And incomplete often means risky. We are rapidly losing the luxury of risky decisions. We are at 410 parts per million atmospheric carbon dioxide, 13 tons per acre per year topsoil loss worldwide, and 700 people per 100,000 incarcerated in the US. We urgently need to assemble a more complete vision from the pieces we each carry. As W. H. Auden said, "we must love each other or die."

I come from a very rural area in the westernmost part of Illinois. Illinois is a state with a primate city, an old geography term that denotes a municipality that is clearly unrivaled in population and economic activity. To be an Illinoisan, at least of the last few generations, is to be bathed in a cultural tension between Chicago and "downstate," a tension that is often generalized into fairly cutting statements of principle about urban vs. rural, and the demerits of each.

Last year I talked to you a little about my Stevenson and Lambert great-grandparents, who in the early decades of the 20th century were already the third and fourth generations of their families to farm in west-central Illinois. They practiced what we would call today ecologically based systems of crop and livestock management. They grew grain and hay and marketed it "on

the hoof," retaining most of the carbon and nutrients on the farm, in the soil. In those days, the aughts and teens and twenties, marketing livestock meant marketing them to the city – to major urban areas where livestock receiving, sorting, slaughter, packing, and distribution were concentrated. Marketing livestock meant marketing them by rail. And for a farmer, marketing livestock often meant accompanying the animals on the train to the market. So it was that rural people like Dana Stevenson and Millard Lambert were a frequent presence in urban places like Chicago, as they sold cattle and hogs through the Union Stockyards downtown.

As a multigenerational country boy, naturally I married a city girl. Some of you have met my wife, Melissa Calvillo, who grew up in the city of Chicago proper. (Although I will point out that she was just a few blocks away from the former site of the last surviving commercial farm within Chicago city limits.) Let me talk about Melissa's great-grandfather for a minute. Joseph Calvillo was born as Jose Calvillo in Silao, Mexico, in 1892, and emigrated to the US in about 1916. He and Mary Calvillo made their way to Chicago via Texas, and went on to raise 11 children, most of whom are still gathering in a particular park in the south suburbs for a menudo and hotdog picnic every year. Joseph Calvillo worked as a track laborer for the Rock Island Railroad, and as nearly as we can tell, he would have spent a great deal of his working time in the vicinity of the Union Stockyards. So it was that some 70 years before Melissa and I met, Millard Lambert and Joseph Calvillo spent a fair amount of time on the job within a mile or so of each other. We have no reason to think our great-grandfathers ever met, and even if they did, Millard Lambert spoke no Spanish and Joseph Calvillo spoke little

English. But the economic interdependence of these two men – and their families and their neighbors and their neighbor’s neighbors – would have been obvious to them. No farm products, no railroad. No railroad, no agriculture of the type that was being practiced at the time. No food, no city. No city, no market for food. In 2017 we perhaps do a better job of intentionally reflecting on this interdependence. But we have miles to go before we can say we have woven that realization into our lives like it once was.

The Chicago Union Stockyards in 1926 was a crossroads setting, the junction of multiple paths that people trod to carry out the practical matters of human existence. What I wonder, as Melissa and I raise the great-great-grandchildren of Millard Lambert and Joseph Calvillo, children of country and city, descendants of Lancashire and Guanajuato, is whether there is a lesson to be had. Now, I’m not arguing for rebuilding the Union Stockyards or the great downtown slaughterhouse complexes they fed – this is, after all, the place that inspired Upton Sinclair to write “The Jungle.” But what I am suggesting is that we need to find our own crossroads, where rural and urban people can meet as they go about their business and feel a tangible connection to one another – to understand at a gut level that we are all engaged in this same basic human endeavor of growing and harvesting and cooking and eating. These crossroads of common activity, common usefulness, and common understanding will sometimes be literal, and other times be figurative. But we need to find them.

I had the good fortune in my twenties to work at Practical Farmers of Iowa, the sustainable ag organization that brought rigorous on-farm research to Midwest US farming systems, among other exploits. PFI

is stronger and more vibrant today than ever, but I’m still glad my time there was when founder Dick Thompson was still alive and going strong. Dick stayed close to home, self-published his books with a spiral binding, and mostly focused on being a really good farmer. But despite that modest rhythm of life – or more fittingly, because of it – he needs to be recognized as an important agrarian voice. The most famous Dick Thompson line is his advice on dealing with neighbors: “Get along, but don’t go along.” I’m also partial to “You can’t buy the answers in a bag.” But in some ways the most important one is this, lifted straight from his on-farm research manual, 2003 edition: “Be a good observer. Keep track of everything that happens. Record in 3¼-by-4½-inch notebook. Keep book in zipper pocket of Liberty bibs.” Dick’s notebook was his totem, kept handy in the front pocket of his bib overalls. He insisted his whole farming system hinged on the discipline of observation and learning that went with it. There’s a lesson there not only for farming, but also for the broader endeavor we are discussing here.

To Dick’s front pocket notebook, I want to add another pocket and another voice. Some of you are familiar with Liz Carlisle’s recent book “Lentil Underground,” chronicling the journey of a group of “audacity rich but capital poor” farmers in her native Montana, forging an economic pathway for farming small and diversified in a time of big and monoculture. What I want to refer to now, though, is a paper Liz published in 2013 called “Critical agrarianism.” Here she documents another journey, the journey the agrarian tradition has taken from Locke, Jefferson, and Crevecoeur through Leopold, Berry, and Jackson. This vital thinking and writing and speaking has underpinned some of our best moments as an agricultural people. But



Carlisle notes that the 18th and 19th century starting point of the trip could be described with some accuracy as “old white men and property.” Our 20th and 21st century agrarian writers have often taken a broader perspective. But much work remains to diversify the faces at the table. And with the liberation of all people consciously before us as a goal, we know there are still pitfalls to steer around.

To help, Carlisle proposes a list of five of what she calls “back pocket tools,” or points to keep handy to ensure we are practicing not merely a nostalgic agrarianism, but a critical agrarianism. Her first such point is not to fall prey to reflexively blaming rural problems on the urban or urban problems on the rural – rather we need to look for opportunities to understand our social, economic, and environmental troubles as a shared struggle that unites us.

Point number two is to avoid confusing legitimate agrarian values, like producing a good crop or celebrating healthy forms of competition, with vices like productivism or cutthroat capitalism – these are inevitably corrosive to people, land, and community.

Her next point is a related acknowledgement that despite the healthy agrarian values of self-determination and self-discipline, to use Carlisle’s words now, a “just agrarian prosperity can never be achieved through individual efforts or self-sufficiency alone.” We will ultimately succeed or fail based on our ability to work together and to relate to one other as kinfolk.

Fourth, she calls for us to build up a consciousness about the intersection of race and ethnicity with problems affecting farmers and the agricultural system. African-American farm ownership declined 94 percent from 1901 to 2000. With all our concern about the decline of the family farm, did we all truly notice that?

Finally, we are likewise called to reconcile gender equity and gender roles with the agrarian scenes we picture in our mind’s eye. To truly achieve the liberation from tyranny that motivated Locke and Jefferson requires our boundaries of social consideration to far transcend theirs.

Carlisle aptly frames this part of her paper by reference to Will Allen, founder of Growing Power in Milwaukee. Like Wendell Berry, Allen draws on a border states farm upbringing to inform a small farming operation and a large public voice on agrarianism. Unlike Berry, Allen is African-American and does his farming and vision casting in an urban context. While much work remains, Will Allen’s elevation to national stature is an encouraging sign.

At this point, I want to do a calibration check. I am confident that at least one person attending Prairie Festival in recent years has thought at least once to him- or herself, what on Earth does any of this discussion of culture, social justice, and human relationships have to do with perennial grain crops? Developing grain and oilseed crops that are perennial and suitable to grow in biodiverse, ecologically intensified cropping systems is certainly the work The Land Institute is best known for. And it is certainly true that perennializing agriculture is the only way humans will survive in the long run as an organized society, and maybe even as a species. So ahead of all this business about gender, race, and seeing eye to eye, isn’t the priority to save the planet?

Let me propose several answers to that. One is that equality, liberation, and human kinship are absolute moral values in themselves. Saving our soil and atmosphere are grave existential priorities. But this does not dismiss us from caring for our sisters and brothers and acting on that care. We want not just to exist, but to deserve to exist.



*Dulcimer player Matt Kirby and fiddler Lauralyn Bodle, part of The Land Band for the Prairie Festival's barn dance. Land Institute President Fred Iutzi told festival-goers, "We want to be in a place where art, music, logic, rhetoric, sustainability theory, and agricultural praxis all meld together."*

A more prosaic answer is that in order to understand the necessity for perennial grain crops as part of a long-term vision for a sustainable agriculture, we need to understand the necessity for grain crops in general. That answer is ultimately wrapped up in a nuanced understanding of the right relationships of urban and rural people.

Maybe most importantly, let's consider the wherewithal to make good decisions. While perennial grain crops are a new technology, there are many other areas, such as basic principles of soil management, energy conservation and renewable energy, measuring and limiting emissions, etc., where we have known for decades to centuries exactly what we need to do to achieve higher sustainability – but we have not been able to muster ourselves to make change. We have not been able to make the decision and stick to it.

Wisdom and love are the two key attributes needed to make good decisions, in my book. And I want to propose that wisdom and love are quantitative traits of the soul, characteristics that are built up gradually over time, in the same manner that plant breeders build up quantitative traits like yield and productive lifespan in perennial crops. We need to cultivate these values in ourselves.

Alternately put, we need a new heart and a new spirit, a heart of stone replaced by a heart of flesh. A new brain might come in pretty handy too.

So I suggest that if we cannot access the clarity of each other's visions, if we cannot access the neighborliness of each other as neighbors, if we cannot form a mutual set of values around the building up of people, land, and community, then these perennial crops we are carefully breeding, these diverse cropping systems we are carefully assembling, this new paradigm for agricul-

ture we are carefully articulating – none of these things will save us. They won't have a chance to save us, because we won't have the wisdom or heart to put them to work.

I have to admit that in a sense, I am an agronomist at heart. I work at The Land Institute because I'm really excited about perennial grain crops. And I believe that there is no more important work in the world than the work our scientists are doing in Salina, Kansas, or that of our collaborators on five continents. There is no more important work than this. But there is work that is as important, and that work is getting right with one another. It all turns, as a certain hillside farmer from Kentucky once wrote, on affection.

One more story. Five or 10 years ago I drove the 14 miles down the county blacktop to Nauvoo, Illinois to buy a book from my friend Estel Neff. (I say friend, but I think he might be my fourth cousin twice removed, or something like that.) We got to talking, and before long Estel was telling me about the time he and his dad showed livestock at the 1948 Cook County fair, held at Soldier Field on the lakeshore in Chicago. Estel and his dad loaded up a semi-truck, which was quite a big deal in 1948, with dairy cows, and set off up the US highways to Chicago. At this point a lot of the story involved traffic in the era before freeways, punctuated with a hair-raising account of having to back up and turn around the truck and trailer on Lakeshore Drive, which was practically brand new at the time.

But eventually they arrived, found stalls, stanchions, and hay, and got the cows unloaded. Now, just because you take dairy cows on a 300-mile jaunt doesn't mean you get out of milking duty – the cows are still right on schedule. One of the milkings each day took place after fair hours had ended. The fair had hired off-duty Chicago police

officers for security after hours. The first evening Estel started milking, and before long he looked over his shoulder and saw he had picked up an attentive observer: one of the off-duty cops. The second evening the audience grew to three or four cops, and by the third evening there was basically no security on duty, just a gaggle of police officers standing around watching a farm kid milk a cow. The reason for this level of fascination, of course, is that these men had never seen a cow milked before.

Now, hear me well: this is not one of those stories about city people being out of touch with “where food comes from” that we rural folks are so often tempted to tell. For one thing, if this story was taking place just 10 or 20 years earlier than it did, there wouldn’t have been anything to see – as recently as then an arbitrary selection of blue-collar Chicago folks would very likely have been versed in milking.

But here is the more important reason this is not one of those stories: When Estel described the looks on those men’s faces that long-ago evening by Lake Michigan, the look on his own face was one of reverence. He knew, even at age 18, that he was part of a moment in which scripted roles and cultural bravado were stripped away, and there was no more city or downstate. For a moment there were simply people and animals and an act of sharing. That was a crossroads experience.

Our individual visions are incomplete. We need one another to complete the picture. It will not always be easy or convenient or comfortable to broaden our horizons in the way we must. But we have a lot to draw on. We can equip ourselves with Dick Thompson’s front pocket notebook and its accompanying challenge, “Be a good observer. Keep track of everything that happens.” And we can keep the tenets of a critical

agrarianism in our back pockets to remind us of what we seek: a future both perennial and just.

Let’s get to work.

## Recordings

Available on CD are Land Institute President Fred Iutzi’s talk and presentations of all the other Prairie Festival speakers this year.

- On young people and farming: Jill Isenbarger, leader of Stone Barns Center for Food and Agriculture; Amy Halloran, author of “The New Bread Basket”; and Amigo Bob Cantisano, organic farming adviser.
- Cathrine Sneed, founder of The Garden Project, which trains released inmates and young adults to grow food for local food pantries.
- The Land Institute’s Wes Jackson, with “Framework for the Future.”
- Taking a perennial grain to market, with institute researcher Lee DeHaan, farmer Jack Erisman, and Brianna Fiene, market manager for Plovgh, Inc.
- The state of ecosphere studies, with the institute’s Aubrey Streit Krug and Clarkson University philosopher Bill Vitek.
- Reports from the institute’s researchers.
- Brian Donahue, from Brandeis University, with “Envisioning the Future of Rural America.”
- Özlem Altıok and Wylie Harris on their lives as part-time farmers and full-time agrarians.
- Severine von Tscharner Fleming, who founded Greenhorns to recruit and support new farmers.

To order, call 785-823-5376. The web site, [landinstitute.org](http://landinstitute.org), will have videos of the talks.

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*Ila Hensley, of Kansas City, Kansas, pets the mother-daughter draft horse team of Lena, left, and Lucy at rest between wagon rides at The Land Institute's Prairie Festival in late September. The driver of the Belgians, retired pilot Scott Nichols, bought them from an Amish breeder and trainer in Missouri. Jacob*

*Miller visited Ohio to see the horse-farming Amish and the green technology efforts at nearby Oberlin College. His comparison is on page 6. For institute President Fred Iutzi's address on the Prairie Festival theme, bringing together urban agriculture and rural agrarianism, see page 20. Scott Bontz photo.*