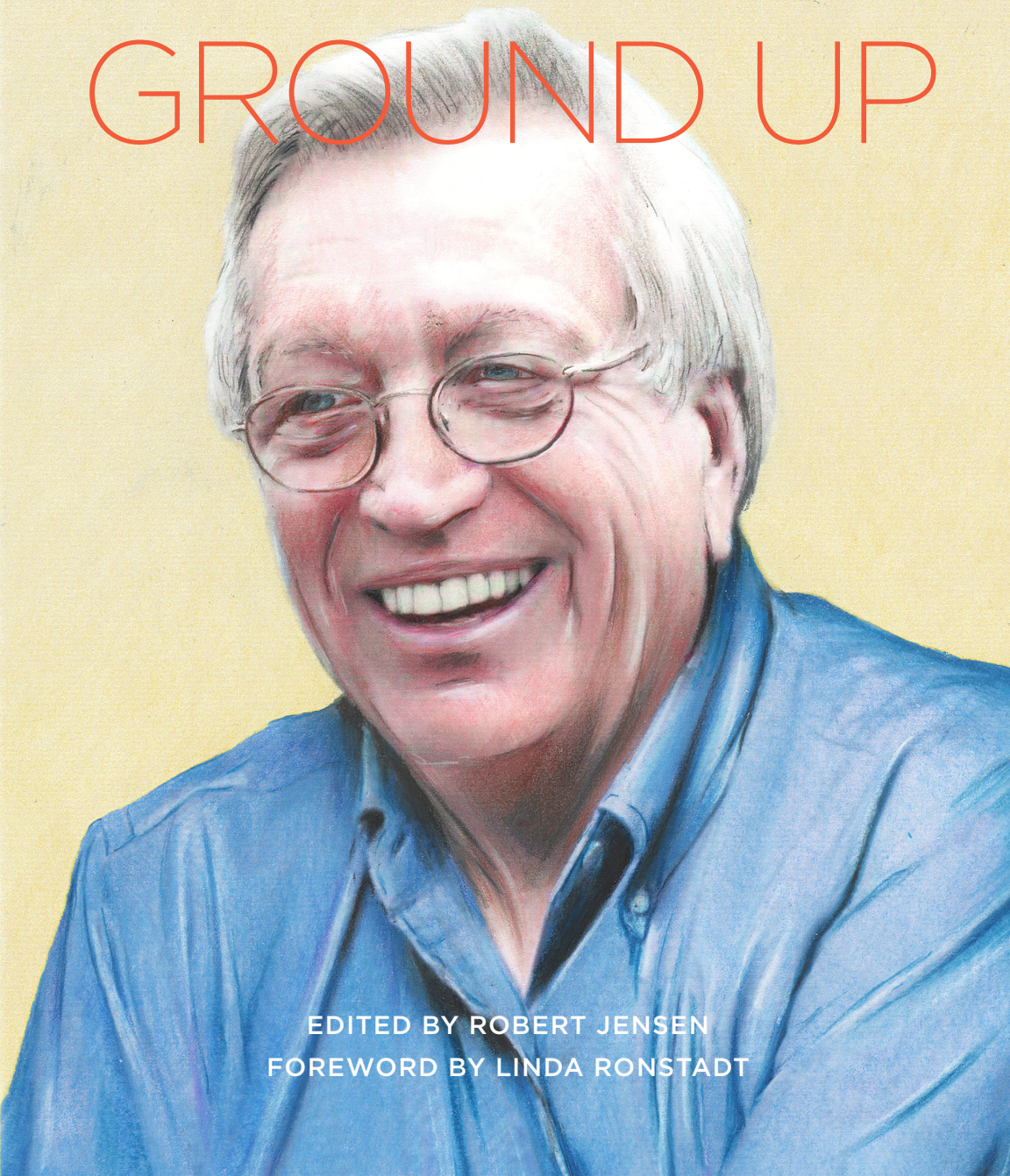


FROM THE

CONVERSATIONS WITH WES JACKSON

GROUND UP



EDITED BY ROBERT JENSEN  
FOREWORD BY LINDA RONSTADT



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# Foreword

*Asked in a 2007 interview whom she would like to see elected president, Linda Ronstadt suggested Wes Jackson and described the research efforts at The Land Institute as “the most important work there is in the country.” The presidential nomination wasn’t serious, of course, but Ronstadt’s endorsement of TLI’s work reflected her understanding of the centrality of agriculture to both social struggles and ecological crises. She counts soil erosion and water depletion and pollution as crucial problems facing our society. Without a shift to a more sustainable agriculture, Ronstadt said, we won’t be able to produce an adequate food supply much longer.*

*In addition to a storied music career—which includes 10 Grammys and two Lifetime Achievement Awards, 100 million records sold, and induction into the Rock and Roll Hall of Fame—Ronstadt has performed on stage and in film and television. Ronstadt is the author of the 2014 book *Simple Dreams: A Musical Memoir* and is working on a new book on the Sonoran Desert.*

*—Robert Jensen*

When I was growing up in Arizona, in the great Sonoran Desert, topsoil really mattered. We coaxed it into small plots for our squash, chilies, and beans. We nourished it with manure from our animals so it could provide ground cover and shade around our house. More than anything, we mourned it when a bulldozer would rip huge tears in the landscape, making way for a housing development or strip mall, turning our pristine and beautiful desert into a wasteland.

My parents came from generations of farmers and ranchers on both sides. They came from vastly different ecosystems—my mother’s side from soggy Michigan, my father’s from the fierce and unforgiving deserts of northern Mexico. When as children we would travel to visit grandparents in the East, we were astonished at how different not only their farming practices were, but the culture as a whole.

Wes Jackson has spent a lifetime dealing with ways to heal the soil and observing in the process how profoundly our culture has been, and continues to be, shaped by our agricultural practices. His blazing and original insights are on display here, as are his mischievous sense of humor and unrelenting search for solutions to the looming ecological catastrophe that threatens us all.

*—Linda Ronstadt*





# Introduction

Wes Jackson and I spent a good part of 2019–20 working on two books—Wes’s collection of stories titled *Hogs Are Up: Stories of the Land, with Digressions* and my *The Restless and Relentless Mind of Wes Jackson: Searching for Sustainability*, which summarizes Wes’s key ideas over the past half-century.

While writing and editing, we talked on the phone almost every day, enjoying both the discussion of ideas and the swapping of stories. When those manuscripts were finished and in the hands of the University Press of Kansas, we decided to capture those exchanges for broadcast as “Podcast from the Prairie.” Like our phone conversations, the first five episodes are a mix of analysis and narrative. Wes’s ideas about human affairs and the larger living world come alive in the stories he tells, starting with his early life on a Kansas farm, through his academic work and teaching career, to his four decades of leadership in the sustainable agriculture movement at The Land Institute.

Here’s how I started each episode:

“I’m Robert Jensen. I’ll be your guide into the restless and relentless mind of Wes Jackson. I first bumped into Wes’s work more than three decades ago, and his ideas have had a profound influence on my thinking about society and ecology. My conversations with Wes in this podcast will explore why that is and give you a chance to hear how his mind works, how Wes has cultivated the art of “seeing small and thinking big.” We’re going to have conversations about global issues that begin with Wes’s deep roots in the prairie, where he spent most of his life.”

Episode 1 explained Wes’s “Intellectual Grounding.” Episode 2, “Respecting Your Tools,” focused on the importance of approaching work responsibly. In Episode 3, Wes talked about why he is “Mad about Science.” In Episode 4, we discussed the role of religion in modern society and why Wes says there is “Methodism to My Madness.” Episode 5, titled “The Portrait of an Artist as an Old Man,” explored the creativity of humans and the ecosphere.

This book builds on those recordings. Because not everyone listens to podcasts, we wanted to create a record of those conversations in print. We’re fond of the books we wrote, and we think everyone should read those, too. But there is something about the spontaneity of conversation that can go beyond the analytical and make connections we hadn’t considered while writing. The transcripts of the podcasts provided a starting point, from which we’ve done

significant revision. In addition to editing for clarity and concision, in some places we have expanded on the ideas and made connections that we had missed in the flow of conversation. We've also included photographs that we hope will bring to life the Kansas landscapes and work of The Land Institute, both of which are so much a part of Wes's life and thought.

The final two episodes of the podcast's first season focused on those two books—Episode 6 on *Hogs Are Up: Stories of the Land, with Digressions* and Episode 7 on *The Restless and Relentless Mind of Wes Jackson: Searching for Sustainability*—and those conversations are not included here. But all seven episodes continue to be available online for listening.

“Podcast from the Prairie” can be found on SoundCloud, Apple Podcasts, Google Podcasts, Spotify, Stitcher, TuneIn, Castbox, Blubrry, and Overcast.  
—Robert Jensen

*“Podcast from the Prairie,” a project of Perennial Films in collaboration with the New Perennials Project and The Land Institute, was produced by Michael Johnson, Bob Sly, and Bill Vitek, with music and audio production by Marcelo Radulovich of Titicacaman Studios. More information at [podcastfromtheprairie.com](http://podcastfromtheprairie.com).*

## CONVERSATION 1

# Intellectual Grounding

**Robert Jensen:** I want to start with the key influences on your thinking, on how this restless and relentless mind of yours got formed. A blunt, and perhaps embarrassing, question to begin. You won a MacArthur Fellowship in 1992, which is commonly referred to as the “genius grant.” Mr. Jackson, are you now, or have you ever been, a genius?

**Wes Jackson:** [laughing] No. I have plenty of evidence that I am not a genius. For instance, I’ve had some statistics courses—you’ve got to have statistics if you’re going to be a geneticist—but I can’t derive equations. I can do what you might call cookbook statistics. Show me the equation and I’ll comply. Now, here’s a digression right off the bat. The story goes that the founder of modern statistics, Sir Ronald Fisher, apparently could just write down an equation and know it was right. Then he would get graduate students to derive them. He gave one equation to a student and told him to derive it, and the student kept coming back. “Sir Ronald, this is not going to work.” Sir Ronald said, “Yes, it will.” After months, maybe even a year, the student finally got it. Now, Sir Ronald probably was a genius. Those people are different from us. There are certain musicians who can play the piano just as soon as they put their fingers on it. People who can think fast have a sort of genius. I can’t think fast. I’m a ponderer. I’m a slow reader. I’m also beginning to think I have attention deficit disorder and always have. Anybody who thinks I’m a genius doesn’t know enough about geniushood.

**RJ:** Let’s go back to your early schooling. You grew up in North Topeka, Kansas, and went to public schools. What kind of student were you in grade school, junior high, high school?

**WJ:** I went to a two-room country school where the school year was only eight months long because this was rural America and students were needed for farm labor during planting and harvest. We had some good teachers and some not so good. I had a very good teacher for the seventh and eighth grades, and so when I

went to high school, man, I could hardly be stopped. But my sophomore, junior, and senior years were terrible. It wasn't until about halfway through my junior year in college that I was able to overcome all that. I had Ds. I had a lot of Cs and Bs, and I had As here and there. In college, I had a D in botany, and so I went to the prof and explained that I couldn't have a D in my major field, which was biology. He said, "Well, you got one." Then he said he would give me six weeks to study and give me another exam. "If you get an A on that, why then I'll give you a C," he said. I ended up getting a C for the course, and that same professor later wrote a glowing recommendation for me to get into graduate school in botany at the University of Kansas. So, it's been sort of all over the place. I never checked, but I was probably about right in the middle of my class in both high school and college. My best experiences were in graduate school, because by that time I had learned what I was really interested in.

**RJ:** So, you've disavowed the genius label. You weren't a child prodigy. You were an uneven student. But when something caught your fancy, you would dig in.

**WJ:** I guess one could say I was sort of in business for myself, and so I wasn't worrying about grades. I either did it or didn't, according to what was satisfying.

**RJ:** You did well enough to graduate from high school and get a biology degree from Kansas Wesleyan University. You did a master's degree at the University of Kansas in botany. And then in the early 1960s, when genetics was really taking off as a field, you started a Ph.D. in genetics. What led you to genetics?

**WJ:** I think if you grow up on a farm, you can't fail to be interested in heredity. You see the breeding of your cows or your hogs, and you knew the parents of those animals. You see all this diversity around you. Genetics just came naturally for me, probably because of the experience of growing up on a farm.

**RJ:** That's an important point. We learn a lot about the world in places other than the classroom. What did you learn about the world on a farm, being born in 1936 during the Depression and growing up before the large-scale mechanization of the post-World War II period? I don't mean specific skills you learned, but more about an orientation to the world and how to live in the world.

**WJ:** On the farm, you have work to do that is directly connected to what you eat, as well as what you sell. You didn't waste things. You didn't throw things out. If you bought something in a container with a lid, that container would go to the shop to hold nails or screws. I remember there was a man who came around with a little scale in the back of his truck, and he wanted to know if you had any rags. My mother would pull out some rags that were too tattered to put together for

any use. He would put those on the scale and say, “Well, that’ll be about a dime.” The rags went to him and we got the dime. I don’t know anybody today who goes around buying rags.

**RJ:** You’ve identified two things that are relevant from your farm experience. You were up close with the nonhuman world, with nature. You saw animals, you saw reproduction, and it made you curious about how the world works. And you also grew up in the Great Depression, and so that frugality shaped the way you lived.

**WJ:** What we used came mostly out of plant or animal material, like cotton, or some part of a hide. But now we have the chemical industry turning fossil fuel into cloth, and it’s a whole different world. In the world I lived in, you were caring for these products of the land. Now we have the products of the fossil fuels, and we’ve got more clothing around than we know what to do with. We’ve lost an awareness of source. Those fossil fuels come from somewhere, of course, from plants and animals that are millions and millions of years old. But we tend not to think about that.

**RJ:** In the introduction, I mentioned this phrase from a 2012 article about writing history by the *New Yorker’s* Adam Gopnik, “the ability to see small and think big,” which you’ve cited often. Gopnik says that good historical work cultivates the ability to see small—that is, pay attention to details—but to think big, in global terms with long time frames. It seems to me that you do that often. What was it about that phrase that grabbed your attention?

**WJ:** Anybody working in science ought to be seeing small and thinking big all the time. My friend Angus Wright, a Latin American historian, says we should always be toggling between the two levels. Focus in close to understand the details, he says, and then step back and look at the big picture. Some people only want to look at the small scale. Some people want to look only at the big and miss the small. I think if we’re left alone, we’re going to see both.

**RJ:** How well do universities today help people see big?

**WJ:** Like a lot of people, I worry about the emphasis on specialization. For years, the university has been pursuing an industrial ideal that focuses on production and efficiency. We got a knowledge factory that then got top-heavy. My late friend Stan Rowe said the university had become a “know-how” institution, when it ought to be a “know-why” institution. That has a lot to do with people being encouraged to become the right kind of expert in order to get a job. The culture has given high standing to the so-called hard-headed realist who just wants to know what something is going to mean in some direct economic terms.

**RJ:** Over the years you've said that we need to "drive knowledge out of its categories." Is that what you were referring to, the problem of hyper-specialization in the modern university? What's wrong with that specialization? After all, it has produced incredibly detailed knowledge about the natural world.

**WJ:** I think probably Wendell Berry is the one who gave me that line, which came as the result of us thinking about the university and the consequences of specialization that doesn't come with a more expansive framework. The problem comes when people specialize without asking how all that knowledge relates to a key question: "What does it mean to be a human being?" There's nothing wrong with learning the details, say, of how the atoms operate or what happened in a particular battle in the Civil War. But when categories of knowledge get too narrow, they have a way of getting in the way of the larger social, cultural, political questions. That's too bad, because when people are given a chance to think deeply about the human condition and where we seem to be headed, there generally is an openness to new ideas. People realize they need to be thinking both small and large. Then you can ask, what are the criteria for something being important?

**RJ:** Let's go back to the moment you decided to start The Land Institute, back in 1976. You were a tenured professor at California State University, Sacramento, a full professor, which means you had pretty much guaranteed lifetime employment. You and your wife at the time, Dana Jackson, with three small children, decided to start The Land in Salina, Kansas, with little money and an idea for an alternative school that was not very well developed. What were you thinking? Why would you give up that security for a hardscrabble existence in central Kansas with no guarantees?

**WJ:** Teaching was my calling, and I wasn't satisfied with the universities. I noticed that students were too often given to what I have called "minimal compliance," when what I wanted out of them was "spontaneous elaboration." So, what kind of an institution can move beyond minimal compliance? What will bring on the spontaneous elaboration? I thought that we might spend about half our time reading, thinking, and discussing, and about half our time in hands-on learning. I think about that opposable thumb and its role in building the brain—our ability to manipulate objects and to think. I believe the thumb and the brain are one, and if we don't take the opportunity to use our bodies, then we are limited. I wanted a school like that. I had been impressed by Deep Springs College [one of the "work colleges" that combine study and labor] over there near the California-Nevada line. I think that the development of a healthy mind requires both study and work.

**RJ:** The Land Institute started as an alternative school, but quickly became known as a research institution, focused on what you call Natural Systems Agriculture—

perennial grains grown in polycultures. Most of our grain crops, which are the bulk of our diets, are annual plants grown in monocultures, which has led to soil erosion and soil degradation. That's a big idea, and probably what you are most well known for. But you're also an eclectic, even idiosyncratic, thinker. You talk often about how your ideas have developed in conversation with key friends. In this conversation, you've already mentioned several people: Angus Wright, one of your teaching colleagues in California; Stan Rowe, an ecologist you learned a lot from; the writer Wendell Berry. It reminds me of how you often say, "I don't know what I think until I talk to my friends." What's so important about that interaction? Is it literally true, that you really don't know what you think until you talk to your friends?

**WJ:** My late brother Elmer said to me once, "You're always quoting somebody else—don't you have a mind of your own." The fact of the matter is that I don't. No one really does, and if we did, it would be a real mess. It's kind of a big old soup, our thoughts mixed together. If my friends have an idea that is different than what I've been thinking, I want to take that seriously. You choose as friends the people you can rely on. I rely on some people who are just about the political opposite of me, and I don't agree with everything they say. But I know that there's a certain authenticity. They may have very good reasons for what they believe, and I want to know about that. I may get in some pretty good arguments with them, but many times those arguments will have been worthwhile, though not always.

**RJ:** You have had the pleasure of being around some of the experts in fields you care about. You've met Hans Jenny, one of the founders of the discipline of soil science in the United States. You also interact with people in Salina, whether it's farmers or folks at the hardware store, and you seem just as interested in what's on their minds as you might be about a well-known professor. What do you get from those day-to-day interactions?

**WJ:** There's a certain amount of warmth and friendship, of course, even if the only time I see that person is when I go to that store. When you run into authenticity, into someone who is serious, you can learn something. One thing you learn is that everyone is dealing with problems. I remember thinking about that when I taught high school for two years. When I started, I was fresh with a master's degree in botany from the University of Kansas, and I was frustrated with these kids and was always talking about what they couldn't seem to learn. Across the hall from me was the basketball coach, who had been there 12 years or so. One day he said to me, "Wes, you do not know what it was like when they walked out of their homes this morning. You do not know what problems they and their family members are going through. Ease up." Well, I did, and it was one

of the best pieces of advice I've had. I can't imagine how I was so full of myself at the time. I thought about that many years later during a conversation with Gary Snyder, the poet, when I still had too much sense of oughtness in me, which was fueling some complaint I had about someone. Gary said, "I think everybody's doing about as good as they can."

Now, there are problems if you take that too far, but it's worth thinking about—how the structure of a society is in some way part of what might be a deficiency in any one of us. So, when I'm in that hardware store, when I'm getting a piece of equipment for my tractor, and I talk with people whose worldview I disagree with, maybe even find to be dangerous, it's important to think about where it comes from. What has that person been living with? There are a lot of times that when I get to know somebody and learn about their path, I'm surprised by how hard it has been for them.

**RJ:** In this conversation, you've used the term authenticity two or three times. What does that term mean to you?

**WJ:** Let's take my plumber. I had to move my water well back 25 feet because it has to be at least 50 feet away from the river according to the law. So, I needed to get a new well dug and casing put down, and so on. The plumber knows his work and knows there are no shortcuts. He doesn't try to do the job on the cheap, but he is interested in holding the costs for me to a reasonable level. He's not going to dig down where he might just touch water. He'll put it down to where there's three feet of water over the intake. I can trust him because he has learned his trade, and he knows what his work is worth. He's authentic. Over the years I've been saying that the people who work out of pickups and panel trucks, the tradespeople, really are holding the world together. The plumber, the carpenter, the folks who know how to fix things, to keep things going. There's something in them that I find trustable. They're not going to lie to me when it comes to their craft because they do not want to have to be called back because they did a poor job.

**RJ:** You've talked with the same kind of respect for scientists. Someone like Hans Jenny had mastered the craft of soil science, of figuring out soils. As far as I can tell, you don't see a big distinction between somebody doing work in a scientific laboratory and somebody doing work on a plumbing fixture. The key is the respect for the craft and a willingness to do work well. Is that a fair summary?

**WJ:** Yes. It's a matter of taking seriously their calling. I would say that taking our work seriously brings out an important part of our humanity. It's part of an authentic life.

**RJ:** Do you think your attitude has something to do with growing up on the



farm? You watched older brothers and sisters and your parents take their work seriously, on the farm and in the household. Is that where you picked up this respect for people who do their work well?

**WJ:** Yes, that's part of it for sure. For instance, I've hoed a lot of bindweed, which is an awful weed with roots that go deep. If you attack certain weeds with your hoe and you leave some of that root, then it's going to come back. You really have to stay after bindweed. And so you will find yourself bending over, grabbing that weed close to the ground, and you pull it up, shake it, and you throw it behind you. Now, one of my great deficiencies is that I talk too much, and I used to talk too much during hoeing, and that means I would miss some of those weeds. When a brother dropped behind me to get a weed that I missed, I realized that I had been scolded without a word said. It was clear I had missed a weed, and it also was clear to me that it was because I had been talking.

**RJ:** What were you usually talking about?

**WJ:** I can remember after World War II, as some of the folks came home, I was so curious about the war. Two of my brothers had been in the Pacific, but I could never get them to really talk about it. I will never forget one man who worked with us and had been in Germany, and I asked him something like, "Did you ever capture any German prisoners?" He said yes, once, maybe 10 or 12 of them. I asked what happened. "Well, you know, we told them to run and then we shot 'em." They shot the prisoners in the back. So, I would have that on my mind. Something like that would change something in me, and I would want to think about it.

But at the same time, the weeds have to come out. You stop at the end of that row and touch up your hoe to sharpen it and get back to work. There's work you dare not neglect because it would just mean more work later when the weeds come back faster. I always thought that there was something wonderfully interesting that needed to be talked about, but you can be overly loquacious as a farmer, or a farmhand. I don't know. There's more to be said about all that, but I've already talked too much.

**RJ:** It sounds like you've always found it hard to keep still, but you did learn the importance of attention to detail, not only in work on the farm but also later in your academic work. Yet you never fully became an academic, leaving a university job to come back to the land. You have talked about how you still like working with your hands. Even these days, at age 84 as we record this, you're still up on your tractor, out fixing things on the property, still working in your shop. Is that a conscious choice, to make sure you're always using your hands?

**WJ:** It's just what I want to do. I don't want to go to the YMCA and lift weights. I don't want to jog. But I'm happy to walk all over the place and be picking up things and lifting things and so on. One of the things I notice when I am writing at my desk for too long at one time is that I've got to get out, go do something that calls me. Right now, I'm cleaning up in the little red barn. There's plenty of work there. It needed to be done and it's good for my body. In the Upper Paleolithic, we didn't go around lifting weights or dropping down to do push-ups. We lived in a world that required us to use our bodies and our minds. Now, especially if we have a job that doesn't call for much use of the body, we have to do all sorts of artificial things to compensate. I just don't like that compensation routine. Some people like that, and I'm not criticizing them. I'm just more amazed that they have the kind of discipline to do it. I've tried to jog, but I would much rather take a long walk. And I would rather work up a sweat doing something that I consider real work.

**RJ:** Your mention of long walks got me thinking about the role of landscapes in your life. You talk about the prairie with a lot of affection. When you're walking a piece of prairie, what does that do to you? What are you looking for and looking at?

**WJ:** Oh boy. A lot of things, and I've wondered how much of it is a result of knowing the history of the prairie versus there being something intrinsic about it. There is a vegetative structure, a diversity of species out there. Beautiful flowering forbs, and the big bluestem, the little bluestem, the Indiangrass, the switchgrass, this beautiful ensemble. In Kansas, at least, that is a vegetative structure that's been there through all interglacial periods of the Pleistocene, about 1.8 million years. And there are the insects and the burrowing creatures that come up to loosen the soil. I had to learn about a lot of that history when I was in college. In high school or grade school, I didn't know anything about a Pleistocene.

**RJ:** What about the appreciation of a landscape without the detailed knowledge?

**WJ:** I've wondered about that. I went to South Dakota the summer I turned 16, worked on a ranch of my mother's cousin and her husband, Ina and Andrew Swan. And, boy, was that different than the hoeing. They had a hundred head of horses that roamed freely, and there were the prairie dogs, dens of rattlesnakes, and the original vegetative structure. There were farm ponds that they had bulldozed for the cattle to water, and they had stocked them with fish. It was a paradise. But I didn't know the name of a single plant, and at that time I didn't care. I'm amazed at how I allowed myself to be so ignorant. There is something that gets added once we know the names and learn the history, something that increases the voltage of interest, at least for me. Maybe that right there justifies education.

**RJ:** This reminds me of a trip we took, when you drove me around Kansas so that I could see your world. We moved out of farm country into the Flint Hills, which is mostly ranch land. And in the Flint Hills you couldn't stop talking about the beauty of that landscape, which you had seen hundreds, maybe thousands, of times before that day. But coming upon them one more time, you still were taken by the beauty, and I commented on that. You borrowed a thought from Thoreau, that the world will always be more beautiful than useful. You're a scientist, you deal with the very practical questions about agriculture, and yet this theme of beauty comes back so often in your life. Why is that?

**WJ:** Lots of people think first in terms of monetary value, but we can't escape beauty. Let's say a native prairie is plowed to create a grain farm. Some people count that as improving the land, meaning it is more economically valuable. The beauty of the unplowed prairie is gone, but I will still find the farm beautiful. Now, let's say someone puts up a new housing subdivision on that farmland, increasing the value of an acre again. But even that doesn't destroy all beauty. The beauty of the farm is gone, but could I find beauty in a subdivision that had formerly been prairie? Well, there are going to be sidewalks, and there are going to be cracks in the sidewalks, and there will be grass coming through, and I think that is beautiful. There will be insects, and if you pay attention to the insect, you will see something beautiful. Or think about the geology. They will cut into the ground to make a road or dig a basement, and that cut might reveal geologic layers. At one point there was an ancient sea covering Kansas. And in the limestone, you may see some fossils from that sea, and there's beauty there, too.

**RJ:** So, no matter how hard it seems that people sometimes try to destroy landscapes, we cannot destroy the beauty of the world?

**WJ:** It's hard to escape from beauty if you're ready to observe the biotic activity and geologic history of the world. I've heard that prisoners who have a window, even if they all they can see is the same elm tree day after day, will say that's what keeps them sane, and I don't doubt it. Beauty is essential, and I'm saying that, even with the desecration of the ecosphere going on right now, it's still there.

**RJ:** So, our appreciation of that beauty is tied up in how we perceive the world. We can learn to see beauty not only in pristine landscapes or art museums but all around us.

**WJ:** That's right. You can see beauty on the basketball court. I don't watch much basketball myself, but I see it there, watching the human body that is so in command of itself. I was a track coach, and I will see it in a runner. I can even see beauty in those people who jog. They're only thinking about getting their

exercise, getting their two miles in, or whatever, but it's great to watch. You're seeing something that comes right out of our past, out of the Upper Paleolithic, how we humans run. Now, there are some runners who are not as beautiful as others. Every now and then you see someone running a race and you hope they drop out. There's just something about some bodies that doesn't lend itself to running. But almost everyone looks graceful running, even some who are otherwise clumsy. Jim Ryun was the first high school student to break the four-minute mile, in Wichita. He was a beautiful runner, but I've watched him walk through a cafeteria, and I was afraid he was going to drop his tray. We're getting a little off the subject here about beauty, but I'm just saying that there's so much to celebrate beyond mere utility.

**RJ:** I have one last question. You once said to me that you really don't fit in anywhere. You grew up in a farm community and did a lot of farm work as a child, but you're not really a farmer and never made a living as a farmer. You have a Ph.D. in genetics and you were a professor, but you're not really at home in academic settings. You ran The Land Institute, but you were hardly a typical nonprofit executive director. Is it fair to say that you're a misfit? And if you are, has that been a good thing? Has it been an advantage?

**WJ:** I wouldn't want to be a charlatan, which is to be a great pretender to knowledge. And I really don't like the idea that I am something of a dilettante, which implies not going too deep into any one subject. But if being a dilettante is what's necessary in order to have the great run that I have had in this life, then so be it. I've struggled to understand the meaning of the world and have had great friends to help me. The world presents so much for us to engage with that I find myself not getting too embedded in any one thing when there is all this diversity. So, I don't know how to answer that. I do know that I was born into a good family and that helped.

**RJ:** What makes a good family?

**WJ:** Well, I never heard my father say he loved me, and I never heard my mother say that until she was about to die. I never had a sibling, except maybe a sister once, pretty close to the end of her life, say they loved me. But I knew I was loved and I felt loved. They also weren't overly impressed with me being a college person or being a professor. About the most that they would say is, "I think Sharon's doing all right." [Wes's full name is Sharon Wesley Jackson, and he went by Sharon until college.] My parents didn't come to my graduation from college. They did happen to be there for my master's degree, but they left just as soon as I got off the stage because they had to get back home. It was 30 miles away, and there was work to do the next morning. My father was born in 1886, my

mother in 1894, and all of their parents were born before the Civil War. They came out of a world that was spare, and that carried over into the mid-1930s and the Depression, and then until their deaths. For a lot of the relatives and the neighbors, the world that unfolded with all this cheap energy, all the highly dense carbon, was a different world than they had known. I think of Milton's line, "She, good Cateress, means her provision only to the good that live according to her sober laws and holy dictate of spare Temperance." So, the good cateress is nature, and in farming you get your provision if you operate according to the holy dictate of spare temperance. That was the world that I came out of. A lot of my activity since leaving home would have to be seen in the category of blasphemy of sorts, because I have not always lived according to the spare temperance, not even come close to the standards of that world. And that's something to worry about.

## CONVERSATION 2

# Respecting Your Tools

**Robert Jensen:** In our first conversation, we looked back on some of the key influences on your thinking. Now we're going to focus on specific jobs you've had and what you learned from them. I'll start by remembering a teacher of mine, who once responded to a student's question about career planning by saying, "You don't need a career plan. You need a job. A career is just the story you tell about all the jobs you've had once you get old." So, with a certain skepticism in regard to talking about careers, let's instead talk about the jobs you've held. You grew up on a farm and you worked on farms and a ranch in the 1940s and '50s. Did you ever want to be a farmer or a rancher yourself?

**Wes Jackson:** I thought ranch life, once. I had spent time on that ranch in South Dakota near White River. That was a good life. Lots of space, beautiful prairie—that seemed idyllic. Farming I liked well enough, especially if the scale was sufficiently small, and where I grew up in the Kansas River Valley near Topeka, the farming was small scale. I don't know that I would like farming a square mile of wheat or a square mile of corn or a square mile of whatever. But farming is wonderful when you have lots of diversity with the crops and with the animals.

**RJ:** How many different crops were grown on the farm you grew up on?

**WJ:** It would be around 25 or so, depending on the year. Some would call it a truck farm, but it was more than that. We had alfalfa, pasture, draft animals—at least up until the mid-part of World War II. It was the most diverse place I've ever seen. I haven't seen any farm since as diverse as the one I grew up on.

**RJ:** When you drive by a farm that is now thousands of acres of nothing but wheat or soybeans or corn, how do you feel when you look at fields like that?

**WJ:** Well, I understand why some want that sort of scale, trying to make a living. But I would want to move from one thing to another, instead of driving a tractor

for a mile straight and then turning around with your disc or your plow or your wheat drill. The big farm with the big equipment does not appeal to me. My family's farm at one point had 10, 12, maybe as many as 15 acres of strawberries, which was probably too many strawberries, but we also had the asparagus and the watermelons and the sweet potatoes and the cantaloupes, and so on. It was an operation in which you could go from one crop to another. But there was a lot of work there, and I did prefer life on that ranch. There, you sat on a horse, and you counted the cattle, and you saw to it that the fences were up. There were fishing poles kept beside the dams, and if you wanted to stop and fish for bullheads, you could do it. It was very different than being on the end of a hoe handle. But being on the hoe handle taught me some things that I would not have been learned on the ranch, such as the nature of the weeds that come into the system and how you have to remove them if you're going to get a decent crop.

**RJ:** It sounds like you're saying that diversity is just more interesting and the smaller scale allows you to, in a sense, learn more about the land. Is that a fair summary?

**WJ:** I think so. A watermelon is not a strawberry, and an alfalfa field is not a pasture, and a cornfield is not a wheat field. These different crops have to be managed in different ways. Harvesting your alfalfa, you hope to get maybe five cuttings a year, depending on the variety. I remember one, the old Kansas Common, that was a reliable kind of alfalfa field. You mowed it and then you raked it. And then if you got a rain, you had to rake it again. You had to be careful that the hay was good and dry. Then you would bale it, and those bales were 60 pounds and could weigh as much as 70 pounds. The bales had to be put on a wagon and taken to the barn, and then into the loft and stacked. You had to be paying attention to details. That was a lot of work, to get that food for the animals, for the milk cows and the draft animals needed to keep that farm going. But there was a certain amount of satisfaction in getting the hay in the barn.

That's one of my favorite memories, bringing the hay in from the field. The horses that brought it in also were used to raise the bales up in the barn through a big old door. This was all done with creaturely power, the horse power, and that was fascinating to me. Eventually, with industrialization coming to the farm, then we were doing more of that with the tractor, and it didn't have quite the same feel to it. Back then I was in the age group that did a lot of the stacking of the hay in the barn. It was hard work, and it was usually hot in that barn, but you felt alive. That's looking back on it now, of course. At the time I wasn't standing around thinking, "I'm alive." It's just in retrospect.

**RJ:** All that work took a lot of people, and today it can be done by one person on a tractor with the associated machinery, which some would say is more efficient.

How would you respond to the claim that the current highly mechanized, fossil-fuel-driven version of farming is more efficient?

**WJ:** First, I would ask for a definition of efficiency, and that could start an important conversation. What people usually mean by efficiency is saving time, but they're not paying attention to how much highly dense carbon, the fossil fuel, goes into making that so-called efficiency. So, "efficient" is usually related to speed and is discounting the future by not paying attention to the energy cost. That tractor may turn out to be the least efficient way to do things if you do full-cost accounting, if you go back to mining the ore in the Minnesota Iron Range to build the tractor or the combine, and the processing in one factory and the assembly in another. By the time we add all that up, we have a big investment of time and energy. In other words, people are claiming efficiency by way of the industrial mind. They're not looking at all of the embodied energy and time that goes into an operation.

**RJ:** You mentioned the industrial system and the industrial mind. You've had experience there, too. One of your first jobs off the farm was as a welder. Why did you go after a welding job, and were you any good at it?

**WJ:** I had taken vocational ag courses because I thought I was going to be a farmer, like a lot of the boys in the area, because our parents were farmers. And when you're in a vo-ag shop, you learn to weld. And the summer before we were seniors in high school, a friend and I went to work welding at Topeka Foundry and Iron Works. How good a welder was I? I was good enough to have that job, but I wasn't anything close to being a pipeline welder. That requires real skill because you have to run that bead [the metal that is heated to seal the joint being welded] all the way around a circle, and your temperatures have to be right. You have to have real skill to weld pipeline. That was the gold standard. I was considered a journeyman welder, and the next year I went to Henry Manufacturing, and that's when I became a union welder. That was interesting because I had come from a family culture, a rural culture, that said lots of bad things about unions. Now there I was a union man and getting good wages.

**RJ:** No matter what the job, you seem to have respect for people who do a job well, for people who respect their tools. Did that come from the farm and the welding shops?

**WJ:** If you've got a hoe, you want that hoe to be working for you, and so you don't leave the hoe out to rust, or a shovel or plow. With a plow, you clean the dirt off and then put some oil or grease on it so that it doesn't rust. Now, of course, that rust would come off with several passes through a field, but you want that plow



to be slick. I've noticed that the more affluent we get, the more careless we tend to get with our tools. But some people, no matter what, they're going to keep their tools up to snuff. That's just the way they are.

**RJ:** Your friend Wendell Berry wrote a story called “The Art of Loading Brush” about that attention to detail. There's an art to a task as simple as loading brush that's been cut by the side of the road, loading it on a wagon to haul away. There's a right way and a wrong way to do that. Is that the kind of training you got growing up?

**WJ:** If you're going to be loading a lot of brush and you want to make only one trip to where the brush is going to be thrown off, there is an art to it, to make sure it's all going to hang on there. And it is a kind of an aesthetic experience, to see that it looks good, that it looks right. It requires some knowledge about the nature of the load. That was especially true in the time of the draft animal. They didn't move as fast as a tractor would, and you also don't want to wear out your draft animals. I have friends in Holmes County, Ohio, David and Elsie Kline and their kids and grandkids. I was riding on a wagon with David, and the team was going along, and all of a sudden, the team just stopped. We were about to go up a rather small incline that I hadn't even noticed, and David was resting the team. Now, if we had the tractor, we wouldn't stop at that spot. That is an attention to detail that comes from the creaturely worldview.

**RJ:** You have talked about returning to a sunshine economy—one that uses a lot more human and animal labor, converting energy from the sun, through food, into muscle power, rather than dependent on fossil fuels. That kind of attention to detail will become much more important. Is the human future going to be a sunshine future?

**WJ:** I hope so. We've replaced people with machines out of an idea of efficiency, without ever thinking about what we mean by efficiency. A truly efficient use of resources is going to require an emphasis on a sufficiency of people rather than a sufficiency of capital and all that highly dense carbon.

**RJ:** You have spoken often about the need to repopulate the countryside in a sunshine future, that there is an appropriate eyes-to-acres ratio, the number of people needed to watch over a particular place of land. When you went off to college at Kansas Wesleyan University in Salina, were you thinking about any of these questions?

**WJ:** I didn't think too much about my future back then. I was 18, and Wesleyan was a place to go play football and run track and see what all this college stuff was

about. I didn't even know what to major in. When I got there, somebody asked me what my major was, and I said business administration. I don't know why I said that. I suppose I thought it sounded sensible. But once I took the introductory biology course, I knew biology was going to be my major.

**RJ:** So, you were a biology major, you graduated from Kansas Wesleyan, and you went on to the University of Kansas to do a master's degree in botany, coming out of a family in which your parents had not been to college. Why graduate school?

**WJ:** I went to graduate school because I couldn't find a job. I got married during my senior year in college. My wife had another year at Kansas Wesleyan, and I wanted to get a teaching/coaching job nearby, but I couldn't find one. And so my biology prof—the one who taught the botany course that I had a D in, but he raised it to a C after giving me another exam—suggested that I go to graduate school at the University of Kansas in botany. So, I applied, got accepted, and my wife was able to finish her senior year at KU. We lived in a 6-by-18-foot trailer that was a tight little place. I had an assistantship in the biology department, working mostly with people in the labs.

**RJ:** Well, some things never change. That's still a reason a lot of people go to graduate school, because they can't find a job. So, you finished your master's in botany at the University of Kansas, and then you find a job teaching high school biology and coaching track and football.

**WJ:** I spent two years at Olathe High School near Kansas City, and it was hard work. Five classes a day and the coaching. Then Kansas Wesleyan invited me back to fill in for a prof who was going on leave. I taught and helped with football and coached track. Then I realized that what I wanted was graduate work in genetics, and that's how I ended up at North Carolina State in Raleigh.

**RJ:** So now this farm kid from just outside Topeka has earned a Ph.D. in genetics. It's the early 1960s, with a lot of emphasis on science in the United States, part of the Cold War competition with the Soviets. You had a lot of options, and you applied for jobs at big research universities. But you ended up coming back to Salina, back to Kansas Wesleyan University, and settling into a teaching job there again. What made you decide that you preferred a small liberal arts college in a rural area to a big university?

**WJ:** Like a lot of decisions I made, I'm not really sure. I had in my hand a contract for a teaching/research job at the University of Tennessee. I liked all those mountains well enough, and the diversity of botanical life there. But I'm something of a homing pigeon. I was more of a prairie-billy than a hillbilly,

and I guess that I wanted back to that prairie landscape. And there was family back there, too. All I know is that I was not interested in just doing research and throwing the results to the winds of science. I was strongly interested in genetics, but I must not have seen myself as one of those big-university research scientists. This is where the whole thing becomes a mystery, even to me. I don't know why I did what I did. People would ask me why I turned down that job at the University of Tennessee, and I couldn't give them any decent sort of answer.

**RJ:** You're back in Salina, back at Kansas Wesleyan, you and your wife have two kids and then a third. You settle in. But then California State University at Sacramento offered you a job, and you move from biology into environmental studies. What was the attraction of California? Was it the ability to start a new program?

**WJ:** I was teaching at Kansas Wesleyan from 1967 to '71. Remember what those times, the sixties, were like. I had students saying they wanted more relevance. Relevance was a big term back then. And so I promised to weave into the course more relevance. I started reading, and I clipped and I tore and I photocopied and I filed. And I came up with a reader for a course, and that became the book *Man and the Environment*. I always say there were only two things wrong with that title. One was "man" instead of "people," but at the time that was common. The other was "and the environment" instead of "in ecosystems" or "as part of the ecosphere," which I would use now. Talking about humans as separate from the environment is a mistake.

**RJ:** Were your ideas changing in this period? Were you changing?

**WJ:** When you're a graduate student, you're busy getting your research done and taking your coursework and satisfying a committee. You're learning a lot, and that work on the Ph.D. was the most wonderful educational experience that I had. During that period, I also had gone to hear Martin Luther King Jr. give a talk on campus, and I had been to a rally of the Klan, not as a supporter but because I was curious. I was watching all the conflict, and it became clear to me that you can't separate all these issues—the [Vietnam] war, racism, poverty. But in a certain sense, I had put off acting on that because of the demands of graduate school and a young family.

But at Kansas Wesleyan, the students pushed me on relevance. I started pushing the administration for what I was calling a "survival studies" program. I got cooperation from the faculty, but maybe I was too rambunctious, because the administration turned the program over to somebody else to head up, which was okay with me. That's about the time I got an invitation from California State University in Sacramento to interview for the environmental studies department

they were starting. They offered me the job, and so we ended up going to California. I remember coming to the foothills of the Sierras and looking over that city and thinking, how did I get here? Sacramento turned out to be an alright sort of place, but it wasn't long until I was taking a leave of absence to go back to Kansas.

**RJ:** You were in California and helping shape the emerging discipline of environmental studies. But you took a leave to go back to Salina, and you end up staying in Kansas permanently. People might think that's not a very smart career move. You gave up a tenured faculty position. You were a full professor, and that's a lot of security. But in 1976, you and your wife at the time, Dana, started The Land Institute, without much money or even much of a plan. What were you thinking when you gave up all that security and took a chance on a new venture?

**WJ:** That's a good question and an important question and a hard one to answer. Part of it is about being young and idealistic. I was looking at the state of the world, with population growth and the deterioration of the environment, and thinking that universities were not really doing what needs to be done. And I began to imagine what would be an ideal learning environment. I remember lying in bed thinking about that. Maybe eight to 10 students, half the time reading, thinking, discussing, and the other half hands-on. Was there something that we could do about that, here along the Smoky Hill River in Salina?

**RJ:** After a second year of leave, Sac State told you to either come back to work or resign.

**WJ:** We came awful close to going back to California and might have had it not been for our daughter. We had had a family gathering, and I said that I thought we had better go back. Laura, who was a few months shy of 16, broke into tears and said, "I thought you always said that we're not called to success but to obedience to our vision." Well, oh boy. We stayed. I didn't find out until much later that she threw that line out there because she didn't want to be in a different school again. She had been in seven different schools, and she figured that throwing my own words back at me might work. But we came awful close to going back to California.

**RJ:** The establishment of The Land Institute, of this alternative school in 1976, meant you were not only going to be teaching but also doing a lot of work on the land itself. Building structures of various kinds, raising a garden, managing landscapes. That was a fair amount of physical labor. Back at Sac State, the life of a tenured professor didn't require much physical labor. Again, why would you give up the cushy life of a full-time faculty member for a life on the land in Salina?

**WJ:** One thing about being young is that you have a lot of energy, and there's something satisfying about working hard during the day and going to bed tired. And if you're awake and have paid attention to what's been going on in society, there's a sense of urgency. You know that's there plenty of work to do. And if you want to nick away at the problems and begin to develop an alternative worldview, well, the universities just aren't set up for that. The Industrial Revolution led people to do a lot of things that should not have been done. And you have to ask, what does it mean to be a whole and responsible person here?

I'm not trying to be sanctimonious about all of this. It just seems to me that if you have been aware of what's been going on, you realize that this academic world is not hacking it. It seemed to me that we needed to quit doing what wasn't working. Yes, we need formal education, but we also need the application. And we thought that The Land Institute was going to be an application of the knowledge that we had. I guess that was all on my mind. But once again, I have never had a satisfactory answer to this question.

**RJ:** What do we need to quit doing today, as a society?

**WJ:** Well, it's obvious that we need to quit burning so much highly dense carbon. We've got to do something about the population problem, and by that I mean not only human numbers but also the population of the things that the Industrial Revolution has spilled out all over the globe. We need to down-power and reduce, live within limits. That would help us make what some have called the Great Turning, to begin to find our way out of this. I think that has the potential to give us a far more meaningful life than this life defined by stuff.

**RJ:** That's a challenging statement, about learning to live within limits. Sometimes young people hear older people talk about how hard it used to be and how we have to scale back, and the young people say, "Well, you just want us to suffer like you did." But when you talk about your work on the farm, your work on the ranch, the welding, you don't talk about it in terms of suffering. How would you describe the hard work you did when you were younger? What did it add to your life?

**WJ:** Well, you didn't think about it being hard work. You thought of it as work that needed to be done. And sure, you would sweat. You would go to bed tired. But it's all tied up, I suppose some would say, in the search for meaning. I'm not saying that when I was welding or hoeing or mowing alfalfa that I was consciously caught up in the search for meaning. You're living a life in which you perceive necessity. Growing food is necessary. When I was welding, helping to build backhoes and front-end loaders for the tractors, that also seemed like something of a necessity so that people wouldn't have to be digging ditches with shovels. When I reflect on it now, I realize that ought to be questioned. What does

it mean to move the hands from the operation of a shovel to a tractor that will manipulate the backhoe, all powered by fossil carbon? How much do we stick to wholesome, responsible work and how much do we just want to get the ditch dug? The backhoe versus the shovel. These are the kinds of questions that we've not learned how to deal with, either in education or public discourse.

**RJ:** What do we need to be talking about in public?

**WJ:** In this society, people tend to drift toward the gee-whiz technology as a solution to everything. That's happening with wind machines and solar collectors. They're important, to get more renewable energy, but we haven't done anything close to a full-cost accounting on those. When we look at all it takes to produce those machines—going back to the mining of the ore and all the processing—how much energy are we spending for what we get? Technology just isn't the answer to the big problems. I think we need a new phase in our search for meaning. That's the kind of thing we dealt with here at The Land. And I don't think you can do that in 50 minutes in a room with 100 students, especially when they're there to get a degree to get a job. For us here, really digging into those questions came as the result of the physical engagement, the physical doing of things. And all of that was on my mind when we got The Land Institute going.

**RJ:** You grew up doing hard work, having pride in that work, and that was part of a good life. But we also know that in a capitalist economy, a lot of people work hard but at tasks that don't provide much meaning. And the bosses are trying to squeeze even more work out of them at the lowest possible wage. Hard work is a value in the way you're speaking of it, but the experience of hard work for a lot of people is negative, it's numbing. The context of work matters, correct?

**WJ:** Here's how I learned about that. I was in the union at Henry Manufacturing Company, and I prided myself in being able to turn out a lot, and I was actually setting production records. The shop steward from the union approached me and said, "Slow down. You're going to go off to college, and these men are supporting families." I was setting a pace that you could not expect them to continue over the long haul. I was only there three months in the summer, took my paychecks and away I went. That was an important lesson for me. I realized that on the farm we were trying to be efficient in the use of our time and get things done in a timely manner. When we worked together on the farm, that was necessary. But when I carried that to the welding shop, the shop steward was right. I was living with a lot of questions back then, and I did not know where to find the answers, but I knew that meaning comes from the mind and the body.

**RJ:** One last question, going back to my comment about the teacher who told us

not to worry about a career but just go get a job. He said, “A career is the story you tell when you get older.” Now that you’re older, what was the career of Wes Jackson?

**WJ:** At The Land Institute, a primary project is developing perennial grain polycultures, a different way of producing the grain crops that provide the majority of our calories. But we have to change not only the way we farm but the way we think about the whole society, what is of real value. We can’t create a satellite of agricultural sustainability and expect to it to safely orbit the extractive economy. You might say we had “ecosystem studies lite” in the period of the development of Natural Systems Agriculture. Now I think the lite has to get heavy. We have to face some hard questions about what is possible, some hard decisions about living within limits. So, that’s the mission.

My career has been to help keep the organization going, finding good researchers. Gathering people who have a similar sense of oughtness, what ought to be done. That has required raising money and giving talks and seeing to it that the work gets done with some measurable progress, in the greenhouses, in the research plots, and then expanding to the larger world. Our influence is now present on all six continents and we have germplasm for crops in a lot of different places around the world. I guess that has been my journey.

But I’m never very good at answering those kinds of questions. They’re legitimate questions, but this whole life has been one of lots of knots that need to be tied and knots that need to be untied. It’s included a lot of error, wrong predictions, surprises, some ways of doing things that we learned were inefficient, a few efficient ways of doing things. And it has been at once delightful and exasperating, when things don’t go according to plan. I think that’s just the way most people live, a journey they cannot predict. And maybe that’s a good thing, that we can’t predict things. Otherwise we would really screw it up.

### CONVERSATION 3

## Mad about Science

**Robert Jensen:** Let's start with the cultural debate about science. We hear people say, "I believe in science," while other people reject the scientific consensus on issues such as climate change and evolution by natural selection. The discussion sometimes assumes that science is a single practice, something that everyone understands in the same way. What is science to you?

**Wes Jackson:** Science is simply a way of knowing, a way to find out what the world is and how the world works. Both "is" and "works" are useful to us as we go about the business of living. Science's primary contention is that verifiability has to run ahead of almost everything else. Claims must be verifiable. If someone does an experiment, it's fair to ask, "So, how did you get those results?" That isn't the case in all claims to knowledge, most notably in some religious systems. That focus on verifiability goes back to 1660 and the Royal Society [the Royal Society of London for Improving Natural Knowledge]. Their motto was, in Latin, "Nullius in verba," which translates as "take nobody's word for it." That puts quite a bit of pressure on folks who claim to have done a scientific experiment to show how they did it, what their results were, and what their interpretation of the results is. Sometimes the importance of interpretation gets overlooked.

**RJ:** The work of science goes on in laboratories and gets taught in classrooms, but you're pointing out that science is, at its core, an approach to understanding the world. In our everyday life, we could be more or less scientific depending on how much we're really trying to get to the bottom of things, how much we want to understand the way things really work and explain that to people in ways that are transparent and open to examination.

**WJ:** I think science is maybe the purest thought about what the world is. Now, when one talks about how the world works, then the idea of utility—how people can harness nature—comes creeping in. When we focus on the economic value of all this to us humans, that brings problems, especially in a capitalist society.



**RJ:** Let's start with your early experiences with science. On the farm you grew up on, outside of Topeka, back in the 1930s and '40s there were agricultural scientists from Kansas State who came to offer advice and collect data. Your family referred to them as the men "down from the college." Were they the first scientists you knew? Did you ever want to be one of them?

**WJ:** I did look up to them, but as ordinary adults, no more than I looked up to a local farmer. These agricultural extension people did not have a posture that suggested they thought they were somehow superior to us. They were there to help. I counted them as just a different kind of mortal, like an electrician or a carpenter, who might have a certain posture but didn't claim elevation beyond ordinary humanity.

**RJ:** So, you didn't grow up with some dewy-eyed notion of scientists in white lab coats who could explain the world. They were just ordinary folks with certain skills and knowledge. When you went off to college at Kansas Wesleyan University you majored in biology, then you got a master's degree in botany, and then a Ph.D. in genetics. If you didn't grow up always wanting to be a scientist, what led you into the sciences once you got into higher education?

**WJ:** Once you get into the sciences, you realize there are lots of people thinking about things beyond mere utility, trying to understand very basic things about the world. It was amazing to me to hear about Einstein and how he arrived at certain conclusions, how he began to think about the speed of light. In my case, I took a genetics course and, man, that was a wonderful course. I think I had always been interested in heredity. Growing up on a farm surrounded by animals, that's fairly easy to understand. You see that there are similarities and there are differences within species. Well, how did all that diversity come to be? Well, we got a theory of heredity from that monk in Brno, Gregor Mendel, who was working in his garden and laying out experiments. That was a big discovery, and he delivered his first lectures on it in 1865. Unfortunately, that work did not get rediscovered until 1900, and that's the beginning of genetics. That was all fascinating to me.

**RJ:** After all that education and a bit of teaching, you eventually left the university and co-founded The Land Institute in 1976. The Land has done a lot of different kinds of projects, including a lot of education, but it's probably best known today for its work in perennial grain development, which requires plant breeding and related agronomy. As the institute grew, you were not doing the bench science, the actual plant breeding. But did you still feel like a scientist?

**WJ:** I think if you're going to call yourself a scientist, you ought to be doing experiments. I can say that I was trained in the sciences and that I had a career

in which I was a scientist. I felt like a scientist then, because I had the training and I was doing it. That's no different than if I had been an electrician. Now, I can do some electrical work—I could wire my house and the outbuildings here—but not feel like an electrician, because I couldn't work at that higher level of a really experienced electrician. But the bigger point may be that it's important not to think of yourself as something special because you can do a job. We are simply human beings who are interested in certain things and doing our work. It was in graduate school that I saw a certain kind of posturing by some who were thinking, "I am a scientist," who had a way of moving in the world that told me that they felt a certain pride in the title. There's nothing wrong with being proud of your work, but there's something about the elevation of it that I had to question.

**RJ:** There's a difference between pride in your work and the kind of hubris or arrogance that suggests your work is particularly special. When you were a scientist, you never thought of yourself as particularly special?

**WJ:** No. For one thing, there were some people really doing some amazing work, and I didn't see myself as comparable to them. But beyond that, there are also people in the trades who do amazing work, who have some kind of special gift. I don't like assigning more or less value to what we're doing while we're here on Earth. That has a way of being divisive, of separating some from the rest of us mortals who are trying to make a go of it here.

**RJ:** Do you think that some of that arrogance on the part of not just scientists, but perhaps professional academics more generally, is what folks who live around you in Kansas might bristle against? Does it have something to do with why people might not trust science?

**WJ:** That could be. The Amish have a way of being careful about being too complimentary. Maybe there's something that they noted about those who were persecuting them that led them to make it part of their code to not praise or compliment too much. Maybe they're concerned that it goes to a person's head and moves them beyond being a part of the membership in a healthy and productive way.

**RJ:** Your mention of electricians makes me want to ask about the house you built back in the 1970s, the house you still live in. You didn't have a lot of money back then, and you built most of it from scratch with help from friends and family. Did you wire that entire house yourself?

**WJ:** Most of it, although my brothers came from Topeka and helped. I don't think I

asked them. They just showed up with their tools because they knew that their help would be useful. They did that for anyone they knew who was building a house.

**RJ:** So, is that wiring up to code?

**WJ:** Well, maybe not, but I don't worry about it starting a fire. I don't skimp on the size of the wire, and I am always sure that I put in the adequate breakers so we don't set a wall on fire. That's the kind of thing that you see somebody doing, you see how it's done, and then you do it.

**RJ:** Growing up on a farm in a time when things were a bit simpler, you had to learn something about a lot of things, in part because you didn't have money to hire people to do things for you. Today, most people rely on experts. Almost nobody can wire their own house, and if they tried, it probably wouldn't pass inspection. It was a simpler time, not in some nostalgic way, but in the sense that people who wanted to apply themselves could learn things like how to wire a house. I think those days are pretty much gone for most of us, as life and technology get more complex.

**WJ:** My dad did a lot of wiring for folks because he could, and so he would get called. I asked him once, "How did you learn to wire?" He said, "You just look at the box and it'll have the diagram there." There was some more complicated electrical work that he couldn't do and never learned to do. Electrical engineering can get really complex. But when you're just doing house wiring, when you want to be able to turn the switch on in the garage and turn it off when you come in the house, well, I can do that. Anybody can do that. Just read the box and the instructions. But you're right, it's not as common for people to do that these days.

**RJ:** Back to science. You come out of the sciences. You have a lot of respect for the accomplishments in science. You think science is one of the most reliable ways we have of investigating the world. But you've also been a critic of science in various ways. So, I want to get your reaction to two different assertions. The first is, "Science is helping to destroy the world." The second is, "Science is necessary to save the world."

**WJ:** Well, first of all, we're not going to destroy the world. Even the asteroid that wiped out the dinosaurs 66 million years ago did not destroy the world. The world kept on going. But you mean a severe reduction in options for future generations that might even eventually lead to extinction for humanity. Science has been part of that problem. We have the ability to do that quickly with nuclear weapons. We put too many chemicals into our bodies that our tissues have no evolutionary experience with. That's going to have consequences for us that unfold slowly. But

it's also true that I'm taking a couple of medications that may help me hold off a stroke or some other health crisis, drugs that are helping me lead a life that is, I hope, healthy and productive. I'm glad for that science. But I think we put way too much faith in technology. There's a kind of technological fundamentalism at work in the world, too much dependency on things that are supposed to make us healthy, wealthy, and wise. But I'm glad for the medical technology that has made it possible for me to live at least 20 years longer than I might have with prostate cancer. I'm still here because of people who know about the nature of the body and the various ways to keep us going.

**RJ:** There's science that has aided human health, allowed us to live longer and live healthier in certain ways. But we also live in a world in which we are bathed in chemicals that, as you say, our tissues have no evolutionary experience with. Those chemicals are mostly the product of the last century, the industrial chemical world. Why is it dangerous, that our tissues have no evolutionary history with those chemicals?

**WJ:** Human evolution over the past 200,000 years or so has equipped us for living in a world that didn't include all those chemicals, which have appeared in the blink of an eye in evolutionary terms. And it's not just about chemicals. When we shifted from being gatherers and hunters to farmers, our diets changed, not all for the better. At that moment of the invention of agriculture, about 10,000 years ago, we became a species out of context. We've been living as farmers for less than 5 percent of that total history of *Homo sapiens*. We started producing food in a dramatically different way, which changed the way humans lived, and we also started to change ecosystems dramatically. The environment which gave rise to us was no longer there.

**RJ:** What's the problem with being a species out of context?

**WJ:** We've plunged into new ways of living that we think are going to make things better, but almost all of them come at some kind of a cost that we did not anticipate, a cost to our own health or to the ecosphere. We now know that it was not a good thing to be putting certain chemicals on the soil that we grow food in. That's one consequence of being a species out of context.

**RJ:** Those synthetic chemicals, mostly petroleum-based, were developed by scientists. The synthetic nitrogen fertilizers, pesticides, herbicides allowed dramatic increases in yields. But industrial agriculture also has been destructive, in terms of costs both to human beings and to the land and other animals. In that sense, science has helped undermine the health of humans and ecosystems. Is science also necessary to get us out of trouble? You can imagine people saying,

“Look at all the bad things science has done. Maybe it’s time to walk away.” But you don’t argue that we should walk away from modern science and the scientific method. How do we tame this beast, the modern science that can do so much damage? How do we try to make it work for not only human health and human flourishing, but for the other living things as well?

**WJ:** First of all, I think it’s important for us to recognize that our ignorance is broad. We’re far more ignorant than we are knowledgeable. There’s a lot more that we don’t know compared with what we know. Some people start with the idea that knowledge is adequate to run the world, that we can know enough or learn enough to foresee and correct all those negative consequences of technology. But I’m with T. S. Elliot, from “East Coker”: “In order to arrive at what you do not know, you must go by a way which is the way of ignorance.” That’s worthwhile for the technological fundamentalists to consider. The idea that we are going to be able to head off every threat that is coming our way is dangerous.

But because there’s been enough gee-whiz science that works, people find it easy to believe that all we have to do is keep coming up with more gee-whiz science. The internal combustion engine gave us speed and power that has carried us very fast toward problems we may not be able to solve, notably global warming. What will have been the net gain, after another half-century or century, from that great invention of internal combustion? There’s an old saying that nothing fails like success, because you tend not to learn much from success. I find a lot of truth in that.

**RJ:** When you argue for an ignorance-based worldview, you’re obviously not celebrating stupidity. You’re instead calling for intellectual humility. A number of years ago you hosted a conference to develop the idea. Explain an ignorance-based worldview.

**WJ:** Wendell Berry warns against using the language of science to appropriate the unknown, to think we can see all the patterns in the world, which we can’t. That’s what the Greeks warned us against, hubris. This more careful approach to knowledge, to recognize that what we don’t know is far greater than what we do know, should help us to remember lessons learned from past failure, to build in second chances, to keep the scale small. In other words, we need to spend more time studying the exits.

**RJ:** You are suggesting that a better understanding of science could teach us to recognize our limits.

**WJ:** Yes, and we should recognize this in human affairs also. We think we know how to organize a society, and we might have good intentions, but we should pay



A 1989 aerial view of The Land Institute campus, which includes offices, a greenhouse, research plots, and never-plowed prairie.



From its inception, The Land Institute has hosted a variety of students, from undergraduate interns to postdoctoral fellows. After retiring as president, Wes Jackson continued to engage the many young people who spent time at TLI, such as in this informal chat outside the Research Building.



In this undated photo, Wes Jackson addresses a rally. In addition to education and research projects, Wes and staff at The Land Institute regularly participated in social movements working for justice and sustainability.



When Wes Jackson and his family came back to Salina, Kansas, and established The Land Institute in the early 1970s, he built many of the structures himself, with the help of family and friends. Nearly a half-century later, Wes and the tractor he used in those early years are still going strong as he loads it onto a trailer for a visit to the repair shop.



When Wes Jackson stepped down as president of The Land Institute, staff members at the annual Prairie Festival gathering presented him with an apron that researchers commonly wear while working on plant-breeding experiments.



The plant breeders developing perennial grain crops that can be grown in polycultures—what The Land Institute calls “Natural Systems Agriculture”—do some of their work in the greenhouse.





Wes Jackson has always seen the creative and performing arts as central to the work of The Land Institute. In the fall of 2019, the Birger Sandzén Memorial Gallery in Lindsborg, Kansas, hosted an exhibition of his collection of tree trunks and branches called “Art Without Ego: Works in Wood.” Here he is discussing a piece at the annual Land Institute employee picnic.



Wes Jackson restored a 111-year-old church bell for its historical significance and aesthetic appeal. Located just outside his office, he rings it often.

attention to the “counterintuitive behavior of social systems,” which is the phrase Jay Forrester used in a paper in 1971. He argued that we don’t really understand the dynamic behavior of social systems, which are complex, and so we pass laws and develop policies that can end up doing exactly the opposite of what we were trying to achieve. That isn’t surprising in some sense. After all, how many times have we started a day thinking we knew how things would go, and we end up surprised at the end of the day? I was talking to a person who is doing some work on my barn about the effect of COVID-19 on stores like Lowe’s and others that sell building materials. At first, they apparently decided they had better not be ordering more stock because they figured people were not going to be able to work in construction during the lockdown.

Well, it turns out that people stuck at home wanted more material to work on their houses, and the stores had to scramble to meet the demand. Well, why does that kind of thing happen so often if we’re so smart? If we start with the recognition of our ignorance, then we tend to be more cautious. That’s actually part of our cultural handing down. How many times did our rural parents say, “Don’t count your chickens before they’re hatched,” to remind us not to get our hopes up? They had lived long enough in their communities to remember how often things just never quite worked out as they expected. Yet here we are, forgetting those lessons. There must be somebody making a lot of money selling the idea of certainty and hope.

**RJ:** You start with the recognition that modern science and contemporary technology have dramatically expanded what we know and what we can do. That’s the success of a knowledge-based worldview. But the failure is in not recognizing that we often don’t know enough to control outcomes. Is an ignorance-based worldview primarily a reminder of the need for humility?

**WJ:** I think that is the beginning of wisdom. It doesn’t mean that we should be afraid to act, but we have too much language that has to do with being dead certain. People say that we have to have a positive outlook, but too often that really means hoping for a miracle. What we end up with is rarely as good as what was promised. We have a culture that is dazzled by the big promises and then, when something doesn’t work, just moves on to the next big promise.

**RJ:** You count yourself as an environmentalist, which we think of as a fairly modern movement. But you also often harken back to lessons learned on the farm from previous generations, from people who might not have thought of themselves as environmentalists. How much of what you learned as a young person from your parents and other farmers dovetails with the environmentalism that you endorse today?

**WJ:** I have thought so often about the 25 or so different crops on our farm. My dad kept good data on those crops, back in the 1930s. Data on how much irrigation water was put on the land, the yield for each crop, etc. He made notes like, “Good yield, no market.” Or, “Insects took the crop.” There was an acknowledgment of the need for that diversity. Don’t put all your eggs in one basket, be ready to shift, to change when needed. That’s all right there in his notes. That land is no longer in the family, and when I drive by that acreage today it’s one crop, soybeans. There’s no diversity there. The fences are all down. I wonder to what extent some of the weeds that grew along those fences had some insects that might have been helpful at controlling other insects that threatened the crops. I don’t know—I’m ignorant on that—but I know the key to making it through the Depression and during World War II had to do with diversity. I asked my mother once, after my dad had died, “Did you ever really make it?” I meant, did we ever really make money? She said no. That’s the story of farming. You’re living with lots of doubtful uncertainty. I learned that at home.

**RJ:** Your family’s farm had enough different crops that you could lose one of them in a given year and still get by. Is that how it worked?

**WJ:** Right. And we may not have made much money, but my family never went on relief during the ’30s because of that diversity. We had the chickens and the hogs and the milk cows, and a diversity of grain crops as well as vegetable crops. And there was always something to eat and to sell. And that’s true for an ecosystem as well, the health in diversity of species. That’s probably one reason why recognizing that the ecosystem was a necessary conceptual tool, a way of organizing our thinking about life, was easy for me. And that led me to think about a sustainable grain agriculture built on perennials in polycultures. That comes out of giving high status to the ecosystem concept and to diversity.

**RJ:** Why have modern farms become less diverse?

**WJ:** Sometimes it does seem like we, as a species, are getting less intelligent. Let me tell you about what I did this morning. With the help of two of our staff here at The Land, I loaded up four head of cattle that I own on a trailer. Those cattle are creatures that evolved to be watchful of predators in order to survive, like any animal. I had one cow that just would not go within the panels we had set up to get them in the trailer. She seemed to have a memory of when I would load up cattle before, and she did not want to go. I had another cow that would not go into the confined area any farther than she could escape. I eventually figured out a way to trick her in, but the larger point is that humans and other living things have had to be watchful to survive. That makes us wily. Creatures have to be wily in order to live in this world. So, what has happened to humans? Why have we

gone to just a few crops on a farm, often just corn and soybeans? Why did we stop counting on diversity? I don't know for sure, but it's not very wily of us. Those decisions are about profit margins and crop insurance and a lot more. But it's hard for me to see how this can go on for another half-century without us paying an even bigger cost somewhere.

**RJ:** Your parents had a lot of knowledge about that farm, but you're saying they also knew the limits of that knowledge. Maybe today we know a lot more, but are you saying that we should not trust knowledge so much and be a little more skeptical about what knowledge can really bring us?

**WJ:** It's important to be experimental and maybe discover some options that we hadn't known were there before. I remember we had turkeys for a while, which roosted on a kind of a windbreak and were very good at getting grasshoppers, and we thought that would help the crops. Well, we lived along two highways, 24 and 40, and there were grasshoppers on the other side of the road, and the turkeys didn't pay too much attention to the fact of highways. They would cross the road, and then you would hear the screech of tires, and there would be dead turkeys on the highway. Well, there's nothing wrong with eating roadkill, but it didn't take long for us to get out of turkeys. On a farm like ours, you were always doing something in an experimental sort of way. You read about these things in a farm journal, and they worked out somewhere maybe on a farm in Ohio, but they didn't necessarily work out in rural Topeka for us. Now, part of the problem today is that we have too much energy, mostly fossil fuels. That's why I say that highly dense carbon destroys information, cultural and biological. The more energy you have to use, the less diversity there tends to be, and the cultural information about farming with diversity within ecological limits is lost. And the biological information in all those diverse crops is lost.

**RJ:** Is that how you see farming after World War II—energy driving out that traditional cultural knowledge and the biological diversity?

**WJ:** Highly dense carbon has the ability to make war on information, cultural and biological. I think there's a relationship between information and energy and scale. As the scale of your farming goes up, made possible by all that energy, a lot of the information that had been in all that diversity disappears. That looks to me like a decline in culture, not progress. As ecologists know, diversity is not always your friend, but you've got to have it. When you have one crop that matures all at the same time, you can harvest and sell on the market all at once. That's convenient, but it makes you vulnerable to crop failure. Diversity may mean more work, so in that sense it's not your friend, but it protects you from catastrophic failure.

**RJ:** Let's get back to science. The application of science through engineering and technology has created the potential for that large-scale farming. It has created the chemicals that make that kind of farming possible, but with disastrous consequences for both landscapes and people in rural America, along with dangers for consumers. If that's all a product of science, why are you still a scientist? Do we still need science? And if so, why?

**WJ:** The scientists here at The Land Institute, and at lots of other places, recognize the importance of diversity. With what we know about genetics and with the computational power now available, we can work to foster diversity instead of destroying it. Now, I know that all that modern computational power and the knowledge coming out of labs requires burning that highly dense carbon. I don't want to see that research abandoned because we need it now to have a shot at feeding ourselves in some kind of sustainable way. You could say that's a contradiction, but that's what makes life so rich, the internal contradictions that we have to work through. We humans think that we have something figured out, and then that recipe breaks down in terms of meeting the needs that we have at a particular moment, and we try something new.

I'll quote Lewontin and Levins [both Richard, a biologist and ecologist, authors of *The Dialectical Biologist*], who said that what we need in science is "a strategy which sees the unity of the general and the particular through the explanation of patterns of variation which are themselves higher-order generalities that in turn reveal patterns of variation." In other words, if you think you got it all nailed down, that's the best indication that you don't. It's about living with the uncertainty, always looking for those patterns.

Now, what does this say about my earlier statement? Highly dense energy destroys information of the traditional cultural and biological varieties. Is that true? Yes. Does highly dense energy also help us create new knowledge, new understanding? Yes. If we're looking at crop production in the Kansas River Valley in the 1930s and '40s, even into the '50s, then diversity was a friend to the farmer. Today, if one wants to be a farmer in that valley and make a living in the get-big-or-get-out economy, then diversity can be your enemy. That's because a sufficiency of people got replaced by a sufficiency of capital.

**RJ:** Can that change again?

**WJ:** I think we are destined to live in a sunshine future, one in which we don't have all that dense energy and go back to living off contemporary sunlight. The experimental nature of folks like my parents is going to come in handy in that future.

**RJ:** Some would call that a kind of folk science, an informal science that people have always practiced until recently. But I want to come back to modern science, with laboratories and expensive instruments and computers. Is there a role for modern science in an ecologically sustainable future?

**WJ:** There's a role for modern science, but it requires restructuring the assumptions of a knowledge-based worldview. We can't evaluate technologies on a simplistic standard of efficiency. We have to do full-cost accounting. I'm quoting Lewontin and Levins again, that the boundaries of consideration have to map on better to the boundaries of causation. The easy example is climate change. We have to consider more than just the profit we generate by burning carbon-dense fuels and recognize all the effects on the planet. When we consider buying a tractor, we have to think about not just what it costs us out of pocket but what it causes on landscapes and for other people, from the mining of the ore through the processing. We have to acknowledge that this economic system will continue to want to turn out stuff, and we'll be told it's always getting more efficient. But we need to ask what is sufficient to live decent lives, rather than buy into the notion that all this consumption is OK as long as we are getting more efficient. We need the kind of science that can help us manage that.

## CONVERSATION 4

# Methodism to My Madness

**Robert Jensen:** For years you've said that there's "Methodism to my madness," a phrase that honors the Methodist church you attended with your family growing up, even though you no longer attend church and are not a believer in traditional terms. Let's start with that history. Were you ever a good Methodist? Are you a Methodist today in any sense?

**Wes Jackson:** I've never been a good Methodist. I enjoyed Sunday school more than the church sermon. When I got old enough, I was allowed to sit in the back of the church with the other boys, and I would sometimes sneak out to the drugstore down the street there in North Topeka and read the comic books or stop at the service station that was close to the church. I got another kind of education there, which expanded my vocabulary. There was profanity; there were obscene stories, the kinds of things that countered what was going on in church.

**RJ:** What was fun about Sunday school?

**WJ:** The preaching in church was usually boring. I liked the Bible stories in Sunday school—David and Goliath, Absalom getting his hair caught up in the branches while riding a mule, the journey of Moses and those folks. They were good, interesting stories. And that interest carried over to when I was older. When I was at Kansas Wesleyan, I went on Sunday nights to MSM meetings, the Methodist Student Movement. It was fun to argue with the pre-ministerial students.

**RJ:** We'll come back to the question of whether you're a good Methodist today. But staying on your early experience, your mother seems to be the one in the family who was most committed to a religious worldview. How would you describe her faith? What did your mother believe in?

**WJ:** I think my mother was a serious Christian who believed the conventional story as told in the Bible. But she wasn't a Holy Roller, one of those folks who feel under the influence of the Holy Spirit and get emotional in worship. She had little to do with those kinds of preachers. I think for her, faith had some real value, real utility. Her aunt Ida was the same way, not the emotional Holy Roller type. They saw what good could come out of it besides just your emotional connection to God.

**RJ:** Do you mean the good in terms of community solidarity, that kind of thing?

**WJ:** If you read the parables, for instance, you'll find a lot of wisdom. If you take scripture seriously, it can cause you to be humbler, to be more attentive to proper conduct. That is what I mean by utility. Ecclesiastes is loaded with wisdom. So is the Book of Job. My mother not only didn't go for speaking in tongues but also wasn't much on praying publicly. The only prayers I ever heard from my mother were blessing the food. People forget that Jesus said we should only pray in private, not to show off. That's right there in Matthew's gospel. In the King James version, it says "enter into thy closet" to pray [Matthew 6:6]. The command is to pray in secret. When there's praying in public, I'm always telling people that we ought to go into the closet as Jesus told us.

**RJ:** Your mother also was skeptical of movies and the new pop culture emerging back then. Do you know what led her to worry about that?

**WJ:** No, I don't, and if she were alive today I would love to ask her. I was not allowed more than a couple of movies a year, and it wasn't just movies she was wary about. I was never encouraged to join Boy Scouts, or even encouraged much to join 4-H [the program that develops farming and farm homemaking skills in kids]. I never went off to camp, even though other people sent their kids to camp. I thought it was because I had to stay home and work, but I think there was more to it. Maybe she saw it as the problem of the worldly, of getting on a path that she didn't think was good for me. Now, she didn't know that I was sneaking off to read comic books while the sermon was going on, or that I was stopping off at the service station to hear some language that wasn't in church. I don't know what she thought about some of these things, but I wish I knew.

**RJ:** Today, parents talk about limiting the screen time of their kids, keeping them off all these digital devices. Maybe your mother was just ahead of her time, worrying about too much screen time for kids.

**WJ:** I have thought about that, about how there is plenty in this world, right in front of us, to absorb without screens. That might be what my mother thought.



**RJ:** As you think back on your childhood, about the process of developing your own ideas, was there ever a time in which conventional Christian dogma had meaning for you? Did it ever put the hook in you?

**WJ:** It might have, but it didn't last long. I tried to be a Christian, and I would sort of work at it, especially in my late teens and very early 20s. I was asking a lot of questions about it, in part because there were a lot of people I respected who took Christianity seriously. And I have to say, I still take Christianity seriously in my own way. But at the same time, we had chickens and hogs and cows, and I saw those animals live and die, and I wondered how we were any different or why we should be different than those other creatures. But others believed so strongly that I wanted to understand it. I had a friend in college—we washed dishes together at the Pennant Cafe—who was super religious, so religious that he refused to sign up for the Army. They gave him every chance to file as a conscientious objector, but he refused that. I went to his hearing in Kansas City, and he was sent to the asylum [the Topeka State Hospital, for the mentally ill]. There was something about him that made me wonder, how can he be such a devoted believer? The fact that I bothered to go down and see that hearing tells me that I was taking him seriously, this guy who was taking Christianity far more seriously than I was.

**RJ:** It sounds as if you were interested in his motivation. You were curious about the kind of faith that could lead to that level of commitment.

**WJ:** That's right. I had another friend in college at Kansas Wesleyan who was a serious Christian and who didn't like, let's just say, the range of my vocabulary. He thought it would help me if I were to set up space in the dorm where I could get the Bible out and have a candle, to enhance my spiritual life. I didn't try it, but he was serious about being a believer, and he was that kind of a person until his death. I went to his wedding way out in western Kansas. I counted him as a good friend, a thoughtful guy. We went to the same Methodist church in the north end of Salina. So, it wasn't as though I was in rebellion. But I just couldn't quite bend all the way into Christianity and stay that way.

**RJ:** Kansas Wesleyan University, where you did your undergraduate degree, is a Methodist college. Were there faculty or pastors on campus who had an influence on you?

**WJ:** The Reverend W. E. Cassell, professor of religion and Bible, was one I remember most clearly. He was important in my education, and I put a picture of him in this book of mine, *Hogs Are Up*. One day I said to him, "Brother Cassell, do you believe that when you die you're going to get siphoned off and go live with Jesus in heaven forever?" He said to me, "Wesley, I have never liked the way

you ask a question, but no, I don't believe that. But I do believe that values are eternal." Well, that was useful to me, and it was pleasing to know that a professor of religion and Bible did not think he was going to actually live with Jesus. Brother Cassell also used to greet me on occasion with, "Good morning, Wesley, what is the condition of your soul this morning?" Well, I would always have to think about that. This kind of attention to spiritual life was of interest to me.

**RJ:** The story of Brother Cassell suggests that religious belief in rural Kansas wasn't unitary, that, like anywhere, people had a range of interpretations of the text and the tradition. You mentioned your book, *Hogs Are Up*. (By the way, I'm not going to explain the title. People will have to read the book to find out what that phrase means.) In the book, you write about teaching an adult Sunday school class at a Methodist church in Salina, after you had finished grad school and moved back to teach at Kansas Wesleyan. Tell that story.

**WJ:** This was a class for young adults, mostly married couples and a few single people, and one morning I decided to take them through the Apostles' Creed step by step. I had grown up with the creed and knew it: "I believe in God the Father Almighty, maker of heaven and earth, and in Jesus Christ, his only Son, our Lord, who was conceived by the Holy Spirit, born of the Virgin Mary." Well, I stopped there and asked how many in the group believed in the virgin birth. The couples started looking at one another, and a few hands went up all the way and a few only chest-high. So, I moved on. "Suffered under Pontius Pilate." No problem there. Crucified. Yes, that one people accepted. Died and buried, yes. "On the third day he rose from the dead." More nervous glances around the room. "Ascended into heaven and is seated at the right hand of the Father." More nervousness. Most of them couldn't say they believed in those things as literal truths. I finally stopped and asked them, if so many of us don't believe these things, why is this our creed? Why do we say this in church?

**RJ:** How did that go over?

**WJ:** I remember one person coming to me, a woman who had been having emotional problems, and someone had told her to get into a church. She was crying and said, "Now you've taken everything away from me." That hit me with some force, and I felt bad about that, and so I told the preacher. All he had to say was that I shouldn't be teaching that class and shouldn't even be in the church. I don't remember if I resigned or was kicked out, but that was the last time I taught that Sunday school class, even though all I was doing was asking questions about our statement of faith.

**RJ:** That brings up two interesting things. One is that a lot of people who consider themselves Christian don't really believe in the supernatural claims, such as a virgin birth or the resurrection, as literal historical events. The second is about doubt, which some people argue is an important part of faith. Paul Tillich, a theologian with considerable standing, said, "Doubt is not the opposite of faith; it is one element of faith." But it sounds like the minister didn't necessarily agree, or at least didn't want you spreading doubt.

**WJ:** That preacher was a smart enough fellow, and I don't know why he wanted to cut me off. Preachers are like all of us, tempted to take the easy path. Around that same time, I had a lot of friends in Salina who went to a Presbyterian church, which had a minister they really loved. They told me that I should come to hear him. Well, I went one time and sat up in the balcony, and I thought, yeah, he's a pretty smart guy, saying a lot of good things. And then, when I figured out where the sermon was heading, I said to myself, "Yeah, preacher, go get 'em." But at the end, he let up, he didn't push the radical message that would have challenged us, and everybody walked away comfortable. I told my friends that I thought it was a great sermon until he got to where it really counted, what the implications of the scripture were. If we are our brother's keeper, what does that mean about the poverty and racism right around the corner in Salina? The platitudes are fine, but what do they mean if we can't even talk about what's going on right here? But he didn't ask us to think about that. It was like he let up on the accelerator when it was going to get hard. Well, my friends told me to give him another chance, which I did, but it was the same thing, steering away at the end from challenging the congregation.

**RJ:** Are you are still engaged with Christianity, even if not as a true believer.

**WJ:** I continue to be interested in a lot of the Bible, both the Hebrew and the Christian parts. I find myself thinking about the concept of exile, for example, of a people wandering or lost. The Bible is interesting on its own merits, and it brings up things remembered from my past. So, I'm not going to throw it all overboard. I'm a Darwinian evolutionary biologist, but I don't have any anger, or even irritation, toward all those folks who hold onto a two-sphere world, where there is heaven and Earth. I am just trying to take the best of those scriptures and apply them in the modern world.

**RJ:** You often describe yourself as a five-eighths Christian. That is, you agree with about five-eighths of what's in the Bible. I take that to mean that you don't believe in divine creation of the human species or any of the supernatural claims of an orthodox Christianity. But the rest is OK with you?

**WJ:** I don't think we ought to create male sky gods, though a lot of people seem to need to have some three-dimensional representation. I look at the universe as being full of all kinds of creativity. I see the Earth as having given rise to us. That required a lot of things to be just right. We had to have a sun, at a certain distance from us, with a certain tilt of the Earth to give us the seasons. All of that is just an amazing creation. Right now, there's an ant crawling along the ledge in front of me. Just think about this one fact, that this ant and an 80-foot whale out in the ocean both use the same citric acid cycle to get energy from food. It's the same metabolic pathway. How did we come to know that? We didn't come to know it out of the reading of the scriptures. We came to know that as a result of something far humbler, from folks called scientists. Starting back in 1660 with the Royal Society in London, scientists embraced verification, the idea that you trust no one's opinion without evidence. And through a kind of collective thought, a collective investigation over time, we get that knowledge about the citric acid cycle. But out of science came also the Industrial Revolution and a lot of things that are dangerous, like all the toxic chemicals. With both religion and science, you have pluses and minuses.

**RJ:** For science, the ideal is that no claim is accepted without evidence. You point out that in Christianity, which is the religious tradition you're most familiar with, there's an elevation of faith without evidence. In the gospel of John, Thomas has demanded proof that Jesus was really resurrected, which Thomas gets. Then Jesus says, "Because you have seen me, you have believed; blessed are those who have not seen and yet have believed" [John 20:29]. That suggests those who believe without evidence have an advantage. What role does faith play in our lives?

**WJ:** Well, that's a tough one, partly because we use the word in different ways. I might say that I have faith that the sun will come up in the morning, but that's based on evidence. A digression: We say that even though we all know the sun doesn't revolve around the earth. "The sun comes up" is a stupid statement, but one I am totally comfortable with. Now, back to faith. I act as if I have faith in some medications my doctor gives me to deal with a medical problem. I take them, which is an act of a kind of faith, but I also am aware of the potential cost, about what might go wrong. There are no such things as side effects, there are only effects. We call them "side effects" to reduce our anxiety. Those are different ways to use the word faith, other than meaning a belief in something for which there is no evidence.

**RJ:** A lot of scientists, probably the vast majority, would classify themselves as atheists. They share your focus on claims-with-evidence over claims-by-faith. Some who are part of what's been called the "new atheist" movement, such as Richard Dawkins, mount a pretty vigorous attack against religion, to the point of

being disrespectful of people with faith. Do you find yourself wanting to defend people of faith?

**WJ:** Well, yes. I have a lot of friends who, while they may not be 100 percent Christian in doctrine, are farther along in that journey to faith than I. I also have good friends who believe the Bible is inerrant. And so, one has to be careful. I've said many times that I don't know what I think until I know what my friends think. There are certain people I trust to shoot straight with me. I may not agree with everything they believe, but their opinions are important to me. You know, we're not either this or that, atheist or believer. We are many things all mixed up together.

**RJ:** In other words, to get through the day takes more than just a focus on evidence. We're creatures with both a rational capacity and an emotional component, maybe some would call it spiritual. Do you accept a spiritual dimension to life?

**WJ:** I've never really understood what the word spiritual means, even though lots of people have tried to explain it to me. I don't know what level of existence that term is trying to name. When I get up in the morning, I can identify whether my spirits are high or low, but talking about our moods isn't usually what people mean by spiritual. Let me try a little different approach to this. If humans are to make it much longer, I think it's going to be important to reevaluate what really counts in our lives. I think that being in a community and having a culture that fosters community is the way forward, not just piling up more stuff produced by the Industrial Revolution.

There are some who want to be among the elect, in a material sense. They go off to a good college for a good education, and then they head for Wall Street. For some, the goal is to be rich or famous, or both. I think those people are following the false prophets of our time, the prophets who go for profit. Other people will want to be part of a community. The attraction of community is always there, but the temptations to turn away from community also are always there. Faith is going to have to be about sticking with the community good. And we can also come back to spirituality and feeling. When I see some trees coming into bloom in the early spring, and my spirit is lifted at the beauty of it all, am I having a spiritual experience? Maybe not in the sense that a lot of the folk may have spiritual experiences, but so what? On this, I think life is just too complicated to slap a label on people. There's too much at work that we can't understand.

**RJ:** You are a biologist, a botanist, a geneticist. You know a lot about life on this planet, more than the average person. But you have said that when you see life unfold, you aren't usually thinking about it as a scientist. You're in the middle of an experience of it. That flower opens up, the clouds roll in, and you have an experience that is beyond the science. What label would you put on that?

**WJ:** That's about going beyond mere utility. The world may have utility value for us, but we also can see beyond that. When people are sick or sad about the loss of a loved one, they may see a sunrise or trees in bloom and see the beauty, and it lifts their spirits. There's healing value, I think, in the perception of beauty. This is why the arts are so important. If we are so utilitarian that we can be talked out of the idea of beauty, I think we all suffer. Is that religion or just a commonsensical way to operate in the world and appreciate life? I don't know. What I do know is that, for me, it's hard to separate spirit from flesh.

**RJ:** You are saying that you're not going to accept anything as true without evidence, but that there's a whole lot about being alive on this planet for which evidence is inadequate. There is just too much happening for us to ever assume we will have the evidence to make absolute claims. Is that a fair summary?

**WJ:** Well, yes. Look, I could never get to the level of understanding the big bang—whether there was a big bang, how it happened, any of the details. For an awful lot of what I “know,” I am just relying on those people who know, and who are being checked by others who are comparable in their capabilities. That's how I know how stars are born, how the elements in our bodies were cooked in some dying star. I have faith in the scientists who have a way of knowing similar to mine, even though we work in very different fields. I also know that some of them are going to be changing their minds, but that doesn't undermine my faith in the process. We are counting on human minds to be at work, all together, to be as open as possible to a very complex reality in order to understand that reality the best we can. It will be messy. Science isn't about eliminating the messiness. It's about embracing it.

**RJ:** You have friends who are secular and friends who hold onto religious traditions. It seems to me that what's most important to you is not whether or not people sign up for a religion, but whether they can hold onto humility in whatever belief system they have. Is humility the key virtue for you, whether one is religious or secular?

**WJ:** Once we lose humility, we're on the journey toward a disruption of order. I don't know if this will help or not, but I have good friends who are Amish. I could never be Amish because I cannot adopt all their beliefs. A big part of their ability to maintain community life is their belief in a relationship to God, which is not my belief. A derivative of their way of thinking is a coherence within their communities. One Amish friend told me that if he were to get sick, he could count on eight different teams of horses from the community that would be in his field to help. That same Amish man told me about when he put a cutting of hay into his neighbor's barn one day. When I complimented him on his generosity,

he said, “Well, you know what I got out of it? I got the use of his stallion and eight loads of manure.” And so, there was nothing lost within that community. But what caused him to do that? For him, it was a Christian act, loving his neighbor as he loved himself. It’s easy to admire that. If I tried to live in that community, I would have to dump a lot of what I have become, and I don’t want to do that. Had I been born into that community, maybe I would go along with it all. I have thought about how we could bring that spirit to a more secular society. That’s a big question for me. And, of course, you find religious communities that break down, too. Humans are wily creatures, and it is hard to pin us down. All I know is that I don’t have to want to be Amish for some of my best friends to be Amish folks.

**RJ:** You see no need to argue theology with your Amish friends?

**WJ:** That’s right. Back to Richard Dawkins’s style. I’m a Darwinian evolutionary biologist, but I don’t see any need to be aggressive like Dawkins about Darwinian evolution. There is a lot more subtlety in the way the human mind works, and I don’t like absolutes. People ask me, are you an atheist? My answer is that I don’t know enough to be an atheist. Am I agnostic? Well, I guess so, but I don’t much like these labels. We should be moving through the world being watchful, doing our best to make the most sense of the world we can, rather than living within lines of belief and adopting someone else’s absolutes.

**RJ:** You have lived outside of Kansas for short periods of time, but you always found your way back. You have connections to people of faith in Kansas. You celebrate your roots and take every opportunity to remind people that you’re a farm boy from Kansas. Today, the labels “rural Kansas, small town, Christian” lead most people, especially in urban areas, to assume that means a very conservative politics and a Christianity that is not respectful of other religious traditions. Does that cause you any pain, to know that the culture out of which you come is now seen by much of the world as reactionary?

**WJ:** Yes, it troubles me. I try to remember the complexity. Native peoples were cleared out to allow white settlement of Kansas, and at the same time it’s true that a whole lot of those early white Kansans took a moral position when it was formed, as a free state and a challenge to slavery. So, Kansas is complex like everywhere else. And without excusing intolerance, we have to understand that people in small towns and rural communities have suffered because of the economic imperative that has pushed bigness over community health. Drive around not only Kansas but the Midwest generally and you’ll see a way of life, of small communities that were once viable, destroyed. We have to see the role of the larger society in a lot of our problems out here in so-called fly-over country.

Are some people in Kansas voting against their own interests when they support right-wing politics? Yes, in a way they are, but they are caught in a tough spot, and that's painful for me. This is my home. I've been to universities to give a talk and had some professor say to me, "Why are you in Kansas?" as if living here is some kind of punishment. Well, I'm here because I want to be here.

**RJ:** You don't mind being critical of the contemporary politics of Kansas, but when you drive around rural Kansas and see a small town with all those buildings boarded up, you feel a loss. Do you want to blame the larger economic forces that destroyed that town?

**WJ:** We're all responsible for our choices, of course, and I'm not excusing bad behavior or mean-spirited politics. But I do not blame Kansans for our predicament so much as I blame the power structure that takes care of itself without caring about the ecological and economic catastrophe out our way.

**RJ:** My last question brings us back to "the Methodism to my madness," and my first question that you didn't fully answer. Is there a sense in which it's accurate to say that Wes Jackson, today, is still a Methodist?

**WJ:** Well, I do have a method, a way of knowing, one based on information that's verifiable. So, I suppose I'm a methodist, of a certain kind.

**RJ:** I'm not going to let you off the hook. You've acknowledged that the rational aspect of the human mind seeks evidence and logical explanation. But no matter how developed that can be in any one of us, there's a whole lot more to life than that. We have experiences that don't reduce to evidence and logic. So, is it useful to say that you are still a Methodist in some sense that your mother would recognize?

**WJ:** I suppose I would have to say yes. I'm no longer a Methodist in any sort of formal way, but I am paying as much attention to the scriptures as a lot of my friends who attend church, sometimes more attention. So, I'm a Methodist in the sense that I still value that wisdom. I was at a funeral a few years ago, in a small-town Methodist church that was likely to close down before long. I was looking at the Methodist hymnal in the pew, and I was tempted to take it home, to steal it, because I thought it might come in handy, and I figured they wouldn't miss it. But I didn't take it. So, what does all that mean, both my wanting the book and not taking it? I guess I don't mind calling myself a Methodist in recovery or something.



**RJ:** I grew up in a Presbyterian church, and, like you, I left traditional Christianity behind pretty early. But every now and then, I will remember a prayer or a hymn from my early experience. The most common one is the doxology—“Praise God from whom all blessings flow...”—and the words will come to me out of the blue, and it will cause me to pause and ponder, sometimes even to tear up. Does that ever happen to you? Do you have a favorite verse from scripture or a favorite prayer, a favorite hymn that has stayed with you?

**WJ:** There are a lot of them that come up. “I will lift up mine eyes unto the hills from whence cometh my help,” or “The race is not to the swift or the battle to the strong, but time and chance happen to them all.” These things just pop up, unbidden many times, and it can be very moving. You don’t know where it comes from or why right then. In a way, it comes as a gift. I’m not going to turn away from that. Maybe that’s why I count myself a five-eighths Christian, a Sermon on the Mount, “let he who is without sin cast the first stone” kind of Christian. But that doesn’t mean that I accept the whole thing. There is really no way for us humans to really accept it all. Probably even the most devout of Christians will find parts of it that they don’t understand and therefore would be willing to reject if somebody could explain it in a way that would allow them to reject it.

**RJ:** You told the story of being chased out of teaching Sunday school in Salina by a Methodist minister years ago. I want to correct that injustice. By the power vested in me by this podcast, I restore your membership in the Methodist church and declare that Wes Jackson is now a Methodist in good standing.

**WJ:** So, I’m no longer five-eighths? Am I eight-eighths now?

**RJ:** God doesn’t deal in fractions, my son. If that’s not in scripture, I think it should be.

**WJ:** Well, what about the Earth? Does the Earth deal in fractions?

**RJ:** I don’t know. All I can say is go forward and sin no more.

**WJ:** Alright. And we’ll preach the gospel to every creature.

## CONVERSATION 5

# The Portrait of an Artist as an Old Man

**Robert Jensen:** Our subject today is creativity, and I'm calling this conversation "The Portrait of an Artist as an Old Man." I hope you don't take offense at being called old, or at being called an artist. You aren't an artist in the traditional sense of having a career creating art, but we'll explore how everyday life is creative and how we may all be artists in some sense. The idea of creativity, like many concepts, can be hard to define. Most people think of creativity as involving imagination, the capacity to see something in a new way, to make connections in new ways. But rather than trying to define it, let's start with a different question. Where do you think creativity comes from?

**Wes Jackson:** My first, and easy, answer is simply from everywhere. Something that didn't exist a moment ago is now here. There's a litter of kittens. There's an asteroid that hits the Earth, wipes out the dinosaurs, and makes it possible for a few small mammals to take off in an evolutionary sense. There's the bonding of two gases, hydrogen and oxygen, to yield water, creating wetness from gases, which we call emergence. Creativity can't be stopped. The city of London burned in 1666 and came back as a different kind of city. And there's Michelangelo's *David*, da Vinci's *Mona Lisa*, what we would call professional art. But from my view, what one sees when looking out the window is artwork. Creativity is just everywhere.

**RJ:** When I asked you where you thought creativity came from, you immediately talked about the ecosphere, about the larger living world, what people sometimes call nature. Most people think of creativity as a human characteristic, but you went immediately to the ecosphere. Why does your thinking about creativity start with what is beyond the human?

**WJ:** Because I think that's the most obvious. You look out at the world, and it is constantly unfolding, bringing forth novelty. Creativity on the part of the

ecosphere seems unstoppable, and humans just picked up on that. We like to create, too, in our own way, and there's something deeply satisfying about that.

**RJ:** We've talked a lot about the importance of humility, about acknowledging our limits as human beings. Does your instinct to look first to the ecosystem have something to do with your concern about humans getting too uppity, too convinced of our own specialness? Am I reading too much into your answer?

**WJ:** No, that's not reading too much into it. Whether it's the tropical rainforest or a coral reef or a never-plowed native prairie, we're looking at more than we can comprehend. And that generates an emotional jolt, as we ponder all that's out there in the world. When I look out at the world, the lesson I see is that we shouldn't take anything for granted. The only thing we can count on is change. Change is not necessarily surprising every time it comes, but there will always be a certain amount of amazement in watching it unfold.

**RJ:** Let's focus for a bit on human creativity. What are the most creative things that you've done in your own life? What work of yours required the most creativity?

**WJ:** I would say the most creative thing that I have come up with is the idea of building a grain agriculture based on the way that nature's never-plowed prairie works. At the core of that is the ecosystem concept, the ecosystem as the primary unit of analysis. That came from a few particular experiences, pulling together a few ideas I had run into. In 1977 I was reading a General Accounting Office report on soil erosion, which was about as bad then as when the Soil Conservation Service was formed in the 1930s. I wondered how that could be. Around that same time, I took students here at The Land Institute on a field trip to the Konza Prairie, where we could see no soil erosion beyond replacement levels. When I got home, I was thinking about both those things.

I grabbed a brown grocery sack and started thinking about what plants humans depend on for food. From some plants we eat the seeds, some we eat the fruit, some we eat the roots, and some we eat grass and broadleaf. I came up with a four-by-four matrix with the different combinations: polyculture versus monoculture, woody versus herbaceous, annual versus perennial, and fruit-seed versus vegetative parts. That makes 16 combinations in all, but four are irrational—that is, there are no woody annuals—and so that leaves 12 possible combinations. It turned out that 11 of the 12 combinations were being used by humans in some useful manner, but there were no perennial grains for direct human use. As I was working on this, I kept thinking of something my major professor at North Carolina State University, Ben Smith, said to me. One night he wandered into my office and said, "We need wilderness as a standard against which to judge our agricultural practices." Then he just turned around and walked out. That

statement stayed with me. Out of all that thinking eventually came my book *New Roots for Agriculture*, and now for several decades The Land Institute has been developing perennial grain crops that can be grown in mixtures, or polycultures.

**RJ:** People might hear that story and think, well, that's science—ecology, agronomy, plant breeding. But you immediately put it in the realm of creativity. If you were to take away any one of those things—reading about soil erosion, going to the prairie, your professor's comment—do you think you would have come up with the idea? Is it an idea you would have landed on eventually?

**WJ:** I've wondered and I don't know. I just know that all those factors were there and the idea came to me. Why had that idea not emerged earlier from someone else? The Russians worked on perennial grains back in the late 1930s and '40s, but as far as I know, they weren't thinking about the ecosystem as fundamental. Why did humans not pursue this 10,000 years ago at the origins of agriculture? Annual grains have been the primary problem of agriculture, with erosion and soil degradation. Humans got dependent on those annual grains, and we just kept on keeping on, and soil erosion continued, civilizations rose and fell. We really needed perennial grains right from the beginning.

**RJ:** Before we leave this subject, I have to ask about the grocery sack. You know the old story about Abraham Lincoln writing the Gettysburg Address on the back of an envelope when he was riding the train to get there. That has been debunked. He worked on that speech for much longer. You say you sketched this matrix on the back of a grocery sack. Is that really how it happened?

**WJ:** Yes, that's true. I'm not trying to sound like Abraham Lincoln. I just grabbed the sack because I didn't have a piece of paper handy.

**RJ:** Let's talk more about science and creativity. People often make a sharp distinction between the arts and the sciences, with the assumption that the arts are where we see real creativity, and science is a more rational, almost plodding enterprise. Is creativity essential to the sciences as much as to art?

**WJ:** I think so. There's a lot of creativity in the sciences, and in engineering, too. But you don't find it in galleries. Some of the products of that creativity would be too big to put in a gallery. Take the Brooklyn Bridge, for instance. That is a product of creativity, a work of art for its time. There are aesthetic considerations in building it that took a lot of thought and creativity. I think a lot of engineers come up with ways of doing things that are quite creative. You also see it in smaller operations, such as on the farm, how people solve a particular kind of problem. A lot of human creativity comes out of problem-solving. Maybe I'm making the

term too all-inclusive for some folk, but it suits me. Nature is producing a lot of creativity all the time. It can't be stopped.

**RJ:** Your comment about engineers reminds me of your house, which you built pretty much by yourself, with the help of friends and family, without blueprints or a contractor. You like to point out places in that house where you solved problems in a kind of ad-hoc fashion, often with salvaged materials. Is that house also the product of creativity?

**WJ:** As I was building it, I wasn't thinking, "I'm creative." I was thinking about how to get a house built when you don't have much money. I suppose one could say that it involved some creativity. I certainly did things that were rather unconventional. For instance, I didn't have enough money to buy rebar, reinforcement bar, to go in the concrete. I used old bicycles and cast-off metal that I stuck down in there. That junk was my rebar. I didn't have enough money to rent forms for the concrete. So, I tried to build my own, but they broke, and then I finally had to rent some forms and finish it off because mine were just too weak. I used a lot of native wood that I ran through a sawmill. My kids and I tore down an old granary and pulled the nails to use. That's how we put together a 36-by-36-foot house, pushed back into a bank, with a flat roof, which served us well as a home. I suppose there was creativity involved, but most people would say that it involved not just unconventional craftsmanship but also poor craftsmanship. I had a motto, "If it has to be done right, I can't do it." That's what you do if you don't have money, which we didn't. But it was exciting, and there was something about it that was satisfying.

**RJ:** What made it satisfying?

**WJ:** I'm not exactly sure why, but it felt good doing the work. That's how life should be. My son has become an outstanding carpenter. Just recently he told me that the first day that he worked as a carpenter, as he was going home that day, he knew that's what he wanted to do, to be a carpenter. He's got a background in ecology, did his undergraduate work at the University of Kansas, and he could have gone on to become one of those professor types. But he chose carpentry as satisfying work, which he is good at. Consequently, he's kind of an artist himself. It's a matter of finding something that is satisfying to you, and we hope that at the same time it's work that is essential in some way.

**RJ:** Some of the work on your house might be unconventional, but it's still standing more than four decades later. When people think about creativity in something like architecture, they tend to think of some fabulous, famous house. Those kinds of projects usually have a lot of money behind them, with rich people

paying architects to design creative houses. But you're talking about creativity that comes out of scarcity. Is there a relationship between scarcity and creativity?

**WJ:** There can be. I was in Oklahoma once, visiting a farm that had chickens and fish, and the farmer had come up with an elegant design in which the chicken manure dropped down into the water, and the fish would eat it. I asked the man how he came up with that, and he said, "By being raised without having much money." He was a creative guy, and he got a certain satisfaction from doing without. It's like seeing the potential in a scrapyards. I have always liked going to the scrapyards, usually when I'm taking something to sell. I see pieces in the scrapyards and my mind begins to wonder about what I might do with them. If you're not careful, you end up buying more scrap than you brought in to sell. Scrapyards are one of the great places for increasing the imagination.

**RJ:** As we go into the down-powering, a future in which we will have to live with less energy, do you think scrapyards will become more important?

**WJ:** Absolutely. There's just too much stuff being junked. We're going to have to learn to use all that. I often wish I had a very big barn to store all the stuff I see, for somebody to use someday. I am sort of doing that right now, going over my property and bringing wood inside that has piled up outside over the years, getting it in out of the rain. I find that satisfying, not because I'm part of a movement that says I ought to be saving and recycling but because it just feels good to do it. It's something about the nature of the materials, my relationship to that wood.

That reminds me of when E. F. Schumacher [author of the 1973 book *Small Is Beautiful: A Study of Economics as If People Mattered*] came here in 1977 to give a talk. I gave him a tour, and we had a whole bunch of junk lying around because we were in the middle of putting together The Land Institute, putting up buildings. I had bought a whole bunch of patio doors, probably more than 200, that were surplus somewhere. I didn't know how I was going to use them, but I figured they would come in handy for solar collectors or whatever. As we passed by those doors, I asked Schumacher if it was proper to be using the products of the Industrial Revolution to plan for a sunshine future. He thought about it for a minute and said, "Don't worry. Materials want to be used. They will show you how." That was his Buddhist mind at work. He called his approach Buddhist economics. I would say it a little differently, that materials are there available to be used, and you will find out how to use them. But it's alright to put it in the Buddhist way, too.

**RJ:** The creativity is in the interaction between the person and the materials. Back to that lumber you are salvaging on your property. You don't have a use for that lumber today, correct? Do you know what you are saving it for?

**WJ:** That's right. I don't have a specific use in mind. I don't know that it will ever get used. But I know that if I leave it out, eventually it will rot. I was talking to Wendell Berry about that the other day on the phone, about working to save lumber that I will never use. Very quickly he said something like, "It's the right thing to do. It is sane." I thought, well, that's an interesting word to use there. Some people might look at me and say, "Good grief, this guy is going to be 85 years old. He must be insane to do all that work for no reason." But Wendell already had the response, recognizing that it is sane to be saving things. It's like planting a tree knowing full well that you won't be around to harvest the fruit. Part of life's mystery, and one of the beautiful mysteries, I think.

**RJ:** You are saving lumber that has been outside and needs to come inside to be stored properly if it's going to be useful in the future. But you don't even know that your children or grandchildren will have a use for it.

**WJ:** Whatever the outcome, it's just the right thing to do. Someday there may be an auction, and someone may figure out a use for it. But it probably won't bring much money. It's certainly not worth my time in the way that money rewards our effort. But you just do it. I suppose you would say there's an existential reason. And now you're back into the realm of mystery.

**RJ:** I introduced this conversation by saying that you're not an artist in the conventional sense, but you recently had an art exhibition at the Birger Sandzén Memorial Gallery in Lindsborg, Kansas, to display what you call your "art without ego" pieces. What is art without ego?

**WJ:** I have a sawmill, though I haven't been using it much lately, and if you run off a slab of a tree trunk and turn it over, of course you have a flat side to examine. A lot of what's available now are ash trees because the ash borer is killing a lot of trees. So, I had an ash tree that had gone down and I sawed it up. I had a piece about a foot wide and seven feet long. As you go down the board, you see where the borers have penetrated that tree and created a design. I took one piece, which I have hanging on the wall, and explained how in that design you could see the story of the universe. There's a big hole where a branch had been, and I called that the big bang. And down the board are patterns that I call galaxies being formed, and planets, and stars.

Your imagination can go to work and say, by golly, this is the universe in miniature. It helps if you have a sense of humor and don't take yourself too seriously. But your imagination goes to work, and I find that satisfying. I put that piece in the exhibit. After the sawmill, the only thing I might do to a piece is apply some oil to sharpen up the design a bit. Then I hang them up. They show the workings of those creatures that are producing elegant designs in the

course of just getting a meal. That's why I call it art without ego. Those insects don't know what they're doing, but the beauty is there.

**RJ:** The ash borer is engaged in an act that is killing the tree and, in the process, creating a kind of art.

**WJ:** But the art is not visible to us until I run it through the sawmill. I'm running it through, but I'm not doing any of the design. Over in the corner of my office, I have the branch of a tree that is loaded with shelf fungi, white shelf fungi. All I did was pick up that branch of the tree, and I give it standing as art by placing it near the window in a certain way. And there it is, one of the dominant things in my office. I had nothing to do with that. The limb, or the whole tree, had died and the fungi went to work on that.

**RJ:** Is it fair to say that your creative contribution is to see the design? I can imagine another person looking at that same piece of wood and seeing nothing but some ash borer marks.

**WJ:** I have a certain conception of beauty, sure, that leads me to think that board ought to be saved. It's hard for me to throw out pieces of wood, though I'm burning up wood in this stove in front of me as we're talking. I have a lot of little pieces that I've saved. They all hold a certain charm, and you count the rings and admire them. I've got a big basket of little pieces that have been sawed off the end of Osage orange fence posts. I just like the way they look. One day I'll probably throw all those in the fire. But for now, there they are.

**RJ:** I just imagined someone saying, "Wes, those are really nice, but that's not really art." And then I immediately thought about Jackson Pollock and his abstract splatter and drip paintings, which sell for millions of dollars. Those look pretty random to most of us. If I gave you a choice between your Ash borer art without ego and a Jackson Pollack, which one would you find more creative or more interesting?

**WJ:** More interesting to me would be the Ash borer. Your question reminds me of a challenge that I like to run by my artist friends. Imagine one acre of never-plowed native prairie, and think about the *Mona Lisa*. You're given a choice—you either have to plow that prairie or you have to burn the *Mona Lisa*. Which do you do? I say you hang on to the one acre and don't plow. This isn't a real choice, of course, it's just a thought experiment. People might say the *Mona Lisa* is irreplaceable, but it's more replaceable than the ecosystem of that one acre, which you can never recreate once it's disrupted with a plow. That landscape is somewhere between 1.8 million years and, say, 400,000 years old, as the ice pushed down a lot of that ground from



Canada and parked it here in Kansas. How old is the *Mona Lisa*? Maybe 500 years. And we have a lot of photographs of it, and so why do we need the original *Mona Lisa*? What kind of species egocentrism is that? That material on that prairie was there before *Homo sapiens*. What's all this fuss about the *Mona Lisa*? I like having that discussion, but people mostly want to move on. It's an uncomfortable question.

**RJ:** So, who or what was more creative? Leonardo da Vinci or the glaciers that advanced and retreated and in the process created that landscape?

**WJ:** And those glaciers also gave us the fertility of those soils, which make agriculture possible. This connects to the question of how we see the concept of God. Gordon Kaufman [author of the 2004 book *In the Beginning...Creativity*], who was a professor in the Harvard Divinity School, thought it was most productive to think of God as creativity, rather than as a creator. That's the kind of thing that brings theology into alignment with the discoveries of the cosmologists, and maybe it is through creativity that we can connect religion and science in a new way. The universe seems to be all about process, and creativity as a result of process.

There are novel, complex realities that arise from simpler realities through what scientists call emergence. A sperm and an egg unite, and a process gets underway that means those cells will never return to a former state. If we were to plow that prairie, it could never return to that former state, any more than a frog can become a tadpole. Kaufman wanted us to acknowledge that this unfolding universe is still unfolding around us all the time. We should appreciate the creation, wherever it presents itself, and have gratitude. There is so much for us to be celebrating all the time, including branches that have fallen down on our path in a walk in the woods that can bring us delight that is every bit as powerful as the best work in an art gallery.

**RJ:** I now live in the mountains of northern New Mexico, and that's pretty obvious to me every time I step outside. I'm seeing things that are more beautiful than anything that could ever be in an art gallery. You're saying that is everywhere, not just with a stunning mountain view.

**WJ:** And I want to be clear that I'm not objecting to art galleries. People like to create. I think people really can't stop creating, though everything humans create is not beautiful, of course. Atomic bombs are not beautiful. I have a hard time seeing the power lines going across the landscape as beautiful. But if one of those power poles came down in a storm, and I hooked it onto the back of my pickup with a chain and brought it home to run through the sawmill, I may find something absolutely beautiful in the same object that I considered to be ugly on the landscape. I'm just saying that the beauty is available, and it's our job to find it.

**RJ:** That sounds like the beginning of a kind of theology.

**WJ:** We appreciate the beauty of the landscape, but it does not appreciate us back. That's the way it is with this world. We may love this Earth, but this Earth does not care about us. We may want the Earth to care for us, to give us purpose. But instead of thinking that God or the universe gives us purpose, we can acknowledge that the universe gives us the opportunity to create purpose. I don't think you can ask for more than that.

**RJ:** Several times, usually when you are taking a walk and looking at the landscape, you've said, "Why is this not enough?" When you've been immersed in the beauty and the creativity of the world, that question seems to come to you. Why is this not enough for the modern world? Why do we need theme parks and casinos and cruise vacations? What's your answer to that question? Why is this not enough for many modern humans?

**WJ:** I think part of the answer is that we're too caught up in the daily activity of making a living, and so we don't see what's in front of us. This is an idea that has come to me during the past year, after I sold the few head of cattle that had been on our pasture. I can't count how many times in the past 40 years I've been over that small acreage of pasture where the cattle were, sometimes on the way to the woods to take a walk. And now, all of sudden, with the cattle gone, I am seeing details in the landscape that seem to have become accentuated. My sensitivity to the contours of the landscape is greater, and I see more details than I had perceived previously. Why is that? I think part of it has to do with the fact that I am no longer focused on the utility of the pasture. When the livestock were there, I didn't see it the same way. Now it seems that there are little hills that have grown, though it's only my perception that has changed.

**RJ:** As long as we are looking at something with utilitarian eyes, focused on what we get from it, that keeps us from seeing the landscape in a deeper way?

**WJ:** I think so. My mind was not on the relief of the land for its own sake. I was paying attention, and if I saw a little gully developing, I would do something to stop it, but that was still utility. I've written about this in the essay called "The Loss of Eden." When I bought this property, before we started building the house, I had a certain feeling being here, when I would come out and just walk around and sit on the bluff over the Smoky Hill River. Once I began to build the house, that feeling went away, and I never got it back. As soon as I effectively took possession of that land through digging the foundation with a backhoe, something flipped. I called it the loss of Eden, but I also considered it a bargain in some ways. The old feeling was gone, but we had a house in which to raise a family.

**RJ:** The landscape stays the same, but your understanding and awareness of it change.

**WJ:** And I wasn't ready for that. It took me by surprise.

**RJ:** I want to come back to a religious question. You come out of a Protestant tradition, but long ago you left behind the traditional dogma of Christianity. You don't believe in a creator God, but you use the term creation to talk about the world. You hold onto that term, even though you have let go of some other religious terms.

**WJ:** I think this is where the idea of God as emergence and creativity comes in handy. It's all flow, all change, all movement. Nothing holds still. Stones dragged down by those glaciers and deposited in Kansas look to us like they haven't changed. But those stones are also wearing away due to the ordinary weather and elements. Nothing holds still, and that is creation, that is the act of creating. Some may think I have too expansive a definition of creativity, but I think it helps us understand ourselves and the world, and where we fit in that world. We can't avoid being participants in creating the Creation.

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**Wes Jackson** is cofounder and president emeritus of The Land Institute in Salina, Kansas. He is the author and editor of numerous books, including *Hogs Are Up: Stories of the Land, with Digressions* and *New Roots for Agriculture*.

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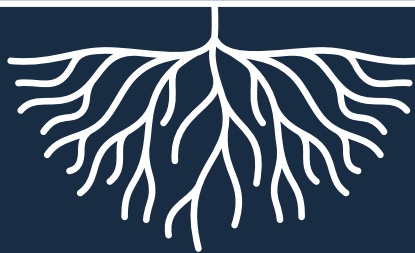
Jackson and Jensen are the coauthors of the forthcoming book *An Inconvenient Apocalypse: Environmental Collapse, Climate Crisis, and the Fate of Humanity*, to be published by the University of Notre Dame Press in fall 2022.





Wes Jackson relentlessly searches for ways to make a decent human future possible, and confronts the reality that easy solutions to our ecological and social crises usually fall short. In these interviews, just as in his life's work, Wes is a brilliant alchemist of truth, grief, possibility, and love for the ecosphere and his fellow humans. — **Rachel Stroer, President, The Land Institute**

**BECAUSE WES JACKSON HAS AN ANALYTICAL MIND AND ALSO LOVES TELLING STORIES**, the best way to get to know him is in conversation. *From the Ground Up* is an edited version of podcasts recorded in 2020 with Jackson and his friend and collaborator, Robert Jensen. Drawing on personal and world history, offering troubling insights but with humor, Jackson and Jensen invite readers into the discussion.



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