Rex Buchanan: Good afternoon. I'm Rex Buchanan, former director of the Kansas Geological Survey. Today is March 5, 2024. We're here today to interview Dr. Wes Jackson for the Kansas Oral History Project. Our videographer is former Representative Dave Heinemann. We thank the Dole Institute of Politics at the University of Kansas for hosting this interview in its Elizabeth Dole Gallery and Reading Room.

Dr. Jackson was born in 1936 on a farm near Topeka, Kansas. After earning a BA in biology at Kansas Wesleyan he pursued graduate studies in botany at the University of Kansas and genetics at North Carolina State University, where he earned a PhD in 1967.

He was a professor of biology at Kansas Wesleyan and later established the Environmental Studies Department at California State University, Sacramento where he became a tenured full professor. He resigned that position in 1976 and returned to Kansas to found The Land Institute.

Dr. Jackson is the author or co-author of numerous papers and books. His 1980 book, *New Roots for Agriculture*, outlines the basis for the agricultural research of The Land Institute. His most recent work, *An Inconvenient Apocalypse: Environmental Collapse, Climate Crisis, and the Fate of Humanity* was co-authored with Robert Jensen. Another recent book, *Hogs Are Up: Stories of the Land with Digressions*, delves into the life lessons that help shape his world view.

Dr. Jackson is the recipient of numerous awards including the Pew Conservation Scholars Award, a [MacArthur Fellowship], and the Right Livelihood Award, sometimes referred to as the alternative Nobel Prize. In 2007, he received the University of Kansas Distinguished Service Award and was one of the 2011 recipients of the University of Kansas College of Liberal Arts and Sciences Distinguished Alumnae Awards.

This interview is part of the Kansas Oral History Project series examining the development of public policy at the nexus of energy and the environment during the late 20th and early 21st centuries. In these interviews, we explore those policies through the eyes of experts, executives, administrators, legislators, environmentalists, and others.

The Kansas Oral History Project is a nonprofit corporation that collects and preserves oral histories of Kansans. The project is sponsored by donations from generous individuals and grants from Evergy and ITC Great Plains. Thanks, Wes, for agreeing to share your insights today, and thank you, David, for volunteering your videography skills.

So, with that, we'll begin. Wes, as the introduction said, you were born near Topeka, but you went to school in Salina. In a lot of respects, you may have left for a little bit, but you didn't leave for very long. How come you went to Kansas Wesleyan for college?

Wes Jackson: Well, for very high aspirations. I wanted to play football and run track. It was nothing much higher than that. But while there, of course, what colleges are supposed to do, I got involved in transformation.

RB: So, it didn't have anything to do with the religious affiliation of the school?

WJ: No, even though my middle name is Wesley, after John Wesley. I do tell people there's Methodist in my madness, but, no, it had nothing to do with going to Kansas Wesleyan.

RB: So, you leave for graduate school, but then you come back. Why do you come back there?

WJ: Well, I liked the area. I came back because I had a chance to do some teaching there. I think that area is a rather auspicious area, given not only the history of Kansas, but also, it's kind of a jumping-off point in a way between the eastern part of the state and the western part of the state. I don't know. I just liked it.

RB: You and I have talked about this before. Is there something about the landscape there? This is a very different landscape out there than the one that you grew up in the bottoms of the Kansas River in Topeka.

WJ: Well, yes. The landscape that goes all along the Smoky Hill River and then the landscape on east of there to the tall grass prairie. I mean, I count myself a Prairie Billy, and to me, the landscape is—I suppose a lot of it has to do with what you just grew up in or to or whatever. I spent a summer, for instance, when I was sixteen in South Dakota on the ranch of some relatives. I got a fixation on prairies and those rolling hills. There's enough of that around where I live that I think it's a good place to be.

RB: And obviously, prairie influences, clearly, a lot of the work that you do at The Land Institute. But before we get to that, when you come back to Wesleyan, you're teaching. As we've talked about, teachers in those small colleges carry a pretty heavy teaching load. It's the primary focus of what they do. And yet you were, even at that time, writing books. Was there somebody at the school that influenced your thinking as you began to develop your thoughts at that time? Or were the influences outside or a mixture or what?

WJ: Well, I think there was an assembly of professor types there that in retrospect they had a greater effect on me than I [thought] at the moment. There was Reverend W. E. Cassell, Professor of Religion and Bible. Brother Cassell was the kind of a professor that would cause you to bear down. I remember one time he said to me, "Wesley, have you read the assignment?" I said, "Yes, I read the assignment." "Wesley, have you read the assignment?" "Yes, I read the assignment." "Wesley, have you read the assignment?" and I said, "No, Brother Cassell."

Now I had not lied any of those three times, but he wanted more of a penetration into the content than the pass-over. I've thought about that many times. That's one of the great gifts that I got from that particular professor.

There was a man that had escaped from Germany whose wife didn't make it. I did poorly in his French class. But there was something about him that caused me to—here's somebody with real

stuff, and I began to see that there were people that were given to engaging in kind of deep intellect and finding it satisfying, wanting to know more about the what-isness of things.

So, there were those, and then the professor that—. Well, I didn't know what I was going to major in, but I took a biology course. Of course, I'd grown up on a farm, and we had something like twenty-five or twenty-six or twenty-seven different crops. I mean, almost everything we had at our table had been grown on our farm.

So, I go off to college. I don't know what I'm going to major in, but I get into biology, and I think, "Well, I can handle that." And very quickly, I realized that genetics might be a field for me because almost any kid growing up on a farm is noting about the livestock and the dogs and the cats and the whatever and sees things being different and how did that get to be. And then, of course, there are people, and so on. It didn't take long for me to become a Darwinian evolutionary biologist.

So that's what got me. First, of all, I went into plant taxonomy here at KU [University of Kansas], and then later, the work and PhD in genetics at North Carolina State in Raleigh. It's just kind of fallen into the what-isness of everything. There were people that were very patient with me, that put up with me because I was not one you would call somebody academically aggressive unless there's something there that interested me. So, I didn't mind taking a D in something I had to have [but] I didn't care about. I don't know. I probably finished somewhere in the middle of my class. But I am not what you would call somebody that Harvard would want or Yale or any of those.

RB: I went to Kansas Wesleyan in the late [19]60s. I started there in [19]71. You were gone by then. But you had published, and we didn't mention in the introduction, but I think the book was called *Man and the Environment.*

WJ: Yes. That was one of the very first environmental readers of the time. And that's the consequence of coming back with a PhD. I taught a biology class, and I asked the students to tell me what you thought of the course, and of course, we know that the [19]60s happened in the [19]70s. They told me, "Well, it's not relevant."

That summer, I clipped and tore and xeroxed and filed. I put together this book, *Man and the Environment*. Only two things wrong: man, and the environment. But I didn't know that was wrong at the time. That's what got me the job at Cal State, Sacramento.

RB: I remember when I was at Wesleyan. Just the idea of a professor who had published a book was kind of a big deal to me at the time. That was the book that I remember in particular.

WJ: Even at that, it was an anthology.

RB: It was a book as far as I was concerned. So how come you went to Sacramento?

WJ: One of my problems is irritation. I got irritated with this and that and the other. I tried to start an Environmental Studies Program at Kansas Wesleyan. I got the faculty to sign on, and everything was going—but, of course, you don't want to give me the job of being head of anything. So, they gave it to somebody else to be the one responsible for it, the coursework.

I saw this opening about a job at California State University, Sacramento. I don't know what I did. I wrote 'em or something, and I thought, "Well, that's that." Sure enough, I got back a letter saying, "We had 500 people that applied for this job." I thought, "Of course, that ends that." And the next thing I know, they invited me to come, and that they had nailed it down to three or something. I thought, "That will just be a trip out there and back."

The next thing I know, they gave me the job, I guess because I had the book and I had kind of a sense of oughtness. I was very much taken by the [19]60s and the [19]70s, maybe more than I should have been. But I became worried about the social, the political, the economic implications of running an earth on contemporary sunlight. So that's when I began to make the transition to a kind of activism and started The Land Institute.

In fact, my students and I, six or seven of us, we went to protest the Wolf Creek [nuclear] reactor. One of my students put herself across the [railroad track] when they were bringing in the reactor vessel. We not only marched, but we had a die-in right there. So here was all of this sort of—the marching down the Santa Fe [tracks] in opposition to the war. The marching here and there to oppose.

There was a great sense of oughtness, and I think this is where some of my Methodist training came out although that's not my parents, they were not ones to be active in that manner. But I somehow picked up on it.

RB: Those times in the late [19]70s at Wesleyan and Salina were pretty tumultuous. A lot of things going on then, some of which didn't necessarily sit well within the City of Salina in that process.

WJ: Right.

RB: By the time I got there, there was still a [lot of] held-over resentment within the city about that connection to Wesleyan.

WJ: Yes.

RB: So, you were in Sacramento from—

WJ: [19]71 to [19]76, technically, although I had two years of going back to Salina.

RB: Yes, because I remember meeting you there in [19]74 or [19]75. You were coming back at that point. Why such a short term out there?

WJ: I don't know. I took a two-year leave. But then why did I sell the house? Why did I take everything back to Salina if I was—I mean, I had tenure. I was a full professor. I said, "I'll be back," and I didn't go back.

Part of that has to do with my daughter, Laura, at the time. There's a friend that said—I said, "I've been thinking about starting the ideal school because I don't like the way these universities operate." He said, "If you want to start a school, I'll help you." I thought we needed a much broader kind of school.

I said, "Well, we'd better talk this over with the family." Finally, I said, "Well, we'd better go back." And my daughter who was fifteen I think said, "I thought you always said we're not called to success but to obedience to our vision." So, I resigned and stayed.

And then I just found much later that the reason she did that is that she was tired of going to two different schools. She had been in too many different schools. So, what you think is the high moment of one of your own really had to do with she was tired of this moving. So, there we were.

There have just been one of those things after another. I don't much trust anybody that believes that planning has done much good when it comes to how you're going to act.

RB: One of my all-time favorite quotes in life I think is Mike Tyson who said once, "Everybody's got a plan until I hit them in the jaw." I think that's a lot more accurate reflection of life.

WJ: Yes.

RB: Did you have a plan, a vision for The Land Institute when you started that then?

WJ: The plan, and it's in the very first *Land Report*, it was everything. It was to be the arts, the science, the social, the political, the whole thing. It is really one subject. It's not proper to keep chopping those into departments. Let's hear about Shakespeare. Let's hear what Shakespeare had to say that is relevant in our time. Let's hear about these folks that I was taking these classes with at Kansas Wesleyan that one way or another, they somehow convinced me, "This is good stuff. This is the kind of stuff that we need to be thinking about."

So even today, I keep thinking about relationships that were important in my thinking, and just this morning, I was thinking about—what's the guy's name that brought Christianity to the Roman Empire in [312]? Here's somebody that essentially said to the Christians, "We'll take it from here." So, here's the Roman Empire that picked up on all of that, the little bit of Christianity that was already underway.

I was thinking, "What was it that made that work?" One thing that made it work is that [the Romans] had an empire. They had a plan to take that Christian idea and make it for all of Europe. Well, that's pretty good stuff. That was a moment.

So, I was just thinking about that this morning, that given that Jesus said, "When thou prayest, enter into thy closet, and when thou has shut the door, pray to thy God who is in secret, and He will reward you openly." Well, now, that's not the way we do it. And the Roman Empire says effectively, "Forget that part about the closet." They're saying, "Just accept it because this is a big story here, and we're having trouble, by the way, within the Empire. Maybe this is what we need."

I was thinking about how did that develop? What was that? So, what I'm saying is, there's no such thing, really, as irrelevant knowledge. And you start looking around, and you realize how many surprises are the consequence of something you learned a long time ago.

RB: So, the focus at The Land Institute is partially on perennials, soil-related issues, grains, and at the same time, that sort of larger question of sustainability. I mean, they all fit together and using the prairie as a model. I mean, to come back again to sort of where we started, did the location influence your thinking? Did you pick the location because of that access to the prairie? Can you tease that apart or not?

WJ: I took my students on a field trip to the Konza Prairie, five or six of them. Lloyd Hulbert gave us a wonderful tour, and I went back home to Salina. But I had been reading about soil erosion, and it looked to me like the recent work showed that soil erosion was as bad in that time, in the [19]70s, as when the Soil Conservation Service was formed in the [19]30s.

I thought, "How can this be?" Thousands of miles of terraces, grass waterways. How can this be? But there at the Konza Prairie, you couldn't see soil erosion beyond sort of kind of—well, you just didn't see it, anything like in our fields.

Back home at the Land [Institute] and thinking about that and partly because of my time in plant taxonomy at KU, I began to think, why are all the grains annuals? In fact, it's some 70 percent of our food supply, the grains are, yet here's where the erosion is.

So, I went through history of earth abuse, starting 10,000 years ago. Here we've been around—as an evolutionary biologist, I'm always thinking about "Here's 200,000 years that we've had the big brain, and there at the eastern end of the Mediterranean 10,000 years ago, it was drying out at the end of the Pleistocene there, and that's where you begin to see the erosion." I thought, "Why can't we have perennial grains?" That was the epiphany that set me off.

Now, I knew the problem that perennialism and high-seed yield tended not to go together. There's a trade-off on that. But I thought, "Is that an absolute?" And I started thinking about that and looking at why there are not perennial grains.

And also, what is it about an ecosystem? Natural ecosystems tend to have more total biomass than agricultural systems do. Tend to. So, there's something about the monoculture that's wrong here. I wrote a little paper, and then that became the book, *New Roots for Agriculture*. That was the epiphany.

Well, of course, I went to a lot of places. Literally, I went from Harvard to Stanford. They were so nice to me, but they were so nice to say, "Wes, you know this isn't going to work. You know the reality about trade-off, and there's a trade-off."

But as a geneticist, I knew one thing: that in any selection for a trait, there is something else. Some other genes are paying.

We also had a perennial relative of corn that the female part was down in here, and the male is up here, but there was a mutant that turned this male part into female, which meant it gave more seeds. So, we set out to see, "Is there a cost with this extra seed that's added to this relative of corn?" My daughter actually did her PhD work on that at Cornell [University]. So, we had at least that much information about trade-off.

Well, there's still problems associated, but, well, let's just see. So here we are. We have the first perennial grain in the history. There's still a lot of breeding to do. When I first published on this, I said it's going to take fifty to a hundred years. Well, that's a way of interesting a lot of people in the future. So, you don't find people just running to give you money. It takes a long time of hiring young people, not being able to give them much money. Out of that early era, we had people that stuck with us.

Stan Cox is one of them. He had been at K-State [Kansas State University], and he wanted to come and work with us. The head of agronomy at K-State said, "You [know, you] just hired the world's authority on the germplasm of wheat and its wild relatives." Well, that didn't slow Stan down. Stan is still with us. He's now moved on to doing books. Really great stuff. There's a guy to talk to.

RB: In this process and while the genetics and polycultures and all that work was one focus, obviously the place was broader and looked at societal-type issues. I know one question, and I think I've asked you this. Before I go there, you were really one of the first people that I ever heard use the term "sustainability." Is that a term that you picked up, the use of that word, is that something that you picked up from somebody else?

WJ: I don't know. There's a lot of stuff that you pick up, and you don't know you're picking up. In Washington, they've checked that out. Apparently, it's the first time it's been used in writing. But I don't know. I mean, it's a word that's kind of lying around, it seems to me and why that should be rather extraordinary that it gets picked up. Don't know.

RB: Well, it captures a lot in one word pretty effectively in ways that other terms—it gets the concept across in one word, which is not always easy to do.

WJ: Except there are now people turning against that word a bit to—what is it?

RB: Regenerative agriculture.

WJ: Yes, regenerative. I've had people get upset because they were moving to that word. I said, "Look, it's what we do. Let's just not worry about the"—

RB: About what you call it.

WJ: Yes.

RB: So, you mentioned protest over Wolf Creek.

WJ: Yes.

RB: So were the students and folks, staff that you had at The Land Institute, were they looking at Kansas or national environmental issues at the same time and becoming engaged in those different things?

WJ: Yes. That first group, it's kind of a ragtag of people that recognized the radical nature of what we were about. They came from—well, there weren't many of them, a few places, and they bought into it.

But the idea was, we spend half our time in reading and thinking and discussing and the other half of our time hands-on. And be sure you work to keep that ratio. So, we grew our own food. We learned how to preserve it. My first wife, she was very good with those students. They did all that. Meanwhile, I was working on the experiments with students. So, we traded back and forth on that.

That was a good time. We put up wind machines, solar collectors. We built structures. When I was in Sacramento, there was Malvina Reynolds that had the song, "There's a cement octopus. It's in Sacramento, I think. It grows by day, it grows by night, it grows over everything in sight. Come stand by me. Let's protect this tree from the freeway misery."

The students, they go down to protest the freeway. Of course, the hardhats are there, and the *Sacramento Bee* is there. And the hardhats refer to these interns as "long-haired, weinie-armed flower punks." So, I just put that on the wall in the office.

And then I brought that back to Salina. So, the interns were referred to as "long-haired, weinie-armed flower punks." You know, don't take ourselves so seriously. They rode their bicycles back and forth into town. Many of them lived, several of them in one house, and so on. Now that

was a moment of that time. It was of that time. I'm very much in love with those people. We've lost some of them already.

But then we began to get more professional because we were able to hire—you hire a PhD in genetics or something that has to do with agriculture, and it becomes a different place. Then you don't have those folks that are very interested in radical politics. And the next thing you know, we become different. I find there's a certain sadness in that. It's an understanding that nothing is going to stay static, but I was young then, and I was able to take more than I could then.

So, I think it was a great moment, and it's good yet to read the *Land Reports* of that era. And, The Land Institute is now on six continents, and we have, I don't know, a budget of $11 million or something. They're turning out research and so on. But it's still going to take a long time.

I've resigned from The Land Institute and I'm now working at Kansas Wesleyan. I'm looking for the possibility of the merger. I think the small liberal arts colleges need a kind of a transformation to get more into the agriculture. The hands and the head should be one. You shouldn't have some [people] that are all head and some that are all hands and then have two sets of dummies.

I think there's a possibility because the small colleges are going to—. There aren't as many people that are going to be eighteen. So, there are going to be fewer people going, and a lot of these colleges will go down, but I don't think they need to. We need to start anticipating the implications of climate change. The very fact that when I was born, [the world population was 2.1 billion]. It's 8 [billion] now. We've never had this before.

RB: We'll come back to that. So, at that era, you're talking about the protest against Wolf Creek, were students engaged in other kinds of environmental activism as well?

WJ: Yes. There was the "Capitalism Sucks" part of it. Students were saying that everywhere. My feeling is, don't worry about capitalism. It's going to go. It's going to go down. It's going to go down with climate change. But there's the sense of oughtness about social justice. For instance, male/female relationships were already beginning to be discussed—male/female relationships and homosexuality and all of those differences that arose within that period in a rather fast sort of way.

I always thought it was important for us to be looking at everything. Let's have a critique. So, I would start the morning in the classroom by the blackboard. I'd say, "Okay. Anybody have a burn on?" It would be something that somebody had thought about. They'd say, "I've got a burn on." "Let's hear your burn on." And then you would hear something that maybe they had read and so on.

But then to deal with the real content of—for instance, one of the books we read was *Zen and the Art of Motorcycle Maintenance*. And that had to do with more than motorcycles. It was a rather important book at the time. Then at the same time, you read *Nibelungenlied* [The *Nibelungenlied*

is a heroic epic put into writing in Germany in the early 1200s.] You keep thinking about what is it that seems relevant for our discussion this week or next week or whatever.

RB: Several times you've used the word "oughtness."

WJ: The sense of oughtness.

RB: What do you mean by that?

WJ: I was raised as a Christian Methodist. There was a lot of oughtness, I think. You see to it that the cows get milked and that you milk them at a certain time, the same way with the hogs and the chickens, and the crops, and so on. It's a matter of doing your things in a routine.

RB: The way you ought to do them.

WJ: Yes. Otherwise, there's going to be some slippage.

RB: Okay.

WJ: Let's say you have some friends show up at 8:00 or 7:00 in an [evening], and you've already put in a day. But somebody has called [and wants to buy some strawberry plants and I hear from the house, "We need 200 strawberry plants. And we need to dig them up now."]

So that's a sense of oughtness because you don't want to run the risk of missing that sale.

[My parents] were very oriented— Well, look, we came right through the Great Depression. I was the last of six. They never went on relief, and they never went on relief because they came out of a culture [like many at that time].

Here's a little thing I've thought about recently. All four of my grandparents, all four, were born before the Civil War. That tells you that that isn't far back, and what was it that went on with that Civil War? There was a sense of oughtness.

RB: What was the relationship like between the City of Salina and The Land Institute?

WJ: Well, at first, it was not good. The local police department I think was improper with our [young people] on bicycles. They were unfriendly [at times] and [asking], "What are [they] doing? I mean, look at this ragtag out there, rinky-dink outfit. What's wrong with colleges? Why are you doing that?" It's that kind of thing.

But that takes time. And that time went away. And part of what made things go away were newspapers that were saying things about us. And then the *New York Times* says something, and

the *Wall Street Journal* on the first page, and awards begin to come in. The next thing you know, why, everybody always knew this was a good place to be. You know how that goes.

RB: So, it's a better relationship now than it was back in those days.

WJ: Yes. But I can tell you, I've given talks in Salina. I mean, I remember one of them, I was talking about climate change and other things, and a guy got up and said, "Dr. Jackson, you are a fool," and he walked out.

This is just what goes with change, I think. Change has a way, and I could have been better at being more careful about what I thought about things, but I was young then.

RB: I'm not quite sure how to pose this question, but it relates somewhat, and it's a broader question than just the relationship with Salina, what are your thoughts about—part of this series is the connection of policy, and policy is dealing with the legislature. Have you had much engagement with the legislature over the years?

WJ: A little bit, but very little.

RB: Why do you think that is?

WJ: I don't think I'm very good at that line of work. I don't think that I—I mean, I worked a little bit on the Tallgrass Prairie [National Preserve]. I tried to get it—I got told off in a hurry about getting a Tallgrass Prairie set aside. It didn't take much. Also, I was busy on other things, just getting enough money to keep this place going.

I don't think that I would have been a very good politician. I see what these poor politicians have to do in order to negotiate. Man, I can imagine negotiating, and there's somebody that's one of my constituents that thinks, "Why did you do that?" And I would have to say, "Because we needed the vote, and whatever it was that you were interested in is less important."

Well, there you are. I feel sorry for them in a way. But, boy, I also am not feeling sorry for these people now that aren't meeting the demands of our time.

RB: So, maybe to broaden the question out a little bit, again I'm just sort of struggling with how to phrase this but compared to say the [19]60s and [19]70s in Kansas, did you think—Kansas has turned into a pretty red state with a few scattered exceptions. In some respects, I think a more conservative political state than it would have been back in those days. Did you see that coming? And what do you think of it?

WJ: Well, look, I was raised a Republican. My parents were Republicans. They didn't like Roosevelt.

RB: They were real Republicans.

WJ: They were real Republicans. And, you know, Ike and my mother were first cousins—there's that element there. I remember when I made the statement that I was going to vote for Kennedy. My golly, the whole family went quiet. It was awful.

But I thought—and, actually, I think there were problems with Kennedy, too, plenty, but I was caught up in transformation. I was caught in transformation of all sorts of things—religion, politics. I didn't know. I had too many professors that had helped me think in a way that I had never thought.

Then I started talking about that. I started talking about it to my parents, too. I know that they didn't like it, but they also knew that—they never told one of us, "Just stop!" They weren't those kind of parents. They were pretty good parents in retrospect.

They let me have a lot. But avoid alcohol. That was one. I had an uncle that alcohol got. I had a grandpa that alcohol got him, and my grandma had to divorce him, and he died at [age] sixty. So, avoid alcohol and do the chores.

RB: In some respects, was Kansas more welcoming of people who thought outside the lines at that time than it is today? Kansas has had a history of fostering people who were outside-the-box kind of thinkers.

WJ: Actually, I don't know because I can't read newspapers anymore. I mean, really. How can you know where the heck people are? We used to get the *Topeka Daily Capitol*, the *Topeka State Journal*, and then we'd get the *Salina Journal*. You could find out what was going on. And about all I've got [now] is an iPad, and I can get the *New York Times*. I don't care that much about the *New York Times*. I'd rather be hearing about us, what's going on here.

I don't know where this country is. When I go around, almost everywhere I go, and I ask young people and I ask old people, whoever it is, I say, "Tell me about yourself. Who are you? Where did you come from? Do you like the job?" The sad part is, somewhere 80 to 90 percent of them do not like their work.

That's disturbing to me. Then I say, "What would you do if you were doing what you wanted to do? What would it be?" I've had some weird stuff come my way about what people would want to do, and I see that what they're wanting to do wasn't much better than what they were doing.

"What do you think about climate change? What do you think about soil erosion? What do you think about chemical contamination of the land and water?" You know, they're in favor of a lot of that stuff, a lot of them.

This morning, I asked a lady here questions about how she got here. I wanted to find out how she got here to this job. I found out that she's got a four-year-old, and that she's got a husband and what he does, and they live in Topeka.

Now it isn't that hard to find out who people are except it's not enough compared to having the *Salina Journal* and the *New York Times*. So, what do we do? We get the *New Yorker*. We get the *New York Review of Books*. We get a lot of the usual kind of stuff. Then I ended up getting irritated with both of those papers. And, of course, the scientific papers. I get those, too. But it's not quite—I'm not getting the pulse of the place.

I've got a grandson that's doing a PhD at K-State. He's looking at the whole state and thinking about water, thinking about the future of Kansas. He's got another year. I'd like to have him for a year. There are some things I'd try to straighten out there. I get irritated with our universities not thinking broad enough and long enough.

RB: In light of that, are you optimistic?

WJ: If you read my book, *Hogs Are Up*, you will find that I've dealt with that question before. And it used to be, I would say I'm not optimistic, I'm hopeful. Well, that was all right for what it was, but I don't think optimism and pessimism are useful terms anymore. I think the larger point being that we're not going to stop. We're not going to stop using—there is the reality of a highly dense carbon that we're going to use, and I've read enough going back to the origin of the journey from minerals to cells from an earlier [time]—and, boy, carbon is in there and we are going to use it.

So, the way I put it, this is the way I demonstrate it. From back here [using this distance from his elbow to the floor to represent a timeline of Homo sapiens] all the way down, that's 200,000 years. Starting right here [at his elbow], that's [10,000] years ago. That's where the beginning of getting the young, pulverized coal of the soil. In other words, the carbon that's in the soil there at the end of the Pleistocene [epoch], that carbon is coming up, and it's given us these big yields in grains.

We go along with that. We've still got some gathering and hunting, but then here [at his wrist], and by the way, this distance and this distance are about the same, and there's a reason for that. Right here is the Bronze Age and the Iron Age. There we burn the forests to smelt the ore for the Bronze and Iron Age. Then we come out here to the very tip of this finger. And right out there hanging off, you could bite it off, that's the Industrial Revolution. That's all. That's just 250, 300 years.

All right. We're about at the end of that. And we keep looking back here for solutions. "Oh, we will think of something." Uh-huh, well, everything we have thought of from here to here to here has been highly dense carbon that's given us this problem.

So now what's going to happen is we'll go down, and there'll be fewer people, less stuff, and what we have had for this period is a Ponzi scheme. It's a Ponzi scheme. "It will be better." How do you get better? You get into something else. You start mining this or mining that. "We'll get better."

That's the Ponzi scheme. So now this will be a drop-off. What we don't know is how much of this it's going to be. But what we do know is that one day, I'm thinking 200 years from now, there'll be a flat spot. And on that flat spot, we hope that humanity will have carried with it the memory of what the physicists told us about the origin of the earth from Big Bang to whatever, and that the Darwinian evolutionary biologists will explain diversity over time and how it comes into being, that we will hang on to the products of science.

The one big thing in science is verification. Verify. That was a big thing that happened in 1660 to [16]66 with the Royal Society [of London for Improving Natural Knowledge] being established. There were people who were sort of into that before, but that became a formal way of dealing with knowledge.

The worry I have is, though, we have that knowledge that is verified by the astrophysicists, verified by all of these folk, and now we don't have them around to verify, and then it will go into the realm of religion, and we'll be right back where we were. That's the concern. So how to keep alive in the flat spot, that was learned during the great Ponzi scheme of 10,000 years. It's a 10,000-year Ponzi scheme.

RB: Do you wish you were going to be around?

WJ: I do. I don't want to leave. I'm eighty-seven and 5/8ths. I don't want to leave. I'd like to be around. But it's not going to be pretty. I would a lot rather us come to our senses, but I don't think that the highly-dense carbon will allow us.

RB: Most recently, Kansas produces half of its electricity from wind power. Is that not something to be hopeful or optimistic about?

WJ: Okay, let's just take that. What have we done with wind power and solar collectors and the renewables just generally? We have increased the total amount of energy we use but have not subtracted off the carbon part.

RB: The fossil fuel use is the same.

WJ: Yes. Why? Why is that?

RB: Because energy use keeps going up.

WJ: You've just got to have it. When we were gatherers and hunters, of course, we were getting at whatever we could. I think that one of the best things we probably learned as humans was that in gathering and hunting the best way is to go ahead and let a big creature get a smaller creature down because you won't be fast enough to reach it. So just have a bow and arrow, and then go up and you kill the [big] creature, or you go ahead and get some creature that's been eaten on. You chase [the predator] off, and you get that meat.

In other words, we were clever. Boy, we are clever.

RB: Opportunistic.

WJ: We are clever. I don't know, I think in some respects we're getting dumber. I was just thinking again today driving here from Salina, how many things we now have because of the large number of people we have whose ideas have been used to make it possible, but then in the Ponzi scheme, how much of that is going to be usable?

So, I have on my back porch a whole bunch of stuff that is there that I'm pretending was dug up 200 years from now. It's stuff these people have come in 200 years from now, they've dug this stuff up, and there it is. How much of it are they going to be able to use, because they're going to have to melt down that metal. How are they going to melt it down? "Well, we'll build a fire." Oh!

You see, there is so much we have not thought about. That's the education that needs [to be] done, is to increase our imagination about the realities of a future and begin to really start thinking about how to manage the great transition.

So, if you read our book, *Inconvenient Apocalypse*, it's a book that's disappointing to a lot of people. By the way, there are 150 reviews on it now. We are finding more and more people that have gotten away from this one period when we kept looking at wind machines, solar collectors, dah, dah, dah. I think that's beginning to fade. It's still there. It's in the *New York Review of Books*, the *New Yorker*. The people that want to be optimists that don't think about that tiny, little thing out there at the end of the finger that they could bite off, and it would be the whole Industrial Revolution.

RB: Is your legacy going to be generating or getting people to think about things, as opposed to, say, the issue of plant breeding? Do you understand what I'm trying to ask here?

WJ: I think we need to keep plant breeding to try to get those perennials because—look, soil is as much of a nonrenewable resource as oil, as much as. It's not renewable in anything close to a scale.

So, you asked what my legacy is going to be. Well, I don't know. I just hope that we can be good to one another, nice to one another, and I kind of believe in Dunbar's law. The number of people an individual can really deal with is about 150, and then it goes down in multiples of 5, all the way down to around 5. That's the number of people you can deal with in a family or a close relationship, it goes 10, and the next thing you know, you're dealing with, but you are not dealing with.

This comes back to Brother Cassell again. The deep penetration of engagement is a small phenomenon. The deep penetration of engagement is limited. You cannot—we can't do anything about Israel. Right now, there's nothing we can do, I mean you and me, sitting here. What are you going to do? Send some money? What are you going to do? Protest? What are you going to do? And here we are.

I'll tell you what I've been doing recently. I've been going back to Genesis and Exodus and looking at the origins of conflict. It's very interesting, especially over in Exodus. Now I'm doing that not from a religious point of view, but from a historical point of view of "How did this get started?" And there it is.

You know, I had a disagreement with some people here not too long ago. I said, "Look, this is just Shakespeare again." So therefore, let's be reading Shakespeare. Let's be reading Genesis and Exodus and some of that again and look at it from the point of view of to what extent is this just built into the meat of Homo sapiens. Is that what it is? What do you do with that which is built into the meat? At least you know this is in the meat. This is in the meat.

And learning. Learning is hard. It's hard because you've got the problem of people like me that say, "Yes, Brother Cassell, yes, I've read it."

RB: And change isn't easy either for people. But at the end of the day, in some respects, you're almost talking about relationships.

WJ: Relationships, yes. And you've got to—here's what's happened to me a lot in the last ten years or so. I am seeing more beauty in Nature than I was allowing myself to see, and in fact, I am now engaged in "Art Without Ego." Here's a limb. The top part of the limb comes off, and there's this beautiful limb! And nobody has done anything to it. There it is. And here is this leaf, (and) it's beautiful!

So, I think—I may try to write on this—I think that beauty may have been the first big experiment, beauty and art and love, and that the brain came later. I mean, talking. The ability to talk is a Johnny Come Lately thing, and all this other—you're out there, and there are noises, and there's music. I suspect that even music could have been right at the first.

And next thing you know, we can—I've got a great-grandson. I try to talk to him. He ignores me. I sing to him, and he pays attention. I think that may have been our first. So, to start singing, beauty, art, and so on. This business of talking, it's all right, but it might have been pretty late.

Things have come actually later than we thought. It's only been 60,000 years ago that we came out of Africa. It's amazing to think only 60,000 out of that 200,000 [to 300,000] with the big brain, we come out of Africa. What were we doing? We were maybe getting around to reading and so on and writing.

RB: Well, maybe if talking comes late, that will be a good time to quit talking. I like that beauty thing. That had a little Zen element to it.

WJ: And love. It's possible to even love an enemy. I think it's possible to love an enemy. You know, Jesus was onto that one. He said, "Love your enemy." You think, "Oh, yeah, there He goes again." But there's something to the feeling that comes from somebody you know that they really don't want to be that way.

RB: Maybe that's a good thing to keep in mind over the next few months.

WJ: It's very important.

RB: As we head into the upcoming elections.

WJ: I'm one that's had furious rage. This is not to say, "Oh, Wes, he loves love and beauty" and so on. I'm telling you; I have been a man of rage. As I dwell on some sense of oughtness, this is so unnecessary. Well, get a grip.

RB: With that, I appreciate again, Wes, you coming to Lawrence to do this. Thanks for coming up and having a conversation.

WJ: It's always a pleasure to do this. This beats shooting pheasants anytime.

RB: Thank you very much.

WJ: Well, I like meeting these people here.

RB: We'll let Dave end and take his pictures.

[End of File]