

THE LAND REPORT

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Dana Jackson, Editor

Fall Semester

The fall semester at The Land Institute officially began on Sept. 13 with seven students enrolling. Three are students at Ohio University in Athens: Dave Henderson, John Lawson, and Eric Herminghausen. Three are students from Marymount College in Salina: Sue Leikam, Nancy Vogelsberg, and Kyle Mansfield. The seventh student, Russell Brehm, has attended Kansas State University in Manhattan.

Students met in the second story classroom of the newly-completed "Doings" Building and began work on individual projects in the first floor workshop. During the first week, they worked together as a group building an outhouse.

On October 17, the building burned to the ground, destroying all tools and projects in the workshop, the office, classroom and entire library on the second floor. No one was injured. Although solar collectors were in place on the roof, the storage and duct system had not been completed. The fire is thought to have been started by a malfunction in the thermostat damper control of the Ashley wood-burning stove.

Class resumed on October 18 in the Jackson living room. Members of the board of directors donated money to purchase necessary supplies, and the projects were started over. Donations of books, papers and money since the fire have enabled us to begin again to assemble a library for the students to use. Construction has begun on a new structure to replace the one which burned.

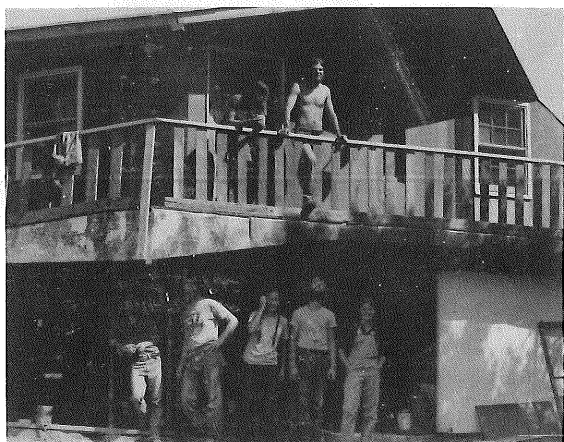


Photo by Gayle Giesecke. Students are (left to right) Dave Henderson and Eric Herminghausen on balcony. John Lawson, Kyle Mansfield, Sue Leikam, Russ Brehm and Nancy Vogelsberg below.

The Work of The Land Institute

The Land Institute is devoted to a search for alternatives, alternatives in agriculture, energy, shelter and waste disposal. But it is more than that, for these alternatives bring to mind hardware, such stand-up equipment as wind generators and solar collectors. We are also devoted to a search for alternative world views, alternative thinking. Both have to come together, the alternative technology and the thinking; for if we change the technology and still seek our identity by feeding our insatiable consumer-oriented appetites, we are still into mine depletion and sink impaction. At best, the earth's gain will be negligible, and our spirits, weary.

The way we have chosen to get ourselves in touch with the earth is to develop a holistic view and blend it with our work on specific problems and projects, oriented toward regional semi-self sufficiency. The holistic view can lead to such an amateurish approach to important subjects that one develops "opinions" or "views" on all subjects, indeed, all matters of the day. Therefore, the appropriate counterweight is our involvement in specific projects. Hopefully, the holistic approach will help us avoid the usual pitfalls of the narrow specialist.

E. F. Schumacher to Visit The Land

The Land Institute has received confirmation of the visit of Dr. E. F. Schumacher, the distinguished British economist and former chairman of the British Coal Board. Schumacher is the author of Small is Beautiful, Economics as if People Mattered, a collection of essays which advances the idea that "smallness" contributes to the enhancement of life.

The book has sold 250,000 copies in the United States and is now selling at the rate of 12,000 copies a month.

Dr. Schumacher will arrive at The Land on March 8. In the evening he will meet informally with students and friends of The Land. The following morning, March 9, he will speak at a larger breakfast meeting in Salina before traveling to Manhattan to give a convocation address at Kansas State University.

We at The Land are eagerly anticipating his visit, for much of what we are about was inspired by his book. In fact, essentially all of the intermediate or appropriate technology groups now working in the U. S. and throughout the world are the direct result of the influence of his writing and lecturing.

Readings and Discussions

The Indian house, experimental mud pies with varying earth/portland cement ratios, newspapers bound and plastered into a livable structure, a tower supporting whirling blades, thirty-two volts worth of industrial batteries stored in a dog house, two flat plate collectors (one air and one water), milo flour and milo pancakes- all are part of the visual experience, the visible accomplishment here at The Land. They can be viewed, evaluated, climbed on, walked around and touched. These are the tangible alternatives, the visible effort.

But there is the intellectual and religious effort as well. What, after all, would Black Elk think of these alternatives for the twenty-first century? Or for that matter, Lao Tzu? Or Don Juan, or even Aristotle? We have never asked ourselves these questions specifically, of course, but we have steeped ourselves in a mix of intellectual, philosophical and religious considerations. We have asked if Western civilization is alienated from the environment because of the subject-object dualism which we can trace at least as far back as Aristotle. We have wondered if primitives regarded nature as being "out there," rather than being of nature themselves. We have sought to learn whether the de-mythologization of nature through Christianity and later science is really at the root of the ecological crisis.

As we go through the checklist of environmental problems- the known cancer-inducing chemicals in the air, water and soil, the decrease in natural resources, the poison power of a nuclear reactor in a reprocessing plant or in storage, the power of the multinational corporation over underdeveloped and developed countries alike- we find ourselves asking the oldest religious questions. Where did we come from? What kind of a thing are we? What is to become of us?

In our search we have carefully studied Robert Pirsig's Zen and the Art of Motorcycle Maintenance, Theodore Rozak's Where the Wasteland Ends, Aldo Leopold's Sand County Almanac (each one on his own), and are about to wade into Small is Beautiful, Economics as if People Mattered by E. F. Schumacher.

When our heads begin to spin, we are secretly happy that the visitor to The Land cannot inspect these dizzying thoughts as readily as he can the batteries and collectors. Yet the scholarly and religious ideas are as much a part of The Land effort as the hedge posts and the portland/mud. Perhaps these ideas lie in the safety of the shadows cast by the technological alternatives, and like them they are waiting for their time to come. W. J.

Student Life

A community spirit has developed at The Land. Sharing is an important part of our life. In our discussions of the readings, we exchange ideas and interpretations, and each person's contribution is important. Often the work required for a project is more than one person can do. If it's loosening a nut, pouring concrete, or cutting and loading hedge poles on the 1955 Chevy pickup (Old Blue), we help each other when needed.

Because there are only seven students, all ideas and problems are heard and discussed. We make decisions about our program. Policy regarding procedural matters such as the amount of time to be spent on projects, trips and visitors was formed by all of us.

At lunch time we may decide to sit on the roof of the Jackson house or along the river bank and share the food each of us has brought. On Wednesdays, Dana Jackson fixes a soup lunch, and we eat in the house and take turns doing dishes.

All of us live in Salina, about three and a half miles from The Land. We try to share rides in and out whenever we can. Although all arrive between 8:30 and 9:00 in the morning, we may leave at different times in the afternoon to go to our jobs. Every one of us has a job to earn living expenses. For example, Kyle paints houses, John works all night at a frozen pizza factory, and Nancy works at Taco Tico.

John and Dave live together, Russ and Eric live together, but Kyle, Nancy and Sue live in separate apartments. We sometimes meet in the evenings or on weekends for food and drink. When we purchase food from the local health food store, we combine orders to get bulk prices.

Through our daily activities at The Land, and what we share in our personal lives, we have come to care about each other. The educational experience at The Land is more than the development of an environmental philosophy and experiments with appropriate technology. There is a sense of unity in the group that enriches all of us.

John Lawson



Dave, helping Eric bale newspapers.

Leaving The Land to Learn

Learning at The Land Institute falls into about four categories. We study books and papers and discuss them. We pound and saw. We invite guests to The Land to share ideas with us. We also leave The Land to learn.

During our first week, we visited the Lorenzo family near New Gottland, Kansas. Over ten years ago, Leland Lorenzo moved to one acre of land and built his own house, an unusual concrete structure rather like a sophisticated cave. Leland lives very simply. He eats only grains, vegetables and fruits and believes in fasting. He works as an auto mechanic to earn what cash he needs.

Leland's daughter, Lelane, and her friend Tim live near Leland. They rent an old school house on one acre for \$60 a year. Tim and Lelane grew a garden last summer and preserved vegetables and fruits by sun drying them on window screens. Russ received ideas for his solar drying projects from them.

Jule Lorenzo, Leland's son, also lives nearby. Jule built a concrete house with a straw frame in the side of a hill. He used bales of straw in a circular foundation, covered the bales with chicken wire and cement on both the outside and inside. There are large glass windows in front and a skylight on top of the modified dome structure.

Nancy Vogelsberg, one of our students, introduced us to her father, an organic farmer with 680 acres near Home City, Kansas. Crop rotation takes planning, but John contends that this is the only way to leave the soil as good, if not better, than when he first cultivated it. He believes that modern farming methods, including the use of large machinery as well as chemical fertilizers and pesticide sprays, are harmful to the land. To replenish his land, John cuts and stacks his alfalfa in the same field where his livestock will feed in the winter. Thus the nutrients used by the plant are put back in the same area by the animals.

We also visited with two of John's neighbors, organic farmers Al Ketter and Jack Dwerkotte. We looked at the fields where Al rotates corn, soybeans and alfalfa. We were impressed by the large healthy heads of milo in Jack's field, which seemed to have withstood an unusually dry summer better than the milo of neighboring non-organic farms.

In October, Sue Leikam and Nancy Vogelsberg drove to the Pawnee Indian Museum near Republic, Kansas, to learn more about Indian houses. The Pawnee lodge was very similar to lodges built by Indians near Salina and the lodge Sue and Nancy are building.

Nancy Vogelsberg

Guest Speakers

A diverse group of individuals around the Salina area have shared their life experiences and knowledge with The Land Institute this fall semester.

Our first visitor was Dr. F. C. Peters, a ninety-seven year old retired professor from Kansas Wesleyan. Dr. Peters was once mayor of Salina and helped plan Sunset Park. He has witnessed much change in the town and in the world, and he is optimistic about the future.

Ray Ryberg peddles his bike through town, waving, smiling and talking with the many people he knows. Joyfully doing the things he wants to do is what gives meaning to his life. Ray, at seventy-seven, also helped the students to a more long-term perspective.

Two of our guests talked to us about psychology. Rev. Bill Israel spoke on the methodology of transactional analysis and expressed his faith in the method as a means of helping people. Dr. Harry Mason talked on the history of psychology and emphasized the limitations of his discipline in helping mankind. Harry, a retired professor, visits The Land several days a week. Whether he is taking pictures, explaining the wind generator as he helps disassemble it for inspection and cleaning, or eloquently explaining a subtle insight of his own or of Herodotus, his contributions are useful and warm.

Paul Andreas, a pathologist who is no longer practicing medicine, talked to us about the problems in the medical profession. He also related some of his experiences as a citizen working to end the Vietnam War.

Steve Burr, a wildlife biologist who is currently president of the Kansas Audubon Council, talked to us about problems related to protection of wildlife.

Lothar Schweder, a linguist, spent a day with us discussing man's notion of dominion. He traced the literary and philosophical background of this idea.

Ken Carman and Harley Elliott shared their artistic and poetic expressions with us. Ken, a math teacher, showed us his works of art designed by random equations plugged into a computer. Harley Elliott, an art teacher at Marymount College and a published poet, read his poetry and talked about how he looks at the world.

Howard and Thelma Wright of Salina, but working in Washington D. C., spent a morning with us. We were interested in learning about the labor movement through the eyes of Howard who is a postal union official, but we were also very interested in listening to Howard and Thelma relate their experiences as novice farmers in the 1930's.

The contributions from this variety of interesting people are useful in the development of a holistic view of the earth.

Russell Brehm

"What people must see is that ecologically sane, socially responsible living is good living; that simplicity, thrift, and reciprocity make for an existence that is free and more self-respecting...Economy of means and simplicity of life-voluntarily chosen- have always been the secret of fulfillment; while acquisitiveness and extravagance are a despairing waste of life. "

from Where the Wasteland Ends by Theodore Roszak

Hardening Off

I once planted some seeds of a wild winter annual in small pots in a greenhouse. They were painstakingly watered and fertilized and produced a green, luxurious growth, surpassing in overall vegetative vigor their relatives in the field. From experience, it was known that if we moved these plants from the cozy greenhouse environment and left them outside, they would be vulnerable to the very environment which had shaped their ancestors. A high percentage would be unable to withstand the shock and might die, not because they lacked the genetic potential to resist the environmental extremes, but because the narrow greenhouse environment had not called forth the broad spectrum of genetic potential necessary to endure the adversity usually presented to wild populations.

The United States as a developed country might be regarded as a greenhouse culture. Lately we have been watching a gathering storm outside our comfortable environment and have become suddenly cognizant of how vulnerable our culture is. We lately anticipate that our cozy environment may fast disappear. In fact, only a few supporting sub-systems responsible for our affluence need falter, and we will find ourselves "out in the cold."

There is a way to gradually prepare greenhouse plants for a full life outside. It is called "hardening off." By placing the plants outside a few hours a day at the beginning and gradually increasing the amount of time they are left outside, eventually they can be safely left there. The first time they are placed outside, on a quiet, warm afternoon, the outside environment may appear to differ very little from the greenhouse environment. But it is an important first step, and somehow it seems different. What we are doing, during this "hardening off" period, is giving the plant the outside conditions and the time to "kick in" the genetic machinery it has and needs to cope physically and psychologically with the outside environment.

One might say that our main purpose here at The Land is to provide alternatives to the present for a cultural "hardening off" process. Student work on projects described on these pages may be no more than moving plants from a warm, still greenhouse to the outside on a warm still day. But we hope most of our activity is a bit more than that. We know that if we jump too quickly into the world of the future, we might become so discouraged that we refuse to venture out again. We hope that one day we may regard being whipped by the wind as being touched by the earth, rather than threatened with wilt, but that can happen only if we have been properly "hardened off." W. J.

Student Projects

"I can think of forty reasons why none of their projects can possibly succeed and forty different tones of wry cynicism in which to express my well-documented doubts. But I also know it is more humanly beautiful to risk failure seeking for the hidden springs than to resign to the futurelessness of the wasteland.

from Where the Wasteland Ends by Theodore Roszak.

Newspaper House

I came to The Land with an interest in alternative types of shelter. I wanted to experiment with an inexpensive structure that could be built out of materials readily available, even during times of scarcity.

We visited a man near McPherson who has built an inexpensive house that is quite livable. This home is constructed with hay bales covered with cement on the outside and plaster on the inside. I could see that hay, although fine as a form to build around and a good insulator, was liable to quickly decompose. It occurred to me that I could substitute newspapers for hay.

I began to think about ways to bale newspapers. The bale produced by putting newspapers into a hay baler was unacceptable. It was too irregularly shaped to be of use. I found that a workable bale could be made by stacking folded newspapers about nine inches high and wiring the bundle together with used baling wire.



(continued, page 5)

(Newspaper House continued)

The next task was acquiring the newspapers. I placed an ad in the Shopper's Guide, the local advertise-for-free paper, asking for large quantities of newspapers which I would pick up. Many people called, happy to give away the stacks of paper accumulating in their basements and garages. I worked out a collection route which would require the least amount of driving. The League of Women Voters gave me the newspapers they had collected for recycling.

When all the papers were gathered that could be stored, I baled them and began preparing a foundation on the building site. It took about six hours work on two clear autumn afternoons to mix the cement and pour it into the trench prepared for the foundation. When completed, my building will be dome shaped with an interior diameter of fourteen feet.

I am now stacking the baled newspapers and covering the outer side with polyethylene, two layers of chicken wire and cement. On the inside there will be a concrete floor and plastered walls. Hopefully the cold and windy weather won't prevail, and I'll have adequate time for all the work ahead of me.

Eric Herminghausen

Wind Generator

I began my search for a wind generator by visiting Leo Bircher in Kanapolis, Kansas. I hoped to see his generator in operation and gain some valuable information on how to locate a generator. Leo had a couple of them for sale, so we bought a thirty-two volt Paris Dunn for \$100.

Once I had the generator, I needed to get it into proper working condition. With the help of a book Leo gave me, The Homebuilt Wind-Generated Electricity Handbook by Michael Hackleman, I began to dismantle the generator. I soon discovered that the nuts, bolts and washers were rusted. All of these had to be replaced, unless I wanted all, or part, of a four-hundred pound generator flying off a thirty foot tower in a high wind. I removed enough parts to gain access to the armature and then baked it in an oven to dry it out. I then painted the wires to seal the insulation so no moisture would accumulate on them. This was necessary to prevent the current from crossing between the wires and burning up the generator. While I had the generator apart, I cleaned it and painted the parts that needed paint. It was then ready to be reassembled.

All three propeller blades were broken. I pieced one together though and used it as a pattern for three new blades. I had just begun to carve these new blades when we had the fire, and they were destroyed. The generator was also burned beyond repair in the fire.

I began again. I contacted Carl Doud by advertising for a generator in the Salina Journal. Along with an interesting assortment of horse-drawn farm equipment, Carl had a thirty-two volt aircharger, complete with tower, blades and control box. It seemed to be in excellent condition, and as Carl said, "It worked when we took it down back in '48."

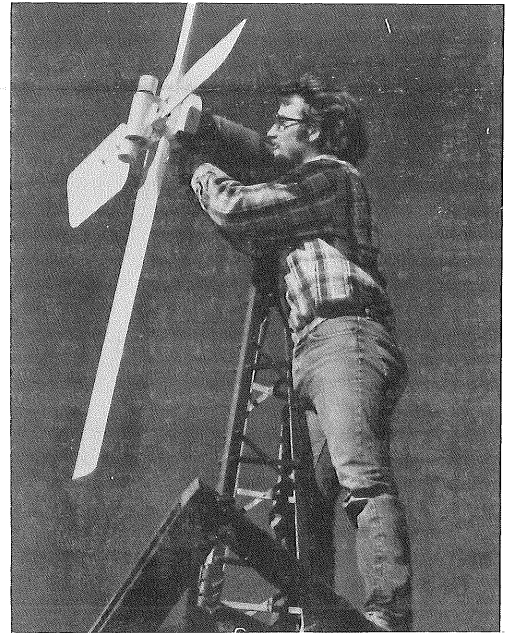
We bought the entire package from Carl for \$150.

I had planned to build an inexpensive tower from a steel pole ten inches in diameter, but since Carl sold us the tower with the generator, I have set the tower up. I attached wheel rims to the bottom of each of the three legs. Several students helped me raise the tower by "walking it up." Concrete was then poured in the holes around the legs. Now when we come around the curve closest to the river on the east, we can see the tower above the trees on the highest point at The Land.

The wind generator and tower is in the experimental village area. The current coming from the generator will be stored in a thirty-two volt battery system in the Indian house. These batteries will provide enough D. C. current to have lights in the newspaper house and the Indian house. To invert to A. C. current would only complicate the system and produce minimal advantages.

A thirty-two volt, 500 watt generator, operating at a maximum efficiency twenty-four hours a day can only produce 360 kilowatts per month. This is only 80% of the electricity used by a low-consuming American household. Therefore, it would take a significant reduction in consumption, along with solar space and water heating, for the small wind generator to become a practical reality for each home. But it does help us get in touch with the earth and closer to the human scale.

Kyle Mansfield



"The way to solve the conflict between human values and technological needs is not to run away from technology. That's impossible. The way to resolve the conflict is to break down the barriers of dualistic thought that prevent a real understanding of what technology is--not an exploitation of nature, but a fusion of nature and the human spirit into a new kind of creation that transcends both."

from Zen and the Art of Motorcycle Maintenance
by Robert M. Pirsig.

Solar Hot Water Heaters

Charles Carey, a member of the Solar Energy Group of Kansas, said, "The use of solar water heaters can be justified economically in terms of savings on electrical and gas bills." The practicality of solar water heaters for homes greatly appeals to me. The idea of having a heat source with no meter attached to it by a utility company is also appealing.

My first flat plate collector and water tank were destroyed in the fire. My new collector is now being installed on the Indian house in the experimental village area. I am now dealing with the problems of integrating the collector in the mud/portland roof of the Indian house.

Like the first one, this collector is four by eight feet and consists of a plywood bottom and one by eight inch sides. Next to the plywood bottom on the inside is three and a half inches of fiberglass insulation covered by corrugated roofing metal supported toward the middle by two by four's. Every other valley has a half inch plastic pipe running the length of the collector and attached to the adjacent pipe at the end with a ninety degree elbow. I am using two layers of glass for cover. Power to pump the water from the collector to storage and back will be provided by electricity from the wind generator.

During the construction of this water heater, I have become conscious of the relative unimportance of the tilt of the collector with respect to the sun, so long as it faces south. I have gained a better understanding of the climatic conditions of this Central Kansas region. The most salient fact that I have confronted is that one can not inexpensively replace the use of fossil fuels in water heaters without making some significant changes in lifestyle and consumption patterns.

John Lawson



Solar Food Driers

I was interested in learning about solar energy and started my project working with the drying of fruits and vegetables. My ideas began with some books from the Kansas State Univ. Library, an article from Mother Earth News and visiting with Tim and Lelane.

Drying is one of the oldest methods of preserving food. Only recently, as canning and freezing processes have been developed, has the use of this technique declined. It is a much simpler means of preservation and does not require as much energy consumption as either canning or freezing.

I used old window screens for my first type of drier. I cut the screens in half and hinged them together. They could then be folded on top of each other, which protected the vegetables from insects and other things flying through the air. I used vegetables from the Jackson garden: tomatoes, peppers, eggplant, onions and some squash. The tomatoes were the most plentiful and the easiest to dry. I washed all the vegetables, sliced them, and spread them out on the screen. With hot sun, it took two to three full days to dry. For storage, I simply put the dried products in plastic bags and airtight containers in a cool, dark place.

Later I constructed another, more efficient drier which maintained a hotter temperature. It was basically a box type construction, with the sides angled in front and covered with glass to absorb as much sunlight as possible. The sides of the drier were insulated and painted black. I drilled holes along the sides for ventilation and for moisture to escape. A frame for the produce ready to be dried could be slid in from the back. Tomatoes and peppers took less than two days to dry in this drier. I had almost 40 tomatoes drying next to The Land Institute building when it burned (not a recommended method of drying), so I am getting a fresh start.

In between drying experiments, I've been setting up an Indian tipi to experience the relationship of it to the land, and to determine its feasibility as a structure. I've found it is much harder than I thought to get it put up right and am struggling to apply the finishing touches.

Russell Brehm

Indian House

Shelter from the elements is one of the basic needs of humans and one of the most important distinguishing features of a culture. Our search for alternatives led us to explore the possibilities of a structure that would coincide with the principles of regional self-sufficiency.

Nancy and I lived for a month with traditional Navajo families on the Navajo reservation in New Mexico and Arizona. Our experiences with their hogans caused us to be interested in the shelter of Native Americans from Central Kansas who were regionally self-sufficient.

We consulted Dr. George Taylor, a sociology professor at Kansas Wesleyan, who has directed archaeological digs of prehistoric Indian houses in Saline County. We were particularly interested in the dig just two miles south of The Land. The information he gave us was then supplemented by readings about various tribes of the Great Plains.

All of the data suggested a round, earth-covered structure, twenty to eighty feet in diameter, with a single entrance on the south or east side. These had a central fire. Near the hearth were set four to eight posts that supported the center of the roof. The outer roof and walls were supported by a series of upright posts. Many of the houses featured storage pits dug into the floor.

We were ready to begin. A site was picked on the hill where water would be readily available. We staked out a circle twenty-five feet in diameter and began digging by hand to compensate for the slope of the hill. We then leveled the ground with a grader drawn by the tractor. This was the first of our compromises in using a machine to ease our work load.

Our attempts at digging the seventeen holes (thirteen outside, four in the center), in which to place the posts were frustrated by the hard earth that had not seen rain in many moons, and a hand post-hole digger that broke under the pressure. We finally resorted to a tractor-driven auger (Ford had a better idea), compromise number two, and were ready to set the poles.

We used Osage Orange poles (commonly known as hedge), considered a nuisance by many local farmers who gladly donated them to us, provided we cut them from the hedge rows ourselves. This proved to be quite a formidable task, but was accomplished through a team effort. We compromised a third time here with the use of a chain saw. We then set the poles one and a half to two feet in the ground, leveled them and tamped each one by hand. The outside posts stand five feet above the ground; the center posts, eight feet.

A trip to the Pawnee Indian Village in Republic County, Kansas, gave us some valuable insights into the construction methods the natives used. These we will consider in relation to current building methods and will use the result of marrying the two.

Our crossbeams were notched, set on the upright posts, and bolted. These crossbeams will provide support for a wooden frame that

will be covered with black polyethylene (for waterproofing), a layer of hogwire fencing, and a layer of chicken wire. (These products of modern technology are relatively light; therefore, the energy costs for shipping from outside the region would be minimal.) Thus we have our drape (literally) of the new over the old. A covering of mud/portland cement will then be packed into the mesh of fencing.

Finishing touches to the building will be a wood-burning stove in the center, replacing the pit fire, and a five feet hallway extending outward from the doorway.

As we have built the Indian house, we have had to consider many questions. Woodstove or pit fire? One window or two? Easy questions! How many pounds of alfalfa would be necessary to produce enough methanol to run the tractor to drive the posthole digger? A less easy question. If we were to close the energy mines, should we take our energy for this construction out of farm vegetation off the land, thereby placing the machine somewhat in competition with humans and other species for food? That's a hard one, not made easier by a survey of bruises, cuts, callouses, aches and hedge thorn scratches.

Sue Leikam



Sue and Nancy working on the Indian house.

"...when we went up to the high lands we built things of volcanic rock; when we came down into the cedars we built with cedar logs; when we came down more we did adobe houses... when you got to the desert you dug holes, when you go out along the bluffs you did cave dwellings; wherever you are, take what you've got to build with."

Doug Madsen in Shelter

Milo as a Food for Humans

Milo as a food for Americans? Milo, or grain sorghum, has been a major food source for the peoples of Western Africa and Asia; however, in the U. S. it is not consumed as a food to any measurable degree at all. Milo will grow well in dry land areas that are suitable for growing wheat. It could be grown as a substitute for wheat. Since gluten is a necessary element in flour for making breads, it is good to know that sorghum is fairly high in glutamic acid, although it contains just 85% as much as wheat.

I had my first meal with milo early in September when Eric and I and some friends went to Carleton, Nebraska, for the twenty-fourth annual Milo Festival. The celebration was complete with a parade down the center of town, locally-made arts and crafts, and food products made of milo for sale at the community center. Milo pancakes were featured, but samples and recipes of milo bread, biscuits, cookies and even milo jelly were available. Milo tastes something like buckwheat and gives an interesting flavor to baked goods.

The nutritional content of milo is fairly well known. Hybrids and strains such as Hegari and Shallu have already been developed that contain high amounts of the essential amino acids: lysine, leucine and isoleucine, protein constituents usually found lacking in the cereal grains. For example, the sorghum hybrid 160 Cernun has about 14% more lysine than corn, and 20% more than wheat (Verupahsha and Sasty, 1968). The hybrid tx 414 contains 100% more isoleucine than corn (the hybrid Texas 60), and the strain Hegari, 36% more.

The higher protein varieties of sorghum yield 10% less per acre than those generally grown for livestock. The ones presently grown aren't as suitable for human consumption because their high tannic acid content makes them less palatable.

I plan to mill enough milo of the variety called Hegari to experiment with it in baking. I plan to make biscuits, cookies, pasta, and milo jelly. One day I fixed milo pancakes for the group to eat for lunch. I made plenty and they ate all I fixed.

Dave Henderson

"The home-comers base themselves upon a different picture of man from that which motivates the people of the forward stampede. It would be very superficial to say that the latter believe in "growth" while the former do not. In a sense, everybody believes in growth, and rightly so, because growth is an essential feature of life. The whole point, however, is to give to the idea of growth a qualitative determination; for there are always many things that ought to be growing and many things that ought to be diminishing."

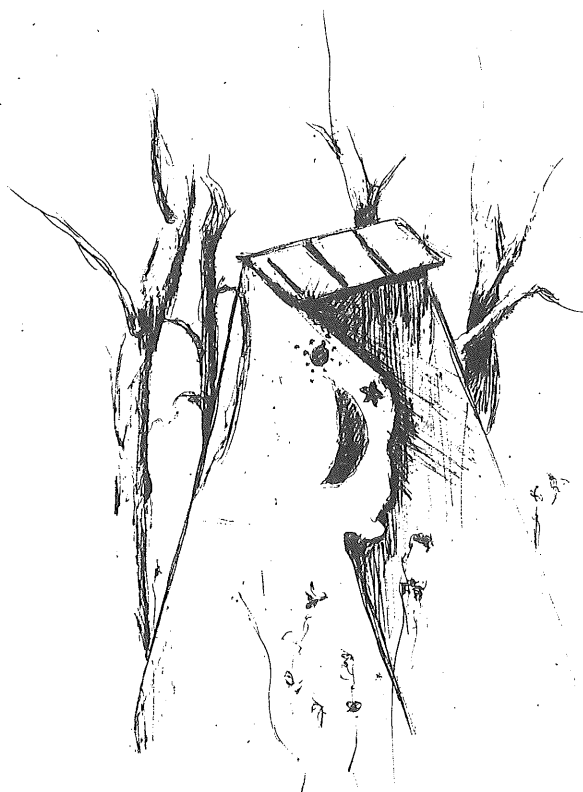
from Small is Beautiful, Economics as if People Mattered by E. F. Schumacher.

The Land Library

Students were just beginning to realize the wealth of information and ideas in the collection of environmental books and papers when the building burned and all were destroyed. Members of the Smoky Hills Audubon Society had started to bring their books to The Land, and we were happy to share our meeting room and library with the Audubon members. We had begun to think of the accumulation of materials as the nucleus for an environmental center in this area.

The dream was not extinguished with the fire, only delayed. We have received several boxes of materials from the Environmental Studies faculty at California State University in Sacramento. Frank Anderson, librarian at Wofford College in Spartanburg, South Carolina, sent several books. A former student and friend of Wes's, Dr. Aaron Blair, sent five boxes of biology and environmental books and papers. A book drive was organized in Kansas City by Ann Bueker and Dr. Paul Peters, another former student and friend. The Land Institute has applied for tax free status and all such gifts will be tax deductible.

All our addresses of groups interested in alternatives have been lost. We would like to be in contact with people across the country who are experimenting with solar energy, wind energy, organic gardening and other appropriate technology. Along with books and papers, we would like to receive information about the network of spiritual allies which we know exists.



The first joint student project- an outhouse. Sketched by Sue Leikam.

Rebuilding



Left to right: Steve Hetzke, Fred Elliott, Wes Jackson, Tim Frend, Wendell Nickell, Charlie Marsh, Steve Burr.

Board of Directors

The Board of Directors for The Land Institute consists of individuals who have expressed high interest in the goals, philosophy and projects of The Land, and who have agreed to guide and support the non-profit, educational corporation.

Only two of the directors live outside Salina. They are Bernd Foerster, Dean of the College of Architecture and Design at Kansas State University, and Frank Anderson, librarian at Wofford College in Spartanburg, South Carolina.

There are seven board members who are Salina residents: John Simpson, state senator; Sam Evans, businessman; Rev. W. E. Cassell, emeritus professor of religion and Bible at Kansas Wesleyan; Steve Burr, wildlife biologist and current president of the Kansas Audubon Council; Wendell Nickell, John Schwartz and Gordon Maxwell, all medical doctors.

Roger Welsch

Roger Welsch, Assistant Professor of English at the University of Nebraska in Lincoln, is a man who is interested in the culture and lore of the Great Plains. He has recently torn down and reassembled a log cabin near Lincoln. He is the author of several books and papers on the frontier lore of the prairie. One of his books has the memorable title, Shingling the Fog and Other Tall Tales. In addition, he has made a record album called "Sweet Nebraska Land."

Roger will visit The Land on December 4. That evening he will play his guitar and sing some of those prairie songs at a gathering in the home of Senator and Mrs. John Simpson, who are hosting a buffet for the students, board of directors and friends of The Land.

A new building for activities at The Land is under construction. On Nov. 5, fifteen friends of The Land worked from daylight until dusk on a log structure at the sight of the burned building. On Nov. 6, eight returned to work all day again. Two walls were raised.

Logs for the building are power poles, twelve to seventeen inches in diameter. The window and door jams are made of railroad ties. Three by twelve inch bridge planks, purchased from the county when the bridge near The Land was repaired, are being used as stringers and ceiling joists. A roof will be built over this first story and tools will be stored inside. Next summer Wes will build the second story for classroom and office space.

The construction crew on the weekend effort included Wendell Nickell, Steve Burr, Charlie Marsh, Steve Hetzke, Ken Baker, Dick Courter, John and Karen Black, Fred Elliott, John Simpson, Jim Rhodes, Steve Palmer, Jim Lawrence, Rob Mohler, Tim Frend, Laura, Scott and Wes Jackson.

It was strenuous work, requiring problem solving and cooperative efforts to get the logs into place. The joking and teasing, and a plentiful supply of good food provided by wives of the workers, made it seem more like a party. On Saturday evening, when it was too dark to work any longer, thirty people, men, women and children, gathered in the Jackson house for a turkey dinner. It was a mellow celebration of the day's accomplishment and an experience of community.

hat



Gary Hammond, a local farmer friend, came by one night right after the fire when we were scooping up ashes and pulling out twisted tin. "I just thought you might want some power poles that got snapped off in the ice storm that winter. If you want to build with them, I have plenty. I'll help you load them." W. J.

Director of The Land Institute

Wes Jackson resigned last summer as professor and director of the Center for Environmental Studies at California State University in Sacramento. He was also the proposal writer and project director of the Lake Tahoe Environmental Consortium, as well as a member of the design team and participant in a statewide television course on environmental impact analysis. Prior to moving to California, he taught biology at Kansas Wesleyan in Salina.

Wes was trained as a biologist with a master's degree in botany from the University of Kansas and a Ph. d. in genetics from North Carolina State University in Raleigh.

His widely adopted book, Man and the Environment (2nd edition, Wm. C. Brown, 1974), appeared at the time his interests were shifting to the problems of human interactions with the environment.

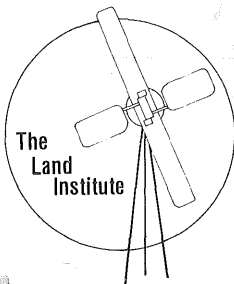
In January, Wes will take part in the Overseas Development Council and Kettering Foundation South Asian Dialogue Project. He will travel through India and Sri Lanka with nine other invited participants and visit agricultural operations. One stop will be to visit the Institute of Intermediate Technology in Trivandrum.

ACKNOWLEDGMENTS: All photos, except on page 1, by Harry Mason. Logo design by Dick Courter.

Spring Semester

The Land Institute offers a program for six to eight college-age students each semester. Special seminars and inter-term courses will be available in the future. The Land is located three and a half miles southeast of Salina, Kansas, by the Smoky Hill River on the property of Wes and Dana Jackson.

The spring semester will begin February 7. Any person interested in applying should write a letter describing his or her academic background, interests, and plans for the future. Write to Wes Jackson, Director, The Land Institute, Route 3, Salina, Kansas, 67401.



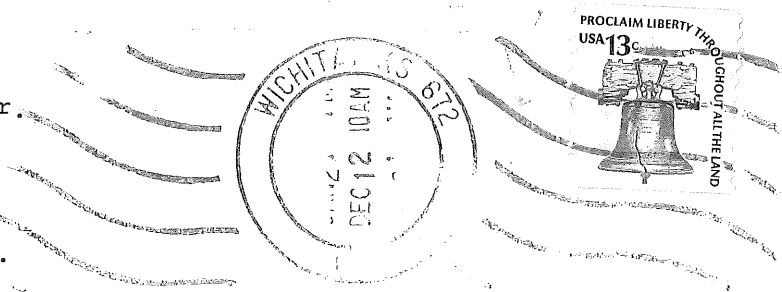
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We have not emphasized college credit for The Land experience. Nevertheless, we recognize that one of the realities of the day, for some, involves making progress toward a degree. Therefore, we cooperate with those institutions and those students who wish to work out such an arrangement. For example, Sue (above) will receive twelve hours of credit at Marymount College for this fall's work.



FIRST CLASS

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