

Virtual reality

Seeing what's not yet there

Imagine a world in which doctors practice delicate, life-saving surgery without ever piercing the skin. Imagine experiencing life on other planets, without ever leaving the ground.

This world already exists in an emerging software technology called "virtual reality," allowing human beings to jump through the computer screen and enter a three-dimensional universe that looks and sounds "real" but isn't.

Virtual reality — or VR — is considered the next frontier in the growing galaxy of computer technology. Scientists, educators, researchers and dreamers say it could change our lives as much as the telephone or television set. Its applications extend to space exploration, medicine, communications, architecture, military training, education and, of course, culture and entertainment.

Some have called it electronic LSD, but its pioneers say it's too diverse, too advanced and too interactive to be compared to a mind-altering drug. Besides, it's legal.

"VR doesn't threaten the body mentally or physically," said A. J. Redmer, executive director for the Virtuality Group for Spectrum Holobyte and Cyberstudio, makers of VR software.

VR systems have been in development for more than a decade and are used routinely by the Pentagon and the National Aeronautics and Space Administration, where mere mortals can soar to the surface of Mars at will. Pilots who flew sorties over Baghdad in the Persian Gulf War trained in vir-

tual reality simulators and surgeons have used VR to conduct realistic practice operations. In Japan, customers can design computer models of ideal kitchens, step into them and then "move" cabinets or refrigerators around to their liking.

Researchers say VR will allow future doctors to explore the inside of the human body and give "virtual" adventurers the experience of visiting prehistoric Earth, exploring Venus or sitting in the dugout of a Cubs or Cardinals game. It may also give amazing new options to the handicapped. In 30 years, pioneers say, a VR system will be plugged into every home.

At the moment, however, the technology is expensive (up to several hundred thousand dollars) and, some say, still rudimentary.

"VR is about where television was in the 1940s," said Jas Morgan, music and arts editor of *Mondo 2000*, a Berkeley, Calif., magazine specializing in the effects of high technology.

VR uses a "head-mounted display," which is a pair of goggles that presents your eyes with a computer-generated, three-dimensional image. We're not talking plastic 3-D glasses. These are sophisticated (but bulky) viewers in which you can shape the figures in the artificial world. You can "fly" to the other side of the room by simply pointing your finger. On your hand is a special glove that allows you to grasp objects in this virtual environment and move them.

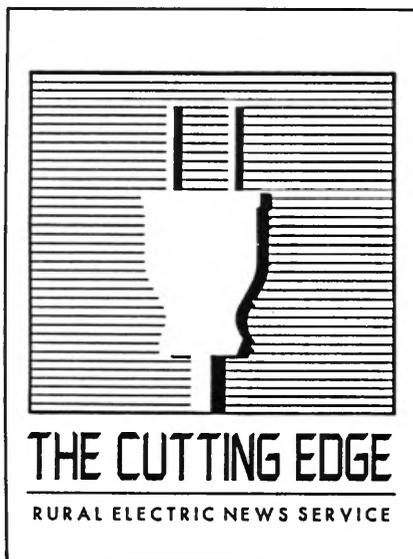
The environment you see looks surrealistically perfect, like a cartoon, and the images can get out of focus. The quality of the headsets and the programming can vary. It depends on what the system is designed to do. But leaders in the field say that virtual reality will get better and cost less in a few years.

Virtual reality has long been near and dear to science fiction writers and producers. A virtual reality center called the Holodeck is a mainstay on the popular TV show "Star Trek: the Next Generation." VR themes are also prominent in such movies as "Total Recall" and "The Lawnmower Man."

In fact, experts say VR's entertainment value will create widespread demand for it. It may also generate the money needed to expand the technology.

An arcade version of virtual reality is being marketed by Spectrum Holobyte of Alameda, Calif., in conjunction with two other companies. Virtuality, an interactive computer entertainment system, costs about \$3.50 for a four-minute game.

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Norris Electric News

Newton, Illinois 62448 • 783-8765

Standby power insurance against Mother Nature

Purchasing a standby generator is comparable to buying fire insurance—you may never need it, but it is invaluable when trouble arrives.

Although our electrical system is highly dependable and reliable, it is subject to the whims of Mother Nature—tornadoes, ice storms or destructive high winds.

How well are you prepared to handle a prolonged outage? Now is the time to take inventory of your home and farm. Determine how you would pump water, milk

cows, handle feed, keep pipes from freezing, as well as provide heat and ventilation for livestock. How will you heat your own home, keep frozen and perishable foods from spoiling and operate sump pumps and other necessary equipment?

Now is the time to sit down and carefully inventory your electrical needs. Assume that you will experience extended outages that could cause you not only inconvenience, but also financial loss. And remember: Standby ge-

nerators are not normally stocked in any quantity, so don't plan on purchasing one after an outage occurs.

Remember, too, that the installation of any standby equipment requires a positive double-throw type of switch. Operating a standby generator without a properly installed double-throw switch is extremely dangerous and could result in financial liability.

Be sure to guard against any of those "acts of God" no one can foresee.

What do blinking digital clocks have to do with trimming trees?

Coming home to a digital clock flashing "12:00" is an annoyance at best. It's a tell-tale sign that your power has been interrupted, even if for only less than a second.

It may be small consolation, but it's highly likely that the power "outage" lasted only as long as it takes a tree limb to touch a power line while swaying in the breeze.

Most systems that distribute electricity use protection devices on their lines. When these devices, called reclosers, sense a disturbance, they actually open or by some other means break the circuit, and very briefly interrupt the flow of electricity through that section of line.

This disturbs your digital clocks or timers, true, but it also protects the equipment and in many cases, prevents a prolonged outage. The protection device recloses, reconnecting the circuit. If the disturbance which tripped the device in the first place is still present, it will

interrupt service again briefly and try to reclose again. Most protection devices will go through this process three times before the line goes dead.

The disturbance to the line is often caused by tree branches. This explains why most electric utilities have an aggressive tree-trimming program in place. But, back to the flashing clocks.

There are some solutions to the problem. You can buy digital clocks and appliances with backups for the digital display. These days, many clocks, timers on computers, video tape recorders and kitchen appliances are designed to take a battery that will take over during power interruptions.

Think about your landscaping plans and don't plant trees near the line, or recognize that branches may be trimmed when or before they grow near lines. You may want to report trees that need to be trimmed away from power lines, but by all

means, don't try doing so yourself. Any contact with live electrical lines is life-threatening.

This is important in reporting outages

OFFICE HOURS: 8:00 a.m. to 4:30 p.m. Monday through Friday. Closed Saturday and Sunday. Phone: Area Code 618-783-8765.

To report an outage after office hours or on Saturdays, Sundays or Holidays:

Call—618-783-8765 first—

If no answer dial 783-3221
or
783-8562
783-2258
783-3752
783-2091

Or Lawrenceville area 943-5996
Claremont area 869-2320
Effingham area 217-868-2176

Please—When reporting an outage have your line and account number ready. You will find it in the lower left hand corner of your meter reading card.

Oblong men enjoy going 'back in time'

Ed and Bob Shields like the good old days. While many of us enjoy an occasional "fest" or reenactment of one kind or another, they're coming pretty close to living in the past.

The men, who live south and east of Oblong, have moved in a log cabin—from near Robinson—and built another one. These aren't backyard storage buildings: they live in them.

And the yard is full of old wagons, engines and other old-time stuff. They've just finished work on a Studebaker wagon, but they don't know if they rebuilt an old wagon or built a replica—the pieces they started with were so few and so deteriorated that they're not quite sure.

They have another "basket case" that they're working on now. It's a big tank wagon that's interesting in a couple of ways. "It had a heater to keep the contents warm," Ed says, "and there's a gear drive off the rear wheel. I imagine it was used to run some kind of spreader. Anyway, we hope to rebuild it and use it at the old-fashioned engine show that's held every year at Oblong. We'd like to use it to water down the grounds to keep dust down."

And there are engines. Most of them are the old one-cylinder, horizontal engines that were used by the hundreds in area oilfields, and that often ran on casinghead gas. One is an Olin, made by the Titusville Iron Co., in Titusville, Pennsylvania. It's the only one they know of in the area they say, and Ed notes that it's what many people call a "hit and miss" engine. "It sounds funny when it's running," he says, "because it really does hit and miss. You'll hear it fire once, and it'll coast for quite a while, then it'll hit again. It really

sounds odd, and I guess that's part of the fascination."

They used to do carpentry work, they say, then their mechanical bent got the best of them. They went to work at a garage in Oblong and worked there for some 20 years. "All the enjoyment went out of it," Ed

says, "as cars got more and more computerized. It got to where we had to go to classes every year, and it wasn't worth the trouble. We decided to just get back into carpentry, and that's what we do now—when we're not building log cabins and working on old wagons!"



Bob, left, and Ed Shields are pictured with the Studebaker wagon they either rebuilt, or built as a replica.



The Shields homes. One was moved log by log from near Robinson, while the men built the other themselves.

Virtual reality

(Continued from page 12a)

To play, you step into a round metal booth and strap on a backpack while an attendant fits a helmet over the top half of your face. Staring at the wraparound liquid crystal screen inside the helmet, you see a large platform floating in space. Players say it feels like they're standing on the platform.

Rotate your head to see four other platforms connected by staircases. You're handed a "controller" that looks like a

joystick but is more sophisticated. A gun barrel materializes on the screen and then you look for a gun-toting villain to shoot. Unlike video games or TV, VR takes physical movement and users of the new arcade game say it can be exhausting.

"In VR, you have to mentally focus the same way as in real life," said Redmer. "It's not comparable to looking at a flat computer or television screen. There is no way of representing the experience of VR without actually doing it. It's like you're there and you interact with the

environment you're in."

VR advocates agree it is limited only by human imagination. Others question whether the new technology will help people interact with the world or avoid "actual" reality altogether.

"It's very important that people not fear these technologies as they come along and also not embrace them blindly," said Morgan. "Interactivity is one of the saving graces of this technology. VR can be a great way to communicate human experience to one another.

—Rural Electric News Service

The answer: a garage, a bush, and a dog.

The question is, "What kind of things stand between your electric meter and accurate billing?"

Your electric cooperative's meter readers need easy access to your meter so that your billing will be

correct. Sometimes, the reader will find that a



garage has been added to a home and the meter

is now locked indoors.



grown into a big obstacle

Or, a small bush has

right in front of the meter.



Then there's the family dog who's left outside to protect the property.

It not only makes the meter reader's job difficult, but it can make it dangerous, too. Take a moment to check your meter. If you can't get to it, neither can we. If you have questions or need to make arrangements for our access, just call.

Seeing infrared

Hamlets in rural England use them to trace burglars. California firefighters use them to find smoldering hotspots. Persian Gulf war pilots located targets with them. And, astronomers hope someday to use them to look "inside" faraway stars.

The device so in demand in so many arenas these days is the infrared video camera, a new generation of infrared technology that can help people see the world around them quite differently than before.

The theory behind how the camera works is based on this fact: A warm object emits more radiation than a cool one.

The camera can produce a picture based on this difference in radiation, allowing us to view images lost to the human eye.

For example, because the eye responds to visible light, it can miss the glowing embers beneath the ash at a fire site. It also can't tell whether an insulated cup holds hot or cold liquid. And, it can't see in the dark. An infrared video camera can help it do all three.

Scientists predict a host of uses for the emerging technology, including aiding in commercial aircraft landings at night and in foul weather, and night surveillance.

For years, older infrared technologies have been used in the electrical, construction and petrochemical industries. They have been used to help detect leaks and stress patterns, control oil pollution and conduct land surveys and medical analyses. But the new platinum-silicide cameras are said to offer a low-cost, video-quality alternative.

Scientists have used them to pierce the interstellar dust and look into distant regions of the universe, and NASA has long lobbied for an infrared space telescope, which leading astronomers term "of fundamental importance for almost all aspects of astronomy."

Such a telescope could provide a view "almost a thousand times more sensitive than Earth-based telescopes," according to astronomers, who have dubbed this the "decade of the infrared." The telescope's advanced detectors would reportedly enable it to measure the infrared signals from distant planetary bodies to get clues to their nature.

In a more down-to-earth use of the infrared video camera, the hamlets of Halmore, Purton and Hinton in Gloucestershire in rural England have installed the cameras on telegraph poles outside of town. The cameras record the comings and goings of all who enter and exit the villages in an effort to stop the growing number of break-ins by

traveling urban thieves.

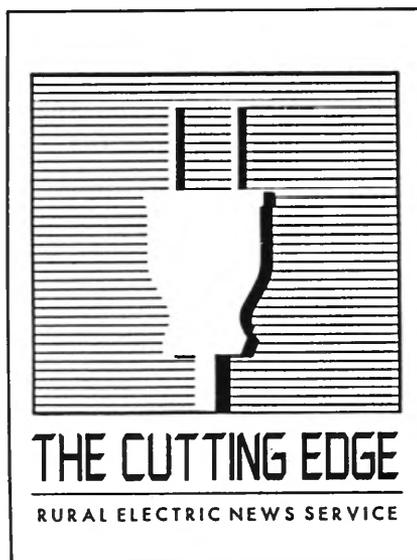
The police who view the tapes likely see an array of ghostly images, because infrared video gives a still-recognizable but different view of a person's body than regular video.

Faces still look like faces, but familiar characteristics such as eye and hair color are absent from an infrared image, whereas other features, such as the warmer eye sockets, are pronounced. The nose and ears are usually cooler than the rest of the face and are darker on the image, while the mouth will appear darker or lighter, depending on whether a breath is being taken or let out.

An infrared or thermal image is essentially a portrait of any given scene's temperature. It is the inner light that is measured, not the outer. One drawback, researchers say, is that many objects radiate with similar intensity and therefore there is little contrast in infrared images. Highlighting the contrast is a major goal in infrared camera technology.

English astronomer Sir William Herschel demonstrated the basic difference between light and heat in the early 19th century, using a prism to split sunlight into its spectral bands, according to *Scientific American*. As he moved a thermometer through the bands, he found that the temperature rose from the blue end of the spectrum to the red. The temperature continued to rise beyond the red, where there was no visible light. The invisible light beyond the red became known as the infrared.

—Rural Electric News Service



Norris Electric News

Newton, Illinois 62448 • 783-8765

Four area men were reelected, and a new one elected, to the Board of Directors of Norris Electric Cooperative, Newton, at the co-op's 55th annual meeting on Saturday, January 30 at the Newton High School in Newton. Pictured with Ernest C. Weber, manager, are, seated from left: Delbert D. Mundt of Dieterich; Russell C. Scherer of Sumner and Norbert Nix of West Liberty. Standing from left are Weber; Charles Liston of Flat Rock, and Frank Seiler of Dundas. Nix, Scherer, Mundt and Seiler were reelected; Liston replaces Marshall Shaw of Palestine, who did not seek reelection.



Record crowd at annual meeting — stable rates expected for future



Retiring board member Marshall Shaw, left, visits with his successor, Charles Liston. Shaw, who had served 22 years, did not seek reelection.

Norris Electric Cooperative members heard some good news, reelected four members to the board of directors and elected one new board member at the co-op's 55th annual meeting Saturday, January 30, at the Newton High School, Newton.

Reelected were Delbert Mundt of Dieterich, Norbert Nix of West Liberty, Russell Scherer of Sumner and Frank Seiler of Dundas. The new board member is Charles Liston of Flat Rock. He replaces Marshall Shaw of Palestine, who did not seek reelection.

The good news, delivered to some 1,200 members and guests in a slide presentation by Ernest C. Weber, manager, was that the member-owned utility had been able to avoid a rate

increase during 1992, and would also return some \$324,162 in capital credits to members who had received service from the co-op during 1961.

Weber noted that there were several reasons a rate increase had not been necessary. "For the first time in many years there were no major natural catastrophes during the entire year in our service area. The relatively moderate temperatures last year resulted in low demand costs, and your board of directors were careful to keep costs down.

"Although the Illinois Commerce Commission granted our power supplier, Central Illinois Public Service Co., or CIPS, a rate increase, thanks to diligent work by your board and a new wholesale power agreement



Clockwise from left: Thomas H. Moore, general manager of the Association of Illinois Electric Cooperatives, speaks to the group — in all, there were about 1,200 members and guests at the meeting. A family goes through the registration process. As always, the dinner line was a popular stop for most of those at the meeting. Delbert Mundt, president, gives his report.

with CIPS, we were able to avoid an increase. In fact, Norris members have not had an increase in retail electric rates since February, 1983. We've negotiated a power supply arrangement that will assure us of adequate capacity and reasonable rates through at least the year 2007," he concluded.

Mundt, president, touched on the fact that Norris Electric is one of the largest co-ops in the state, both in terms of area covered and the number of members served. It provides electricity to 16,100 members in rural areas of eight counties, and covers some 1,800 square miles. It takes 3,800 miles of line to connect everyone to the system.

"But there's more to it than that," he said, adding, "We like to think of Norris Electric as the

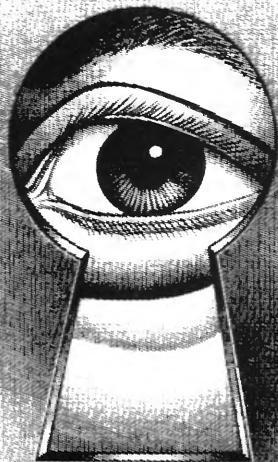
framework that ties together the rural areas and the smaller communities in our rural service territory. Our electric system is one of the key elements of the economic infrastructure of our territory and we're committed to providing a leadership role in developing other infrastructure elements such as adequate supplies of safe water, modern telecommunications and educational opportunities for our young people."

Mundt told his audience that Norris had provided strong support to the Wabash Water District and EJ Water Corporation. "These water districts will enable our members to enjoy a better life-style and will help area businesses grow and expand through the years," he said.

Lyman Crumrin of Marshall, treasurer, noted that 1992 was a successful year for Norris. While the mild weather had curbed sales, it had also resulted in a lower demand, resulting in cost savings. "Our operating revenues came to \$17,550,908," he said, "and our expenses including purchased power, depreciation, administration and taxes came to \$17,336,331. We had operating margins of \$214,577."

After the meeting the board met in reorganizational session and reelected Mundt president, Earl Minderman of Lawrenceville, vice president, Russell C. Scherer of Sumner, secretary, and Crumrin, treasurer. Other directors are Wilburn H. Deters, Walter W. Hart, Frank Seiler and Howard Wolf.

On the outside looking in.



Some electric utility customers are bound to feel that way. The office is in a faraway city, unexplained policies are enforced, and your only contact with them is your monthly bill. It's not the "cooperative way" of doing business. An electric cooperative is something special. It's an organization providing a service to its owners. And the owners are you. That's why your participation is so vital to its continuing success. That's why your attendance at the Annual Meeting is so important. It's the leadership you elect from among your neighbors – the board of directors – that guides the operation of the cooperative and sets the kind of policy that puts people first. Local ownership, local control, not-for-profit operation... We think it's the best way to serve you, the cooperative way.



Electric Cooperatives of Illinois

Good for ALL Illinois

It's not a book yet.



Starting a project doesn't mean the job is done. Some people have said the rural electrification program isn't needed anymore because most of the country has electricity. They think the job was done when power lines were put up 50 years ago. They should consider this: The entire system of power plants and lines must be maintained constantly to make sure all members have reliable service. An ice storm is a reminder of that. Some 25 million Americans in 46 states rely on their electric cooperatives for a better quality of life. As long as they work, play and raise families there, the REA's job isn't done.

And the annual cost to U.S. taxpayers? Less than it costs to build 50 miles of interstate highway...and less than other electric utilities receive in federal subsidies. Electric cooperatives are about people doing things for themselves, and thanks to these people, the final chapters on rural America haven't yet been written.



Electric Cooperatives of Illinois

Good for ALL Illinois

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Roger, who's been training and showing ponies since childhood, gets a pony into position. His daughter Trina and son Andrew help with the pony operation, and Trina did well at the State Fair last year.

Ponies in his blood

Roger Mushrush of rural Chauncey is hooked on horses and admits with a smile that he always has been. He has five now, and shows them as often as he can at fairs. His daughter Trina, 13, helps. So does his son, Andrew, who's 8. Last year, Trina won second place honors at the Illinois State Fair, in the children's riding class. The Mushrush animals are Shetlands and Hackney ponies. He also raises hogs.

"I've been involved with ponies all my life, except for a short time back in 1952," Roger says, "when we decided to sell our ponies off and get out of the business. Before we sold out," he

adds, "I'd ride up and down the road in front of my dad's place with the ponies. After we sold, I got a bike."

It turned out that it just wasn't the same, he says. "By fall, I just had to have a pony to get ready for the fair season next year, and we got back into the business. If you're the kind of person who enjoys it, it gets in your blood."

The Mushrushes are working with a new pony now, and she shows a lot of promise, Roger says. A three-year-old, her name is Cherry Flamingo. "Trina's helping," he says, "and just about every day, weather permitting, we're out on the blacktop, getting her up and in

shape for the coming fair season. Whether you do it as a hobby, like a lot of people do, or as a business, like us, you have to really keep at it."

He notes that there's more to fairs than just running ponies, and that's learning. "I try to learn something new at every fair I go to; a little something that'll help me do my business a little better."

Perhaps it is that dedication that makes the business of ponies and showing them get into the old bloodstream. At any rate, it looks as though Trina and Andrew may well be hooked, too. It's too soon to tell about daughter Jana, who's 5.

Please use portable heaters carefully

Portable space heaters help us keep costs down when keeping warm. However, all portable heaters present some danger. Since they give off heat, parts of them will be hot and will burn someone touching them. All may ignite nearby flammable materials so keep a couple of feet away from them. All portable heaters require special care when used in the presence of children. Special care should be taken with electric heaters to keep them away from water, because water and electricity make a lethal combination.

Do choose a certified heater.

Do make sure it is properly connected.

Do read labels and follow all warnings and instructions.

Do keep clear space around the heater.

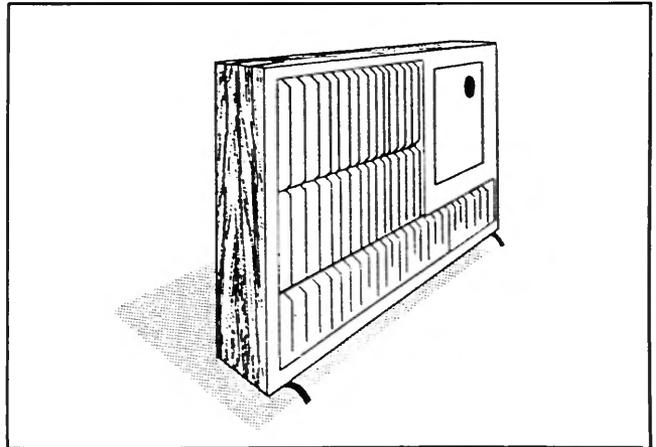
Do keep a window or door partially open at all times when you use an unvented fossil fuel heater.

Don't use or store flammable liquids near any portable space heater.

Don't put clothes on or over the heater to dry.

Don't use a heater as a "foot warmer," as the surface may be hot enough to cause burns.

Don't stand close to a heater while wearing long



robes, nightgowns, or other clothing that may catch fire.

Don't let children play around the heater.

Don't put the heater in locations where people can bump into them or trip.

Don't let dirt build up inside the heater.

Don't use a portable electric heater in a bathroom.

Don't forget regular inspections.

Energy-efficient light bulbs

When would it pay to buy a light bulb costing \$22 instead of one costing 90 cents? When you use it enough for the extra efficiency to be important, and that may be less time than you think, said Bill Peterson, extension ag engineer at the University of Illinois.

A recent entry into the lighting market is a screw-in fluorescent light using 18 watts that produces just as much light as a regular 75-watt incandescent bulb. While the price is about \$22, the life is 10,000 hours, compared with about 750 hours for the ordinary incandescent bulb. That means you would use 13.3 ordinary 75-watt bulbs (costing \$12) during the lifetime of one fluorescent bulb.

Also, in that time, the electricity to run the

18-watt fluorescent, screw-in bulb (at \$.06 per kwh) will cost \$10.80 while the electricity to run the 75-watt incandescent bulbs will cost \$45. The cost of bulb and electricity for the 10,000 hours will total about \$33 for the fluorescent bulb and \$57 for the incandescent bulbs.

Another way to compare is to calculate yearly bulb replacement cost, plus energy cost, plus interest on the extra money invested in the fluorescent bulb. Peterson's calculations, assuming bulbs operate two hours per day, show a yearly cost of \$1.58 per year less for the fluorescent light. If the light is operated only one hour per day the incandescent bulb is cheaper. But savings increased to \$3.31 per year when the light is operated 10 hours per night.

Make electricity your choice

When you take that big step and decide to remodel your home or build a new house, you face a number of options for a home energy source. The choices may seem puzzling. They aren't. Once you have reviewed them, you will choose electricity.

When electricity is your power of choice, you choose the safe,

clean, economical alternative—a home that's warmed, cooled and lighted by a dependable energy source. By working with your contractor and your electric cooperative, you can create the most comfortable and cost effective heating and cooling system available.

An electric system means no flames or fumes in the home, no

fuel tanks to fill or sudden fuel shortages. Right now, that new house may only exist as lines on a blueprint, and as a wonderful image in your mind. You've thought about the frames and walls and plumbing. Make sure that you've put thought into the energy that will serve your home and your family safely and affordably. Imagine the comforts of an all-electric home.

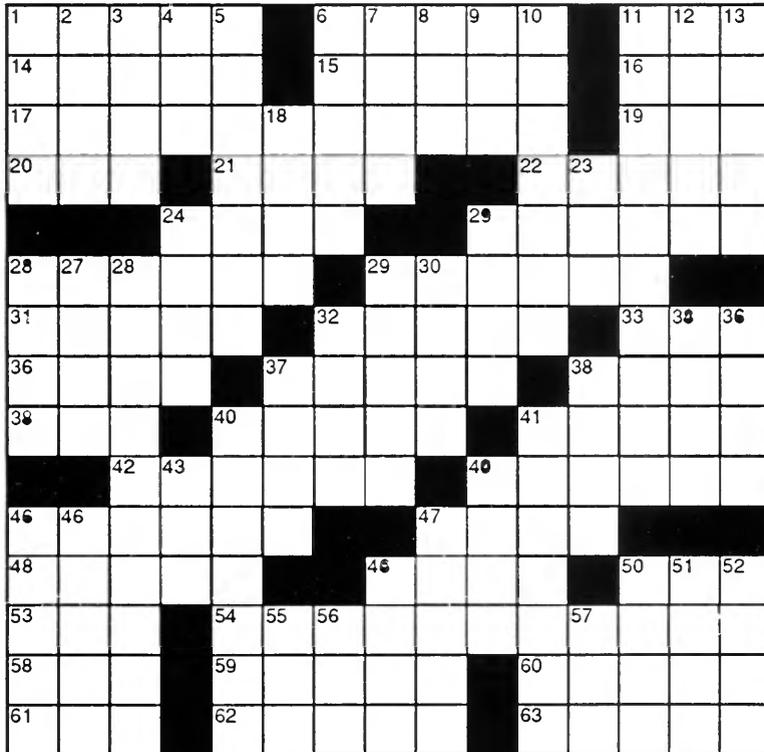
Rural Electric News Service

CROSSWIRES

By Eric Albert

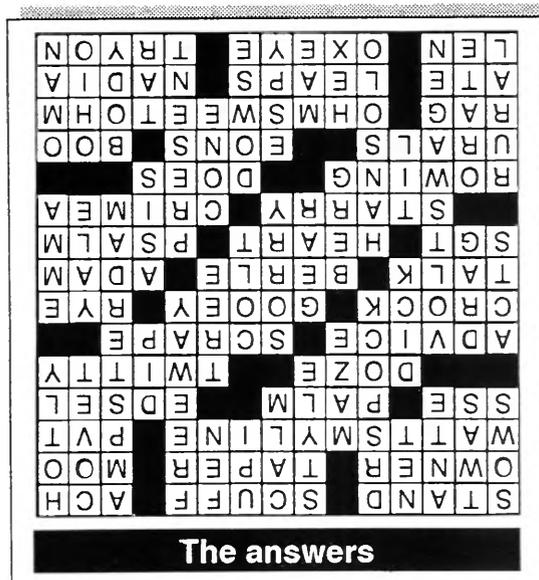
ACROSS

1. Put up with
6. Roughen the surface of
11. "___ du lieber!"
14. Deed holder
15. Get progressively thinner
16. Udderance?
17. REC's favorite game show?
19. Lowest Army rank: abbr.
20. Compass point: abbr.
21. Reading material?
22. Henry Ford's son
24. Take a nap
25. Country's Conway
26. Helpful suggestions
29. Predicament
31. Earthenware pot
32. Like melted chocolate
33. Livestock feed
36. Say something
37. Comedian Milton
38. First gardener
39. Corporal's superior: abbr.
40. Symbol of love
41. Sacred song
42. Vincent Van Gogh's ___ Night
44. Warsite (1853-56)
45. Using oars
47. Female deer
48. Russian mountain range
49. Billions of years
50. Ghost's greeting
53. Dust cloth
54. REC's favorite saying?
58. Chewed and swallowed
59. Jumps up
60. Olympic gymnast Comaneci
61. Spy novelist Deighton
62. Kind of daisy



DOWN

1. Female pigs
2. Christmas poem beginning
3. Add to a poker pot
4. Tennis court divider
5. Baby-book author
6. Manner
7. Unruffled
8. news service: abbr.
9. Marshy area
10. No-toll road
11. REC's favorite city?
12. Commandment work
13. With passion
18. Pencil puzzle
23. Go down a bit
24. Actor Van Dyke
25. Fig or fig
26. Plays a part
27. Pull along the ground
28. REC's favorite car?
29. Regretful
30. Revolver inventor
32. Toothed wheel
34. George Bush's alma mater
35. Jane Austen book
37. Mass of ice
38. "Working or not"
40. Star Wars character
41. Gift
43. "___ Reveille" (Kay Kyser hit)
44. Ice cream holder
45. The R in REC
46. Talk pompously
47. Use a divining rod
49. Catch sight of
50. Murder-mystery requirement
51. "Buckeye State"
52. Arabic country
55. Put a spell on
56. The wild West?
57. Roofing material



Interactive TV

Americans like to think they're high-tech, but the smartest machines in the American home are still personal computers, VCRs and video games — just like a decade ago.

So, when do we see the gadgets that will change our lives in the future? They are already here in the form of interactive home multimedia — the marriage of computers, video and audio in one system.

Some people consider multimedia to be man's most important step forward in learning and story-telling since the invention of the printing press.

According to technology watchers, music, video, publishing and consumer electronics companies that are not positioning themselves for a boom in multimedia will be left in the technological dark ages.

And Americans appear to be ready. Almost half of Americans say they look forward to new home electronics that are more entertaining and educational than the ones they currently own, according to a 1991 study of Americans' views toward electronic home entertainment conducted by the Roper Organization. Most also say they are interested in having more control and choices over what they watch and listen to.

CDTV is one way they can get those things. Commodore introduced its CDTV interactive system in 1991 and Philips offered the CD-I system shortly thereafter. Both are in self-contained players that use CD-ROM discs and hook up to an existing TV and stereo system. Other companies jumping on the bandwagon are Sony, Kodak, Warner and Sega, with little compatibility among them.

Taking the Commodore system as an example, the machine is cabled to a television just as a VCR would be, and a disc is

inserted. As the disc plays, on-screen messages or pictures prompt the viewer to make choices on the remote control that affect future options.

CDTV users can choose from a multitude of titles enabling them to simulate everything from strolling down Sesame Street to playing 18 holes with Jack Nicklaus.

Cesar's World of Gambling, a Philips product, includes Las Vegas gaming-table gambling, including blackjack and baccarat. But there's a twist: While players evaluate their hands, both the dealers and croupiers dispense advice to the player on what the best moves would be.

CDTV also offers Grolier's Electronic Encyclopedia, which contains all 21 volumes of the American Encyclopedia on one disc. By entering a single word, an entire encyclopedia of knowledge is at your fingertips. Some entries include spoken and musical examples.

Other CDs allow would-be photographers to learn the tricks of the professionals at Life Magazine, while trying out their skills on the screen, and would enable children to create their own songs by choosing musical styles and lyrics for "Children's Musical Theater."

In the future, music fans with

CDTV not only will be able to hear their favorite groups and orchestras, but they will have readily accessible information about the groups' history and be able to tinker with the arrangements of their favorite songs.

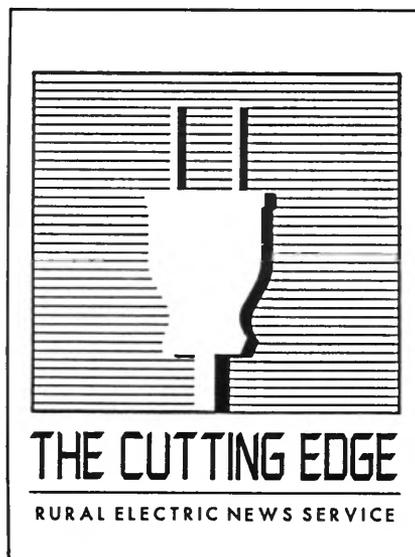
But as it stands now, interactive CDs are lots of glitz and sometimes short on programming, according to industry observers. There are relatively few titles and the systems are expensive, and sometimes intimidating. They also do not yet employ full-motion video. There is also the issue of incompatibility among the systems, meaning you could invest in a machine that becomes quickly obsolete.

However, if you don't go to interactive television, it may come to you. Pay-per-view systems are being launched in some major cities that would be the first big step toward widespread home use of interactive media systems.

In New York City, for example, viewers can subscribe to Quantum, a 150-channel interactive pay-per-view cable service. Homes in some neighborhoods have access to 15 movies at all times, including five popular new releases that start every half hour — more control and convenience than a video store at about the same cost.

TV Answer, Inc., of Reston, Va., has a different view of interactive television. The company's wireless system would allow television viewers across the country to purchase a box much like their existing cable TV boxes that would enable them to conduct banking, check their stock quotes, order items from department stores, participate in games related to sports events and register their opinions to pollsters instantaneously.

TV Answer's idea for using
(Continued on page 12d)



Norris Electric News

Newton, Illinois 62448 • 783-8765



The Trexler House, begun in 1850 by Jackson Trexler, was built as a log cabin, with lumber brought in later from Indiana. Located three miles south of Wheeler, it is now a craft shop.

Trexler house

There's a house about three miles south of Wheeler that was built about a century and a half ago. The family who owns it now, direct descendents of the builder, operate a business out of it from spring to mid-winter. While you'd think of such a house as an ideal place to have an antique shop, the Trexler house is home to an arts and crafts shop.

The house was built as a log cabin in 1850 by Jackson Trexler, who moved in with his wife, Louisa. As time went by, the family grew, and so did the house. Some lumber was brought in by wagon from Indiana, and the house had a hand-hewn foundation. The Trexlers finally had five children in the house, and three survived. As was the custom at the time, they had a diversified farming operation.

The house was home to members of the family from the time

horses pulled wagons up the dirt road into town and the family used grubbing hoes and axes, up 'til the time of cars, trucks, air-conditioned tractors and combines.

Generations of men have left

the house for every war since the Civil War started in 1861.

But things are quiet and peaceful now. The cars that arrive come on a paved road, and the people leaving are likely to be carrying quilts, crocheted



Marilyn Pickens, center, daughter Christi Milliman, left, and daughter-in-law Doris Pickens are shown admiring one of Christi's painted items.

items or other craft items. Or bedding plants.

Marilyn Pickens, her daughters Christi Milliman and Jenni Ervin — along with daughter-in-law Doris Pickens — mind the store now.

“We can all do all the different little chores it takes to make the place a success,” Marilyn says, “but we all have things we do best. Doris quilts, Christi paints, I sew and Jenni does crocheting and helps with everything else.”

While you can find all kinds of craft items at the Trexler house, the sale of bedding plants is an important part of the operation, too. “We sell a lot of the old-fashioned plants that used to be so popular, but that fell out of favor for some reason or another,” Marilyn says, “and they’re making a comeback now. I’m glad to see it, and I hope we can help make it happen.”

If you’d like to buy some craft items or bedding plants, or if you just want to browse through a nice old farmhouse, head for the Trexler house. It’s an interesting place to visit.



Mrs. Pickens displays some of the shop’s Christmas items. The Trexler House is open from early April to mid-December.



As can be seen here, there are all kinds of gift items at the house.



Time to DUCK again!

Ahhh, it's great to be outside again, even if it means there's work to be done. The TV antenna's a little crooked, there are some tree limbs to cut, and the ol' swimming pool will need cleaning. That means it's time to DUCK. When you're moving the grain auger, raising the TV antenna — anytime you use tall equipment — make sure you stay clear of the power lines. Duck down and keep poles, augers and other equipment away from overhead electric wires. Whether you're outside your home or out in the farm field, get your jobs done the safe way.

Look up and live.



Electric Cooperatives of Illinois

Good for ALL Illinois

(Continued from page 12a)
radio waves to link viewers with retailers, marketers, advertisers and networks is more practical than the other existing and potential forms of interactive television, according to Sallie Olmstead, director of Public affairs for TV Answer.

"The consumer doesn't care how they get the interactive element in and out of their house," she said. "They care that the services are fun, entertaining. Do they save me time and can I do

some practical things with it?"

"We know we have a willing and ready audience. "We believe the way for them to interact is through the existing TV set."

TV Answer is now applying for licensing of its product in New York, Chicago, Los Angeles, Boston, Washington, D.C. Houston, Dallas and San Francisco, with plans to begin operation in early 1993.

Advertising industry experts predict some kind of interactive TV will be in 40 percent of U.S.

homes by the end of the decade, cutting the prime-time shares of the major networks from 60 percent to 45 percent by the year 2000.

Such a change will not only revolutionize viewing habits, but advertising as well. Watch out, some say, that someday your video movie obtained via interactive television does not include this familiar dialogue: "We pause now for a commercial break."

—Rural Electric News Service

New tools for the elderly and others in need

One's best friend may be a dog, but the elderly and chronically ill may find a more useful companion in HANC — a generation of devices designed to help the handicapped live more independent lives.

HANC (home-assisted nursing care) is being developed by Stephen Kaufman of HealthTech Services Corp. of Northbrook (near Chicago) and is designed to take on many of the tasks that once could only be performed by expensive round-the-clock medical personnel.

The robot starts in the morning with a wake-up call and a reminder of daily activities. If a person does not answer back or if problems arise, HANC is designed automatically to make phone calls for help to health-care coordinators and family members, as well as to community emergency services.

When asked, HANC provides instructions on changing dressings and how to perform various medical chores. It can take blood pressure, pulse and temperature readings, and dispense pills.

"Senior citizens want to stay in their own homes, but often they are forced to move to a retirement village or a nursing home because they feel a need for continuously available support," Kaufman said in a recent report.

"Many people can't afford a private nurse at home 24 hours a day, and the truth is they don't really need a live-in nurse; they need HANC."

The machine stands about four feet tall, resembling a locker with a video display terminal on top. It has a drawer that opens to release blood-pressure monitoring equipment and another opening through which medications and other items are dispensed.

HANC is expected to reach the market within two years.

Besides general problems suffered by the elderly, there are about one million Americans immobilized by accidents or illnesses such as multiple sclerosis, muscular dystrophy and Guillain-Barre syndrome. At least one new high-tech device — the Iowa electronic elbow — is designed to help return independence to these people.

Electrobionics Corp. of Ankeny, Iowa, is just beginning to market the elbow after years of research and development funded by the State of Iowa and private investors. Although electronic limbs have existed for a long time, the elbow is designed to help a patient's existing but non-functional arm work again.

It consists of an orthopedic brace with a programmable actuator attached. The device runs the elbow through a range of motion, stopping at desired positions. The patient can control the device through shoulder, head or foot movements.

The elbow was a technological and design challenge, according to its maker, Bob Singer, president of Electrobionics.

"It's completely different than anything that's out there today," he said. "It's actually easier to design and build an artificial limb. We're creating robotics systems that take the paralyzed limb along for the ride," which is difficult because of problems with weight and load.

Although the number of people who would benefit by the elbow is considered small, Singer said, "We want to help the people who have no options, no technology and no choice but to remain paralyzed without function."

And he has bigger applications in mind.

"I have a vision of a complete upper extremity system that will control the elbow, wrist and hands and make paralyzed people functional."

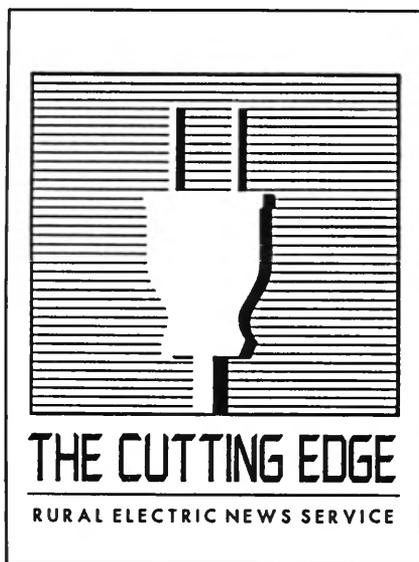
For those who have lost limbs, the technology just keeps getting better. In June 1992, a Swedish woman became the world's first recipient of artificial legs attached to permanent anchors in the bone.

Many amputees find that hard work in rehabilitation combined with high technology can mean a return to full mobility, including sports.

At Moss's Gail Analysis Laboratory in Philadelphia, for example, patients are custom-fitted with leg prostheses through the use of video cameras and "force plates" in the floor that measure a patient's steps precisely.

Like sensitive scales, the electronic plates record the pressure as a patient steps down and they measure side-to-side and front-to-back forces. A computer-driven laser shows the force and direction of the step as a bright red line, and a two-way mirror

(Continued on page 12d)



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Garbe is master farmer

Ernest and Patricia Garbe are pictured with the plaque he received in recognition of his title of "Master Farmer." Garbe emphasizes that he only received the honor because other family members provided him with the free time needed to get involved in civic activities.



For Ernest Garbe of rural Dieterich, fulfillment comes from "seeing things get accomplished to help people." That's exactly what he's done since coming back to Dieterich 36 years ago to start his own farm, which is mingled with the farm his brother, Gilbert operates.

It was that emphasis that helped him achieve the title of Master Farmer, a distinction awarded only a few farmers a year by "Prairie Farmer" Magazine.

Ernest and his son Mike, and Gilbert and his son Brad all work together to make the operation a success, and several other Garbe children also help. Ernest is a member of both Clay and

Norris Electric Cooperatives, and Gilbert is a member of Norris Electric.

"This award is a real honor," he says, "but I'm only a part of the operation that made it possible. To achieve recognition like this, you have to spend a lot of time doing civic work, and I did. My family did the work when I was gone, and that gave me the necessary time to do all the things I did. I don't think I should fail to acknowledge all their help."

A math and physics major in college, Garbe began community service years ago by assisting farmers with their tax returns as a Farm Bureau tax practitioner.

"When the executive director asked me to join the organization, I told him I wanted to do something," Garbe says, "I didn't want to go to a few meetings and just sit there. That's the attitude I've taken from the start."

Since then he has worked for 20 years on the Effingham County Board — 14 of them as chairman — and chaired and directed the South Central Illinois Regional Planning and Development Commission. He also served as president of the Illinois County Board Association.

Garbe's work on the county board has helped secure public support and funds to build a new rural water district and after-

hours medical clinic, and bring new business development to the downtown area. Other service activities include chairing the community school board.

Despite the busy schedule, Garbe has made family his first priority. "He's always felt he couldn't miss the things that involved our children," say wife Patricia, who also serves the community as a registered nurse. Garbe agrees that the couple's eight children are a motivating force behind everything he does. Their children are Darrell, Jeanette, Michael, Paul, Barbara, Joyce, Debra and Karen.

His service also extends to his church. As past member of the of the Board of Directors of his district's Lutheran Church-Missouri Synod, he has been responsible for overseeing 153 congregations in the area, with an annual administration of almost \$3-million. Last year he was elected to the national synod, representing some 2.6-million people.

A cash grain operation gives Garbe the free time he needs for community and family activities. "The only time things are really hectic are during planting and harvest," he says, "and even then I can usually find someone to fill in for me at meetings I would normally attend myself."

In the years since he and Patricia first started farming with a bank loan, a 1950 tractor purchased from his dad, and 120 acres, the family has worked hard to improve and expand the land they farm. The Garbes no-till their highly erodible acreage and use grass waterways to help control erosion on less sloping land.

With eight children to raise, the two were challenged early to find ways to do things economically. At first, Garbe traded labor for use of his father's machinery. Later, he and Gilbert began to trade labor and equipment. While they operate financially

independently, the two brothers still work together when preparing and harvesting fields, so they can share machinery.

Both have worked as seed dealers to reduce seed costs, he adds. They also purchase all their seed, fertilizer, herbicide and insecticide together to obtain a lower price by buying in bulk.

As mentioned before, Ernest

and Gilbert's sons work closely in the operations, and both help out on the farm after working full-time jobs in town. They have done all the major repairs on the machinery since graduating with agriculture mechanics degrees. All eight of Ernest and Patricia's children have gone on to college. "If we are proud of anything in particular," Garbe says, "we're proud of our kids."



Norris Electric Cooperative manager Ernest Weber accepts a conservation award certificate from Florence Adkisson, conservation chairman of the Crawford County chapter of the Daughters of the American Revolution.

Co-op receives DAR award

Norris Electric was recognized last month for its conservation efforts, in recognition of its "Swap a tree" program. The award was presented by Florence Adkisson, conservation chairman of the Daughters of the American Revolution James Halstead Sr. Chapter, Crawford County.

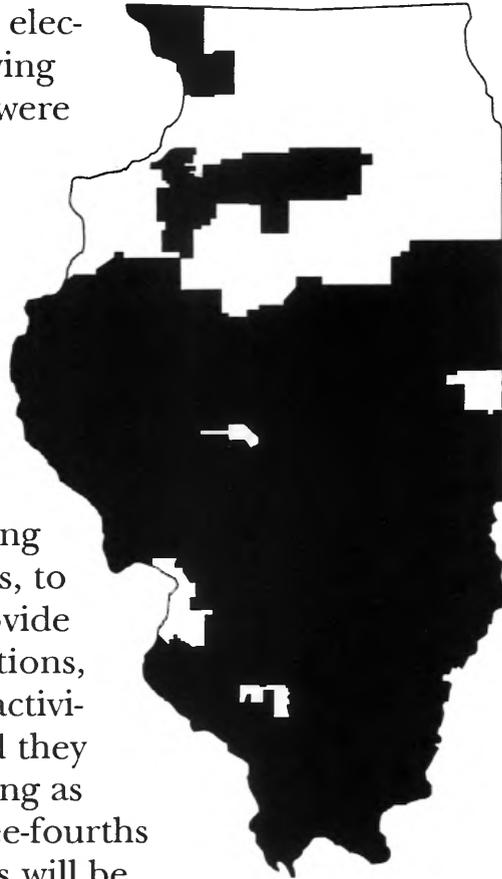
Under the "Swap a tree" program, the co-op will remove an existing tree that interferes with a primary electric line, clean up the debris and provide

a free replacement tree. The replacement tree must be planted the proper distance from the primary line to ensure that it will not interfere with the line in the future. A wide variety of trees and shrubs are available as replacements through this program.

Norris Electric is pleased to be recognized for a program that is beneficial to the membership, the cooperative and the environment.

Illinois would be dark without us

In 86 of the state's 102 counties, electric cooperatives are faithfully serving more than 600,000 citizens. They were formed years ago by people who united to improve their lives. Though the first mission was to bring electricity to remote areas, today the role of these not-for-profit utilities has expanded to help better the quality of life in many other ways. Now an established part of their communities, the electric cooperatives are working to attract and keep local businesses, to provide safe water supplies, to provide up-to-date TV and telecommunications, to support civic, social and youth activities. They are good neighbors, and they still have a lot of work to do. As long as there are people living in that three-fourths of Illinois, the electric cooperatives will be there to serve them.



Federal subsidies to electric utilities per consumer

Municipal utilities
\$92.47

Investor-owned utilities
\$60.17

Electric cooperatives
\$39.48



Electric Cooperatives of Illinois

Good for ALL Illinois

(Continued from page 12a)
superimposes the line on the video of the moving leg.

Electronic arms that can grasp and hold are helping arm and hand amputees as well, and special appliances have been

devised that allow patients to attach tennis and squash rackets, billiard cues, croquet mallets and the apparatus of other games to otherwise unused stumps.

Whether it's a talking robot,

an elbow from Iowa or an electronic arm, "state-of-the-art" is now an important factor in enhancing the lives of the handicapped and disabled.

—Rural Electric News Service.

Biotech produce — coming soon to a grocer near you

There may be more than randomly arranged greens in your salad of the future. Some of the genetic material inside those vegetables could be tossed around as well.

The long-delayed biotech revolution in agriculture is finally coming, and it means either the answer to all farmers' and grocers' problems or the possible end of civilization as we know it, depending on who you talk to.

Agriculture biotechnology, or genetic engineering, involves altering plants or animals by splicing DNA, the series of genes that makes an ear of corn an ear of corn or a human a human.

The first of many new crops invented through biotechnology is due on grocery store shelves in early fall. It is the Flavr Savr tomato, the product of eight years and \$20 million in research by Calgene Inc. and the Campbell Soup Co. One of the tomato's genes has been modified to retard spoilage, and its developers say that means consumers can soon have a ripe and tasty alternative to the often pale, mushy and bland variety now available at non-harvest time. The new tomato will be more expensive than the kind that is harvested green and chemically ripened.

"Your backyard tomato is the gold standard," said Steve Benoit, vice president of marketing for Calgene Fresh, a subsidiary of Calgene, Inc. "That's what we're striving for."

Benoit said the first Flavr Savr won't be backyard quality "but the technology will allow us to eventually introduce those heirloom varieties. This is the first step. This will be a taste that reminds you of the backyard."

Calgene CEO Roger Salquist predicts the company will sell \$500 million worth of Flavr

Savrs by the end of the decade, but the tomato has already become a lightning rod for a growing controversy over technological manipulation of the food supply.

Some growers, consumer groups, environmentalists and even chefs oppose rearranging of genes in produce.

There is no evidence of any health threat from the high-tech tomato, but it is the target of a vocal "Pure Food Campaign" by anti-biotech activist Jeremy Rifkin, who has called for a boycott. Public acceptance of the tomato could signal the future for hundreds of other genetically engineered plants being developed with a total \$1 billion investment by various biotech companies. Among them is corn that resists insects, diseases and herbicides; raspberries that stay fresh longer; potatoes with less starch to improve frying; cheaper and more nutritious oils; and BST, the controversial growth hormone that makes cows produce more milk. After a fierce opposition campaign by Rifkin, BST's approval is now languishing at the Food and Drug Administration.

Today's genetic manipulation of plants is relatively simple:

Want to make carrots with more beta-carotene? Find their beta-carotene gene. Take it out. Speed up its time clock. Put it back. Rifkin and other opponents fear that simple process could lead to more complex and controversial technology.

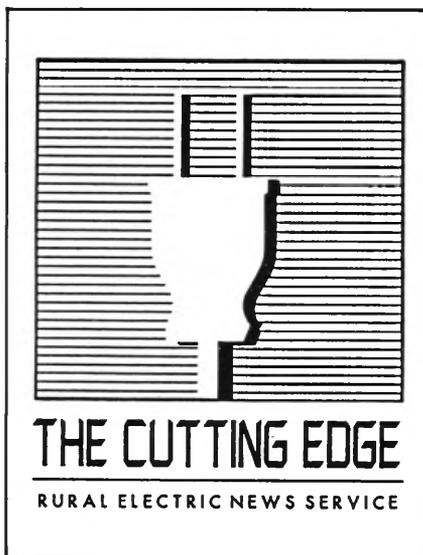
An experiment at one company, for example, involves inserting a flounder gene into a tomato to help it withstand freezing. Is this some violation of natural law? What would it mean to vegetarians and certain religious groups? Are there unforeseen environmental or biological effects? And, what happens when human genes start making it into the gourmet section?

Henry Miller, director of FDA's Office of Biotechnology, compares genetic engineering to crossbreeding plants. In a newspaper article, he pointed out that vaccines against measles, rubella and polio were genetically engineered.

"For decades, genes have been transferred from one species to another . . . to yield commonly available food plants, including oats, rice, currants, potatoes, tomatoes, wheat and corn," he wrote. "The techniques of what some call the 'new biotechnology' — gene splicing, tissue cultures and the rest — essentially speed up and target with greater precision the kinds of genetic improvement long carried out by other methods."

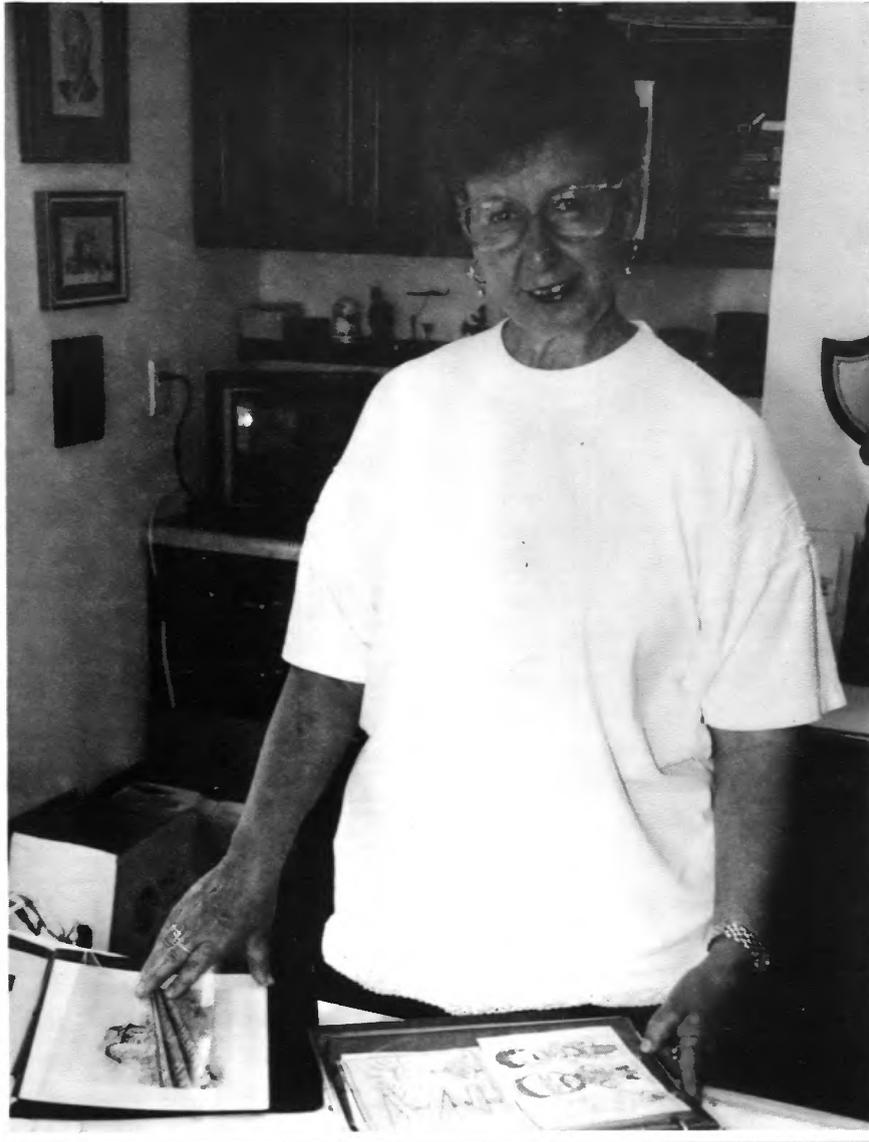
But even some in the biotechnology industry say the government has gone too far in easing safety tests for genetically engineered foods. Under new regulations, producers do not need USDA permits to grow most gene-altered versions of corn, potatoes, tomatoes, soybeans, tobacco and cotton. At

(Continued on page 12d)



Norris Electric News

Newton, Illinois 62448 • 783-8765



Jacky displays some of her drawings, many of which are sold as prints.

Lake Sara home is studio, gallery

This is a tough time of year for Jacky Jordan Anderson. It's often beautiful outdoors, and yardwork beckons after a long, dismal winter. "I just love working in the yard," she says, "because everything's so fresh and clean. And it's especially green this year. I have a lot of transplanting and other yardwork I'd love to be doing."

On the other hand, there's the nice, spacious, brightly lighted art studio — with several freelance jobs sitting semi-complete, and others that need to be started. Trouble is, the big windows that let in so much light to brighten up the studio also offer a view of a big, well-manicured yard that always seems to need "Just a little more work."

The Andersons moved into their Lake Sara home nearly three years ago, but they didn't have far to move. Before, they lived across the street, on a lakefront lot. There was Jacky, her husband, Bill, and their daughter Amy. Bill, an accom-

plished artist, cartoonist and poet, came down with cancer and died in September, 1991.

"We'd both made the decision to move," Jacky says, "partly because the lake front lot was so much work. This is a nice, wooded lot where I can see the lake from both sides without having all the work that a lake front lot involves."

Naturally, the spacious, bright home had to have a studio. "I've had a studio ever since I got interested in art," Jacky says, "even though my first one was just an old sewing machine table behind the kitchen door. It's nicer to have a real studio that's designed for the purpose, especially if you're going to work professionally and have students."

Jacky, who grew up in Lansing, Michigan, where her father worked in an automobile assembly plant, didn't get into art until 1980. "I didn't have any clue that I could do it, but I had the urge to try. I'm self-taught in the sense that I don't have an art

degree, but I've gone to instructors and workshops and that sort of thing," she says.

The couple did paintings, pencil drawings and some colored-pencil works, and the house is home to many of the works both of them created. And there is something of a theme to its decoration. While both were Midwesterners, they did a lot of traveling. "We really liked the Southwest," Jacky says, "and we'd talked of moving there. But when Bill came down sick, we decided to stay here and just travel there. Our home has both Midwest and Southwest themes, because just one or the other would be boring."

While she teaches aspiring artists, Jacky notes that she's still learning, too. "I believe that the learning process is a lifelong thing," she says, "or at least it ought to be. I'm always learning and trying. A closed door — or a closed mind — is the only thing that will keep people from learning. I love the constant discovery of new things. You can look at a scene time and time again for I don't know how long, and not really 'see' it. Then one day it hits you, and you notice something that you hadn't noticed before."

She adds that there is no one "right" way to do a work of art. "I believe any form of expression, whether it's acting, writing or painting, is your own personal interpretation of your feelings and what you see. It doesn't really matter what others see or feel. I believe you should just do it the way you see and feel, and you'll be surprised at the results. As I said, there's no right or wrong way."

While there is no right or wrong way, it seems that some ways are better than others, or at least work better. Jacky has hit on a way that works well, and sells a line of prints and cards that move well. Look for the "Jacky Jordan Anderson" signature next time you need cards or a fine print.



In her spacious, well-lighted studio, Jacky works at one of the two tables.

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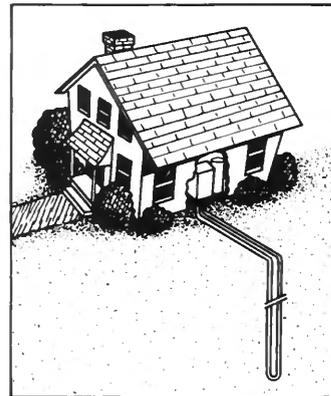
Getting the job done

TOGETHER

Electric Cooperatives of Illinois

Not far from the Mississippi River in western Illinois, there's a new subdivi-

sion in which all of the houses are heated and cooled by geothermal systems. The geothermal system's underground liquid-filled loops carry energy from within the soil, a method four times more efficient than fossil-fuel systems. The local electric cooperative played a big role in getting this low-cost heating and cooling system installed throughout the subdivision. All around Illinois, electric cooperatives are encouraging their members to install a geothermal system because it is the leader in safety, comfort and economy. The geothermal system improves the quality of life for members, something that electric cooperatives have been doing for more than five decades. They are working in all kinds of ways to make life better in rural areas. It's a job that's far from over, and it takes people working together to accomplish it. *There's a word for this. Cooperation.*



Electric Cooperatives of Illinois

Good for ALL Illinois

(Continued from page 12a)

the FDA, new rules allow foods produced by genetic engineering to be regulated under existing rules for foods developed by traditional methods.

As for the Flavr Savr, Benoit says it will be openly labeled when it hits stores, and he believes consumers will be

receptive.

Members of the public who are aware of genetic engineering are wary, according to a survey conducted for the USDA. It suggests that public education is crucial for commercial success, although Benoit counters that consumers have more pressing worries than whether a gene in

their tomato has been rearranged.

"We're going to tell folks genetic engineering is used and we think it's going to give them a reason to believe for the first time that when somebody says it is a vine-ripened tomato it really is a vine-ripened tomato," he said.

—Rural Electric News Service

Of the 14 million people with diabetes in the United States, about half don't know they have it. The consequences of living undiagnosed with diabetes — the nation's seventh leading cause of death — can be fatal.

The American Diabetes Association aptly labels this chronic disease a "silent killer." Its signifying trait is high blood sugar, triggered by an inability to turn food into fuel.

Ordinarily, the body converts food into a form of sugar called glucose. With the aid of insulin, a hormone produced by the pancreas, glucose travels from the blood to the cells to be used for energy or reserved until needed.

People with diabetes, however, either can't produce insulin, secrete too little of it, or have difficulty using this life-sustaining hormone. Glucose accumulates in their blood, raising blood-sugar levels. Left untreated, high blood sugar can lead to the build up of poisonous acids called ketones in the blood and urine, causing possible coma or death.

Although there is no cure for diabetes, high blood sugar can be controlled with proper treatment and nutritional planning. Before diabetes can be controlled, however, you must know you have it.

Fortunately, there are warning signs: insatiable thirst, excessive hunger, frequent urination, unusual weight loss, extreme fatigue and irritability. All may indicate the onset of the two most prevalent types of diabetes, insulin-dependent diabetes and non-insulin-dependent diabetes. In the first, symptoms appear suddenly. Treatment includes daily insulin injections, coordinated with special meal plans and regular exercise. Those most at risk of insulin-dependent diabetes (once called juvenile-onset diabetes) are children



Diabetes: Measuring the odds

and young adults.

The more common non-insulin-dependent diabetes typically occurs in people over 40, who are overweight and have a family history of diabetes. Here, the warning signs come on slowly and may include blurred vision, slow healing cuts or bruises and numbness or tingling in the hands and feet. In this case, people normally produce some insulin, and therefore usually don't require insulin injections. Instead, they regulate their blood-sugar levels with carefully supervised diets and exercise programs.

Some pregnant women develop a less common form of the disease called gestational diabetes. Though most regain normal sugar levels after giving birth, certain women with gestational diabetes have an increased risk of developing non-insulin-dependent diabetes.

Diabetes is believed to be a genetic, or inherited, disease, posing greater risk to some groups, such as Hispanics, African Americans and American Indians. No one has studied whether diabetes is more widespread in rural or urban areas.

Still, experts conceded that the factors hindering rural health care — low-income and limited access to medical providers and facilities — make dealing with diabetes harder for those in rural areas.

Good health care is critical for people with diabetes, because when blood-sugar levels remain too high for too long, vital organs undergo life-threatening damage. Some diabetics may not realize they have diabetes until they develop a complication, such as kidney or heart disease, or circulatory problems that can lead to lower-limb amputations.

Colorado's Eastern Plains Diabetes Project is one of 27 federal programs geared toward reducing the frequency and improving the treatment of two preventable diabetes-related complications: eye disorders and high blood pressure.

Project coordinators have asked health care providers in this rural region to refer patients with diabetes to the Eastern Plains program. That way, participants can receive reminders, by mail or phone, about eye exams, blood pressure screenings and follow-up appointments.

About 3,500 people living in the Eastern Plains have diabetes, and the network is in touch with 1,200 of them. Connie Fetters, director of Colorado's Diabetes Control Program, says the project serves a crucial purpose, noting that the symptoms of diabetic eye disease or hypertension often go undetected.

Similarly, indications of diabetes also may appear vague, says Dawn Satterfield of the Centers for Disease Control. Some people, she explains, simply adapt to the warning signs. "They'll get up to go to the bathroom four or five times a night and not think anything of it, not realizing that this is a sign of diabetes."

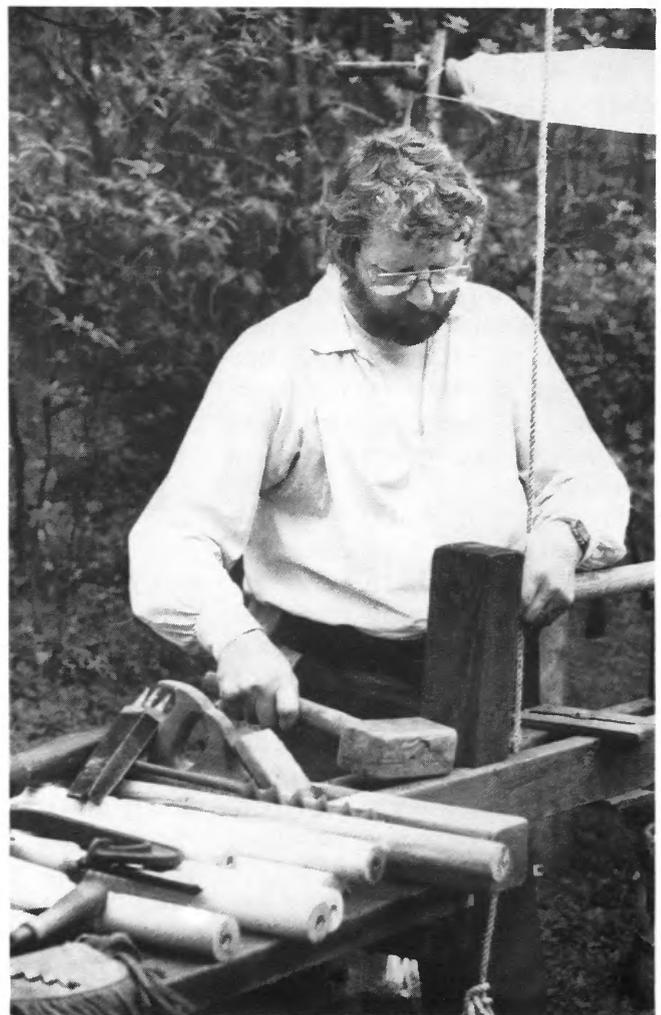
(Continued on page 12d)

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In addition to any other skills, settlers needed gun skills, too.



Gene practices his woodworking skills at a frontier days function.

Gene Bridgett, frontiersman

Gene Bridgett of rural Sumner is a curious mixture of past and present. He operates a small body shop about a mile north of Route 50, in Christie Township. When he can, he dresses up in frontiersman's clothing and becomes an old-time woodworker. In that guise, he looks much like any man might have looked when settlers were coming down the Ohio to seek their fortunes in the Illinois Territory.

One activity early settlers got involved in was the "rendezvous," in which people would gather from miles around, for social contacts, trading, swapping ideas and the like. A good rendezvous has been likened to a giant flea market, Mardi Gras and campout, all rolled into one.

"Back then," he says, "no matter what other skills or possessions he had, a frontiersman needed a firearm of some kind,

and at least basic gun-handling skills. They were needed for survival."

For a long time, Gene had a fine musket, a Brown Bess, such as was used by many settlers. He also had a Hawken, a rifle whose reputation is still talked about among gun enthusiasts to this day. Still, one of the guns he likes most is an old shotgun. A 12-gauge, it is marked on the breech with its date of manufac-

ture: 1862. For much of its existence, it has been in the Bridgett Family.

"This kind of gun was commonly issued for hunting and home protection in those days." Gene says, "You could use them with birdshot for hunting small game, and with a large round ball for home defense. Thomas Jefferson Bridgett, my grandfather's grandfather's dad, brought it to Illinois. One of the misconceptions many people have is that old-time guns, like modern ones, were blued to a beautiful finish. That's not true at all," he remarks, adding, "most of them were 'browned' rather than blued. The fine blue finish came later."

Such guns were used for years, he says, and the one he has served right up into the great depression of the 1930s. "They tell me they used it to hunt small game, and they were so poor that they couldn't even afford to buy birdshot for it. They hunted rabbits and squirrels with either fine gravel they'd pick up in stream beds, or pieces



Note the 1862 date on the lock, just behind the hammer. The pitting around the breech shows that the piece has seen a lot of use. Gene notes that the 12-gauge could use shot or a single ball for ammunition, depending on whether it was being used for hunting or defense. There is no safety.

of wire that they'd chop up real fine."

Gene's gun, like virtually all guns built in 1862, utilized a percussion ignition system, a vast improvement over the flintlocks. They were soon to be supplanted by breechloaders, but many were used for decades before being hung over the mantel for good. Gene's shows a lot of pitting around the breech, suggesting that the gun had seen a lot of use — and maybe some neglect, too, since conscientious cleaning and oiling could prevent much of the pitting.

Even with poverty so bad that it was impossible to buy birdshot, Gene notes that better times were on the way. He remembers when Norris Electric crews were out in the countryside, setting poles and stringing wire. "I was just a little shaver," he chuckles, "and the man who was doing the work was Carl Messenger. I remember following him around, getting in his way. We sure were delighted to have electricity"

If you happen on an old-time

rendezvous in your travels around Southern Illinois, look for Gene, and ask him to tell you about the good old days and how people lived then. It's an eye-opener!



Gene loads the 1862 12-gauge that's been in the family for generations.

This is important in reporting outages

OFFICE HOURS: 8:00 a.m. to 4:30 p.m. Monday through Friday. Closed Saturday and Sunday. Phone: Area Code 618-783-8765.

To report an outage after office hours or on Saturdays, Sundays or Holidays:

Call — 618-783-8765 first —

If no answer dial 783-3221
or
783-8562
783-2258
783-3752
783-2091

Or Lawrenceville area 943-5996
Claremont area 869-2320
Effingham area 217-868-2176

Please — When reporting an outage have your line and account number ready. You will find it in the lower left hand corner of your meter reading card.

.....
Getting the job done
TOGETHER

Electric Cooperatives of Illinois

The horse and buggy pulls up to the lantern-lit farmhouse, and the kindly old man with the black bag goes up to comfort the expectant mother. A charming but bygone image, since today many rural areas have no health care personnel or facilities close by. However, as they've dealt with so many other needs, local residents are working together to provide for themselves. In one central Illinois county, two directors of an electric cooperative led the effort to bring medical personnel into a small-town clinic. That's one of the things that makes an electric cooperative different from other utilities. The people who work for it or serve on its board are part of the community, like the members they serve. As locally owned businesses, they have a stake in the well-being of their members. They are working to attract and keep jobs in the area, to bring in good supplies of clean water, to improve the rural health care situation. Success comes when many people work together toward a common goal. And the electric cooperatives are one of America's great success stories.



Electric Cooperatives of Illinois

Good for ALL Illinois

(Continued from page 12a)

Myths about the disease also can blur its real risks, adds Satterfield. One myth says that diabetes is rare, when in fact, every 60 seconds at least one person is diagnosed with it. Told they have what doctors call

“borderline diabetes,” or diagnosed with “a touch of sugar,” some people might feel safe ignoring the potential dangers of diabetes.

But, Satterfield insists: “There’s no such thing as a ‘touch of sugar.’ With diabetes,

it’s always serious.”

The American Diabetes Association has a simple test you can take to assess your risk of diabetes. To receive it, contact your local ADA chapter, or call 1-800-232-3472.

—Rural Electric News Service

Rosie the robot: Coming to your home soon?

Scrubbing toilets tops the list of dreaded household chores — but a robot wouldn't mind doing the dirty deed, or at least it wouldn't complain.

Metal maids with electronic brains could be just beyond the bathroom doorway. But don't look just yet for Rosie, the aproned robot who lovingly kept house for the space-aged Jetson cartoon family.

Service robots are faceless, often armless and definitely don't wear aprons. Already there are dozens of Roscoes, Obies and Maxwells running around hospitals delivering food, medicine and patient charts. There are robots who scrub toilets and polish mirrors in a pilot project for the U.S. Postal Service. There's even a security robot that quietly patrols the Los Angeles County Museum of Art, checking for fires, intruders and high humidity that might damage priceless paintings.

But so far there actually isn't a version of the Jetsons' fictitious Rosie to work in the home.

"We are still in the very early stages of attempting to develop a useful household robot. . . . There is still a great deal of debate about it," said Jeff Burnstein, managing director with the International Service Robot Association. "A home is not as structured, and it is much more complex than, say, a hospital. There are still many technical hurdles to clear and there is the high cost to the consumer."

A household robot will cost around \$50,000, and is at least three years and \$15 million worth of research away from becoming a reality. Some argue no amount of robotic dusting and mowing could justify that sum for an average household,

but Gay Engelberger, Marketing Director for Transitions Research Corporation (TRC) in Dansbury, Conn., says it's worth the high price.

"We believe these household robots could also serve as important aids to the elderly, infirm and homebound," she said. "Although the initial price tag is high . . . it could end up as a cost-cutting measure in the big picture. Any delay in putting people in nursing homes would help the economy and greatly improve the individual's quality of life."

Consider someone who lives alone and uses a cane or walker to get around. "If this person goes to a great deal of time and pain to travel from the bedroom to the living room and then finally sits down to read, only to remember the reading glasses are back in the bedroom, it's a desperately sad situation," Engelberger said. "I think sheer frustration sometimes puts people in nursing homes."

Engelberger's group has applied for federal grant money to get "Help Mate Junior" — a robot with attached refrigerator, portable phone and medical

equipment — off the drawing board and into the home.

Junior also would have drawers and compartments for items such as tissues, medicines and reading glasses.

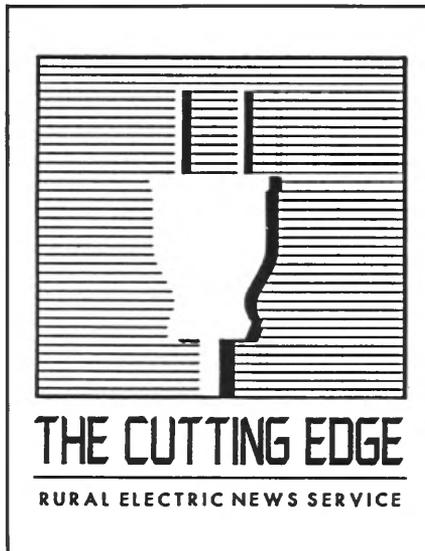
To navigate from kitchens to bathroom without bumping into garbage cans or children, household robots might use ultrasonic sonar systems. Tim Orwig, communications director with Cybermotion, a company in Roanoke, Va., specializing in security robots, likened the system to "a bat winging its way through the dark. It sends out sounds too high for humans to hear, which bounce off the walls and echo back information. The robot's on-board computer system 'hears' the information and sends it to a computer console — which could be several miles away, but which acts like a police dispatcher — and tells it where to go next."

Service robots get their energy from batteries, Orwig explained. A security robot might rove for eight hours non-stop over miles of hallways and corridors before a programmed message tells it to head for the recharging unit to plug itself in for a three-hour recharge.

That may sound like a quick nap for a tired robot, but Orwig warned against comparing the mechanical helpers to people.

At around 450 pounds, with the dimensions and look of a squat, roving refrigerator, service robots don't look anything like the friendly cartoon, Rosie.

"These are smart machines, but they are not mechanical persons," said Orwig. "The myth about them is indeed a myth: They can't replace people. They can augment people and do the jobs that are too boring, too dangerous and too tedious."



Norris Electric News

Newton, Illinois 62448 • 783-8765

Real comfort, low cost

It's not yet a well-known means of heating and cooling a home, but more and more people are coming to realize that the most economical and efficient energy source for heating and cooling is in their yard. It's called geothermal heating and cooling, and it gets its energy from the heat naturally stored within the soil outside the home. Norris Electric Cooperative, in an effort to help members heat and cool their homes more efficiently, now offers a special electric heat rate for its members.

We in the U.S. tend to think of it as a really new kind of technology, but it's not. In Europe, where energy costs have historically been high, it's been right at home for years.

Comfort, efficiency and environmental safety are among the advantages the geothermal system has going for it.

• The Wall Street Journal said in a 1990 article, "You can heat and cool your home for 30 to 40 percent less than with natural gas or straight electricity — while at the same time doing your bit to protect the environment."

In addition to Norris, several other electric cooperatives in Illinois are promoting geothermal systems for their members, letting them know that this type of system combines the wise use of energy resources with the lowest possible operating cost. Such a system not only heats and cools a home efficiently, but as a byproduct it provides free hot water for much of the year.

The geothermal system's main component is a looping series of plastic pipes buried in

the ground. An anti-freeze liquid is circulated through the piping and into the home. This liquid collects stored solar energy from the soil, heat that constantly builds up within the ground as the sun shines on the earth.



In the winter, the heat is brought into the house through the system. In the summer, the system is reversed and the heat is carried out and absorbed by the ground.

Independent laboratory tests have shown that the geothermal system heats up to four times more efficiently than fossil-fuel systems, and is 30 percent more efficient than other air-conditioning methods. Customers who have the system installed find that they get \$4 to \$5 worth of heat for every dollar of electricity it uses.

The system uses no flame or internal combustion, favorable points in the safety and environment categories. It is quiet, and it provides an even air flow so that there are no warm or cool "pockets" in the house.

In 1991, ground was broken

for a 31-acre subdivision south of Quincy. What makes this new residential subdivision unique for Illinois was that every home on its 25 lots will be heated and cooled with the geothermal system.

Adams Electrical Co-Operative at Camp Point, working with Applied Energy Systems of Illinois and developer Matt Holtmeyer, made Hidden Cove the first all-geothermal subdivision in Illinois.

Holtmeyer said, "I'm committed to geothermal because it's the most efficient heating and cooling system available. When the homeowner has lower utility bills, that adds value to the homes I build."

Rural Electric Convenience Cooperative Co., Auburn, is another electric cooperative that is finding growing acceptance of geothermal technology among its members. Word-of-mouth and testimonials in the cooperative's monthly newsletter to members have boosted its local popularity.

The role of the electric cooperatives, including Norris Electric, in promoting this high-technology heating and cooling system reflects the goal that has driven these not-for-profit organizations for more than 50 years. Established to bring safe, convenient electricity to farms and homes in rural areas, the cooperatives have broadened that mission to improve the lives of their members in many ways.

If you think a geothermal system might be beneficial to you, call us and we'll work with you to help make your transition to this "new" way of comfort conditioning easier.

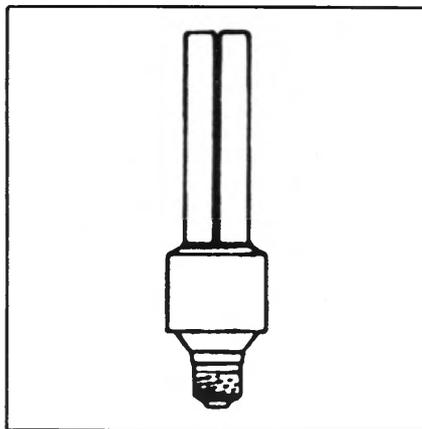
Energy efficient light bulbs

When would it pay to buy a light bulb costing \$22 instead of one costing \$.90? When you use it enough for the extra efficiency to be important, and that may be less time than you think, according to Bill Peterson, Extension Ag Engineer at the University of Illinois.

A recent entry into the lighting market is a screw-in fluorescent light using 18 watts that produces just as much light as 75-watt regular incandescent bulb. While the price is about \$22, the life is 10,000 hours, compared with about 750 hours for the ordinary incandescent bulb. That means you would use 13.3 ordinary 75-watt bulbs (costing \$12) during the lifetime

of one fluorescent bulb.

Also, in that time, the electricity to run the 18-watt fluorescent, screw-in bulb (at \$.06 per



kwh) will cost \$10.80 while the electricity to run the 75-watt incandescent bulbs will cost

\$45. The cost of bulb and electricity for the 10,000 hours will total about \$33 for the fluorescent bulb and \$57 for the incandescent bulbs.

Another way to compare is to calculate yearly bulb replacement cost, plus energy cost, plus interest on the extra money invested in the fluorescent bulb. Peterson's calculations, assuming bulbs operate two hours per day, show a yearly cost of \$1.58 per year less for the fluorescent light.

If the light is operated only one hour per day, the incandescent bulb is cheaper. But savings increase to \$3.31 per year when the light is operated 10 hours per night.

Blinking digital clocks and trimming trees

Coming home to a digital clock flashing "12:00" is an annoyance at best. It's a tell-tale sign that your power has been interrupted, even if for only less than a second.

It may be small consolation, but it's highly likely that the power "outage" lasted only as long as it takes a tree limb to touch a power line while swaying in the breeze.

Most systems that distribute electricity use protection devices on their lines. When these devices, called reclosers, sense a disturbance, they actually open or by some other means break the circuit and very briefly interrupt the flow of electricity through that section of line.

This disturbs your digital clocks or timers, true, but it also protects the equipment and in many cases, prevents a prolonged outage. The protection device recloses, reconnecting the circuit. If the disturbance that tripped the device in the first place is still present, it will interrupt service again briefly

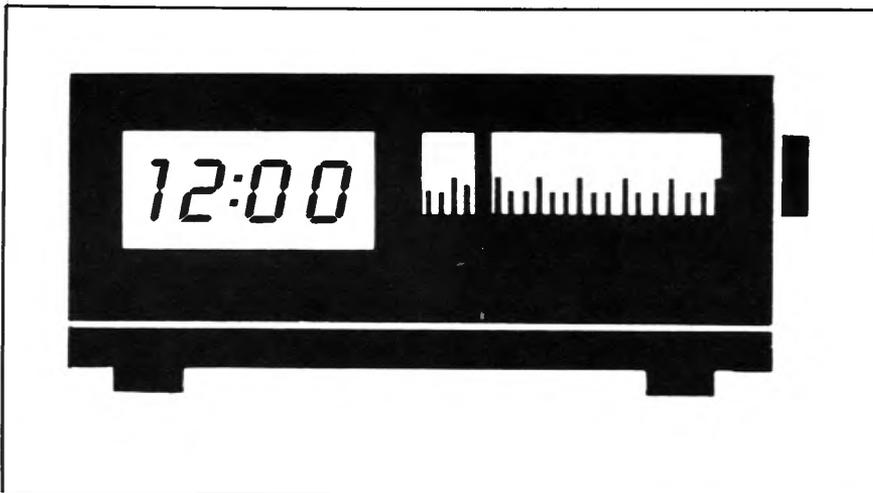
and try to reclose again. Most protection devices will go through this process three times before the line goes dead.

The disturbance to the line is often caused by tree branches. This explains why most electric utilities have an aggressive tree-trimming program in place. But, back to the flashing clocks.

There are some solutions to the problem. You can buy digital clocks and appliances with back-ups for the digital display. These days, many clocks, timers

on computers, video tape recorders and kitchen appliances are designed to take a battery that will take over during power interruptions.

Think about your landscaping plans and don't plant trees near the line, or recognize that branches may be trimmed when or before they grow near lines. You may want to report trees that need to be trimmed away from power lines, but by all means, don't try doing so yourself. Call your co-op.



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Getting the job done

TOGETHER

Electric Cooperatives of Illinois

Youths of Distinction. They are young men and women from across Illinois who have shown outstanding qualities at school and

in their communities. Each year, a new group of high school students earns the opportunity to visit the seats of government in Springfield and Washington, D.C. They are sponsored by their local electric cooperative with the help of teachers and neighbors. Along with the tired feet they always get after miles of sightseeing, these students return home with some first-hand lessons about our government and its history. They meet their representatives in the capitals, and they see the importance of their own responsibilities as citizens. These young people have the chance to meet 1,200 others like them who come from all across the United States. They come home with a lot of snapshots, but they get a lot of experience, too. That's why the cooperatives sponsor Rural Electric Youth events. The inspiration and understanding that young people get today prepares them to be problem solvers tomorrow.



Electric Cooperatives of Illinois

Good for ALL Illinois

.....
Getting the job done

TOGETHER

Electric Cooperatives of Illinois

People in rural Illinois do a lot of things very well. They grow a good crop, bake a great pie, and design a dandy computer program, to name just a few. One thing they're especially good at is cooperating. Rural people formed electric cooperatives to improve their own lives and enjoy the conveniences that townspeople had. During the Flood of 1993, we've seen over and over how all kinds of people with different backgrounds and different interests have united for a common goal – to help each other. They are cooperating. The Electric Cooperatives of Illinois have been there, too, because they are members of the communities they serve. Aside from the effort they put into restoring electric service as quickly and safely as possible to stricken areas, the cooperatives have joined other groups and individuals who went the extra mile to help. Employees, vehicles and equipment went in to battle the flood waters and help the victims. Many members of the cooperatives were also on the scene as volunteers. It's not surprising. Cooperating is just one of our natural talents around here.



Electric Cooperatives of Illinois

Good for ALL Illinois

Norris Electric News

Newton, Illinois 62448 • 783-8765

Lights out . . . everybody!



What to do when power's off

If your power goes off, the first thing to do is to call Norris Electric, right? Well, not exactly. There are a few simple trouble shooting steps you can take to avoid wasted trips that cost us all money.

The first thing to do if your electricity goes off is to check for a tripped breaker below the meter on your meter pole, then check for a tripped breaker or a blown fuse in the disconnect panel in the house. If that's not the trouble, it's almost time to reach for your telephone. But first, make sure you have your line and account number ready.

If you do find a blown fuse, remember: replace it only with a fuse. Anything else may cause trouble. The fuse is the safety valve of your electric system.

If a circuit breaker jumps to the "off" position and will not remain in the "on" position when pushed up, leave it in the "off" position. Then, unplug all electric appliances and try the switch again; if it stays on, reconnect your appliances, one by one, checking the switch after reconnecting each appliance. If you find that the switch jumps off after a certain appliance is plugged back in, leave it disconnected and have it checked by

an electrician.

If your breaker won't stay on after all appliances are unplugged, leave it off and contact either an electrician or Norris Electric.

Be sure to have all your wiring done by a competent electrician, and make sure he uses approved materials and installs them according to specifications recommended by your co-op.

Please remember that this is your co-op. Don't hesitate to call us if you have a problem. And we'd appreciate it very much if you'd help us with our trouble shooting, too. If you see anything wrong anywhere along our lines, please let us know at once. Be sure to give the line number of the nearest pole, or the name of someone who lives nearby.

We'd especially like to know if you see lines that look lower than they should, or if you see limbs rubbing against lines, or leaning or broken poles. While we patrol our lines regularly, our system is so large, and spread over so many miles of rugged country, that we could miss something.

Whatever you do, if you see something wrong, don't try to fix it. Don't touch electric wires on the ground! They may still be

dangerous. We have highly trained linemen who know how to deal with these situations with a minimum of risk.

Also, discourage shooting or throwing at insulators. They're fragile and expensive, and breaking them causes outages that are inconvenient, expensive and sometimes life-threatening. Let us know if you see any vandalism against co-op lines.

Once in a while we have widespread outages, and our members try to get in touch with us. Please report any outages at once. Here are the numbers to call. If you've checked your own breakers and found no problems, or if you know several neighbors are without power too, here is the number to call during office hours (8 a.m. to 4:30 p.m. Monday through Friday): (618) 783-8765. After hours and on weekends or holidays, please call the above number first, because we try to come into the office during a general outage. If you don't get an answer, try (618) 783-3221. In the Effingham area, call (217) 868-2176. If you're in the Lawrenceville area, please call (618) 943-5996.

Again, please don't hesitate to call. We'd like to hear from you.

Norris Electric Cooperative Schedule AE

Farm and Home Electric Space Heating Rate

Availability

Available to members of the Cooperative for all farm and home uses where electricity is the sole source of all space heating energy subject to its established rules and regulations. Service under this schedule is limited to individual motors up to and including ten horsepower (10 hp).

Obligation

The member must continue the electric space heating rate for 12 months and for 12 month increments thereafter.

Type of Service

Single-phase at available voltage.

Rate

6 Summer Months beginning May through October

6 Winter Months beginning November through April

Summer

First	40 kwhs per month	@ 12.50¢ per kwh
Next	80 kwhs per month	@ 10.00¢ per kwh
Over	120 kwhs per month	@ 9.07¢ per kwh

Winter

First	40 kwhs per month	@ 12.50¢ per kwh
Next	80 kwhs per month	@ 8.75¢ per kwh
Next	380 kwhs per month	@ 5.75¢ per kwh
Next	1000 kwhs per month	@ 4.00¢ per kwh
Over	1520 kwhs per month	@ 3.33¢ per kwh

Minimum Charge

The minimum monthly charge under the above rate shall be \$5.00 where 5 KVA or less

of transformer capacity is required. For members requiring more than 5 KVA of transformer capacity the minimum monthly charge shall be increased at the rate of \$1.00 for each additional KVA or fraction thereof required. Payment of the minimum charge shall entitle the member in all cases to the use of the number of kilowatt hours corresponding to the minimum charge in accordance with the foregoing rate.

Wholesale Purchased Power Cost Adjustment

The charges in the above rate shall be increased or decreased by 0.11 Mill per kwh for each 0.10 Mill, or major fraction thereof, by which the Cooperative's total wholesale power cost per kwh purchased for the preceding month exceeds or is less than 44.5 Mills per kwh

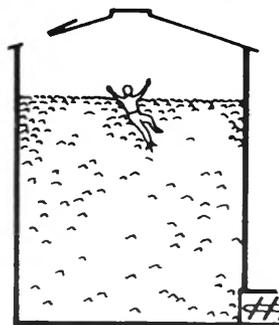
Tax

In addition to the charges herein provided for, the Member-Consumer shall reimburse and pay the Seller an amount equal to any State or local taxes assessed or charged for the sale or furnishing of electricity by the Seller to the Consumer; said amounts to be added to the Consumer's monthly electric bill.

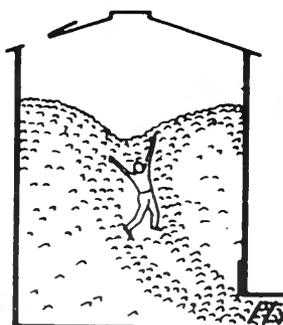
Terms of Payment

The above rates are net, the gross rates being five percent (5) higher. In the event the current monthly bill is not paid within fifteen (15) days from the date of the bill, the gross rates shall apply.

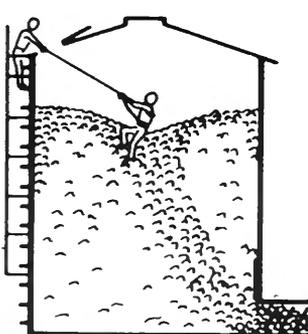
Be very careful while working in grain bins



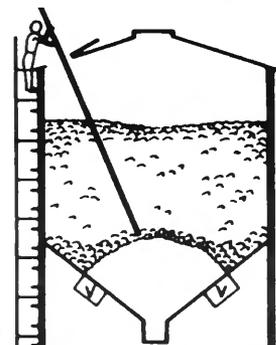
Grains are dangerous as quicksand even when not unloading.



Flowing grain sucks you under suddenly when unloading starts.



If you must go into the bin, use a lifeline and have someone there.



Break bridges with a pole. Use vibrators to keep grain flowing.



Common-sense health tips can ease harvest-time stress

Harvest time is one of the most dangerous times of the year for one of the country's most dangerous occupations — farming.

"Increased pressure to get crops out of the fields may cause additional stress to farmers and increase the risk for injuries caused by carelessness," says Paul Gunderson, a safety specialist at the National Farm Medicine Center.

American farmers have to cope with more stress than an average worker, according to the National Safety Council. Droughts, floods, pests, long hours, money problems and other complications can lead to frustration for farmers and their families and contribute to agriculture-related work accidents and illness. In 1991, U.S. farmers suffered 1,400 deaths and 140,000 disabling injuries, according to the Council. These statistics place farming among the three most

dangerous occupations.

Here are some tips from the National Farm Medicine Center and National Safety Council that may help ward off unnecessary problems:

- Acknowledge that stress exists in your life. That's your first line of defense.
- Don't minimize your reactions to stress. Buried stress can cause problems.
- Discuss problems with family, friends, clergy or a professional counselor to help reduce anxiety.
- Eat a well-balanced diet and limit caffeine, alcohol and tobacco.
- Get enough sleep.
- Keep machinery in good condition to reduce breakdown that can result in stressful days.

—Rural Electric News Service

Bright lights make SAD people happier

When the reds, yellows and oranges of fall come upon us, about 10 percent of the population gets the blues.

The moodiness and depression that set in with the first signs of winter now have a name — seasonal affective disorder, or SAD.

And one of the ways people are fighting this malady is by sitting in front of a bright light radiating from a box about the size of a microwave oven.

Doctors, clinics, laboratories and universities around the world are investing millions of dollars each year to investigate the effect light has on our health, our productivity and our sense of well-being.

What researchers have found may make a profound difference in the way we live, work and travel in the future.

SAD research, which has been going on for about a decade, indicates that millions of people may suffer from severe depression, crying spells, feelings of guilt and helplessness, cravings for sweets and junk food, listlessness, and even suicidal behavior between September and March, when nights are long.

SAD usually shows up after age 21. About 85 percent of the documented cases involve women. There are more recorded cases in the North than in the South.

New, preliminary research suggests that the retinas of SAD sufferers are usually sensitive to light during the winter, when there is less light available during the day. Some theories on the cause of SAD suggest a problem with the body's internal rhythms, and the retina is part of a direct nerve pathway to the part of the brain suspected of

containing the body's clock, according to Dr. Raymond Lam, who presented the research at a meeting of the American Psychiatric Association.

It is this suspected relation to the body clock that could make SAD research important for everyone, even non-sufferers.

One treatment for SAD is light therapy, which was first introduced by Dr. Normal Rosenthal, a psychiatrist with the National Institute of Mental Health. Patients are instructed to sit for between 30 minutes and three hours every morning and evening in front of a metal box containing bright, full-spectrum artificial light. They engage in some kind of activity — such as sewing or reading — and glance into the light periodically.

Many patients report a vast improvement in their moods after using the lights. That is prompting researchers to come up with new ways of incorporating the energizing power of light into our lives.

University scientists and private industry are in the process of developing architec-

tural lighting and portable lamps that could one day make light therapy available in homes, offices, restaurants and hotel rooms. Some claim that light therapy helps workers on the night shift sleep better during the day and perform better at night. Some who travel have used the lights to help reduce the sleepiness induced by jet lag.

There is growing evidence that exposure to certain intensities of light at specific times of day and for particular durations can cure some kinds of insomnia and improve health.

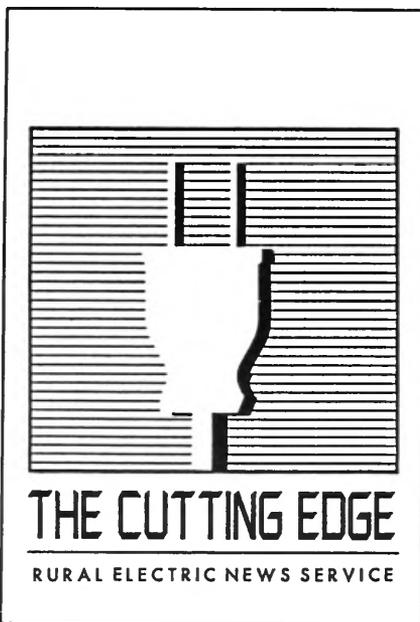
Dr. Wayne London, a psychiatrist who researches the effects of artificial living conditions, contends there is evidence of a relationship between light and some cancers, premenstrual syndrome and sick days in schoolchildren. He cites "circumstantial" evidence that light may even affect Alzheimer's disease, alcoholism, multiple sclerosis and possibly even fertility.

Researchers such as George Brinard, a neuroscientist at Thomas Jefferson University in Philadelphia, foresee light therapy that will be incorporated into building design in much the way we use indoor heating and air conditioning today.

Indeed, the light boxes now available — which range in size from portable ones that may sit on a desktop to bulkier models about the size of a refrigerator — can reportedly be intrusive and cumbersome to use, but that may be changing.

One new invention looks like an ordinary lamp but can be programmed by a microprocessor to reproduce the intensity of a mid-summer Hawaiian sunrise. That, researchers say, could pro-

(Continued on page 12d)



Norris Electric News

Newton, Illinois 62448 • 783-8765



Heath is pictured surrounded by many of the 1,100 guns he has in his Lawrenceville shop. He's been buying and selling guns since the 1940s, but makes it a point to keep the ones that interest him.

Leon Heath — world-class gun nut

There are gun nuts and there are gun nuts. Then there's Leon Heath, who's a notch or two above average. While some may have a well-stocked gun case, and others may have a closet so full of guns that they can't even close the door, Heath has a whole building full of them. In all, there are some 1,100 in his Lawrenceville shop.

Not surprisingly, it took a while to accumulate all those smokepoles. Leon notes that he started buying guns while traveling the country as a pipe-fitter in the 1940s. He'd keep the guns he bought under the bed in

his trailer until he got home, then sell some to turn a profit. He kept those that struck his fancy for one reason or another. "I like the ones that have some kind of a story behind them," he says, hefting a rifle. "This one," he relates, "was issued to a merchant in Champaign. That town was plagued by gang wars back in the 1930s, and they issued guns to townspeople. When robbers struck, somebody'd ring the fire bell and everybody'd go out into the streets with their guns and try to catch the thieves."

Other guns have other attrac-

tions. The Chicago Palm Pistol was an odd-looking gun about as thick as a snuff can and a little larger in diameter. A short barrel stuck out one side, and a lever out the other. The gun held five .31 calibre cartridges. To fire the little beauty, the shooter held it in his hand — or "palmed" it — with the barrel protruding between two fingers. Working the lever fired the gun and rotated the chamber to position the next round. Intended as a very close range weapon, the gun had no provision for sights. "It was built for what you might call 'point and shoot' ranges,"

Leon says, "and this one was used in some of the Chicago gang wars around the turn of the century."

After dealing informally in the gun business for several years, Leon got into the business officially in 1958. As time went by, he got involved in several businesses with his wife, Barbara, who did much of "the real work," he says. They had a Maytag dealership, and bought a Western Auto store, into which they melded the Maytag operation. He bought a gas station and set up the first car wash in Lawrenceville. Then another. "All in all," he chuckles, "we had seven businesses going at one time." During those years they raised a herd of daughters — six of them, in all. He filled in his idle time remodeling homes in the Lawrenceville area and taking care of his rental units. "I've spent most of my life right around here where I was born," he says, "but I've traveled as far as Key West, Florida, and Madison, Wisconsin."

Through all the traveling and wheeling and dealing, he collected guns. "I buy them and sell them," he says, "but I think of myself mainly as a collector." He used to do some hunting, until he lost his left eye in a fall from a scaffold, and does little shooting these days.

While "plain vanilla" .22s and bolt-actions run in and out of his shop almost unopposed, anything that's unusual — or that has any claim to fame — stops.

One odd gun is a percussion rifle with two barrels. The old muzzleloaders took so long to reload once they'd been fired, that people who expected to go in harm's way looked for ways to increase their firepower. The swivel gun, like the one Leon has, was one solution. With it, both barrels were loaded. When one was fired, the shooter rotated the barrel assembly 180 degrees and used the same hammer to fire the second one. Side-

by-side doubles had the added weight and complexity — and expense — of a second lock mechanism. While the swivel rifle may have had its advantages, it also had a disadvantage — it was incredibly heavy.

At any rate, Leon has a double-barrel flintlock pistol, too. Both would make an interesting addition to a flintlock collector's arsenal. In addition to flintlocks, Leon has about every kind of legal gun imaginable. Muzzle-loading cap and ball rifles share a rack with flintlocks, lever-actions, pumps, bolt-actions, single-shots and semi-automatics. For Leon, it's the story behind the gun that means the most.

A six-piece matched set is a prized possession, too. "They're all Colt .45 automatics," he says, "and each one commemorates a famous battle in World War I. Mine all have consecutive serial numbers, and they're real beauties."

There are any number of deringers and pepperbox pistols in his collection. "A pepperbox," he explains, "is a small pistol with four barrels clustered

together. They were meant for concealed carry, and were intended to provide four quick short-range shots. They came in several calibres."

Leon's interest in guns led to another hobby — making figures out of gold. "I knew the Lone Ranger was famous for using silver bullets," he says, "and I wanted to go him one better by having a gold bullet. I talked a dentist friend into making a bullet for me, and got him to teach me the casting process, too. I've made bracelets for all my daughters, gold and diamond rings for me and my sons-in-law, and a lot of belt buckles and figurines. I like to work late in the evenings, or very early in the morning, so nobody will interrupt my work. I use melted jewelry, mostly."

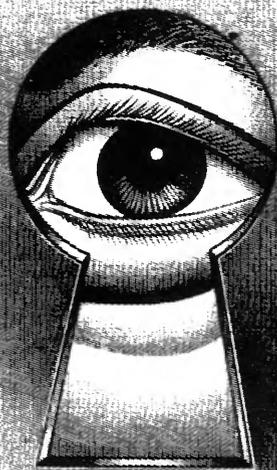
In addition to the guns, Leon has traded and sold other things. Gold, diamonds and jewelry in some quantities have gone through his shop, and he has sold livestock, too.

"If I see something and think I can make money on it," he says, "I'll go for it."



This double-barrel flintlock pistol is one of the many interesting and unusual pieces in Heath's collection.

On the outside looking in.



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Electric Cooperatives of Illinois

Good for ALL Illinois

(Continued from page 12a)
vide a refreshing awakening for an apartment dweller in Manhattan in February. There are also glasses and hats designed to provide the necessary light to the eyes.

Rosenthal surmises that SAD could be an evolutionary hold-

over from prehistoric days when cave dwellers needed to bulk up and slow down to survive the winter.

But now other researchers are finding evidence of a reverse SAD syndrome. They have discovered that some depression is triggered in summer for some

people. This new information, combined with all that is known about winter depression, is adding tantalizing hints that climate and the seasons may affect human behavior and the mental state more than modern science ever knew.

—Rural Electric News Service

Lighting the Christmas tree:

From glass eggs to bubble bulbs

Some fascinating firsts are lost in the mists of history, but believe it or not we know who had the first electrically lighted Christmas tree.

The man who illuminated Christmas was one Edward H. Johnson, a vice-president of Thomas Edison's newly formed Edison Electric Company. It was Christmas 1882, just three years after Edison unveiled his new electric light bulb.

Johnson didn't seek publicity for his electric Christmas tree, but a reporter for the now-defunct Detroit Post and Tribune spied the tree in Johnson's New York City home.

He wrote: "There at the rear of the beautiful parlors was a large Christmas tree presenting a most picturesque and uncanny aspect. It was brilliantly lighted with many colored globes about as large as an English walnut and was turning some six times a minute on a little pine box. There were 80 lights in all encased in these dainty glass eggs, and about equally divided between white, red and blue. As the tree turned, the colors alternated, all the lamps going out and being relit at every revolution. The rest was a continuous twinkling of dancing colors, red, white, blue, white, red, blue, all evening."

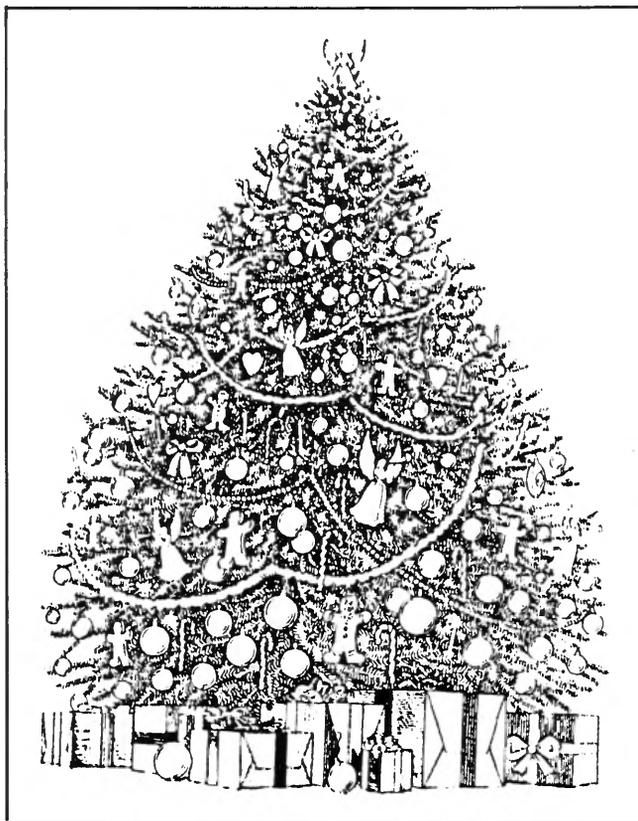
The electric tree was a sensation among the monied class at the turn of the century, according to Phillip Snyder, who researched the history of the Christmas tree for a book called "The Christmas Tree Book."

Within a few years, the wealthy were sparing no expense to construct the grandest, most brilliantly illuminated trees that 1890s technology allowed.

Christmas tree parties became big social events. In 1895, President Grover Cleveland put electric lights on his White House Christmas tree. A few years earlier, the New York Hospital put an electric tree in its children's ward.

"It was so arranged as to revolve slowly, and as it moved electric lights shone from each of its boughs. The children, many of whom had never seen anything half so fine, shouted with delight," wrote a New York Times reporter who visited the hospital to see the tree — still a novelty in 1891.

But it didn't take long for the trees to spark controversy. A few years after it had waxed euphoric over the hospital tree, the New York Times was concerned that the whole electric Christmas tree idea was getting out hand.



"The little children of the rich have grown critical with overabundance, and nothing short of an electric tree, with fairy effects . . . satisfies them," an editorialist wrote. In those days the lights, and the electricity to run them through a Christmas season, could cost \$2,000.

The early electric trees were customized in every sense of the word. Each bulb was hand-wired. Individual bulbs were bought or even rented for the season. Wiring a tree required hiring a skilled electrician.

In 1903, the Ever-Ready Company of New York began manufacturing ready-made strings of electric lights. An "outfit," as they were called, contained 28 sockets with General Electric (GE) bulbs, and cost \$12, about what a laborer earned in a week.

Throughout the early decades of the century, the primary unit of the electric tree, the bulb, was being refined. The original Christmas tree bulbs were tiny replicas of the classic lightbulb.

In about 1910, GE went to a ball-shaped bulb,

(Continued on page 12d)

Norris Electric News

Newton, Illinois 62448 • 783-8765



Joan Fulling with one of her more successful paintings. The subjects here are her daughter-in-law, Debbie, and granddaughter, Kaycee Jo. The painting has taken "Best of Show" at the Crawford County Arts Council annual competition, and just recently won the same honor at the Olney Arts Council's annual art show.

Palestine artist is consistent winner

Joan Fulling is different from many of the artists you talk to in rural areas. Many others "discovered" their interest or knack during their later years, after their children were grown and gone. Or some discovered a

talent when friends or relatives gave them paint sets, or stumbled into the field after taking a night school class on a whim.

Not Joan.

"I've always wanted to paint and draw," she says, "and I

never thought of it as a hobby. I wanted to do it professionally."

Born in Chicago, the Norris Electric Cooperative member grew up in Oak Park, a Windy City suburb. "I went to Oak Park-River Forest High School,"

she adds, "and they offered an art major there. They had majors in ceramics, oil painting, drawing and jewelry. I did them all."

After graduating from high school, she attended the University of Illinois, majoring in art. It turned out that Max Fulling, a young farmer from rural Palestine, was there too. He was studying agriculture. They were married and Joan, with a couple of years of university studies behind her, moved to the family farm with her new husband.

They raised three sons, Eric, Bruce and Kyle, and Joan stored a treasure trove of farm images in her mind, while working toward completing her Bachelor of Science Degree in Art Education from Eastern Illinois University, Charleston. She later went back to school for a M.S. in Art from Indiana State University at Terre Haute.

A year after she received her Master's, she was in serious competition and doing well. One of her paintings took "Best of Show" at the Bicentennial Art Center in Paris, Illinois, in 1984. It was her first year of competition. She took home that show's "Best of Show" ribbons in 1988 and 1991, too.

While all these things were going on, she was still attending workshops. She's studied with Daniel Greene, Jerry Baum, Jean Dobie, George Foster, Dean Davis and Tony Couch. She notes that she doesn't have a particular topic, or a special medium that she favors. "I enjoy what I'm working with at the moment," she says. "I enjoy pastels when I'm doing them, and I think I could be happy with them. Then I'll dig out my brushes and get started in oils, which I feel like I could be happy with all the time, too."

It's not surprising that as well as she does in competition, and with her educational background, she would be involved in teaching, as well. She's a part-time instructor at Lincoln Trail



Another of Joan's fine paintings involves a member of the family. Here, son Kyle is pictured washing a farm truck.

Community College in Robinson, and also teaches at the Robinson Correctional Center.

As she helped with farming, she did a lot of farm paintings, she says. "But now most of my pig and cattle pictures are in the attic. With the arrival of daughters-in-law Debbie, Dee and Marilyn, and some 10 grandchildren, I found several interesting new subjects to paint."

She paints portraits, scenics, carnivals, rodeos and the like, and has done several portraits on commission. She's been known to paint "The old home place" for people who bring in an old black-and-white photo of their former home, and who want something bigger and more colorful.

The family's skiing interest was the inspiration for a scenic painting, and the slopes made a more-than-artistic impression on her, too. She broke an arm.

Research for another painting nearly resulted in frostbite. "I was going to do a painting of the George Rogers Clark Memorial at Vincennes, Indiana," she relates, "and I thought I'd paint it from a spring photo. Then I read a book and thought, 'There's no way I can do it justice in a spring setting'. It turned out that the battle the memorial commemorates was fought early on a February morning, and I wanted to get a feel for that. I went over on the morning of a February day, in zero weather. I took a picture every five minutes, and used two rolls of film. I wanted just the right colors for a bitterly cold winter morning."

She notes that a painting from the spring photo would be just the thing a tourism bureau would be looking for, but that the winter ones showed what the weather was like when the battle was actually fought.

With such dedication and painstaking attention to detail, it's no wonder she consistently brings home "Best of Show" ribbons. It's obvious that they're hard-earned and well-deserved.

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Electric Cooperatives of Illinois

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(Continued from page 12a)

which was colored with translucent paint.

In the early days of the century, there was much more variety in tree lights. Each light was considered a separate work of art — with bulbs shaped like strawberries, clowns, snowmen, roses and Santa Claus. By the end of World War II, however, such detail seemed quaint.

The 1950s saw a brief vogue of bubble lights, the long narrow bulbs with colored liquid inside that bubbled at the temperature of an average

light bulb. For a time, no tree was without its string of bubbling lights.

By the 1960s, the bubble light was almost gone from the American landscape, a victim of oversaturation.

In the 1970s the new star of Christmas tree lights was the midget bulb — a tiny twinkling light that gave a fresh look to the Christmas tree. The softer, more pastel colors could be clustered closer together for an effect like the nighttime sky.

—Rural Electric News Service