Oregon Territory

Oregon's experimental forest, Page 6.

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Country Chaff

Casual, off-hand remarks straight to the point

By Jerry Easterling

One hot, summery afternoon we were driving in the mountains: Our daughter Twerp, Jim, a friend of the family who was visiting from the Midwest, and myself. We were climbing slowly up to the top of one particular mountain so Jim could take a long, long look at the country from the highest elevation around.

It was slow going and it got pretty boring for four-year-old Twerp, who laid down in the back seat and began amusing herself by humming and singing about all the things that little girls sing and hum about. But that soon grew old and she sat up. As she watched another hairpin curve looping around the corner at us, she said: "This sure is a wiggly road, isn't it?"

I could have thought all day and not done half so well. No word quite described that road like wiggly. I'm amused every time I think about it. It reminds me of the darndest things that people say — things that burn a picture in your mind. Because they are said in such a asual, off-hand way they are usually twice as punchy.

FOR INSTANCE, THE NEW FAMILY that moved into the farm down the road from us. It was a big family — eight or nine kids, if I remember correctly. They were from Missouri, and the kids had run wild as deer in the hills of the Ozark Mountains. They livened things up, too. If there was anything that shouldn't be done, they were sure to do it.

None of them had ever been to a barber. Their hair always had been cut with a pair of scissors, said their mother, "whenever they could be caught." Judging from their appearance, that hadn't been often.

My dad had been a barber and, after he got tired of watching them run around like a bunch of shepherd dogs, he agreed to cut their hair. It wasn't an idea they embraced with any great degree of enthusiasm. They were a pretty skittish bunch as they lined up for their first real

THE FIRST ONE TRIMMED WAS a boy about eight. So it wouldn't have to be done again real soon, dad cut his hair close. It had never been trimmed that short before and the boy was surprised by the way it felt. He walked off a few steps and stopped as he ran his hand slowly back and forth over the top of his bristly head. Slowly a grin unceased the frown that wrinkled his face. It widened as he glanced at his brothers and sisters who awaited their turn in line.

"It feels just like hog bristles," he announced proudly. It was something to be proud of. A head full of hog bristles isn't something you get everyday.

Another large family once lived next to us. It included eight or nine kids, and all were boys except one. Their dad was wrinkled and brown from years spent in hot dusty southern cotton fields. He was a slow-moving, slow-talking, easygoing fellow with a drawl as thick as axle grease.

One day while he was working on a mowing machine I was there. He was having trouble freeing a bolt. It was hot in the sun, and he was down on his knees. He was pecking at it with a small ball peen hammer, but he wasn't having much luck. Finally, he straightened up and wiped the sweat out of his eyes. As he tipped his hat back, he glanced toward the yard where the boys were playing. "Hey," he yelled, "T. J." or "Cotton" or "Sammy" or "Tony" — I don't remember which — "you-all go get that big hammer outta the turtle hull and bring it here."

"Turtle hull," That was a new one on me, and I watched as T. J. or Cotton or Sammy or Tony ambled over to the weary old Buick and raised the trunk lid. And that's what it looked like: A green turtle shell. With a thousand words no one could have described it as vividly as he did with two. Everytime I see a trunk lid I think of that. If someone ever sends me out to get a turtle hull, I'll probably bring back a trunk lid full of wiggly hog bristles. Amazing, isn't it, the power of words.

People

Mike Bergerson content with being his own boss

By Cynthia Reiner

Clutter and confusion surround Michael Bergerson in the converted garage which serves as his workshop at Cascade Surgical at 110 King St. S. in Salem. Neither bothers him, he just digs until he finds the correct foot mold, brace fitting or leather strip.

Bergerson, a retired U.S. Navy medical corpsman is earthy (he calls nursing homes "dying homes"), enthusiastic and dedicated to his work — making and fitting braces, supports and prostheses for his customers.

Most of Bergerson's clients are senior citizens suffering from old age, he said. They and the others are custom-fitted for the braces and molded supports that Bergerson builds to support legs, backs, arms, feet and other parts of the body.

His prices, also, are custom-tailored to an individual's ability to pay. Old people are taken advantage of too often, he said.

"The country is the way it is today because they (the elderly) built it up."

WHEN BERGERSON RETIRED from the Navy in 1975, he became a manager with a national orthopedic firm in Denver. For three years he worked 45 hours a week, made good money and lived well.

"I was probably a fool for leaving. It was a great job. But there's more to life. Now I'm my own boss, I set my own prices, do what I like to do.

"When I die, I want to be remembered for just one thing: 'Old Mike didn't take anybody.' "

His work now, despite long hours, is everything he hoped for. "I have the best job there is in the world," Bergerson said.

OT photo by Gerry Lewin

Bergerson: 'Old Mike didn't take anybody.'

"Everything I do is by prescription, but sometimes the doctor just says, 'Do what you can.' The tough ones are the best. The ones that have problems, that I can spend a little time with, when I can come up with something that makes their life easier — a leg brace that lets a paraplegic walk, a back brace that helps unbend an old person's back, a shoe insert that corrects someone's balance . . . "

A normal workday begins at 7 a.m. and ends at 7 p.m. Some nights he takes time out to coach his 14-year-old son Lawrence's Little League team, but "then I usually come back," Bergerson said.

HIS FAMILY — WHICH INCLUDES twin 14 year olds, Lawrence and Laura, and 16-year-old Tara, who helps out at the office — is accommodating, he said. "I have a pretty good wife, Betty. I'd rate her about a 10 — she has to put up with me."

But Bergerson admits he's spread thin. In addition to his office appointments, he bids for welfare work in Silverton and Mount Angel and does all the work himself.

"I could hire someone, but the problem is I wouldn't be satisfied, I know that from Denver.

"I could probably make a lot more money, too. I could charge more, but I have to get up in the morning and look at myself in the mirror."

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Cynthia Reiner is a Statesman-Journal Reporter.

Oregon Territory

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On the cover

Photo courtesy of Richard Waring

The H.J. Andrews Experimental Forest, 50 miles east of Eugene, is providing researchers with new insights into the complex relationships in nature. A recent discovery involving the mountain pine beetle has led to a new look at forest growth. Jerry Easterling visited recently with forest researchers at H.J. Andrews and his story begins on Page 6.

Features

No bends, no curves, no turns. From 7:30 a.m. until 2:30 p.m. that's the way it is.

Out there in the center of that 600-mile run is a tiny settlement called Cook Center, which was established to fuel the trains. It is dependent upon them. No road leads to it, and none leads away. It is a lonely child of the shiny rails.

"It's unbelievable," he says, "how flat it is." And nothing to break the monotony of that great, sun-baked plateau. No roads. No houses. No telephone poles. Not even a tree. It's a lonely, deserted country. It's as empty as the feeling it arouses.

When you go by rail those are the things you can see. And on a train you're not confined to a seat. You can move around. You can dine. You can have a drink and meet people. It's a relaxed, informal way to travel. If you're going to go, he says, it's the only way.

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Jerry Easterling is principal feature writer for Oregon Territory. Mike Williams is a Statesman-Journal photographer.

Above is America's Freedom Train engine #4449 at Wishram, Wash., in May 1975. The engine, which was rebuilt, pulled the Freedom Train around the United States for the Bicentennial events. Riding a train to school in Germany is about as commonplace as riding a bus to school in America. Below is a local train between Bingerbruck (located on the Rhine near Wiesbaden) and Kaiserslautern. The train was mainly for the accommodation of school children traveling between the many small towns on the line.

Train photos supplied by Edward Immel

Oregon's experimental fore

East of Eugene, researchers in H.J. Andrews forest learning how the complex relationships in nature operate as a whole

The mountain pine beetle only attacks young trees in the forest, researchers at the H.J. Andrews Experimental Forest have discovered. That discovery, considered a bonus by researchers, has led to a re-evaluation of the pine beetle's role in the forest.

By Jerry Easterling

While measuring the flow of water in the sapwood of mountain pine, scientists noticed something peculiar. They noticed that mountain pine beetle attacked only certain trees. Sometimes they concentrated on only one side of a tree. The scientists were intrigued. How come, they wondered.

While satisfying their curiosity, they made an interesting discovery. Research revealed what no one had anticipated. Pine beetles only attacked slow-growing, inefficient pine trees. The healthy, vigorous ones they shunned. And again the scientists wondered, how come?

The second discovery they made was as interesting as the first.

The beetles bore through the bark of pine trees and lay their eggs in the sapwood, which conducts moisture and minerals from the foliage of a tree to its roots — and vice versa. But they steer clear of green, growthy pines, the scientists discovered, because the sapwood in them contains too much starch.

From that information they were able to plot a graph depicting the amount of sapwood a pine has to grow each year to immunize itself against beetle attacks. What it amounted to was this: Pines that produce from 9 to 15 percent of the sapwood they contain each year are not attacked by beetles, but those that produce 8 percent or less become fair game. They prey upon weak and sickly trees.

IT TURNS OUT THAT MOUNTAIN pine beetles are actually "nature's foresters," says Richard Waring, who uses that example to illustrate the importance of forest research.

Waring is a forester at Oregon State University (OSU). He has offices in the Forestry Research Center on the OSU campus, where he is an instructor of graduate students. He also is connected with the H. J. Andrews Experimental Forest, which he considers a blessing for foresters everywhere. It gives them, and other scientists as well, a chance to study forestry as very few places do. It now has an international reputation.

The H. J. Andrews Experimental Forest, located on the west slope of the Cascade Mountains, about 50 miles east of Eugene, contains 15,000 acres, which lifts from a low elevation of about 1,260 feet to a high of 5,000. Beyond it, the Three Sisters rise in the east like snow-streaked cones wedged into the sky.

Below the snow line that cuts through the forest, grow Douglas fir and western hemlock. About it silver fir and noble fir and western hemlock dominate. In the forest are trees 800 years old.

Forty species of animals will be found there, and 75 different kinds of birds. Black-tailed deer, coyotes, bobcats, black bears, Roosevelt elk and cougars either live in the forests or visit frequently.

The H. J. Andrews Experimental Forest contains streams, springs, rivers and geological formations characteristic of forests on the western slope of the northern Cascades. All the complex relationships that exist in a growing forest will be found there.

It was established by the U.S. Forest Service in 1948. But it didn't receive particular attention until it was chosen as the site of the International Biological Program in 1969. That's when scientists began delving deeply into the "structure and function" of the forest as one, complete unified whole in which everything exists for a specific purpose.

THERE ARE OTHER EXPERIMENTAL forests, but H. J. Andrews enjoys advantages most others don't. In 1974, the National Science Foundaton (NFS) chose it as the site of the nation's first "Experimental Ecological Reserve," which is restricted "totally to scientific and educational uses." Once stamped with the NFS brand, it became eligible for federal grants. This year $500,000 was received to promote interest in, and research at, the H. J. Andrews forest.

And that's where Richard H. Waring, and Jerry F. Franklin of the U.S. Forest Service Forestry Sciences Laboratory in Corvallis come in. They are the "principal investigators" of applications filed by scientists seeking "major" grants to conduct experiments in the forest. In addition to major grants there are a "number of specific grants," says Waring, that do not come under their purview.

The "Oregon Experimental Ecological Reserve" is administered by OSU, the U.S. Forest Service and the Pacific Northwest Forest and Range Experiment Station. Ways to promote scientific interest in it are considered by a national advisory committee that meets once a year. The reserve is available to scientists all over the world.

Waring says there is now space near Blue River, a small community on the McKenzie River, for about 25 mobile living units. Plans for construction of a permanent facility at the experimental forest are being considered.

Many people may consider the H. J. Andrews Experimental Forest another example of bureaucratic boondoggle — another example of the federal government pouring money into one more senseless projects. But that's not the case, says Waring. Experimentation and research yield results. They are important, of that he's certain. A case in point are the pine beetle discoveries.

Years ago, he says, efforts were made to eliminate them by spraying. But that didn't do much good because spray would not penetrate the bark of pine trees. Attempts also were made to get rid of the beetles by controlled burning. Since it has been discovered that they promote a vigorous, fast-growing pine forest by killing the culls, their place in the ecology may be reconsidered. And remember: That information was acquired while scientists were researching something altogether different. It is, says Waring, a bonus.

HERE IS SOMETHING ELSE THAT is being researched at the H. J. Andrews Forest. Bitter brush and alder trees fix nitrogen in the soil, just as clover and alfalfa do. Because an ample supply of nitrogen is needed for healthy plant growth, it is an important component in most commercial fertilizers. It is expenive, too. It probably will get higher. It is a petroleum byproduct.

Perhaps bitter brush and alder can help foresters cut fertilization costs. Research is now going on to see how well Douglas fir will grow in an environment where brush and alder are encouraged. In an average stand of timber, Waring believes they could add as much as 1,000 pounds of nitrogen per acre over a 10-year period. Bitter brush and alder, which are now considered a detriment to the growth of commercial timber, may become an asset.

Everything has a purpose in nature. That was demonstrated recently by Warick Silvester, an Australian who has been conducting experiments in the H. J. Andrews forest. According to Waring, he discovered that a certain type of bacteria "colonizes" certain kinds of "leaf litter," including fir needles. During their life span, the bacteria scatter nitrogen "right on the surface of the ground," which is a new discovery.

"We had completely missed that," says Waring.

But there is more. Silvester also discovered that when a trace mineral called "molybdenum" is added, the bacteria increase their production of nitrogen.

When he talks about the benefits of research and experimentation, those are the things Waring is talking about. And he applauds the spirit of cooperation that appears to be uniting scientists who devote their lives to improving forests.

Gradually, he says, they are "integrating and coordinating" their research. The knowledge that everything in nature is in someway related has brought them into focus on the whole rather than the parts. Waring best sums it up when he says "we are concentrating less on the names of things and more on their functions." He smiles and nods: Perhaps they have been missing the forest for the trees.

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Forests are governed by certain natural laws. The type of vegetation, and the climate in which it grows may differ, but the same general principles apply. Trees everywhere rely for growth upon the same process. Things that promote growth in one area, usually promote growth in another. Certain things are essential. And the things that retard growth are pretty much universal: Drought, disease, erosion and natural disasters, to name a few.

IF ALL THE ELEMENTS ARE TAKEN into consideration, if research is integrated and coordinated, scientists will be able to formulate generalizations that can be applied to forests everywhere. By careful observation under experimental conditions, he says they will be able to verify them. Such information will increase the effectiveness of forest management because decisions can be based solidly upon tested principles.

Predicting also becomes more accurate when ample information is available. Waring says scientists can now "predict as well as they can measure" erosion caused by run-off in logged-off watersheds. When research and experimentation provide that kind of reliability, they become valuable *tools that benefit everyone.*

The approach taken by science today has resulted in what Waring calls "new perspective" in forestry. And the advantage it gives students is invaluable. "They see so much more than we did," he says. And they see it with eyes that haven't been clouded by old theories that new information has rendered obsolete.

But the coordinated approach is not easy. "It takes a lot more effort and time to do integrated research," says Waring, because so many more factors have to be taken into consideration. But it provides a treasury of information. And with modern communication systems "scientists have access to scientific information around the world — and much quicker access." The vast amount of information that can be stored in computers opens up vistas scientists couldn't have dreamed of 50 years ago.

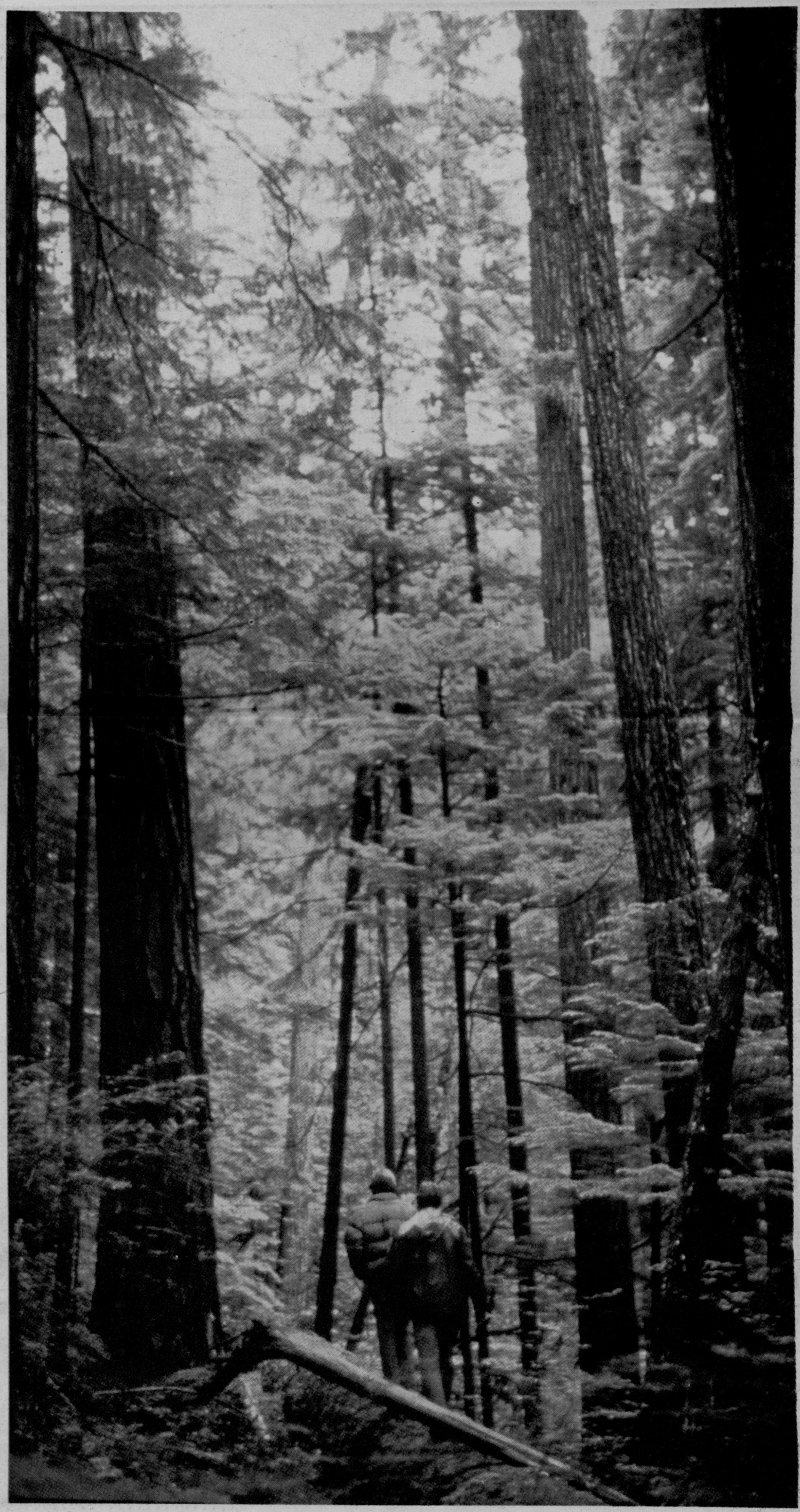
That is what the H. J. Andrews Experimental Forest was created to promote. Anyone who can convince the investigators that his project is worthwhile can conduct research there. The only criterion, says Waring, is a "good idea."

Scientists there now are studying "processes controlling the production of organic matter, decomposition and export by erosion and . . ."

AND A COUPLE OF WEEKS AGO Waring traveled to the forest with a professor from Vermont who was interested in studying the role of "root rot" in forest ecology.

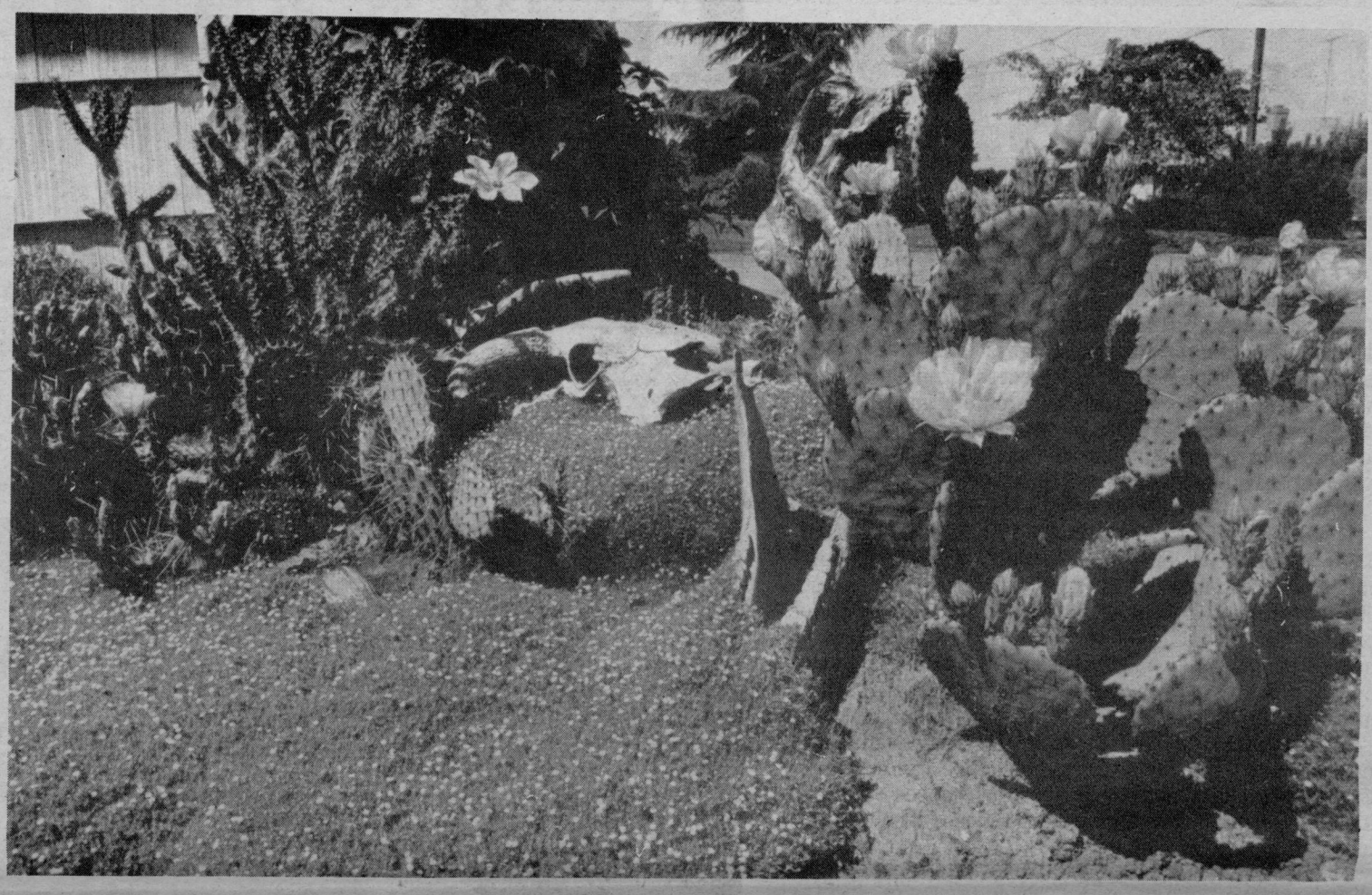
It is becoming a treasure prized by scientists everywhere. What makes it especially appealing is the computer center, library and car pool that are available to them at OSU, which is about 100 miles to the north. Except for the data bank, the same facilities offered by the University of Oregon in Eugene.

The H. J. Andrews Experimental forest is being farmed today for information that will increase the yields of forests tomorrow.



The H.J. Andrews Experimental Forest, 50 miles east of Eugene, has an international reputation and is considered to be a blessing among foresters for the work into the complex relationships that occur in forests.

Garden



Carol Welliver's desert garden is a thing of beauty, but its success can't be attributed to tender loving care, she says. 'I can't grow anything else' and. cactuses aren't supposed to thrive in such a wet climate, she says.

OT photo by Mike Williams

Carol Welliver's desert garden a marvel to her, too

By Jill S. Carroll

The cactuses in Carol Welliver's desert garden are thriving and it's not because of any tender loving care.

"They're really treated roughly," Welliver said.

When the plants were surrounded by grass and weeds last year, Welliver said, she just uprooted them, pulled the weeds and stuck the shallow-rooted cactuses back in the ground. Since then they haven't been disturbed.

Last month, more than 100 yellow, rose-like blooms began opening on one of the cactuses, she said. Each bloom lasted a day, faded and produced a new shoot.

"It bloomed before — one or two blossoms the first year and seven last year," she said.

One of the other cactuses, which has several buds, will bloom soon, she said. The flowers are a deep burgundy color.

The three varieties of cactus are about six years old and were acquired by Welliver's husband before they were married.

The cactuses — from Utah and California — had been planted in a shallow pan. But two years ago Welliver decided to put them outside permanently.

She planted the cactuses in a mixture of silca sand and river silt on the south side of her West Salem home. A wagon wheel and bleached cow skull complete the desert garden.

Since the move, the throny plants have grown from small, six-inch plants to two and a half feet tall, Welliver said.

"They get treated like the rest of the lawn," she said. Planted right under a drainspout, they get plenty of water during the wet months. During the summer, they are watered with the lawn. The plants haven't been fertilized.

Welliver said she was surprised at her success for two reasons: "I can't grow anything else" and cactuses aren't supposed to thrive in such a wet climate.

Garden notes

THE OREGON STATE University Extension Services offers these gardening hints for July:

- ✓ Dig and sort daffodils; divide iris.
- ✓ Spray for codling moth in apples and pear trees.
- ✓ Control powdery mildew in grape plants with a series of sulfur sprays.
- ✓ Plant beets, bush beans, carrots, cauliflower, broccoli and lettuce.
- ✓ Watch for cutworms in garden.
- ✓ At the end of the month, prune raspberries, boysenberries and other caneberries after harvest.

HEAVY PRUNING of landscape plants is usually a spring chore, but light early summer pruning will benefit many plants.

Dead flower heads should be snipped off roses and peonies to keep the plants vigorous, said Ray McNeilan, OSU home gardening agent.

Azaleas and rhododendrons normally need only light pruning, he said. Any dead wood or weak growth should be removed.

Heather, like other broad leaf evergreen shrubs benefits from an early summer trimming to promote compact and uniform growth, he said.

✓ **THE SALEM AREA BRANCH** of the American Fuchsia Society will meet tomorrow at 7:30 p.m. at Herberger Greenhouse in Salem. This month's topic: Espaliers, tree fuchsias and other ornamental uses of fuchsias.

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Jill S. Carroll, a reporter for the Statesman-Journal, writes about gardening for Oregon Territory. She will answer questions about gardening and publish garden club notices provided that they are submitted 10 days prior to publication.