Schweitzer Engineering Laboratories invented the world’s first digital distance relay 25 years ago, improving how the power system provided you with electric power. Today, we offer a complete range of solutions for virtually any electric power system used in utilities, industry, and commerce. SEL innovations help solve today’s challenges, from integrating renewable energy resources to finding economical ways of improving reliability and efficiency. Our mission is simple—make electric power safer, more reliable, and more economical. Learn more at www.selinc.com/8wsu.

Because Everyone Needs Safe, Reliable Electric Power
Interesting times, Part II :: Having not been spared from Washington State University’s recent budget woes, we can think of no other way to absorb our share of the cuts than to drop one issue of the printed Washington State Magazine.

Now, before I go on, let me make a few quick points: 1) Don’t worry, I’m not asking for money; 2) I don’t see us dropping another issue anytime soon; and 3) Even though the budget cuts are permanent, we hope to restore that fourth print issue somehow.

There being no point in whining about the matter, we’re determined to approach that reduction as an opportunity. We will, in fact, be publishing a fourth issue this year, but it will be digital. And we need your thoughts on the matter.

In spite of our grounding in print, we appreciate that the Web can do many things a print magazine cannot. It’s a marvelous supplement. The Web, we hope you have already realized, provides us with many possibilities, including video, slideshows, and interactive mapping, to complement and enhance the print Washington State Magazine.

Even so, we like print and have no intention of giving it up. Not before I retire, anyway. Call us stubborn, if you will. But for those of us raised on print, paper offers an aesthetic experience that a computer screen cannot match. Print is tactile and tangible. It fits on the coffee table much more nicely than a computer.

The only problem with print is the cost. One issue of Washington State Magazine, including mailing, costs well over $100,000. In comparison, Web-based publishing is obviously not free. Besides the necessary infrastructure, both on our end and yours, Web publishing requires just as much staff time as print. Still, what it avoids is the expensive combination of paper, ink, skill, and printing press required to produce a magazine you can hold in your hand.

So I’ll get to the point. The Summer 2010 issue of Washington State Magazine will appear only on the Web. It will closely resemble the current issues on the Web, including a PDF version in print layout. But it will also include some enhancements. For one, we’ll be introducing “My Story,” a mirror of “Our Story.” Whereas “Our Story” is about the Washington State experience, “My Story” will be a chance for you to share your experience after graduation. Like Class Notes, without the space restriction.

Between now and then, we will be prepping you for our great adventure. We will also be surveying, both before and after. But it all comes down to one fundamental question: Will you, when notified by postcard that the Summer 2010 issue of Washington State Magazine has gone live at wsm.wsu.edu, fire up your computer and read the magazine online with the same attention and eagerness as you read the print version?

Frankly, we have mixed feelings about the outcome. But we need to know exactly where you, our readers, stand on the very interesting—and unsettling—evolution of publishing.

Tim Steury, Editor
Catapult Your Career

When you join the WSU Alumni Association, you’ll gain instant access to our new Career Support Services and these valuable benefits:

• LinkedIn with Cougars: Join the most popular and expansive online networking tool around

• Cougar Business Network: Launch yourself into a massive job-search database and resource center, and find Cougars in management roles

• WSU CareerLink: Discover a growing suite of Web-based résumé, job posting, and recruiting tools

• Kaplan Test Prep: Receive discounted rates on preparation courses for advanced degree and professional licensing exams

• And for those alumni over the age of 40, North 40 Network offers one-on-one career assessment, consultation, and career action plan development

Join today and connect with thousands of Cougars, advance your career, prepare to achieve your professional goals, and enhance the success of Cougar-owned businesses.

www.alumni.wsu.edu/careersupport
Join Today and start saving. It truly pays to be a member of the WSUAA. Plus, membership dues are considered a gift to WSU and are tax deductible. Sign up by visiting www.alumni.wsu.edu/join or calling 1-800-258-6978.


Would you like to point out one particular WSU veterinary school graduate whom I suspect you may have overlooked in your search for WSU alumni whose accomplishments are exemplary enough to be considered for an article in Washington Magazine. Dr. Jere L. Dick received his DVM degree in the early 1970s and entered a veterinary practice in Pomeroy upon graduation. He decided to pursue his interest because Hamamel’s article indicated there currently is no large animal veterinarian in Garfield County. I became acquainted with Jere when I hired him as my veterinary assistant. My father, W. H. Veatch, debate coach at WSU from 1927 to 1960, something that ever since I was graduated many years ago has been a great education for life, and I hope today’s young women are finding it so — in its new format!

President Holland always carried some cash in his wallet and would give them to little children as he stormed around the campus. When I came home with a dime “from a nice gentleman” my mother was upset to think that there might be a “not so nice” person pressuring my youngest. When it was discovered that it was President Holland, it took a committee to suggest to him that there might be a better way to help what he seemed to be hungry children.

Sarita Veatch McCaw
Walnut Creek, CA

Home economics
Your article “Whatever Happened to Home Economics” was very interesting since I was graduated with that degree in 1940. It was a great education for life, and I hope today’s young women are finding it so — in its new format!

Mary Burnett McClellan Wyly ’40
Wildcat Creek, C1

Interesting times
My father, W. H. Veatch, debate coach at WSU from 1927 to 1960, something that ever since I was graduated many years ago has been a great education for life, and I hope today’s young women are finding it so — in its new format!

George A. Bettas
Stevensville, MT

Foreign Language
Foreign Language

Mark Reisinger ’03 and Trevor Pisinger ’09 participated in the ACHA Men’s Ice Hockey All-Star Challenge in Philadelphia, Pennsylvania, April 2009. Photo courtesy Mark Reisinger.

Randy Bangerter ’03 and Terri Fretz ’03 participated in the ACHA Men’s Ice Hockey All-Star Challenge in Philadelphia, Pennsylvania, April 2009. Photo courtesy Mark Reisinger.

FALL 2009
While in Pakistan this past winter, S.M. Ghazanfar ’68 met with fellow Cougars:

Row 3: A. Rauf Butt ’82 PhD Econ.; M. Nawaz ’61 MS E. Eng.; Ashiq H. Cheema ’70 PhD
Row 2: M. Yaqoob Malik ’62 MS An. Sci.; Muhammad Nawaz Sr. ’61 MS
Row 1 (cont’d):

I read with interest the article in the Summer 2009 issue by Hannah Steudemann about Senator Patty Murray. It was enlightening how the author overlooked the profound inconsistency demonstrated by Senator Murray in going after Republican Senator Bob Packwood for sexual harassment, but voted “Not Guilty” to the charges of perjury to the Packwood’s alleged victim? Lately Senator Murray has been lecturing students about the benefits of “financial responsibility.” This coming from our senator who did not need the recent trillion dollar “stimulus” bill prior to voting for it. This is akin to signing a contract without reading and understanding it. This is what about the men’s team? Visit www.cougarcrew.com for more information.

Mark Reisinger ’81
Lake Forest Park

Overlooked

As a former coxswain from WSU, 1 am glad to see a story about the rowing program. However, as a men’s team member I am saddened to see that no mention of the men’s team was made in the article for the summer 2009 issue of your magazine. The men’s team is the original rowing program and has a rich history. It has struggled for years to find the funding that the women’s team has hand to them each year. The men’s rowing team at WSU is a club sport and is funded through the hard work of its members and dedication of its former members. You said the women’s team is overlooked . . . what about the men’s team?

Patrick Williams ’66

Like so many “Club” sports at WSU, Men’s Ice Hockey does not receive the attention it should. Two senior students at WSU were chosen to represent Washington State University in the inaugural ACHA College Division 2 Men’s Ice Hockey Challenge held in Philadelphia April 3, 4 & 5, 2009. Erik Reisinger ’91 and Trevor Pisinger #9 were selected as the best WSU had to offer from the WSU Men’s Ice Hockey team. Each Paul 10 (actually Paul II) it was two schools that do not have a hockey team) school sent one to four players in order to make up an All-Star team representing the Paul 8. Twenty-one players made the trip to Philadelphia. Chris Serano, the coach chosen to lead the team to Philadelphia, made the selections from each Paul 8 school. Last year Chris coached Arizona State University men’s ice hockey. The tournament was a huge success. Nine other ACHA Division teams from all over the USA competed in Philadelphia. The Paul 8 finished 2-3 completing 5 games in 3 days. They were very competitive with every other team.

Mark Reisinger ’81
Lake Forest Park

Long-standing ties

In early 2009, I visited Pakistan at the invitation of Pakistan’s Higher Education Commission. My main assignment was to deliver seminars/lectures at the newly established University of Sargodha. My topics included globalization and the Islamic world; origins of economic thought in early Islam; rationalism/intellectualism in early Islam; madness education, extremism, and fundamentalism; and the state of higher education in Pakistan. One of my main tasks, I was told, was to encourage students to think open-mindedly and critically. The audience was generally most receptive—and many students/faculty connected rather warmly and graciously. 

Over the years, many Pakistanis received their graduate education at Washington State University. WSU has had long-standing educational ties to Pakistan. Under the leadership of WSU President C. Clement French, WSU had established an Inter-College Exchange Program with the Government of Pakistan, funded by the USAID, which began in the mid-1950s and ended late-1960s. S.M. Ghazanfar ’68 Ghazanfar is emeritus professor of economics at the University of Idaho. For more on the WSU-Pakistan connection, visit www.wsu.edu/ourstory

Correction

I am writing in response to the article, “A Seat at the Table.” This was an interesting and well written piece except for an apparent misspelling. In particular, the first paragraph on page 35 of the article mentions Senator Murray along with Senator Oka and [Representative] Bob Filner. I believe the author was referring to Hawaii Senator Daniel Akaka and not Oka.

S.M. Ghazanfar ’68

Ghazanfar is emeritus professor of economics at the University of Idaho.

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Creating a Clean Technology Future

imagine a future in which wind and solar energy are fed efficiently into our nation’s electric power grid. Or a day when agricultural waste products such as wheat straw are easily converted into biofuel sources.

Turning those dreams into reality is one of the big ideas occupying Washington State University researchers. They’re pursuing clean-tech solutions ranging from the creation of sustainable communities to powering cars with hydrogen and improving climate-friendly farming practices.

Serving the state. Providing economic stimulus. It’s all part of Washington State University’s mission.

Curbing aggressive driving

by Hannelore Sudermann :: There’s something about youth and speed and cars. Criminal justice doctoral student Yu-Sheng Lin tapped into it in his study of risky and aggressive driving behaviors. Surveying Washington State University students, who averaged the age of 19, he joined up with marketing graduate student Mark Mulder and associate professor Jeffrey Joireman to look at the effects of impulsivity and sensation-seeking on dangerous driving. They also examined whether the drivers considered future consequences when making their choices on the road.

Aggressive driving is likely the last crime to be featured on a television drama, Lin admits. “But I wanted to focus on something that can apply to everyone. It happens every day, but it can also be considered criminal behavior.”

About a third of all accidents, and close to 67 percent of the resulting fatalities, can be linked to aggressive driving, according to the National Highway Traffic Safety Administration. Lin asked survey subjects if they drive over the speed limit in clear weather (risky behavior) and if they let people know when they are unhappy with their driving (aggressive behavior).

The team focused on three low self-control personality traits—impulsivity, sensation-seeking, and anger—and consideration of future consequences. Then they looked at how the personality traits are associated with deviant behaviors.

This issue is very important to the state, says Washington State Trooper Bruce Blood, one of the better-known officers on the Palouse—if only because he is seen so often handing out tickets. In recent years, in response to citizens’ complaints, the state assigned unmarked vehicles to several troopers, including Blood. In a white patrol car, you just don’t see it, he says. But in his Dodge Charger, the state officer sees things even he doesn’t believe—passing on blind corners, speeds exceeding 90 miles per hour. Blood collaborated with the team in hopes of furthering efforts to reduce dangerous driving.

Using self-control theory and a general aggression model, Lin’s study shows that more could be done to curb aggressive driving. He determined that the consideration of future consequences could reduce impulsivity, though it didn’t do much to limit sensation-seeking.

The key is to help drivers recognize they have low self-control and recognize the aggressive behavior when it starts and before it
Panoramas

A number of these institutions have classes, conferences, colloquia with a presence in Second Life. Many are part of WSU’s Pullman campus.

Virtual WSU

by Larry Clark :: Sweep around Bryan Hall clock tower like Superman. Examine tiny buildings give a sense of familiarity to the online campus.

Faculty and students might find other innovative uses for Second Life, from architectural modeling to health education to physics experiments. One student, Heather Losey McGeachey, created a master of fine arts exhibition last spring at both the Museum of Art and its digital counterpart.

Another innovative use of the WSU campus in Second Life is for publics like the world’s first virtual journalism summit last April, which coincided with the annual Murrow Symposium. The summit, held in both the real and virtual WSU, examined news reporting in 3-D worlds and telling stories within those virtual spaces.

There’s a lot of curiosity about Second Life within my department,” says Morrow College of Communication faculty Brett Atwood, who organized the summit and uses Second Life in his journalism and public relations classes.

“The idea of journalism and reporting in 3-D spaces is kind of amazing. It’s a relatively young phenomenon. From a sociological point of view, with human beings behind each avatar, aren’t they worthy of news coverage?” says Atwood.

The summit featured prominent real-world journalists and 2009 Edward R. Murrow Award recipients Helen Thomas and Bob Schieffer, along with virtual world journalists and others, discussing the convergence of journalism and virtual reality and what could be the future of this technology.

Among the speakers was Philip Rosendale, who founded Second Life in 1999. He said he sees virtual worlds gaining ground like earlier innovations of communicating—such as television or e-mail—from early entrepreneurial adopters, to professional educators, to professional users, and finally to mass adoption.

We are currently seeing a rapid evolution toward a greater and more direct conversation,” said Rosendale. He cited the example of a border crossing used to train future Canadian agents to find contraband. Students who practiced in the Second Life border crossing model saw test scores increase as much as 28 percent.

Real-world news organizations—including Reuters, CNN, and Nature magazine—have already established “bureaus” within Second Life and other virtual worlds. Another summit presenter, senior CNN producer Lila King, said virtual journalism isn’t just about packaging a story like in traditional journalism, but rather an ongoing conversation in the community.

In Second Life, CNN’s strategy is about citizen journalism and experimentation,” said King. “We can speak openly and in real time with people, saying, ‘What do you know about this? Did you know something about this?’

Second Life and other virtual worlds can also be used to train journalists about those standards and provide them with a safe forum, an idea developed by the new founding dean of the Morrow College and veteran correspondent Dr. Lawrence Pittack.

While serving as director of the Kamal Adwan Center for Journalism and Research at the American University in Cairo, Pittack helped build the first virtual newsroom. In one instance, he connected eight Egyptian bloggers with three U.S. Undersecretary for Public Diplomacy and Public Affairs James K. Glassman for a press conference to discuss Egypt and the conflict in Gaza, where the bloggers could ask hard questions without fear of reprisal.

“Journalism evolves in its environment,” Pittack said at the end of a documentary about the newsroom experiment, which debuted at the virtual journalism summit. “It molds itself to the realities on the ground.”

Atwood acknowledges there’s some bias about the virtual experience. “I’ve gotten the e-mail rolls about Second Life, put off perhaps by the cartoon-like aspect. I think there are misperceptions about virtual worlds, but legitimate uses are increasing, there are new innovations in the education and research sectors, and there’s real rich research happening.”

Safer skies

by Chetie Winner :: When Alaska’s Mount Redoubt volcano rumbled to life this past spring, images of the plane of ash raining from it probably revived terrifying memories among 240 people who survived its last eruption in 1989.

Ten hours after the volcano erupted, the plane flew through an ordinary-looking cloud. Except it wasn’t: The ash was from the Redoubt eruption.

The plane lost all communication, electronic cockpit displays—and within the span of one minute, all four engines. It plunged almost 15,000 feet before the crew managed to restore three of the engines. The plane landed safely in Anchorage, having sustained $50 million worth of damage. “The whole airplane looked like it was sand-blasted,” said an FAA spokesperson at the scene.

Rick Conery, a technician in Washington State University’s Geovisual Lab, says volcanic ash isn’t soft and floaty like the ash made by burning paper or wood. Volcanic ash particles are tiny rocks, sharp enough to scratch airplane metal and line enough to get into all but the most tightly-sealed compartments. If it gets in, it conducts electricity, and if it gets into a working jet engine, it melts into a gooey gift that traps, aiming to store one trillion positrons for ten days.

Recent legislation has authorized a highway route that follows the path of the Missoula Flood, 15,000 years ago, from western Montana to the Pacific Ocean.

Students have developed a snack pie smelling of grain and a bit of apple that weighs in at 100 calories.

Discovery

A New Zealand snail and a parasitic worm have helped us understand how disease is transmitted from animals to humans. The Müller-Thurgau, Burmank, Madeleine Jonquière, Siegem, and Pinot Noir hold promise as alternatives to East-side fruit bombs.

Memories with the greatest staying power are those with a strong emotional element. Find all this at www.wsu.edu/discovery.
ON OCTOBER 2, 1954, a day shy of his 21st birthday, fullback Carl Talmadge “Duke” Washington ’59 and his fellow Cougars played the University of Texas on a sweltering day at Memorial Stadium.

The result was a 40-14 Texas victory, a forgettable day in the annals of Cougar football; however, the day reached far beyond the athletic history of Washington State and Texas.

Washington, the starting fullback for the Cougars, became the first African-American to play at Memorial Stadium. To the Texas players, however, Washington was not a player making history, but a player to be reckoned with.

“I’m sure it did make a difference in political circles, but it did not make a difference to us on the football team,” Del Womack, a running back on the ’54 Texas team, said in a recent phone interview. “We just thought he was a good football player.”

“I don’t think there was any controversy whatsoever,” Charlie Brewer, the Texas quarterback that day, recollected. “It may have been a sportswriter’s nightmare because there was nothing interesting going on. It was a non-event really.

While it may have been a non-event for the players, it was eventful for the administrations at each school.

In a September 16 letter to Texas President Logan Wilson, Washington State College President C. Clement French summarized a phone conversation the two had earlier that day.

Following a conference with members of the Texas Board of Regents, Wilson reported to French that the Regents’ position whether Washington State plays or does not play any member of its team is its own responsibility and is without approval or disapproval by the Regents. However, under state law, Texas could not be responsible for the common housing of different races.

In a follow-up letter to Wilson dated September 22, French remarked on the Cougars’ September 17 game against USC (a 28-0 loss) and if the Austin papers carried an account of the loss.

“If they did,” French wrote, “you know that we not only got walloped but that the outstanding
bright spot for one team was the young man who has been the center of our discussion. Therefore, unless he is injured and unable to travel, there is no question but that he will be in our starting squad and will play.

In his concluding paragraphs, French wrote, “There are kids that come out of the Northwest categorized lists of young players, Bone says, and bone is very visible invasives in the Pacific Northwest. They are so visible to the local community to the looming danger. We need to have our foot in the ground. We need to get the answers.”

Our kids only know the big city. Pullman is not quite that—not a lot of big cityicators. It’s not like a big city. It’s more cozy. Gases get trapped within it, like bubbles rising to the surface, wasn’t even on the high end of the silica sphere, wasn’t even on the high end of the silica.

Too much you have of silica, the more viscous it is and the more gas it will hold and get more explosive,” says Conrey. Mount St. Helens, which is currently very peaceful, isn’t especially dangerous unless you are directly in its path—and it doesn’t produce much of an ash plume.

But by contrast, silica magma does not flow easily. It explodes. Blister-like ground concrete has 180-200 degrees. They may grow in their new environment, but not sufficiently well to crowd out or displace native species. But if a plant does well in its new environment, not necessarily invasive. They may grow in their new environment and escape into the air, like bubbles rising to the surface, wasn’t even on the high end of the silica sphere, wasn’t even on the high end of the silica.

So it is with cheatgrass. Originally from Eastern Europe, it is not the problem there that it is here. In its native environment, it has an advantage over competitors and predators. Conrey and her colleagues imported soil from Turkey and Kazakhstan and found that 90 percent of the plants in it were invasive. Today, 30 percent of organisms in domestic soil are invasive.

Kennedy and his colleagues had earlier studied the effect of inhibitory bacteria on wheat. They found that 90 percent of the plants in it were invasive. Today, 30 percent of organisms in domestic soil are invasive. He then built the model to include a glass of data about the size of a thin-Minute-Golf course. The spectroscopy analysis of the glass and determines what elements it contains, and in what amounts. If it’s high in silica, the USGS and FIA will alert the avian community to the looming danger.

Cheatgrass, which was introduced in the late 19th century as a forage crop, is an aggressive invasive; it’s fast growing and spreads by rhizomes. It will now be controlled with a new SWUS-Franceschi Microscopy and Imaging Center.

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Panoramas

In Oregon, and one site each in Nevada, Utah, Kennedy and her colleagues will test it in several variety of environmental conditions is unknown. To test the bacteria’s effectiveness in large-scale field restoration to plants, Kennedy will begin testing the bacteria’s efficiency in lab and small field plots, how it will work under a tiveness in large-scale field restoration to plants.

WESP Fall 2009

Of that one percent, the champieron one percent, the champion they finally selected is Pseudomonas fluorescens 125. A particularly attractive attribute of Pseudomonas is it flourishes in full and early spring—when cheatgrass is green and growing. It is inactive in the summer, which little worry about it becoming a pest itself.

Even through the bacterium inhibits plant growth, it is not inherently bad, says Kennedy. It occupies the space between root cells and does not have the necessary enzymes to eat plant growth, it is not considered a true pathogen, says Kennedy. It occupies the space between root cells and does not have the necessary enzymes to eat.

The bacteria do not kill the plant. Rather, they can live in the soil for 10 years, or even longer, if they colonize a plant you’re trying to kill.”

“If you’re a bacterium, you try to preserve yourself and your offspring,” says Kennedy. “So why not?” she asks.

“Everyone has taken music lessons has been somewhat of a mystery. He’d experimented with lifts in the fall, but admitted that he was not expecting anything,” says Jordan. “I thought he was a little bit, you know, crazy. But then...”

“We were looking at growth of winter wheat in early spring and found that the wheat roots were colonized by inhibitory bacteria, also called “deleterious rhizobacteria.” Ninety-five percent of the roots in the early spring were colonized by bacteria.

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“We were looking at growth of winter wheat in early spring and found that the wheat roots were colonized by inhibitory bacteria, also called “deleterious rhizobacteria.” Ninety-five percent of the roots in the early spring were colonized by bacteria.
probably less than one percent of the potato’s genetic diversity has been incorporated in modern cultivars, says USDA biochemist Roy Schneider. The potato is a living thing, and they grow in the dirt, he says, which makes them a food that incites to Venus,” he adds.

Antioxidants, as the name implies, counteract radicals, which damage the body’s DNA, providing an opening for the disease. Antioxidants, as the name implies, counteract radicals, which damage the body’s DNA, providing an opening for the disease. 

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Probably less than one percent of the potato’s genetic diversity has been incorporated in modern cultivars, says USDA biochemist Roy Schneider, who is also stationed at Prosser. The potential for traits that might be gleaned from wild varieties is tremendous, particularly regarding phytochemicals, including antioxidants. There are many cultivars that have never been tested for their traits, says Navarre.

The newest edition of the World Catalogue of Potato Varieties, published by the International Potato Centre (CIP) in Peru, contains more than 4,500 potato varieties that are cultivated in over 100 countries worldwide. The catalogue also describes about 1,500 wild potato accessions from the wild potato collection maintained in the CIP genebank.

Closer to home, baby potatoes are particularly high in phytochemicals, says Navarre.

Fifteen miles outside of Prosser, Ed Schneider leads me down a row of deep green potato plants, a row that seems to stretch to the horizon. He pulls a plant from the ground to show me the baby potatoes that he’ll start harvesting in just a few weeks, just after July 4.

Right now they’re the size of large marbles. He describes how they will be cooked with Savoring, then roasted and frozen.

It’s noon and my mouth’s watering. Unfortunately, the only place you can get these baby potatoes is on one of the airlines or from the big yellow Schwan’s trucks that cruise the rural United States.

He pulls a plant from the ground to show me the baby potatoes that he’ll start harvesting in just a few weeks, just after July 4.

According to post-harvest researcher Rick Knowles, about 60 percent of the Washington potato crop goes into storage, for later processing and fresh use. One of the major landmarks on State Route 26 near Othello is the enormous potato storage shed with Go Cows painted on its sides. Owned by Johnson Agriprises (Oren Johnson ’69, president), the shed holds 36,000 tons of potatoes.

Keeping those potatoes in prime shape for French frying or other uses is no small trick. They must be kept at a low enough temperature to keep them from sprouting. But if the temperature is too low, the potato’s starch starts turning to sugar. When the sugary potatoes are fried, the sugars combine with amino acids and turn brown. The taste is fine, says Knowles, His father, for one, likes them that way.

But the general consumer is put off by brown fries—or at least the industry believes so. And perception is everything. So the holy grail of French fries is a cultivar that stores under low temperatures without producing sugars.

If that potato is the space shuttle program, Knowles and Mark Pavlo are Knights of the Round Potato Table. The potato is the Tri-State Potato Breeding Program, made up of researchers from the USDA (including Brown and Navarre), the University of Idaho, Oregon State University, and WSU.

Breeders in the program make crosses toward specific traits. The best material is selected, propagated, and evaluated. Pavlo is responsible for the in-season evaluation, and Knowles is responsible for the post-harvest evaluation. Everything from the program, with the different growing locations and growing conditions, is sent to Pullman for evaluation under Washington growing conditions. Potato breeding is a long process. From initial cross to releasing a commercial cultivar is about 14 years.

Knowing that the properties of these potatoes are predictable, you can get these baby potatoes is on one of the airlines or from the big yellow Schwan’s trucks that cruise the rural United States.
as well as work on a lift design with streamlined
development, and invited to demonstrate
technological solutions to real-world problems.

"The Garfield-Palouse team hopes to get a provisional
patent for the project. "Then, with luck, we'll sell
it," says Stewart. A project that started out as
"building a toy for Sean," he says, to become a machine that, as he's heard from other farming
families, is sorely needed.

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ON SATURDAY MORNINGS the Issaquah farmers market is abuzz. People line up outside the city’s historic Pickering barn to buy leg red radishes, fiddleheads, strawberries from Puyallup, and armloads of flowers. Music flows through—reggae, elementary school choir, jazz.

Amidst the dirt and bright colors from the multitude of vendors and visitors, keen experts with nothing to sell at all set up a table. They wait while people bring things to them—baggies full of leaves, vials holding insects, and dozens and dozens of questions. These are Master Gardeners, trained by Washington State University and empowered by their communities to advise, serve, and instruct their friends and neighbors on gardening and the environment.

At the same time, just a few miles away in Redmond, a similar table is set up at the farmers market on Leary Way. And it’s still others in the Magnolia neighborhood of Seattle, at the Village Green market on Vashon Island, in Edmonds, in Port Orchard, and south in Puyallup.

These Saturday morning experts are not just at the farmers markets. They have tables at the Fred Meyer in Shoreline, outside a historic mansion in Ferndale, at the Lowe’s in Tacoma, and at the County Fairgrounds in Spokane. They are part of one of the longest-running, most successful programs ever to come out of Washington State University. Master Gardener programs not only train and certify thousands of volunteers state-wide, but they have branched all across the country into communities as far off as New York, Puerto Rico, and Guam.

For all that Master Gardeners are and do, once they were just a good idea.

IN THE EARLY 1970S Washington State University extension agents Dave Gibby and Bill Scheer were new hires with joint appointments for both Pierce and King Counties. They divided their time between the Seattle offices on Queen Anne and the offices in Tacoma. While Scheer’s focus was commercial agriculture, Gibby was assigned urban horticulture—a weighty duty given the population base of more than 1.5 million.

“Each time I got to the other office, I would have hundreds of call back slips. And where Gibby wasn’t available, people would turn to Scheer with their questions. ‘We tried to be of service to people,’ says Scheer. ‘But we were overwhelmed with the demand.’

‘Why is my grass dying? When should I plant fruit trees? What’s eating my peppers? There was a large public demand for horticulture information, and the University knew it. The solution was Gibby. ‘They called me the “sacrificial lamb,”’ he says.

Gibby grew up in Utah, in a large family that had a commercial nursery and greenhouse. Scheer was born in the Dutch East Indies, and after WWII went to school in the Netherlands, where horticulture—a weighty duty given the population base of more than 1.5 million—was a major field of study, and so it became his. The pair are credited with concocting and honing one of the best public outreach ideas ever to come from Washington State University.

Gibby tried to address the gardening questions on television, on the radio, and in the newspapers. He would write up tip sheets and have them next to the cash registers of nurseries. “All it did was make the problem worse,” says Gibby. Thanks to his outreach, those gardeners thirsty for information now know where to find him. Fifty to eighty calls a day became up to 500 calls a day,” he says.

Gibby would sit at his desk and roll through the piles of messages, answering those who had called more than once, those whose names he recognized, and those who were prominent in the community. The rest he threw away. “I just couldn’t get to everyone.”

He started attending garden club meetings, hoping to promptly address questions specific to the season. Those between the pruning course and the refreshments, he found a path of life-long gardeners who were already experts. In many cases, these were the people to whom everyone in a certain neighborhood would gravitate for help. He saw a solution. “I thought, ‘What’s the problem with having volunteers help out,’” he says.

So he went back to the extension office with the idea, turning to Scheer. They talked about the German system where a mastery of a certain field brought you recognition. Those who brewed beer were Braumeisters, those who were expert foresters were Waldmeisters, says Scheer. Why not create a program to train garden experts? They took the German notion of “Gartenmeister” and “We Americanized it,” says Scheer. “Master Gardeners. We knew people would be proud to have the title.”

But both men believed in the idea. But they had to sell it to their colleagues at the research stations.

“To my surprise, I received a hailstorm of criticism,” says Gibby. Though it was more than 30 years ago, he can still count off all the reasons his fellow extension agents and supervisors said it wouldn’t work.

1. Volunteers could not meet WSU’s standards. 2. They had to be licensed.

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to provide advice on pesticides. The public wanted the information when they wanted it—gardeners wouldn’t come to a planned clinic. And finally, "they said people would not volunteer," he says.

Gibby had worked with volunteers before. He had no doubt he could find gardeners willing to give their time to the public. He proposed holding a single clinic, something at a public venue where WSU faculty experts on plants, disease, insects, and soil could be available to answer questions. "I had an ace up my sleeve," he says. Of all the least garden-like places, he chose the Tacoma Mall. The mall administrators were thrilled to make room for the event and agreed to post fliers advertising it. Then he went to the Tacoma News Tribune and pitched a feature about it. Finally, he plugged the event on a local television program. And that first evening when the WSU experts set up their card table at the mall, "we got mobbed." That wasn’t enough, though. Gibby walked into the Seattle offices of Sunset magazine and approached writer Steve Lorton with an idea of plugging the volunteer program in the popular regional gardening magazine. Lorton was impressed with both the man and the idea. "He was tall, handsome, articulate," says Lorton. "Sort of Jimmy Stewart out of a ’30s movie." He proposed holding a single clinic, something at a public venue where WSU faculty experts on plants, disease, insects, and soil could be available to answer questions. "I had an ace up my sleeve," he says. Of all the least garden-like places, he chose the Tacoma Mall. The mall administrators were thrilled to make room for the event and agreed to post fliers advertising it. Then he went to the Tacoma News Tribune and pitched a feature about it. Finally, he plugged the event on a local television program. And that first evening when the WSU experts set up their card table at the mall, "we got mobbed.”

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Now they’re a kind of a model,” she says. “They built themselves the 1980s demonstration gardens began sprouting around the Puget Sound region or far off in Grays Harbor or Adams counties, says Bernardo. Now horticulture information is widely available—in the media, on the internet, he says. Still, the Master Gardeners program is a model for connections to the University and all its resources.

As is the newer terraced demonstration garden at the Riverfront Park in Wenatchee, says Fitzgerald. Besides offering a beautiful scene, the Master Gardeners selected plants like lavender and sedum that are especially drought tolerant. With the support of the county public utilities district, they are showing eastern Washington homeowners how to cut down on their water use. Beyond the clinics and the gardens, much more is going on with the program. There’s more awareness of environmental impact, says Fitzgerald. In the 1970s, Master Gardeners’ focus was outreach. “Now it’s not so much changing the environment just to look pretty,” she says. “Now it’s a much more proactive program. We’re working with municipalities and parks,” as well as water conservation districts, historical societies, public schools, and nonprofit groups.

Master Gardeners are teaching their communities to identify and fight invasive plants and insects, limit unnecessary fertilizer and pesticide applications, hold surface water on their properties so it doesn’t pour into local streams and scour them of fish habitat, and even to landscape in a way that keeps homes warm in winter and cool in summer, says Collman, who now works as an extension agent in Southern California. “The issues we’re facing as a society, that’s where we’re putting our programming.”

WSU is lucky to have this army of dedicated volunteers, says Dan Bernardo, dean of the WSU College of Agricultural, Human, and Natural Resource Sciences. “They really multiply one impact on urban and environmental horticulture,” he says. To arm them with solid science-based training, and then to send them out to educate others, it’s really a noble goal, he says. “It’s a nice marriage of our sciences and the needs of the communities around Washington state.”

While Master Gardener training in Washington is now county specific, the University is working to unify the core training programs to provide the same access to the experts for everyone, whether they’re in the populated Puget Sound region or far off in Cle Elum Harbor or Adams counties, says Bernardo. Now horticulture information is widely available—in the media, on the internet, he says. Still, the Master Gardeners program is a model for connections to the University and all its resources.

Also, thanks to their training, the volunteers are the experts’ ears and eyes, watching for infestations of disease, insects, and invasive plant species, helping natural resource agents and scientists cope with the changing environment.

Can they do all this in the 50 hours they’re required to volunteer to stay certified? Probably not, say the coordinators. But that’s of no consequence, since most of them go far beyond their required time. Of course they’re committed, says Fitzgerald. Gardening, for many of them, isn’t just a hobby, it’s a passion. “We are so lucky to have these people who want to learn and contribute to their communities, and the whole state. Some are maintained by an army of volunteers, while others, like this one, have only a few.
they do it in the name of Washington State University Extension," she says.

Now Master Gardener programs operate out of land grant universities in more than 40 states. In Mississippi they're leading volunteers in projects to rebuild the public landscapes decimated by hurricanes Rita and Katrina. In Wisconsin they're helping gardeners identify and protect local pollinators. And in Nebraska, they're helping the Pawnee tribe revive its traditional corn variety, and through the corn, its agricultural traditions.

Though they never imagined the Master Gardeners program would be an international model or that it would reach so far into society, Gibby and Scheer knew it was a good idea from the beginning. "I felt if we primed the pump, it really would spread," says Gibby. "I'm proud of what we started."
Life is a process of self-assembly.

Soft-spoken biochemist Alex Li apologizes if he’s sounding too philosophical, but it’s hard to avoid such reflections when your work deals with the fundamental principles of how living things are put together.

He’s especially fascinated by the way proteins come to have the shape they have. Proteins make up our hair and muscle, our brains and lungs, our enzymes and antibodies, and each one must attain a particular shape in order to do its work. They start out as chains of small links called amino acids and then, within milliseconds of their creation, they fold and twist and wind up into the distinctive shapes that are critical to their function. Many go on to combine with other proteins—either identical copies of themselves or different proteins—to assemble into a sort of super-structure.

Despite the complexity of the task, it appears that proteins assemble with little or no help from “cellular machinery,” says Li. Amazingly, impossibly, most protein complexes achieve their shape by following specific codes that are built into their structure. They self-assemble.

While other scientists delve into the details of how that happens, Li is looking for ways to turn the natural folding and assembly processes to our advantage—to use them to make nano-scale machines that could do things like deliver drugs to a specific location in the body or sense the presence of a pathogen or toxin.

As Li sees it, nature’s assembly methods have been honed by eons of evolutionary selection; rather than creating nanomachines by trying to shrink our standard methods of production, why not use the processes nature provides?

In one recent experiment, he showed that a very simple molecular code enables molecules to recognize each other and come together to form a larger structure. He made molecules that were flat and roughly oval in shape. Each had two small gaps, or bays, where Li could attach other small chemical groups. The bays weren’t big enough to accommodate the added groups unless the whole molecule twisted a bit to open up the bays more. By attaching groups of different sizes, Li forced the molecule to twist very little, a lot, or in an in-between amount. Then he mixed molecules that had different amounts of twist to see whether any of them would recognize and associate with each other.

He picks up a sheet of paper and holds it out horizontally in front of himself. “We’re taking a planar molecule and we’re twist-iNG it,” he says, turning the edges of the paper in opposite directions. “As we’re twist-iNG the plane at different degrees, we make different codes.”

He found that molecules with the same amount of twist glommed onto each other and stacked up like Pringles potato chips. Those with slightly different amounts of twist associated to some extent, like regular chips that sometimes fit together but more often don’t. Those with very different amounts of twist were like popcorn. The individual units didn’t come together at all.

Worse, “the other part was not interesting,” he says. “The two copies of the molecule stacked together (because their molecular codes matched), their roaming electrons flowed around the whole stack, producing a magnetic field and the ability to induce an electrical current. The structure was, in fact, a solenoid, just like the ones inside electrical motors, only much, much smaller.”

Li’s ability to create molecules that will put themselves together opens up all sorts of science-fiction-ish possibilities. In one experiment, he made a molecule that included features allowing an electron to flow around it. When he mixed copies of the molecule stacked together (because their molecular codes matched), their roaming electrons flowed around the whole stack, producing a magnetic field and the ability to induce an electrical current. The structure was, in fact, a solenoid, just like the ones inside electrical motors, only much, much smaller. “And it’s self-assembled!” says Li.

“When molecules have a matching code, it’s kind of like people sharing the same personality, same common interests,” says Li. “They just get together and become friends.” Molecules with incompatible codes, on the other hand, “basically hate each other.” You put them in the same flask, they don’t see each other. They never come together.

Li’s work is part of a broader effort to develop “combinatorial chemistry,” an emerging field that’s essentially a fusion of molecular biology and nanotechnology. By using the building blocks of life, scientists are trying to develop new drugs and other medical treatments.

“Many of the drugs on the market today are actually small molecules that are drugs,” says Li. “And it’s this science of small molecules.”
Alex Li showed that the shape of a molecule is a “code” that allows it to recognize molecules with similar codes. (1A) He starts with a flat molecule with two open bays where other chemical groups can be placed. (1B) Attaching a small chemical at each bay makes the molecule twist slightly to accommodate them. (1C) Attaching a larger chemical at each bay makes the molecule twist more. Molecules with the same degree of twist recognize each other and nest together.

MHGA promotes cancer in at least two ways. It turns on genes that trigger further growth, and it interferes with DNA repair. Working with WSU molecular biologist Mick Smerdon, Reeves found that by distorting the shape of the DNA where it binds, MHGA prevents repair enzymes from reaching parts of the DNA that have been damaged by ultraviolet radiation. Image Wellcome Trust

Over the next several years, Reeves and his students found that MHGA is a transcription factor, a protein that binds to DNA and assists in turning on, or off, specific genes. In humans, it’s involved in the regulation of at least 50 genes, almost all of them involved in controlling cell division or growth. MHGA is abundant in embryonic cells, which are dividing rapidly as part of normal growth. It is present in lower amounts in adult cells that divide slowly throughout life, like those that line the gut and lungs.

It also shows up in cancer cells.

“This is one of the best biomarkers for cancer,” says Reeves. MHGA has been found in almost every cancer that has been looked at, including lymphoma, breast cancer, and prostate cancer, “and the worse the cancer, the higher the level.”

But the mystery of its shapelessness remained. Other transcription factors have definite shapes and turn on their target genes by recognizing specific sequences of DNA. How does MHGA work?

DNA is composed of four subunits, labeled A, T, C, and G (for adenine, thymine, cytosine, and guanine). A single gene has hundreds or thousands of these subunits in a specific sequence that spells out the order of amino acids needed to make a particular protein. Most transcription factors recognize a short sequence near the start of their target gene. Reeves found that MHGA doesn’t recognize DNA sequence at all. Instead, it recognizes the structure of DNA in certain areas, and then shapes itself to fit the structure it finds.

The key to how it works is that DNA is not symmetrical. It’s twisted in such a way that one side of it is narrower than the other. In stretches of DNA with all As and Ts (and no Cs or Gs), that narrow side is especially skinny. A patch of just 6 As or Ts in a row, in any order, is enough to create that skinny groove.

“It’s like the Colorado River in the Grand Canyon,” says Reeves. “It’s that narrow canyon that these guys (MHGA) are looking for.”
Li hopes he’ll eventually be able to put his biosensor into cells to see if they’re making more HMGA than they should be (and therefore might be cancerous). The sensor is small enough that it can be used with living cells, and it is much more sensitive than current methods of detecting cancer, but a few hurdles remain before it is ready for clinical use. Li still needs to find a way to get the sensor into the cells in question. He also has to figure out how to tell whether a cell that’s making HMGA is normal and harmless, or poses a threat. At early stages of cancer, the cells aren’t dividing rapidly and don’t look much different from healthy cells. That’s why early detection by current methods is so difficult.

“Can you distinguish that [normal] guy from something that’s going to go on to become a tumor?” says Reeves. “At the low end of the scale, going from normal to cancerous is the point that would be most important and interesting to detect. I think we’re getting closer, but it’s not there yet.”

**The Shape of Things to Come**

Looking for ways to exploit the ability of coded molecules to recognize each other, Li hit upon the idea of a “smart” sensor that would signal when it recognized something of interest. In recent years, many labs have worked on biosensors that will detect a virus or an airborne toxin. Each of those biosensors was built more or less from scratch and was designed to recognize just one kind of target. Li aimed for a sensor that could be tailored to different uses by plugging in a part that would recognize the specific thing you were interested in.

He came up with a molecule made of two kinds of alternating segments, like lengths of a broomstick connected by lengths of chain. The broomstick segments provide the basic framework of the sensor. They share a code that allows them to attach to each other so the entire structure folds up like a road map. The chain segments could be bits of protein or DNA—something that will recognize and bind to the target. At each end of the sensor, Li attached a different color fluorescent dye.

At rest, the sensor is fully folded and the dyes at the ends are close to each other. When the recognition segments (the lengths of chain) bind to their target, their structure changes. That, in turn, makes the dyes open up, which makes the dyes at the ends move farther apart, which changes the color you see (see illustration, page 34).

Li built the framework segments, incorporating code features so they would match up and make the sensor fold. The next step was to select linker segments that would be the “amazing” part of the sensor. He needed to use something that would recognize a specific target, and would change its shape when it bound to that target. He asked if Reeves knew of any good candidates.

“I said, ‘Funny you should mention that,’” recalls Reeves. “I think we’ve got something for you.”

Reeves suggested that using stretches of AT-rich DNA as the links should allow the sensor to detect the presence of HMGA. It would be a good way to test Li’s design, and if it worked, it could offer a new diagnostic test for cancerous cells.

Li tried it. He connected his framework segments with lengths of AT-rich DNA and then exposed the sensor to HMGA. It worked—HMGA bound to the linker segments and changed the shape of the sensor enough to change the color it emitted.

“He said, ‘Your protein is amazing!’” says Reeves. “I said, ‘It’s not my protein, it’s nature’s protein, but it is amazing.’”
At last, a biography of one of the Northwest’s greatest chiefs.

IN JULY 1853, U.S. Army Captain James McClellan and a column of 61 men and 161 horses and mules headed east out of Fort Vancouver with instructions from territorial Governor Isaac Stevens to survey the middle Columbia region and Cascades passes. When they reached the Simcoe Valley in mid-August, they were greeted by Fathers Pandosy and D’Herbomez of the St. Joseph Mission. They introduced McClellan and George Gibbs, an ethnographer and geologist with the expedition, to ‘Kamiakin, the principal chief of the country.’

The son of a Yakama mother and a Palouse father, Kamiakin grew up among the Yakamas, but as an adolescent also spent time among his father’s people. Following the seasons, with their cyclical succession of plants and salmon, the family camped throughout eastern Washington. Kamiakin was about five years old when his people started hearing rumors of strangely dressed white men, the Lewis and Clark expedition, traveling through the region.

As he grew up, Kamiakin learned the horsemanship of his father and steadily built his wealth on horses. As early as 1840, he was recognized by a majority of Yakamas as their headman and was becoming increasingly prominent among other Sahaptin and Salish tribes.

Kamiakin and his brothers traveled widely, perhaps as far as California, bringing longhorn cattle and milk cows back with them to the Yakima Valley. They also introduced potatoes, peas, and other crops. In fact, note Richard Scheuerman and Michael Finley in their recently published Finding Chief Kamiakin, it is curious that Captain McClellan failed to acknowledge Kamiakin’s gardens and grainfields as he assured Kamiakin that Americans would not settle in the interior. As Gibbs observed, “it is difficult to imagine” that the area would ever serve any “useful purpose.”
Michael Finley’s thesis advisor at Eastern Washington University told him that if he wanted to be an authority in Native history of the Inland Northwest, he had to know who the authorities were: “He probably meant pick up their books,” says Finley. Which he did, but also took his advisor’s literally, personally contacting Trauler, writing him letters, and even visiting him in the shadow of Kamiak Butte, Steptoe Butte, you can’t help but wonder about those things.” Those things being Kamiakin, of course, and his lineage in the Northwest. Kamiakin had five wives. How could he give up any of them, let alone to accept Pandosy’s insistence that a Christian be monogamous? Kamiakin had five wives. How could he give up any of them, let alone to accept Pandosy’s insistence that a Christian be monogamous?

“Let us stop their coming, even if we must fight.”

Given Kamiakin’s lingering presence across the state, I must have been attached to his high schools and libraries, it is also curious that it has taken so long for a biography to appear. The only previous book-length treatment was A-Mi-Al’o: The Last Hero of the Yakamas, by A.J. Spreckels. However, it focused primarily on Kamiakin’s role in the 1855–1858 Yakama War.

Scheuerman and Finley’s book, on the other hand, draws on much new material—including genealogical information and oral history—not only to correct what they consider misconceptions about how heavily Kamiakin influenced that war, but also to elucidate his earlier life and, significantly, his later life and his large family.

Through his friendship with Father Pandosy, Kamiakin accepted much of Catholic teachings, and had his children baptized. But he would not accept Pandosy’s insistence that a Christian be monogamous. Kamiakin had five wives. How could he give up any of them, let alone to accept Pandosy’s insistence that a Christian be monogamous?

Finley has had access to genealogy records, which interested Scheuerman very much.

Scheuerman wrote back, “I haven’t seen that before.” He said this was wonderful stuff, says Finley. What would we do without it?

Finley is currently vice chairman of the Colville Business Council for the Colville Confederated Tribes. He is a descendant of face Finley, the explorer David Thompson’s French-Indian guide. His wife Jackie is, through her father, a direct descendent of Kamiakin. Even though they had some hard times, talking about the past, Finley says, “I thought, what better tribute for my children than to work on their family history.”

Kamiah had watched Washington state starting to form in the region. He welcomed them, if a little nervously. Nevertheless, in 1854, Kamiakin accompanied the Palouse, Walla Walla, Cayuse — met with Stevens and other territorial representatives.

Scheuerman was observer of Kamiakin. “He is a peculiar man, remaining one of the panther and the gizzly bear. His countenance has an extraordinary play, one moment in frowns, the next in smiles, flashing with light and black in Eureka the same instant.”

Another observer noted that Kamiakin was the “great impediment in the way of creation of Indian lands.”

For over a week, Stevens presented federal Indian policy, pushing his reservations about prophetic boundaries and fishing rights.

But Kamiakin was unmoved. “I am afraid that the white men are not speaking straight,” he told Stevens.

Regardless, at one point, Stevens offered Kamiakin an annual salary of $500 to “perform many services of a public character.” But Kamiakin refused, as he did all offers and gifts, believing that to accept anything from the Whites would compromise him and imply he had sold his Indian land.

When Kamiakin finally told Stevens he was leaving, that he was “tired of talking,” Stevens pushed harder and, as far as I can determine in an interpreter’s account years later, he said right flat, “If you do not accept the offer and sign this paper — you will walk in blood knee deep.”

But Kamiakin was not without the combined advocacy of the other leaders, says Scheuerman and Finley. Kamiakin finally signed with great reluctance, by A. According to the priests present, he was in such a rage that he had to be held from rushing at Stevens.

Under the terms of the Treaty of 1855, the 14 tribes of the confederated “Yakima Nation” ceded to the United States approximately 270,000 acres for the exclusive use of 2,000 square miles of reservation land, two schools, and fishing and gathering rights at “all usual and accustomed places.”

The Nez Percé and Walla Walla-Cayuse treaties were also drawn up. Within weeks of the signings, however, the treaties, not yet even ratified, were violated. Gold had been discovered in Indian land north of the Spokane River, and Whites rushed to the new diggings. And there miscreants rushed in, other settlers would soon follow.

Within weeks of the signings, however, the treaties, not yet even ratified, were violated. Gold had been discovered in Indian land north of the Spokane River, and Whites rushed to the new diggings. And there miscreants rushed in, other settlers would soon follow.

In spite of his despair, Kamiakin still sought reconciliation: “Let us send unto the mountain tope to warn the white men to look out. Then if they persist — we will fight.”

As worthless as historical speculation might be, one cannot help but wonder what the former Washington Territory might be to his heirs the moderating efforts of Kamiakin, the Catholic priest, and the U.S. Army prevailed over the volunteer militiamen, the reprinting newspaper edition in Seattle and Portland, and the relentless momentum of impatient settlers.

But of course there was no stopping that momentum. In July 1856, the Washington Volunteers attacked an encampment of 300 Cayuses, Walla Walla, and Shuswap, and claimed they’d killed many Yakama warriors under Kamiakin’s protection. They destroyed the camp’s stores of dried beef, tents, and flour and took about 200 horses, many of which they shot.

According to Colonel George Wright, the new commander of the recently formed Mounted infantry, the attack was on “women, old men, and children, with a few of the young men.” Kamiakin was not present. He was likely among the Okanagans with his brothers and the Yakama chief Oska and Columbia chief Quillanmuck.

As word spread,” write Scheuerman and Finley, “Army officials bailed again against Stevens and the volunteers’ methods, which were ‘to provide a compensation of the war and to prevent the Indians of their horses and cattle.’)

A second Walla Walla Council in 1856 deteriorated under Stevens’s influence, alternating even the Nez Percé. Exclusion of violence seemed inevitable.
As worthless as historical speculation might be, one cannot help but wonder what the former Washington Territory might be like had the moderating efforts of Kamiakin, the Catholic priests, and the U.S. Army prevailed over the volunteer militias, the ranting newspaper editors, priests, and the U.S. Army prevailed over the moderating efforts of Kamiakin, the Catholic priests, and the U.S. Army. But of course there was no stopping that momentum.

There were villages on the lower Snake River that were totally uninhabited,” he says. “Someone told the story of going upstream on the Palouse River and finding a village with one small child crying, the only one left.”

If the physical decimation weren’t enough, the psychic toll must have been profound. “On a grand scale,” write Scheuerman and Finley, “epidemics, devastated and decreased Native populations, adversely affecting their overall social organization and strength.”

Whatever their disadvantage, however, the growing tension led to a major conflict.

Lt. Col. Edward Steptoe left Fort Walla Walla in May 1858 with a contingent of approximately 150 men, headed for Fort Colville in a show of strength. North of Rosalia, they met a large gathering of Indians. Having crossed the Palouse River the night before, Steptoe had received intelligence of Southwestern Palouse and Spokane chiefs, but sent a scout back to Fort Walla Walla with the message that he intended to “give them a good drubbing.”

But the gathering was far larger than he had imagined; his men were under-armed, and the Indians were angry at the blatant incursion on their territory. Chief Vincent of the Coeur d’Alenes ordered him to turn around, and Father Joset of Sacred Heart mission desperately attempted to negotiate.

But a more and more Indians gathered, they finally attacked under no threat of a drubbing.

Fierce fighting continued throughout the day. Seven soldiers were killed and thirteen wounded, but finally they were able to slip away under darkness.

I’ve often said,” says Scheuerman, “before the war started in 1855, such an embarrassment to the Army could of course not go unanswered.” On July 4, 1858, General Newman Clarke, commander of the army of the Pacific, issued orders to Colonel Wright for a “complete submission” of the warring tribes.

SUCH AN EMBARRASSMENT to the Army could not go unanswered. On July 4, 1858, General Newman Clarke, commander of the army of the Pacific, issued orders to Colonel Wright for a “complete submission” of the warring tribes.

Wright marched 1,000 men across the Columbia plateau. Kamiakin and other chiefs moved their people in Spokane and Palouse country to meet the advancing troops. Wright’s troops and the gathered tribes finally met in early September in the Battle of Four Lakes, about five miles north of present-day Cheney. The Indians were unprepared for the imprudent weaponry of the Army, and the warriors fell back under heavy fire in spite of Qulchakan and Kamiakin’s appeals to stand their ground. The companies that had been part of the Steptoe route were “burning for revenge” and swept into the Indians. Warriors were overrun, shot down, or clubbed, leaving confusion and death across the plains.

After retreating, Kamiakin and other leaders tended their wounded and turned for Wright’s contempt. Up September 5, they had regrouped several miles north of Four Lakes to meet the soldiers again in the Battle of Spokane Plains. “This proved to be the decisive action of the
campaign and a defining moment in the region’s primal clash of cultures,” the authors write.

“Again Kamiakin and Qualchan led the Palouses and Yakamas at the Indians’ center left and right, respectively. Stellam’s Coeur d’Alenes took the right flank and Spokanes under Garry and Sgalgalt formed on the left. Asstaka who led the Havasupais began thundering Indians from the north dashed down a hill five hundred feet high and with a slope of forty-five degrees, at the most headlong speed, in ‘feats of horsemanship... never seen equaled.’ They rushed forward to join other warriors attempting to contain the soldiers’ horseshoe formation.”

But horsemanship and valor were in the end no match for Wright’s superior firepower.

Wright’s strategy had relied on overwhelming force and a “focused assault on Tribal leadership,” write Scheuerman and Finley. Wright, who earlier had pursued a diplomatic path, had now assumed a ruthless and uncompromising policy. When Qualchan rode into Wright’s camp with his wife to speak of peace, Wright had him summarily hung along with some Palouses he had rounded up. The stream where Wright was camped was named Hangman Creek.

So why did it take so long for a biography of Kamiakin to materialize? Scheuerman and Finley give slightly different answers.

Part of it is the nature of the Kamiakin family, Scheuerman ventures. Perhaps they feel a continuation of what Kamiakin himself felt, hurting from the divisions among the tribes, during and after the war. Kamiakin goes to live at the obscure Rock Lake and then drifts off into obscurity, the real story of his role and greatness remaining only within the family.

Perhaps more significant, even though it occurred over 130 years ago, the family is still enraged over the desecration of Kamiakin’s grave. Soon after he died and was buried in a small family plot on the shore of Rock Lake, fossil hunter Charles Sternberg learned about the chief’s grave from a local rancher. Another local resident encountered Sternberg and his brother leading packhorses. Sternberg mentioned casually that “Wouldn’t the old chief’s head look good on the shelves of the Smithsonian Institution.”

What family members visited the gravesite and found Kamiakin’s grave dug up and his head gone, they were devastated. They had a holy man supervise the moving of the cemetery to the other side of the lake. All swore never to reveal its new location.

Many attempts have been made to locate Kamiakin’s skull, to no avail. Scheuerman himself has tried his best to track it down. He finally gave up.

Some of the reasons for the biography’s slow coming is simply a matter of privacy, says Finley. But there is also an unease with written history: “What you put in writing can be used against you down the road.” Written accounts, both accurate and inaccurate, have been used in deciding treaty disputes.

“On the other hand,” he says, “if you don’t put anything out, you have nothing to stand on. It’s important that you put stuff in writing. It’s also important that you’re very careful what you say and how you say it.”

Scheuerman and Finley plan to donate royalties from their book to a memorial at the site of the Kamiakin camp at Rock Lake, if the family consents. If not, they will go toward a scholarship in Chief Kamiakin’s name.
“I owe much of my success to the outstanding education I received at WSU and joining the Alumni Association is one of the ways for me to give back. I am thankful for the help the WSUAA provides the WSU serves.”

Robert M. Williams ‘79

Vice President and Relationship Manager at Union Bank of California in Seattle.

Member of the WSUAA’s Board of Directors, African American Alumni Chapter, WSU College of Business National Board of Advisors, and WSU Foundation Board of Trustees.

Gray-W Vanity Club member and four-year varsity letter winner in Men’s Track and Field (1979 Team Captain).

Loves golf and trips to Cabo San Lucas.

Life Member of the WSU Alumni Association.

"I love much of my success to the outstanding education I received at WSU and joining the Alumni Association is one of the ways for me to give back. I am thankful for the help the WSUAA provides the WSU serves.”
name was Kopp (their farm is now a community garden). I worked for my board and room and walked back and forth between classes. I slept in the brick house with their head lamb and a dog named Buddy.

LISTEN TO ADVICE. The first summer I started for home a group of us hitched a ride on the freight train. There were three or four of us who found an empty car and there was someaffiliain the bottom of it. We were sizing the thing up, and the brakeman came along and he said you better pick a car with a steel beam underneath it, he said; some of those wooden cars collapse. We made the freight as far as Renton.

We were told it was safer to get off there than to go into Seattle. The cops in Seattle were a little bit more particular.

FIGURE OUT A PATH. I was interested in architecture and my advisor told me that was not a good choice. They said architects are a dime a dozen. So I went into the industrial arts. Then I found the instructor was a buddy. So I switched to architecture and took education classes. I think the impression that most people get of college students is that they spend a lot of time drinking and playing games... and dating. I had been out of school for three years and I felt I needed to buckle down and... I didn’t have much time for extracurricular activities.

MAKE EXCEPTIONS: My senior year, I got a little bit more particular.

START new THINGS: While I was at Burlington, the FFA, the Future Farmers of America, was just getting organized. We chartered a chapter at Burlington. It was a real good place to get started. There was a very good class of farmers there. Very good farm and a very good class of students. Two of my students later became state presidents of the FFA. I thought that spoke pretty well for the quality of it.

SEE THE COUNTRY FROM YOUR CAR. A job at Enumclaw opened up. It paid $15 a week. That year I thought that would be a good time to buy a new car. I went to Detroit with the dealer, bought a new car and drove it back. In those days it was kind of a deep maroon.

MOVE FOR YOUR FAMILY. I was at Enumclaw for 10 years. But the climate was not agreeable to the boy. Lyle (his son) and older brother Ken were in school at that time. They both had bronchial condition and were out of school half the time. I asked the doctor if it would help if we moved somewhere dry. He said it probably would. So we decided to see the country. We went to Boise, Idaho. They didn’t have any agric departments in the Columbia Basin at that time. It was when they were just starting the U.S. Bureau of Reclamation project to irrigate farmland in contact with the U.S. State Department, Millennium Corporation, USAID, Peace Corps, and the military.

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Tracking

Telling stories

by Hope Troway

Huskies purleen

 normally in Kitty Lamb Lee’s palette. The Pullman-based illustrator was born in Pullman, and her family’s ties to Washington State University go back 80 years.

Still, she was happy to pull out the purple to create the souvenir poster for the 2009 Wazzuh Cup, a premier boating event in the Pacific Northwest and a signature event of the University of Washington.

In fact, Lee’s poster says UW rowing even more. While previous Wazzuh Cup posters have highlighted the grace of rowing, or the beauty of Montlake Cut, or even the storied University of Washington. It was at first a project

Raising her three children, Colby, Debbie, and Katy, now 18, 15, and 14, took much of her work on a part-time basis. She was creating art, and she was making money at it. Then about 10 years ago she realized she wanted more.

That’s when she turned to illustration. In a sense, it was a return to her first love, one that deepened during classes at WSU with that arts professor Fran Hils. “Whatever I was doing for him I wanted to do my best,” she said.

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DANCE WHEN YOU CAN: I still go to the senior center every week to dance. I dance one and rest about two or three. I still do the waltz. "I said, and laughed. But in fact, she had a plan to do just that. She majored in communications and minor in art, and during her senior year she moved into the Student National Advertising Competition, creating a campaign for Burger King. After graduation she married and moved to Dallas where she found a job as an art director for an international pet supply company.

It was challenging, interesting work, but it was also consuming, she says. After her son Colby was born, the Pullman called again. When her husband was offered a job at Schiesser Engineering Laboratories, “the time was right,” she said. “I wanted to go home.”

Kaining her three children, Colby, Debbie, and Katy, now 18, 15, and 14, took much of her creative energy, but she continued graphic design work on a part-time basis. She was creating art, and she was making money at it. Then about 10 years ago she realized she wanted more.

That’s when she turned to illustration. In a sense, it was a return to her first love, one that deepened during classes at WSU with that arts professor Fran Hils. “Whatever I was doing for him I wanted to do my best,” she said.

S. R. Martin Jr.

A life in the West

by Hannelore Saderman

Rudy Martin started out with a plan to collect the stories of his family from its Texas roots to his home in Washington. It was at first a project for himself and his children. But the American studies scholar pursued for context, color, and regional history. He had to build a more complete story. He sought out distant family members, drew into ancient county records, and culled through population research in his quest to understand how he and his family have been shaped by race, religion, and, most importantly, place.

His book, On the Move: A Black Family’s Western Saga, is not simply a memoir, it’s a new look at the African American experience in the West. It’s about his great-grandfather, Thomas Martin, to his own early childhood on a Wyoming dude ranch. His father became a Pentecostal minister in the Bay Area of California. And Martin had his own adventure into Washington where he has been a teacher, writer, and founding faculty member of The Evergreen State College.

He graduated from the University of California, Berkeley, and taught high school. Then he pursued a master’s degree at San Francisco State University and a teaching position at Modesto Junior College. Still, he was hungry for not just literature, but culture, art, and history. He needed to move on and pursue an interdisciplinary doctoral degree.

“My dad had a hell of a time dealing with the notion that I wanted to be an academic,” says Martin. “He kept saying, ‘You can’t make any money doing that.’” Twice when Martin was a young adult, his father approached him about changing paths, encouraging him to go to law school or medical school or even take a high-paying job.

But Martin found a home in American studies, a field that got its start in the 1930s as an approach that included history, literature, economics, art, media, sociology, and anthropology. In the late 1960s, when Martin was looking for a graduate program, the interdisciplinary study was gaining a foothold on the West Coast. Washington State University offered Martin a teaching assistant position right off the bat, he says. The move was in spite of his wife’s protests. “We set up in a
pro-fab World War II shock right out on the Moscow-Pullman Highway,” he says. “She said, ‘where are you taking me?’

It was not time to be at the University, with faculty like Martin’s advisor Mary G. Land. Lewis Bacon, BS, MA, PhD, 1942, English department, and Raymond Moss, the chairman of history. In those days American studies was sort of a bootstrap outfit, says Martin.

There was also a ballyhoo of bright, active, and interesting students around him. “Very serious about doing more stuff, and very much interested in African American studies,” he says. Martin taught the first African American literature course ever offered at the University.

Martin and his classmates advocated for a black studies program at WSU. “In the spring of 1970 I was the guy who stood before the assembled crowd in front of the CUB and said, ‘We’ll the administration does not want to put in our black studies program and so we’re leaving. We had found places for every black student on campus who wanted to go. Understandably, his doctoral thesis looked at literature and political movements—and their interactions.

Before he finished his dissertation, Martin was land away from Pullman by the prospect of joining the founding faculty at the newly-conceived Evergreen State College. “I couldn’t pass it up,” he says. “There was this excitement about building a college from the ground. And many people in the whole world have that chance!”

That first year, the 1970s area would have only one building and five or six trailers. “It was a mud hole,” says Martin. The employees had to navigate the property on boardwalks. He was one of 18 planning faculty, along with three deans and three vice presidents. Though the campus wasn’t ready for the assembled crowd in front of the CUB and said, “We’ll the administration does not want to put in our black studies program and so we’re leaving. We had found places for every black student on campus who wanted to go.” Understandably, his doctoral thesis looked at literature and political movements—and their interactions.

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Hockaday fills in her research site visits, local color, and his first-hand collection of Olmsted’s daily letters, about gardener Joan Hockaday learned of a and Tacoma.

John C. Olmsted made a number of trips to the Northwest over the ensuing eight years. Of Woodland Park, he converted as Cannon Hill Park) which he converted from around the time of 1910, lays out the history and challenges of our nuclear waste legacy. He also worked for private clients, a who’s who list of the early 1900s, including prominent citizens, pushing them to keep his landscape under the shadow of the atomic bomb, "When you see something that is technically sweet, you go ahead and do it anyway. You do it and you have your technical success." The notion could apply to the waste created in producing the atomic bomb. The loneliness of Woodland Park, he urged that it not only give us a number of projects run threads of city bureaucracy, and a sense of the importance policy debate to complete reviews at wsm.wsu.edu

The federal government withheld the information until the 1970s and 1980s, when public pressure forced the release of records and prompted the Manhattan Project sites around the country, including Hanford, Los Alamos, and Oak Ridge, were wrapped up in World War II and Cold War secrecy. The factories, products, and most importantly, the waste they produced were hidden from the American public.

The book is illustrated with photographs and postcards from around the time of Olmsted’s visits as well as sketches and blueprints. They further Hockaday’s efforts to not only give us a history of our communities and landscapes, but enhance her portrait of a man whose vision and imagination helped make the Pacific Northwest such a great place to live.

Even people who lived near the test facilities were unaware during the early years of the production of the radioactive and toxic matter for atomic bombs. Outside of some Department of Energy employees and contractors, few knew the consequences of this new science: tons of nuclear stuff, millions of gallons of radioactive liquids, millions of cubic yards of tainted soil, and over a trillion gallons of radioactive and toxic wastes. Of Woodland Park, he converted as Cannon Hill Park) which he converted from around the time of 1910, lays out the history and challenges of our nuclear waste legacy. He also worked for private clients, a who’s who list of the early 1900s, including prominent citizens, pushing them to keep his landscape under the shadow of the atomic bomb, "When you see something that is technically sweet, you go ahead and do it anyway. You do it and you have your technical success." The notion could apply to the waste created in producing the atomic bomb. The loneliness of Woodland Park, he urged that it not only give us a number of projects run threads of city bureaucracy, and a sense of the importance policy debate to complete reviews at wsm.wsu.edu

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"Photographers deal in things which are continually vanishing..."
—Henri Cartier-Bresson

By Don Normark

In 1948, 20-year-old photographer Don Normark walked up a hill in Los Angeles looking for a good view. Instead, he found Chavez Ravine, site of three ramshackle Mexican-American neighborhoods tucked into Elysian Park. "like a poor man’s Shangri-La," he thought. He spent much of the next year photographing this uniquely intact rural community. Accepted by the residents, he returned often with his camera to witness a life that, though limited by poverty, was lived fully, openly, and joyfully.

In 1950 the people received letters telling them that they must sell their homes to the government and leave the ravine to make way for a low-cost housing project. As soon as they were constructed, the letter promised, "you will have first chance to move back into the new residences." But once the people were removed, the next city government, citing "creeping Socialism," cancelled the program. Later, the city gave 300 acres of Chavez Ravine to Walter O’Malley, who demolished the last of the houses and built Dodger Stadium.

In 1997 Normark found many people from the destroyed neighborhoods. Ties of family and friendship have held them together over the years, so that although widely scattered, they are still a group. They call themselves Los Desterrados, The Uprooted.

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–Adriana Sanchez ('12 Business) WSU Student Ambassador

Margaret P. McVicker ('56 Engr.) wanted to help students pay for college. When she named WSU as a beneficiary of her retirement accounts, she made it all possible. Today, her legacy gives students like Adriana Sanchez a world-class education by supporting need-based scholarships.

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