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CHAS. R. CONNER MUSEUM NO.

Fine Specimens conner, ownbey herbarium, and james entomology collections

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## WASHINGTONSTATE IN THE PROPERTY OF THE PROPERT

#### **FEATURES**

**26** :: On the Waterfront: Tacoma's past may be a key to its future

Twenty years ago, the City Club of Tacoma approached the city with a plan to unify the waterfront and build a walking path from the Tacoma Dome to Point Defiance. The painstakingly researched report urged that the entire waterfront be redesigned as a people place. Lara Hermann '95 was thrilled when a city hall worker handed her the document. "It was like a present just lands in your lap," she says. by Hannelore Sudermann :: photos by Ingrid Barrentine

**34** :: Fine Specimens

Washington State University is home to three superb research collections, all begun soon after the young agricultural college opened its doors. What makes them research collections, says Ownbey Herbarium director Larry Hufford, is "sheer numbers." The Conner Zoology Museum has about 69,000 specimens, the Herbarium about 375,000, and the James Entomology Collection more than 1.25 million. by Cherie Winner

- 42:: Rethinking the Fundamentals: Feeding the world may require us to use old knowledge in new ways :: Although the prices of fuel and commodities have dropped since early summer, the volatility of their relationship will surely dog us for the foreseeable future. While stock prices may temporarily overshadow food prices in the public consciousness, some farmers and researchers are looking at different ways of doing business, perhaps moving the land-grant university back to its founding purpose. by Tim Steury
- **34 ::** L'Américain en Provence: A story about an expatriate—and about his wine Provence is a world away from Bellevue, where Denis Gayte '97 grew up. And French winemaking is another world away from the public relations career he abandoned. So there he was, with his French heritage and a newly minted "young French winemaker" degree—but still referred to (and not always affectionately) as l'Américain. by Andrea Vogt :: illustrations by Cathy Johnson

#### **PANORAMAS**

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**Cover illustration:** Marbled murrelets take flight, by Darlene McElroy.



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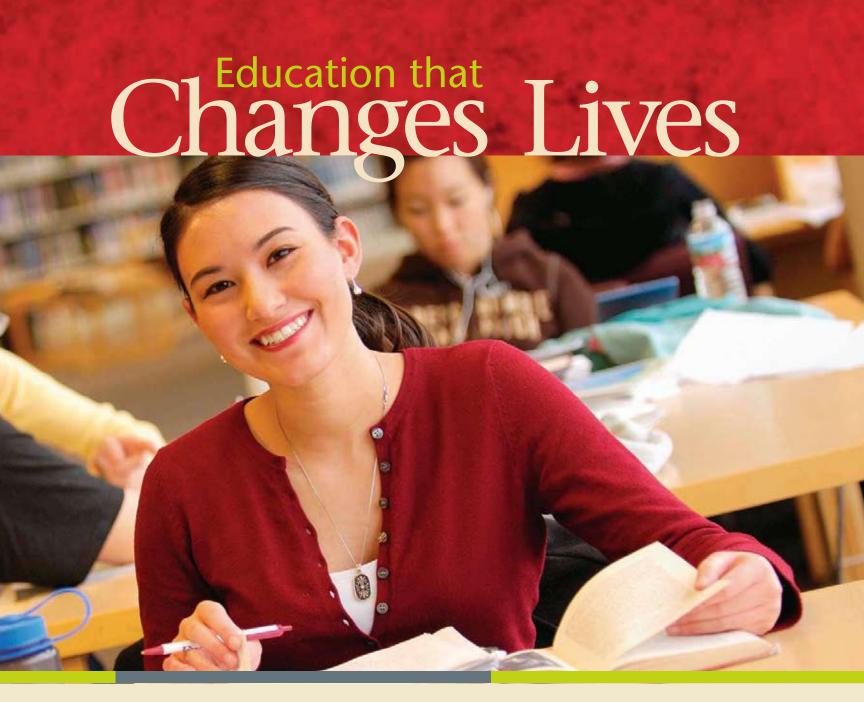




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#### first words

Meaningful glimpses:: Little of what goes on at a university is the stuff of breaking news. The general formula for what gets reported about a university is pretty much the same as for politics and world affairs: money gained and lost, a result here, a conclusion there, a gaffe, a little scandal now and then. But the really interesting stuff, the stuff that matters, seldom gets much attention.

Yet on any given day here on campus, a reknowned herpetologist might, as Ken Kardong did earlier this fall, summarize his life's work to a good-sized and feisty crowd of faculty and students. He demonstrated how over evolutionary time, rattlesnakes and other vipers defied "Cuvier's Dilemma" by switching from non-venomous to venomous. Unfortunately, you weren't there—because you couldn't, most likely, be in Pullman on a Monday afternoon.

We plan to remedy this in a virtual manner with a feature of our new Web site, called *Discovery*.

*Discovery* will be an at-least-weekly blog (for those who like such neologisms), a weekly commentary on and expression of the process of discovery across Washington State University. *Discovery* will emphasize the discussion, investigation, dead ends, and serendipity that are all part of the process of discovery.

Shortly after the rattlesnake presentation, Peter Landolt '76 M.S., '78 Ph.D. Entomology, who is now a research entomologist with the USDA in Yakima, told a small crowd here on campus what he's learned about yellow jackets. Maybe knowing that they lead a highly social life, like honeybees, won't make your early September picnic any more pleasant. But I do feel smarter knowing that skunks are the main predator of yellow jackets, that the wasps rely on an intricate blend of volatile chemicals to communicate, and that the more aggressive species are the ones that build their nests underground, not the beautiful layered paper nests that suddenly appear under eaves and in your garage.

A few days later, Tim Murray, head of plant pathology, told a roomful of pathology and crops and soils students and faculty about his work and travel with Rome-based Bioversity International to promote conservation and the use of crop genetic diversity to control pests and disease in Morocco, Ecuador, China, and Uganda.

Many of these presentations and discussions are captured on video and are available, if you can find them. But I'm the first to admit that an hour, the general length of such

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events on a college campus, is a long time to sit and stare at a computer screen, no matter how intellectually stimulating the recorded event. So it will be our task to summarize and analyze, to share the gist of the continuous intellectual discussion that is a university campus.

*Discovery* may be sparked by a news article, such as the piece in the *Seattle PI* some time ago, about research showing that many current crops are lower in nutritional value than they once were, an unintentional consequence of breeding for unrelated traits. *Discovery* would summarize that finding, then point to similar work done by WSU scientists John Fellman, Preston Andrews, Kevin Murphy, and others, directing readers to relevant publications.

And certainly the sciences are not the only place where discovery proceeds. *Discovery* may present a fly-on-the-wall account of a seminar by scholar Will Hamlin on his research on the first English translation of Montaigne's *Essais* and the revelations of the marginalia in existing copies. Or it may focus simply on the discussion between Hamlin and seminar attendees about literary "appropriation" in the 16th century and how the idea of intellectual property was a Romantic invention.

Obviously, we can't report on everything that happens on campus. We have enough trouble keeping up with the "news." But we can do a better job of demonstrating the creative and intellectual excitement of discovery at Washington State University, of giving you meaningful glimpses into the process that, little by little, helps us understand our world and how better to live in it.

Tim Steury, Editor

*Discovery* will be posted on *Washington State Magazine Online* each week, announced campus-wide, and offered as an RSS feed. Keep an eye on *WSM Online*, wsm.wsu.edu. We hope to begin *Discovery* by the first of the year, and you can request that we keep you informed.



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#### letters

#### **Coming home**

I am one of the lucky. After years of looking out onto a sea of suburban rooftops, my husband and I have been gifted the opportunity of returning to Cougar Country with our three boys and now watch nature at work as the seasons change the fields of the Palouse from winter gray to roborant green to an elegant and rich gold that glistens as it dances to the tempo set by the winds.

The winds and colors change and so do I. In this return to Pullman, I am learning to appreciate a saying I heard many times from my mother's deeply rooted Cougar family, "Go Cougs."

Perhaps we Cougar graduates are much like the fine but hearty grains of the Palouse. Though not the largest of universities, Washington State University does produce graduates of substance that, I believe, possess one very nourishing and unifying thread—a love for authenticity that pulses with a drive to return to our roots amidst the hum of contemporary life.

It doesn't take much. In the past few months I have watched a WSU coach return to Pullman with his young family to breathe new spirit into Cougar athletics, a sister marry another Cougar graduate—both with families rich in Cougar history and tradition, a dear uncle pass away with the last song at his memorial being the Cougar fight song, a newly married sorority sister return to WSU with her husband so he could lay carpet in the sorority house, a dean of

WSU and his wife carefully manage the art of sending children off to college while preparing university graduates for meaningful ventures in the business world, and many other graduates who achieved great successes personally and professionally return to Washington State as supporters in various capacities.

Being a Coug is a gift and it is one that, as I sit watching the sun set upon the fields, I appreciate.

Funny that WSU leaves such a mark on our lives.

I've heard it said and have experienced it myself, "College can leave you with the best and worst memories."

And you know what? For better or for worse, I should hope all of us have a chance to look out onto these fields at various stages of our lives. There is a richness found in the simple phrase of "Go Cougs"... a richness that connects us and allows us to dance as we bend with the winds of life.

Returning to Cougar Country has been an awakening. Go Cougs!

Lisa Marquart '95, '98 M.A.

#### Cost of college

Thank you for that very frank article about college finances. It was very important that you addressed the issue of spending habits, budgeting, and the loan process; too many of today's younger "give me" generation could be unprepared for reality. I wish we had that information available to us before I ventured off

the farm to attend WSU (1964–68). I was able to survive with a few low-dollar scholarships, the Work-Study program, summer jobs at the library's Audio Visual Department, and student loans, but it was a struggle. I am passing the article on to my brother and sister, both who have children heading to college, most likely WSU. Again thank you for your work.

Irene Tichelaar Silverman '68

Last night I read "The Higher Costs of College" in the Fall 2008 issue and was stunned by WSU's meteoric tuition increases, delivered with such matter-of-fact rhetoric I was wondering if I'd mistakenly received a copy of an Ivy League publication.

"Gone are the days when the in-state school was the affordable alternative ...." And, after so many decades, why? Couple this with increasingly-harder-to-get student loans and one might wonder if education is becoming, once again, a privilege of the wealthy.

I thought the material in the article was hard enough to digest, but today I find out that WSU's President is to receive a 21-percent pay increase. Twenty-one percent? In this economy?

I'm hoping this isn't what "World Class" has come to mean.

*Charles J. Eckard* '84, '94 M.B.A.

The essay "The High Costs of College" failed to deal with one question: why doesn't the state legislature fund colleges in the manner they used to? The answer does not revolve around lack of funds so much as the emergence of a right-wing political class. Elect progressive people who will lower tuition costs through taxation, or continue to burden your middle-class graduates with debt.

Russ Huebel '70 Ph.D. Kingsville, Texas



The eagle has landed on alumnus Mike Brice's Cougar-flying flagpole.

#### The properly appointed flagpole

My neighbor (Mark Harmon UW alum) on Whidbey Island, where we have a waterfront cabin, took this picture of an eagle roosting on our flagpole where we fly the U.S. and WSU flag. While there are other flagpoles (this one is a log pole we used that came up on the beach) on the beach that fly UW flags this is the only one that the eagle selects as a perch when the flags are flying.

Mike Brice '71 B.S. (Class of '68)

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 $Geologist\ Jeff\ Vervoort\ with\ a\ 1.86-billion-year-old\ piece\ of\ gneiss\ he\ found\ near\ Clarkia,\ Idaho,\ typical\ of\ the\ rocks\ at\ the\ core\ of\ the\ ancient\ supercontinent\ of\ Rodinia.$ 

by Cherie Winner :: A cantaloupe-sized chunk of granite from the other side of the world has revealed that nearly a billion years ago, the Palouse was "ground zero" when a supercontinent called Rodinia broke up.

"This was the edge of the continent," says Washington State University geologist Jeff Vervoort, looking out over the rolling hills from his office on the 10th floor of Webster Hall.

Vervoort coaxed the story from the small boulder, which was found by his colleague John Goodge of the University of Minnesota-Duluth. Vervoort and Goodge had studied many other ancient rocks, and to them the chunk looked like a "one-point-four," part of a distinctive belt of granite that stretches across much of North America.

"They're all about the same age—1.4 billion years old—and they have very unique characteristics," says Vervoort.

The intriguing thing was, Goodge found his rock atop a glacier in eastern Antarctica. If it

was indeed a 1.4, Antarctica and North America must have been cheek-by-jowl back when the 1.4 granite first formed—on the ancient supercontinent of Rodinia.

Many of us have heard of Pangaea, the supercontinent that split apart to form today's continents. What most of us don't know is that Pangaea, which existed about 250 million years ago, was just the latest in a series of supercontinents. Earth's land masses have crammed together and drifted apart many times in the planet's 4.56 billion year history.

Rodinia is the earliest supercontinent geologists have identified. Named after a Russian word for "homeland," Rodinia formed between 1.3 and 1 billion years ago and broke apart about 700 million years ago. But the details of the break-up are sketchy. Geologists haven't been able to tell which present-day land masses were next to each other in Rodinia, and where the cracks were that led to their separation. One possibil-

ity was that a major fault ran from eastern Washington and north-central Idaho to the southwestern United States. That's where the belt of 1.4 granite abruptly ends, as if it had been broken off from a larger continuous belt. But if it did break away, what did it break away from? Could the "other half" of the belt be in Antarctica?

To determine whether the Antarctic rock matched the North American granite, Goodge sent samples of it to Vervoort for radiogenic isotope analysis, a technique that tracks the radioactive decay of elements over time. Isotopes are forms of a given chemical element that have different numbers of neutrons in their nucleus. Most isotopes are stable, but some undergo radioactive decay and become a "daughter" element. The daughter may be another isotope of the original element or an entirely different element. For example, the isotope of uranium called U-238 (with a total of 238 neutrons and protons) decays to form Pb-206 (lead with 206

#### >> panoramas

neutrons and protons). Another isotope of uranium, U-235, decays to form Pb-207.

Radiogenic isotope analysis takes advantage of the fact that each isotope decays at a unique rate that is the same in every sample, no matter where the sample came from. That consistency makes a decaying isotope an excellent clock.

So Vervoort measured the uranium and lead isotopes in tiny crystals he extracted from Goodge's rock. Working backward from the proportion of lead isotopes, he figured out when the uranium in the rock had started to decay. He confirmed that the rock was 1.4 billion years old.

But did it belong to the same 1.4 billionyear-old belt of granite found in North America? To answer that question, Vervoort measured the amounts of another element pair linked through radioactive decay: an isotope of lutetium and its daughter, an isotope of hafnium. He combined those measurements with the data from uranium and lead to produce the rock's "isotopic signature."

Like a geologic fingerprint, the mix of isotopes in a rock can reveal the rock's history and origin. Even after millions of years of being on land masses that were broken apart, buried under ocean sediment, and uplifted by continental collisions, rocks that started out as parts of the same granite belt will still have the same isotopic signature.

Vervoort found that the signatures of the Antarctic rock and 1.4 rocks from North America matched. He and Goodge concluded that North America and Antarctica had been joined as part of the supercontinent of Rodinia, and that when Rodinia broke up, one of the fault lines split the belt of granite to which those rocks belonged. Some of the belt moved east with the land that would become North America, and some moved west with the future Antarctica.

All of which means that parts of the Palouse were beachfront property almost a billion years ago. The region only became the *inland* northwest after collisions with other land masses added land to the western border of the fledgling North American continent. Vervoort says radiogenic isotope analysis (in his lab and others) confirms that the very old rocks to the east of Pullman are more than a billion years old, while those to the west are generally less than 200 million years old. The boundary runs along the Clearwater River in Idaho for several miles. Near Lewiston it turns and heads north.

"Right about through Pullman," says Vervoort.





#### Measuring a career in elephant years

by Eric Apalategui:: Rose-Tuwarily eyes the stranger shuffling toward her. He is moving slowly and grasping the arm of a human she sees almost daily. As Matthew Maberry (D.V.M. '47) plants his cane inside the Oregon Zoo's elephant compound, he lifts his eyes and returns the look.

"The only trouble with elephants," says Maberry, the Portland zoo's first staff veterinarian, "is you can fall in love with them."

Maberry—"Doc" to some—is eager to get started. Now up close to Rose-Tu, the 90-year-old presses an instrument against the elephant's wrinkled belly. Inside, the first Asian elephant baby to be born at the zoo since 1994 is finishing its second year of gestation.

"How much time do you reckon?" asks Mitch Finnegan, the zoo's current lead veterinarian.

"I think it'll be September, probably around the first, because she's changed so much (since) the time I saw her before," Maberry replies. **Above:** The Oregon Zoo's first veterinarian Matthew "Doc" Maberry '47 visits some old friends at the zoo. **Left:** Maberry talks with zoo staff about delivering Packy in 1962, the first Asian elephant born in the Western Hemisphere in 44 years. *Photos by Bill Wagner.* 

"It's nice to talk to someone who's been there," Finnegan says. "There's a lot of experience people get by living through pregnancies that tell you a lot more than simple blood work."

"Other than that," Maberry concludes his exam with a grin, "I think you're going to be on your own."

Doc Maberry was very much on his own in 1962. With the nation watching, and little documented information about birthing elephants in captivity, Maberry cared for a pregnant elephant named Belle. He practically lived in the elephant facility during the last months of her pregnancy.

That spring, a precocious 225-pound calf named Packy become the first Asian elephant born in the Western Hemisphere in 44 years. The hairy calf was an instant celebrity, attracting rock-star-level throngs to the zoo. Even today, at 46 and more than 13,000 pounds, Packy still is the zoo's best-known attraction and North America's tallest and oldest bull elephant.

Matthew Maberry grew up on his family's dairy farm in Sequim during the Depression and was a bookish kid who completed his high-school curriculum at age twelve. He was turned down at the University of Washington's medical school for lack of money so he hitched a ride to Pullman aboard a fish delivery truck and talked his way into the veterinary program at Washington State.

After graduating, Maberry landed a job as a veterinarian with the city of Portland in the 1950s, which then operated the Portland

Zoological Gardens, where "the only thing that was holding it together was the smell," he recalls. The zoo moved to nicer quarters in Washington Park before Packy's birth.

Thanks, in part, to Packy's success, the zoo became a world leader in elephant breeding, research, and species preservation. "Now I realize how lucky I was that (Maberry) created that environment," says Mike Keele, also an elephant expert and the zoo's deputy director.

Back in the day, Maberry became a celebrity, too. He was featured in *Life* magazine and was a popular speaker for civic and school groups. But while Packy's fame lasted over the decades, Maberry's spotlight faded. In 1973 a herpes virus carried by an African green monkey nearly killed him and left him bed-ridden for a year. During his illness, the zoo's controversial director at the time pressed him for a resignation, which he reluctantly tendered.

After leaving the zoo, Maberry resumed a private practice and found that his life was anything but ordinary, whether he was helping capture sea mammals in North America or monkeys in the jungles of Bangladesh.

Trade show producer Bob O'Loughlin hired Maberry to help capture killer whales and other animals for boat shows and sea aquariums long before the days of Keiko, the whale that starred in movie *Free Willy*. "You name it," O'Loughlin recalls of their wildlife adventures, "we were chasing it."

Maberry made house calls well into his eighties and still monitors the health of harbor

seals at the Seaside Aquarium on the Oregon Coast. He lives quietly in a tidy suburban ranch-style house in Beaverton and spends his days surrounded by wife Pat's flower gardens. He seldom talks about his adventures because few people have asked.

Until now, that is. Pat Maberry decided her husband was an ideal candidate for WSU's Distinguished Veterinary Alumnus Award for Outstanding Service. He not only won that honor, but also garnered achievement awards from the Oregon Veterinary Medical Association and the Metro Council, which oversees the zoo and other regional government services. Maberry has since renewed acquaintances at the zoo and helped promote its \$125-million improvement bond measure.

"To have someone like that to be so loyal, so passionate about the zoo says a lot," says Keele.

Throughout his career, Maberry seldom passed up opportunities to teach the world about wildlife, but did turn away from the possibilities of becoming a university professor or settling down enough to build a lucrative veterinary practice.

"I never had the dollar sign in front of my eyes. I could've done a lot of things that made a lot of money," he says. Instead, "I got to live a life that most people dream about."

To see archival film from Packy's birth, visit www.oregonzoo.org/VideoArchive/
PackysBirthday.htm.

#### A reburial eases a clash of culture and science

by Tim Steury :: On a bluff above the Snake River, a few miles upstream from the Tri-Cities, people are gathering on a July morning to bury their dead. Or rebury, actually. The bones that fill the ordinary cardboard boxes sitting next to a deep open grave have spent decades in a laboratory storeroom. On one box is printed in neat letters, "woman and child."

A warm breeze rustles the sage and wild rye, as people approach the grave in small



**Above:** Petroglyphs saved from the Lake Sacajawea inundation. *Photo by Neil Gilham.* **Below:** Many remains were disinterred prior to flooding by Snake River dams. *Photo by John Clement*.



#### >> panoramas

groups, people of the Yakama, Colville, Nez Perce, Umatilla, and Wannapum. Although the identities of the remains are uncertain, they are certainly ancestors of many of those gathered here.

Larry Greene and Jason Buck dug the grave before anyone else arrived. Now they relax in the warm sun and talk about the significance of this site. Various tribes gathered here, they say, for trade and games. Greene's mother's people, from the Red Heart Band, spent part of the year here, coming down from Priest Rapids on a yearly migration.

This is the third repatriation of human remains from the Washington State University collections. This set of remains had comprised the teaching collection used in a class on osteology, the study of the human skeleton, and had been gleaned from other regional collections by Grover Krantz, the longtime physical anthropologist at WSU who taught the class.

Many of the collections at the University, whether they contain human remains or not, had been hurriedly salvaged from the canyons of the Columbia and Snake rivers before they were inundated in the 1960s by rising waters behind the newly-built dams.

The repatriations are the legal result of the Native American Graves Protection and Repatriation Act (NAGPRA). Passed by Congress in 1990, NAGPRA requires agencies and institutions that receive federal funding to return cultural items and human remains to their descendants.

NAGPRA countered decades of scientific collecting of American Indian remains. In a way, the attitude that justified collecting from gravesites stemmed from the belief of Thomas Jefferson, arguably the first American archaeologist, that Indians should be studied as natural history. During the late 19th century, the Smithsonian Institution encouraged collecting of bones and artifacts as an attempt to understand the "vanishing Americans."

Krantz, like many of his colleagues, held very much to the evolution of that attitude. Human remains were no different from any other object of scientific investigation. As testimony to that conviction, before he died in 2002, Krantz arranged to have his bones sent to the Smithsonian for use in teaching and research.

Mary Collins, an anthropologist and director of WSU's Museum of Anthropology, initiated this and other repatriations of WSU collections. She was also a student of Krantz's and had indeed studied the bones that are being reburied today.

"I remember feeling not quite right," she says, thinking back to the experience.

Once everyone has gathered, the men move to one side of the grave, the women face across from the other. People begin to sing as the boxes are opened. The remains, which are wrapped neatly in plain fabric, are handed to a man in the grave and placed gently, at last, in their final resting place, on a bed of tule mats. Once they are all in place, there is a collective sigh as the singing ends. The man in the grave covers the remains carefully with more mats and climbs out. Immediately, the men grab shovels and, together, fill in the grave.

Once the grave is covered, Rex Buck, of the Wannapum, invites everyone to share their thoughts. People talk, both in English and native tongue, about their relief at having their ancestors at rest where they belong. They shouldn't be on shelves, someone says. Another person hopes for the repatriation of the "Ancient One," commonly known as Kennewick Man.

Repatriation is an aptly chosen word, maybe as close as an English word can get to the significance of this ceremony. To repatriate is to restore or return to the country of birth, citizenship, or origin.

"Their bones are back in the Earth," says Barbara Aretha, of the Yakama. "Their ancestors are waiting for them."

#### Special delivery

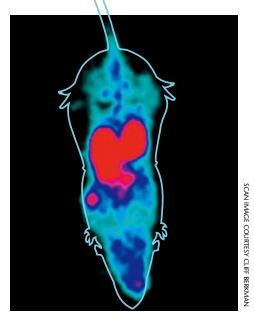
by Cherie Winner :: Cliff Berkman is taking aim at prostate cancer.

The Washington State University chemist is using part of the cancer cells themselves as a bull's eye, targeting a protein that occurs on prostate cancer cells and nowhere else.

The protein, called PSMA (Prostate-Specific Membrane Antigen), shows up as soon as prostate cells become cancerous. PSMA is different from PSA, the prostate protein that is currently used to diagnose prostate cancer. PSA is released by prostate cancer cells into the bloodstream. PSMA stays attached to the cancer cells, like a neon sign saying "CANCER HERE!"

Since PSMA is so specific to prostate cancer cells, Berkman thought that interfering with it might be a good way to fight the cancer—slow its growth or even kill it.

So several years ago he set out to design compounds that would inhibit PSMA. He knew that PSMA cuts bits off the ends of certain



PET scan of a mouse injected with a marker chemical that binds to PMSA protein on prostate cancer cells. Red areas show the marker in the kidneys (large ovals) and in a tumor in one shoulder, where the cancer cells had been transplanted some weeks earlier.

other proteins, and that the protein being cut rests in a slot in the PSMA. Berkman figured if he made a compound that fit into the same slot but could not be cut, it might block PSMA from acting. With the slot occupied, PSMA couldn't do its job, and the cancerous cell, now without functional PSMA, would die.

That was the plan. It worked fine, right up to the last part.

"We made a bunch of inhibitors—super inhibitors," says Berkman. He added his compounds to prostate cancer cells in culture, and they completely blocked PSMA action—"but nothing happened," he says. "The cells didn't care."

The experiment nearly killed that line of research.

"We almost canned the program," he says. "I sat in my office staring at a white board for about three weeks just trying to figure out what I was going to do next. [Finally] I thought, OK, we have these compounds. They bind really tightly to the protein. The protein's a biomarker for prostate cancer. Why not use them as a delivery vehicle for bringing other things to the tumor cells, like therapeutic agents or imaging agents?"

While one end of an inhibitor slips deep into the slot on PSMA, the other end dangles free. It can carry a payload such as a fluorescent dye that could show doctors where the tumor cells are, or a drug that could kill the cells.

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#### » sports



Above: Rueben Mayes '92, '00 M.B.A., carries the ball in the historic 1984 game against Oregon. Photo Kevin Morris/U. Oregon. Below: Mayes powers through a tackle in a game in Martin Stadium. Photo courtesy WSU Sports Information.





by Jason Krump :: On a raw, wet fall afternoon in Eugene, Oregon, in late October 1984, Rueben Mayes' feet carried him to what was at the time the greatest accomplishment of any NCAA running back.

Just a week earlier, Mayes ran for 216 yards at Stanford in a rally that brought Washington State University from a 28-point third quarter deficit to a 49–42 win.

"The game against Stanford was one of his greatest efforts as a college player," says Mark Rypien, quarterback of the '84 team. But then he did one better. "The numbers that he had against Oregon were unbelievable."

It's a performance that can be relived over video, but it's just as impressive in a play-by-play printout from the game, as the words "Mayes" and "gain" are frequently linked:

Mayes on draw, up the middle, gain of 21; Mayes carries, gain of 20; Mayes up the middle, gain of 11; Mayes over right guard, gain of 27.

You get the idea.

"Mayes was unstoppable that day," says then Oregon coach Rich Brooks, now the head coach at Kentucky. "It was a bizarre game in that everybody knew that they were going to give him the ball, but we couldn't stop him. He had one of those days."

In leading WSU to a 50-41 win, Mayes ran for 357 yards—an NCAA-record —the majority of which came by way of the running play known as the draw.

"The draw was just amazing," Mayes recalls.

"Rich Brooks even talked about it afterward. Even

when they knew we were going to do a draw, they couldn't stop it."

"We must have run the same draw play 25 times," remembers Jim Walden, head coach of the Cougars from 1978 to 1986. "Rich Brooks said he got to the point where he hated the word draw."

Apparently, he wasn't alone.

"All the fans in the stands were yelling 'Watch the draw!" Walden recalls. "You could hear that word, 'draw!' and then we'd run it and he would make 8, 10, 20 yards. We just kept running the same play and when the day was over he had 357 yards."

"We knew the draw was coming because we called it," Rypien said. "Everyone in the stands knew it was coming. That just goes to show you, you do the right things and execute properly, they can know what's coming, but you still have a great opportunity for success and that's exactly what we did."

Mayes held the ball 39 times that rainy afternoon in Oregon. More than two decades later, he would hold another ball signifying the ultimate college football achievement: selection to the College Football Hall of Fame.

Mayes had been on the ballot before, but those years ended without a selection. Then, earlier this year, a box arrived at his office on the Washington State University campus.

"I opened the box, and it had a football in it," says Mayes, who at the time was the senior director of development for the WSU College of Business before moving on to become the regional director of development for Sacred Heart Medical Center in Eugene this past July.

"On the football it said, Rueben Mayes 2008 College Hall of Fame." Mayes recalls. "Then it

#### » sports

had a letter congratulating me on my selection. It was an unbelievable experience. At first I didn't really get the connection, but then I realized that's what it was.

"Having the football and having your name on there, that was really cool," Mayes adds. "I called my wife right away and told my sons that evening. I felt very humbled by the recognition."

Mayes wasn't the only one relishing the experience.

"I think I was prouder quicker than Rueben was," Walden says. "It was a proud moment for me because I never had one of our players go to the national hall of fame. I was thankful for him and appreciative of it, and at the same time, I kind of gloated around a little bit about the thought of being a coach that coached a guy going to the national hall of fame."

It was Mayes' work-ethic that stays with Walden.

"He just couldn't practice enough," Walden remembers. "Wind sprints didn't bother him. I can hear him and Kerry Porter now, laughing and giggling while running 40-yard dashes. All the rest of the guys are swearing under their breath but he just loved the whole thing."

"We showed up to camp in much, much better shape than everybody else," says Porter, who played fullback alongside Mayes, in addition to rooming with him at WSU. "We were laughing because we were pushing each other but we were also way out in front."

Mayes joins a distinguished 15-member hall of fame class that includes Troy Aikman, Billy Cannon, Jim Dombrowski, Pat Fitzgerald, Wilber Marshall, Randall McDaniel, Don McPherson, Jay Novacek, Dave Parks, Ron Simmons, Thurman Thomas, and Arnold Tucker, and coaches John Cooper and Lou Holtz.

"I thought it was long overdue," Porter says of Mayes' selection. "Rueben is one of the hardest working people I've ever known. He's got a great attitude and demeanor, he is a fantastic teammate, he didn't let all the fame and good fortune go to his head."

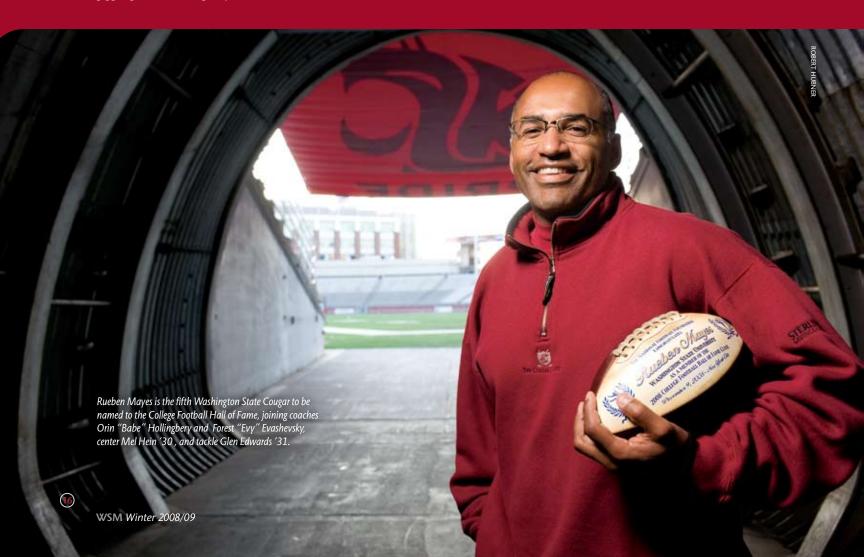
Rypien, who went on to play in the NFL and was a Super Bowl MVP, echoes his former teammate's sentiment.

"For us bystanders on the outside it should have been done a lot sooner," says Rypien, who along with Porter and Mayes made up the famed "RPM" Cougar backfield of the mid-'80s. "He lit up the room by being very accommodating to everyone. There wasn't a guy on the team who didn't like Rueben Mayes. He was just a fun guy to be around.

"Not only was Rueben a great physical athlete, but, more importantly, it was what kind of a guy he really is, and I think that signifies a very well-deserved induction into the College Football Hall of Fame," he adds.

The 2008 College Football Hall of Fame class will be inducted at the National Football Foundation Annual Awards Dinner, December 9, 2008, at the Waldorf-Astoria in New York City. They will be officially enshrined at the hall in South Bend, Indiana, during ceremonies in the summer of 2009.

Though it has been more than two decades since he last donned the Cougar uniform, in a sense his collegiate career will come to a close at the induction ceremonies, says Mayes. "It is a wonderful way to cap off my college career."





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Berkman has now made a whole series of inhibitors with other substances attached to them. He's shown that the inhibitors bind to PSMA even when a large payload is attached, and that the combination of inhibitor-payload-PSMA actually moves into the cell.

"That's the thing we get excited about, because now you have a way to get something bound to the cell you want, and then get it inside that cell," says Berkman.

He's especially interested in payloads that could reveal where the tumor is, or that would attack the cancer cells. Working with WSU chemist Paul Benny and veterinary oncologist Jeff Bryan, Berkman is developing new imaging techniques using PSMA inhibitors. They implanted PSMA-bearing cells into one shoulder of a lab mouse. After letting the cells form a tumor, they injected the mouse with an inhibitor carrying F-18, a radioactive isotope of fluorine. It would circulate through the body, binding only where it encountered prostate cancer cells. Two hours later they did PET scans (Positron Emission Tomography) of the mouse. The F-18 would show up on the scans as bright red.

In the PET images, the kidneys and bladder lit up red, because much of the inhibitor had been filtered out of the blood and was being cleared from the system. More important, the tumor in the left shoulder was red. The rest of the body was clear of F-18.

It's just the kind of image Berkman was hoping for. He is now designing inhibitors that will not end up in the kidneys so quickly, in hopes that more will become concentrated in the tumor.

He's also starting to test "therapeutic" payloads that battle the cancer. One approach is called photodynamic therapy. He attaches a "photosensitizer" chemical to the inhibitor, lets the inhibitor bind to cancer cells, and then exposes the cells to light. Light causes the photosensitizer to release free-radical oxygen, which damages the cancer cells.

This strategy has been tried before, with photosensitizer circulating throughout the body. The problem has been that the photosensitizer gets into many kinds of cells and the damage is not confined to the cancer. Berkman's inhibitors make it possible to place a photosensitizer only in the cells he wants to kill. He's already shown his technique works, in general terms. Now he's working out details that will have to be known before proceeding to clinical trials. For example,

too rapid an attack can provoke a harmful inflammatory reaction in the patient. He's aiming for a slower, more measured attack that would cause fewer unpleasant side effects.

This year, Berkman and his colleagues were awarded a grant from the state's Life Science Discovery Fund to pursue their imaging work. The major aim of the LSDF program is to help scientists bring their ideas closer to commercial viability.

"The objective [of our grant] was to get us to a stage where we have some candidates for clinical trials," says Berkman, who had approached investors a few years ago. "In my initial contacts with venture capitalists, they had recognized the potential for this work, but they felt it was early technology. They needed to see that it would work in an animal before they'd get excited about it. Now we're starting to get there." returning to campus and falling back in with his old friends and routines could be a problem, he thought. So while here for a football game one weekend, Bus wondered aloud to school officials why WSU didn't have more resources for students trying to break free of addictions. "They'd have more of a chance of staying sober," he says.

When Bus himself was a student at Washington State University, drinking wasn't a problem in his social set of athletes. "When my father was coaching there was no smoking or drinking of any kind. If you got caught, you lost your uniform," he says. But after college, he struggled with addiction. After more than two decades of sobriety, he knows how valuable a supportive environment can be.

In response to his question, Washington State University officials did something their



A student heads out the door of Stepping Stones Recovery House. The small home on College Hill offers students in treatment a place to live that's free from drugs and alcohol. *Photo by Robert Hubner.* 

## Living free from addiction

by Hannelore Sudermann:: When an alumnus like Bus Hollingbery '44, a former Cougar linebacker and son of football coaching legend "Babe" Hollingbery, comes to the university with a good idea, the university listens.

A few years ago, Hollingbery, a recovering alcoholic, was thinking about how difficult it can be to start recovery. His own grandson, Will, had just taken a leave of absence from WSU to sort out his life and get clean. For a kid like Will,

counterparts at most other universities just wouldn't—they started work on enhancing the counseling and support services, and thinking about offering recovering students a place to get away from peer pressure.

One of the most difficult times during recovery is the beginning, says Jerry Pastore, substance abuse counselor for WSU. It requires breaking ties with old friends and situations, and finding new friends and support for a drug- and alcoholfree environment. The school decided to create a housing option for students that would help them through that high-risk period.

Every school has drug and alcohol problems, says Pastore. WSU is one of the few that is tak-

ing steps to not only offer a place for students to recover, but to promote and advertise it. In 2005, Mel Taylor in the WSU Office of Business Affaris found a small home for sale on College Hill, within walking distance to campus.

"It took us about a year and a half to get it together," says Pastore. Now three students can live in the home, called the Stepping Stones Recovery House, and many more can use it for meetings and as a place for support. "We're one of the very few schools in the country doing this," says Pastore. In fact, there are fewer than 10 other university-sanctioned recovery houses in the nation.

Most schools are reluctant to talk about the issue of substance abuse among students. "The mentality is if we talk about it, we have a problem," says Pastore. "And some universities don't feel that it's their responsibility to do something like this."

In his first years at WSU, Will Hollingbery was using marijuana and struggling to pass his classes. "My grades were really bad, and I was about to get kicked out of school," he says, putting it plainly. He tried transferring to Oregon, but found himself in a similar crowd and facing the same issues. "No matter where I went, there were always going to be the same people," he says, so he decided to come back to Pullman.

Will knew he couldn't go back to his old friends and residence, so on his own volition he approached the school about living in the recovery house. "It was awesome," he says. "There was another student there and we had both been sober for the same amount of time." Besides having one another to lean on, they had a counselor who helped them structure their days. "We weren't on our own," says Will. "Something was working for me."

Students must voluntarily apply to live in the recovery house. They must also be sober for at least 30 days, have completed a treatment program, and be a full-time student at WSU. In order to stay in the house, they must pay \$450 a month, have ongoing counseling, and attend 12-step meetings.

Will found his first year of sobriety difficult, especially finding and maintaining a strict schedule. "I was just trying to figure out how my brain worked," he says. After eight months, he joined the rowing team, needing a "structured outlet," he says. "That and the house were the best things for me. I rowed six days a week with three to four to five hours of practice a day. I had no time to look for trouble."

He stayed clean and his grades improved. Now a 3.0 student, he has moved out after two years in the house, though he would have been happy to stay longer. "I just wanted someone else to be able to move in there," he says. He's working to complete a degree in organic agriculture. His housemate and friend graduated last May and is now pursuing a master's degree at Western Washington University.

While the house has been a success, it could be larger and serve more students, says Pastore, who hopes that sometime soon WSU can offer a similar residence for women.

As for Bus, he's happy to add to the Hollingbery legacy at WSU by supporting a resource for students who need help breaking their addictions. "I think there is an issue and a need at every school," he says.

## An Afghanistan success story

by Tim Steury :: The people of Laghman province in eastern Afghanistan suffered through a severe drought from 1997 through 2001. On top of years of conflict, the drought took an enormous

toll on its people. Farmers sold off their cattle as the drought worsened, unable to grow forage or grain to feed them. Then they sold the sheep, then the goats. Without adequate irrigation, fruit and nut trees withered and died.

By the time the drought eased, Laghman province farmers had lost 70 percent of their livestock. Milk and cheese had traditionally been a major source of protein, and cows served as draft animals as well as providing milk and occasional meat. But cows are very expensive.

To recover financially, many of Laghman's farmers turned to another traditional product, opium poppies. Following the fall of the Taliban, Afghanistan once again became the world's major producer of opium poppies. When Chris Pannkuk, director of International Research and Development at Washington State University, first started investigating the potential for a program to provide farmers in Laghman province alternatives to poppy production in 2004, an estimated 85 percent of the province's arable land was planted in poppies.

But when he returned the following year, the poppies were gone. Apparently, provincial authorities had decided to ban opium production. Whether it was a gesture toward attracting

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WSU's international development experts are working with villagers in the Afghan province of Laghman to help stabilize the communities after years of drought and conflict. Outfitted with disposable cameras, the villagers, farmers, and business owners collected these snapshots of their daily life.

#### » in season

#### A SEASON FOR SEEDS }

STRANGE THINGS sprout in Skagit Valley's fields: Monster plants with six-foot stalks covered with yellow flowers, delicate ferny-leaved things with round white heads holding hundreds of tiny blossoms, and unruly tangles of leaves, spears, and spikes.

John Roozen '74, whose family's name is synonymous with Skagit Valley tulips, keeps careful watch on these fields. He swings his pickup over to the side of the road and dives into a field, a curly, hairy mess of green. He plucks off the tip of a plant and hands it over. See that, he says, pointing at the dozens of small green nuggets clustered along the stem, those are spinach seeds. Next year they'll be grown into plants in California or Arizona and harvested for those fresh-washed packages of baby spinach that have become so popular.

While the valley is famous for tulips, most people don't know that 75 percent of the nation's spinach seed comes from here. The region is one of the rare spots in the world where spinach seed can be grown, says Don McMoran, the Skagit County WSU extension agent. And it's a complicated crop. Because of fungus concerns, for example, spinach for seed must be in a lengthy rotation, sometimes not returning to the same field for 12 to 15 years.

Most other places have the wrong climate. The East Coast is too hot and humid. And in well-known agricultural settings like California, "the summer days are just too short," says Lindsey du Toit, a WSU plant pathologist who works at the Northwestern Washington Research and Extension Center in Mount Vernon. Places like Salinas Valley may be ideal for growing spinach plants to harvest for eating, but to get seed "you have to have long days and mild summers." And for that, Skagit Valley is ideal.

The August day of my drive through the valley with Roozen is a prime example. It's in the 60s and, while clouds fill the sky, the sun breaks through and traces its way across the valley floor. A soft rain falls intermittently.

Washington's seed history started the late 1880s, when an entrepreneur named Alvinza Gardner Tillinghast opened a seed company in the valley and began contracting with local farmers to grow cabbage seed, which he then packaged and sold around the country.

Early Skagit Valley farmers like James H. Hulbert Sr. experimented with what crops would grow best in the alluvial soil. In addition to running a dairy, his family raised vegetables for seed for a collection of local companies. Today his grandsons Tom and Jack Hulbert '85 run Skagit Seed Services Inc., one of the five major seed producers in the valley.

What Tillinghast, Hulbert, and their descendants figured out is that northwest Washington is an ideal location for growing seed for vegetables like spinach, radish, and cabbage (again, Washington provides the majority of the nation's cabbage seed).



Carrot, table beet, radish, and cabbage seeds from WSU-Mount Vernon Northwestern Washington Research and Extension Center.

Seed production spread east across the Cascades in the 1950s, after the Columbia Basin Project brought irrigation to nearly 700,000 acres. The land there is well suited to a variety of seed crops including carrots, onions, parsley, dill, radish, kohlrabi, and turnips.

While our state is a great place to grow seed, doing so is not always an easy feat, says du Toit. In addition to the challenges brought by disease and weather, plants like carrots and cabbage are a biennial endeavor. They have to go through certain conditions to induce them from vegetative to reproductive growth. For that they require an extended period of cold weather (winter). Then in spring, when the weather warms, the plants will bolt. With cabbage, it's particularly spectacular, because the plant's head splits open and the seed stalk pushes up, says du Toit.

Some cabbages are bound by tight wrapper leaves that won't give way to the stalk, so workers have to go through the fields with knives and slit the tops. Then there's a complete transformation. As the stalk grows from the head, it can get up to five or six feet tall. It will produce bright yellow flowers, making a field that, to the untrained eye, looks like anything but cabbage. The flowers must be pollinated by honey bees, and sometimes the tall stalks fall down on themselves. To prevent this, the growers have to go through and stake them. "It's a very labor intensive crop," says du Toit. But if the bees do their job, each flower will develop into a pod holding 10 to 40 seeds. One acre of cabbage seed plants can produce enough seed for 100 acres of eating cabbage.

The highest quality seed to come out of Washington goes to the large-scale commercial farms. The home gardener usually gets the slightly lower quality seed. But that doesn't matter much, says du Toit. It's still of good quality. It's just that they're likely getting seed that has a 90 percent germination rate instead of 95 percent. With that rate of success, "a home gardener probably won't complain," she says.

In 2008, U.S. and European markets saw a surge in seed sales to home gardeners, according to news reports. Whether it's soaring food prices or the desire to have more control over the quality and safety of their fresh food, American consumers are gardening more.

Now, as winter sets in and the seeds have been harvested from Washington's valleys, cleaned of weed seed, and treated against disease, it is time to starting planning for next year's vegetable patch. For home gardeners, du Toit has just a few words of advice. Buy the freshest seed (harvested in 2008) and be sure to store it carefully. While the kitchen is generally too warm, steer clear of the refrigerator because it can be damp. "Seed is a living organism, but it's in a dormant state. There is a certain degree of respiration or metabolic processes going on," she says. Heat and humidity will certainly age it. "Consider someplace like the bottom of a closet where it's cool and dry." "





Bolting seed cabbage in Skagit Valley. Photo Don McMoran, WSU Skagit Valley Extension.

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foreign aid or an economic move to bolster opium prices was any Westerner's guess in this difficult to penetrate society. But the poppies were gone, just like that.

Pannkuk '94 Ph.D., with the help of the Danish Committee for Aid to Afghan Refugees (DACAAR), a non-governmental organization working in the area since the Soviet occupation, moved ahead with his survey work. Left without reliable income, provincial farmers could replant poppies just as quickly as they'd stopped. A byproduct of opium production is a poppy-seed cake that is dried and fed to cows, or replanted if need be.

Pannkuk worked with Vic Getz '05 Ph.D. to survey the residents of three Laghman villages. Back in Pullman, Dana Moore, of the WSU Social and Economic Sciences Resource Center, compiled and analyzed the results, determining the needs of the residents and how to best meet them. The survey was extensive, in order to engage the communities. The most pressing losses from the drought, they concluded, were fruit and nut trees and cattle. Pannkuk developed a prioritized list of projects to present to the village elders.

But then a funny thing happened, says Pannkuk. He met with village elders to discuss the conclusions of the survey. Gathered around a mulberry tree, they discussed the needs of the villages. The survey had clearly revealed that the most promising project would be a nursery, for propagating fruit and nut trees. Such a community enterprise would help spread out wealth and, suggested the survey, help rebuild a strong economic base.

The elders were very polite and listened patiently, says Pannkuk. But at the end, he says, every one of them said "That's a very good idea, Mr. Chris. But really what we need are cows."

So Pannkuk went back to the drawing board and came up with a plan to reintroduce cattle. With DACAAR, he organized a cattle association and a plan for distributing cattle where most needed. They also formed a women's cheesemaking group, introducing more hygeinic methods and the use of citric acid to curdle the cheese, providing an approach much quicker than the traditional one.

Another project that grew out of the survey and community was forest management, including expansion of improved fruit and nut varieties as well as woodlots.

Sixty thousand poplar cuttings were distributed. The trees were planted as borders and

in woodlots, for firewood, construction, and other uses.

The "Village Decision Driven Research Project," as it is officially known, is now concluded and considered a success. Wheat has once again replaced poppies, and the people are feeding themselves rather than buying food with opium profits.

WSU's International Research and Development program has a long history of such development work and is currently involved in a dozen projects on four continents. It is currently working with a consortium of universities in training Iraqi agricultural extension workers. It also developed a project in western Afghanistan to raise saffron rather than opium poppies.



For more on current work worldwide, visit www.ip.wsu.edu/ird.

## Who moved my cupola?

by Hannelore Sudermann :: During a quiet weekend last July, a crew came to campus to steal away one of the University's oldest landmarks—the Ferry Hall cupola. The quaint 12-foot by 12-foot Georgian-style structure had

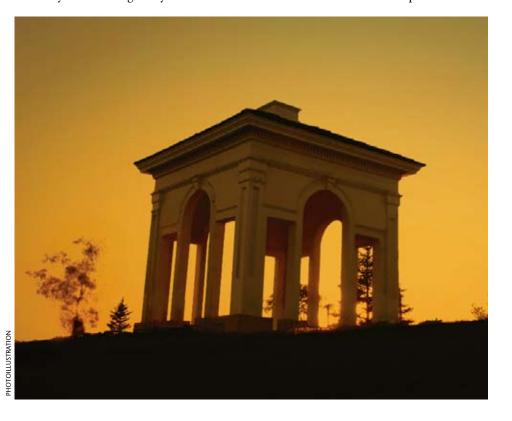
already survived more than a century and a major relocation. Now it was on the move again.

A lot of Washington State University's history is tied up with the architectural element, starting with the original Ferry Hall, the University's first dormitory, occupying the south end campus. Men and women lived on separate floors there until Stevens Hall, the residence dedicated for women, went up on the opposite end of campus.

While he liked the new women's dormitory, President Enoch Bryan wasn't fond of the five-story brick and wood men's building, calling it "ungainly and inefficient." His reservations about the building were put to rest on November 22, 1897 when a fire from the kitchen rapidly spread and destroyed it.

By 1900, a new Ferry Hall was built in the same spot. This time, it housed about 100 students on four floors. The structure, designed by G. W. Bullard, was brick and built in the popular college Georgian style. It had many elements typical of the form including columns, dentils, and a four-sided cupola.

For three decades Ferry was the only men's dorm on campus, housing 180 students and providing a dining room used by residents of Ferry, Stimson, and Waller. WSU's first fraternity was formed there, starting as a club, and then becoming a "house" when the students moved into a rented home across campus.





After a fire destroyed the original Ferry Hall dormitory in 1897, it was rebuilt three years later in the popular Georgian style, complete with columns, dentils, and a four-sided cupola. Photo WSU Manuscripts, Archives, & Special Collections.

James Quann '54 had his own attachment to Ferry Hall. "I spent my first night on campus in that building," he says. He wasn't even a freshman, just a high school student visiting for a 4-H summer program. But it was where he got his first taste of college life.

In the late 1960s, the university unveiled plans to tear down the Ferry Hall dormitory and build a new science building (Eastlick) in its place. News of the structure's demise was not well received, particularly among the thousands of alumni who had lived there over the decades.

At this point Quann was working for WSU as the assistant registrar and completing a doctorate degree in education. A group of campus employees, students, and alumni started campaigning to save the structure. It soon became clear that the foundation was about to give way. It would cost more to shore up the building than to tear it down and start over, says Quann. "We knew it couldn't be saved."

So someone came up with a plan to rescue the cupola. "We would save the essence of Ferry Hall to appease all those students and alumni who were upset." The alumni office sold bricks from Ferry Hall to donors, raising money in the name of Ferry Hall for scholarships as well for as the cupola's 1975 relocation to the mall.

Instead of a perch four stories up, the cupola was placed on the ground in front of Old Science Hall/Murrow Hall (another of Bullard's designs, built in 1899). It was slated to be an information kiosk. Instead, from its niche amidst the trees, it served as a meeting place, or a spot to sit out of the rain and snow and watch for passing

classmates. There was usually a *Daily Evergreen* waiting on the bench inside.

But new construction in the Murrow Yard this year to provide for more public space and better pedestrian flow didn't include the cupola. Once again, the structure stood in the way of progress.

"Nobody had the heart to tear it down," says Mark Wilcomb '85, director of operations for the WSU Alumni Association. "It is such a great campus landmark." Like the victory bell and the Bryan Hall clock tower, it's one of those things that people think of when they remember WSU.

A couple of ideas were floated for its relocation. The best notion was to move it near the Lewis Alumni Centre, says Wilcomb, "We can take care of it and make it available for meetings, receptions, or whatever."

The idea came up at an arboretum committee meeting. Wilcomb was there and eagerly volunteered on behalf of the alumni group. The arboretum itself is a work in progress. Having just broken ground a few years ago, it is now being landscaped with a variety of trees commemorating graduating classes and in memory of alumni and others. There was certainly room for something so tied to alumni and University history like the cupola, says Wilcomb.

So, without much ceremony, a construction crew used a crane to lift the cupola from its place on the mall and carry it 600 meters down Wilson Road where a new perch at the juncture of two concrete paths awaited. A new concrete base, a

touched-up paint job, and some light restoration, and the cupola is better than ever.

Now it has the best of both worlds. It can be viewed from below, as it was designed to be seen when it topped Ferry Hall, and it can be visited up close as it has been for the past three decades.

The two-acre arboretum hillside offers views of campus, the Alumni Centre, and to the south, Observatory Hill. As the landscape around the cupola is planted, "it will be gorgeous by spring," says Wilcomb.

Keeping it on campus was the right thing to do, says Wilcomb, adding that "we're certainly happy to give it a home." It's fitting that a structure under which thousands of WSU students have lived may be preserved for the enjoyment of thousands more.

#### Everybody reads

by Hannelore Sudermann:: When Mary Roach was researching her book on human cadavers, she attended a seminar where plastic surgeons practiced techniques on severed human heads. She also visited a body farm in Tennessee to see remains in various states of decay. And she stood at an operating table to witness an organ harvest from a brain-dead patient whose heart was still beating.

While doing all these things, Roach simply followed her curiosity as it led her into some extraordinary places.

The author came to Pullman this fall in conjunction with the selection of her bestseller *Stiff: The Curious Lives of Human Cadavers* for Washington State University's Common Reading Program. All 3,400 freshmen had been handed the book in hopes that they would read it and take part in a campus-wide conversation.

Stiff was the very first book the freshmen received as college students. That's quite an honor, says Roach, though she had no doubt they would be intrigued. Roach had written about cadaver research for Salon.com. The columns received such a large number of hits, she knew there would be interest in developing the subject into a book.

"The topic is a taboo, and partly there's a fascination for it because it's taboo," she says over a bowl of cereal at the Holiday Inn in Pullman this September. She is bracing herself for a full day of events at WSU, ending with a campus-wide lecture and starting with a grilling from freshmen in a world civilization class. "How did you manage

#### >> panoramas

to stay respectful of the dead?" "What was your most disturbing experience?" "Is practicing plastic surgery an ethical use of cadavers?"

This book was a great choice for the university's common reading program, says Karen Weathermon, director of WSU Learning Communities. It's a good blend of science and literature, written in a lively, funny way. Because its subject matter is rooted in science and history, teachers have been able to use it in a variety of classes, she says. It also has connections to research being done by faculty here at WSU.

This is the second year of the common reading program and with *Stiff* as a starting

reading text were reluctant to admit how much they liked *Stiff*. Roach's approach, the dark subject, and her light touch made reading it a guilty pleasure, admits Weathermon. What comes to mind is the episode of Roach traveling into China trying to track down the truth behind a news wire story that two brothers were using human flesh to make Sichuan-style dumplings.

That's the thing about non-fiction, says Roach, "it takes you to these worlds you didn't know existed. It's like going to a university, but it's less expensive." Given that most non-fiction paperbacks run about \$12, "it's really an extraordinary learning bargain."



Jay Barton, a pre-med student, is one of 3,400 freshman invited to participate in this year's Common Reading Program. The entire freshman class received copies of *Stiff*, a book that explores what can happen to a human body after death. The text, which blends science, history, and humor, was a starting point for undergraduates to learn more about anthropology, anatomy, and forensic research taking place on campus.

point, professors were able to flesh out different aspects of death, the body, and science. A series of Tuesday night seminars included a primer from entomologist Bethany Marshall on using insects to determine how long something has been dead. Brian Kemp, an archeologist, is using DNA to answer questions about prehistoric cultures. And a panel of faculty including Dave Conley, head of WSU's human anatomy lab, talked about the value of the human body.

Even with the book's potential for discussion, those on the committee that chose the common

Non-fiction books like Roach's have surged in popularity in recent years. Roach thinks it's not a matter of writing, but of marketing. All along there were really gifted non-fiction writers—Joseph Mitchell and E.B. White to name two—but they didn't really have a genre, she says. Now that there's a "literary non-fiction" label readers know there's something out there they might enjoy.

And for college students, even if the subject is grotesque, it may whet their appetites to read more.

### Ferdinand's turns 60

by Dennis Brown:: This brief item appeared on the front page of the Daily Evergreen on Monday, October 11, 1948:

#### Dairy Dept. to Open Counter in Troy Hall

The department of dairy husbandry will start operating a dairy counter serving ice cream, plain and chocolate milk on the first floor of Troy hall near the north entrance.

Assistant professor L. J. Manus will be in charge, assisted by dairy manufacturing students. All products served will be made in the department, and prices will be comparable to those charged downtown.

Later on, when obsolete equipment has been replaced, milkshakes, cheese and possibly other dairy products will be sold. An open house is planned for sometime in November when the plant is complete. Such ventures have been very successful at other schools, it was reported.

The dairy counter, which did not acquire its Ferdinand's appellation until a year later, actually opened on September 24. It was the byproduct of a decision by Washington State College to take over management of the Troy Hall Creamery, which had been operated by Milk House, a private dairy company, since 1926. The contractor had processed milk from the college's dairy herd and supplied milk products to college dining halls. Milk House also sold some dairy products at a retail outlet in downtown Pullman.

Ferdinand's became the campus retail outlet for the WSC-managed creamery. In the beginning, Ferdinand's offered milk and three flavors of ice cream. It is not clear if cheese was on the menu. The first week, Ferdinand's took in a total of \$9.42, according to the receipts.

From those humble beginnings, the Creamery and Ferdinand's have flourished. Last year the self-sustaining operation generated about \$4.5 million in sales of cheese, ice cream, and coffee, according to Russ Salvadalena '77, Creamery manager since 2000.

Income generated by sales pays the salaries of 11 full-time employees and about three dozen part-time student workers, and supports one faculty member position and two or more graduate students in WSU's food science department.

"Our mission," says Salvadalena, "is to provide teaching and research opportunities to the university and the dairy industry, an exceptional



Two-year-old Daniel Koh savors a vanilla ice cream cone at Ferdinands' 60th Anniversary Celebration.

work experience to student employees, and financial support to students and the university."

Cougar Gold accounts for almost 80 percent of cheese sales. The sharp, white cheddar cheese was developed in the 1930s and 1940s by WSU dairy scientist Norman S. Golding while conducting research aimed at creating natural cheeses that could be vacuum canned.

At the time, vacuum canning was viewed as a potentially good method for storing, aging, and transporting cheese. Plastic packaging materials had not been invented, and wax packaging sometimes cracked, leading to contamination.

Carbon dioxide was the main obstacle that Golding had to overcome. Cheese develops carbon dioxide as it ages, causing cans to bulge. Golding developed a cheese using adjunct cultures that eliminate gas production. The cheddar-like cheese was named for him and WSC'S mascot.

Cougar Gold and Cougar Cheddar were the first cheeses offered by the Creamery. During the 1950s and 1960s, raw milk versions of Cougar Gold (called Bam) and Cougar Cheddar (called Ram) also were available. "They had a slightly different flavor, but they weren't flavored cheeses," said Marc Bates '70 '76, who began working in the Creamery as a student in the 1960s and managed the facility from 1974 to 2000.

"As far as I know, Caraway was the first cheese that had a flavor compound added to the cheese," he said. "It was there in the 1960s. I don't know when it was first done."

Viking, a mild-flavored, semi-soft cheese, was introduced in the early 1970s. It was created by Joe Muller '70 and Paul Nelson '70, two of Bates' classmates in food fermentation class.

While Cougar cheeses are sold in 30-oz. cans now, at various times during the 60-year history of Ferdinand's they have been packed in 40-ounce, 4-pound, and  $4\frac{1}{2}$ -pound tins, depending on the availability of cans.

"The Creamery doesn't use a lot of cans, so the managers have had to look for cans they could easily adapt," says Bates. "You can change the height of the can without any major capital expense, but not the diameter. That's why we

have been hung up all these years with a 6-inch diameter can because the whole facility would have to be re-tooled to change the diameter."

The Creamery and Ferdinand's moved from Troy Hall to its present location in the Food Quality Building, north of Clark Hall, in 1992.

The plant size doubled to 15,600 square feet, adding production capability. The new facility offered seating for customers as well as a viewing room where visitors can watch cheese being made.

New equipment, elimination of less popular cheeses, and the new storage facility has made it possible for the Creamery to overcome a long-standing problem—not having enough Cougar Gold on hand to meet heavy demand during the holiday season.

"We haven't run out of Cougar Gold the past two years," Salvadalena says.

A longer version of this story first appeared in Connections, the magazine of the College of Agricultural, Human, and Natural Resource Sciences.



For more information on Ferdinand's and the Creamery, visit <a href="https://www.wsu.edu/creamery">www.wsu.edu/creamery</a>.



#### on the water from t

LARA HERRMANN is a personal injury lawyer with a busy practice. She's also a new mother balancing her work and family. Still, she has spent the past year thinking about Tacoma's history and ecology, and its tideflats and toxins. Whether she's working on a case or walking her baby in a stroller, in the back of her mind she's mulling a plan to protect her city's seven-mile waterfront.

Herrmann '95 and a group of friends and neighbors are intent on righting the city's historical wrongs, helping finish the clean-up of some of its most polluted sites, protecting precious salmon habitat, and connecting the community with one of its greatest natural assets.

The great notion, which she shares with a grassroots group called Walk the Waterfront, is to complete a pedestrian path that would wind along the south shore of Commencement Bay from the Tacoma Dome past downtown and the adjoining historic neighborhood and all the way north and west out to the vibrant, verdant 700-acre public treasure known as Point Defiance Park. Such a path would bring more people to the waterfront to socialize, exercise, enjoy the scenery, learn some history, and visit small businesses scattered along the way.

It would also pass through and maybe revive some of the city's oldest and most derelict industrial sites, says Herrmann. We talk about this over coffee one morning this summer in the warm café at the Spar, Tacoma's oldest operating saloon. We're in the Old Town neighborhood just two blocks up from Ruston Way, the part of the waterfront that gets the most public use. The sun and seagulls are out, and the air smells of salt.

The two-mile segment below us has parks, public piers and docks, restaurants, a hotel, and a long promenade that skirts the turquoise water's edge. It's what Herrmann envisions for the whole seven miles. But there is still Tacoma's industrial past to overcome, she says. The rest of the route east to downtown is blocked by industrial uses as well as by Schuster Parkway, a busy automotive bypass. Go too far in the other direction and you run smack into the Asarco smelter site, which has left Tacoma with several million tons of toxic waste.

While she is describing the waterfront's history and pointing out its views of Mount Rainier and the Olympics, Herrmann has an inspiration. "You have to see this," she says as she rushes us out to her Prius and whisks us several blocks up the hill through Old Town Tacoma, where the city's first homesteads were built in the late 1800s. We stop in a manicured neighborhood of old and newly-remodeled homes. A large stone perches in the grass on one corner.

Herrmann waves me over to the monument and we lean forward to read the plaque. "I was amazed when I first saw this," she says of the text composed by the Women's Club of the Washington State Historical Society in 1920. It says that just 600 feet to the east of the stone was the Tacoma Mill, built in 1868 on a site called the "Che-bau-lip." "I think that means 'shelter place," says Herrmann letting her finger land on the word. Besides being one of the first lumber mills in the community, could it also be that this was a special place for the Puyallup and Nisqually tribes? There's no other marker or really any official acknowledgement that this was once a place used by them, she says. "I wonder; are we losing this piece of our history?"















When Tacoma was still not much more than a cluster of houses and mills, it was dubbed "The City of Destiny," an optimistic moniker for its potential to be the center of business on the Sound. True, over the years Tacoma has had a place in the sun. At one point it was the fastest-growing community between Portland and Canada. But too often it has slipped back into the shadows while its residents struggled with economic downturns, crime, pollution, and trying to be more than just another one of Seattle's suburbs.

It is a town with many facets, a blend of assets and neglect, a former railroad hub, industrial seaport, and with Fort Lewis and McChord Air Force Base, a military center. Tacoma is in constant search of the right identity, according to historian Murray Morgan, who was born and raised there. In his book *Puget's Sound* he wrote that "the City of Destiny remains unsure of what its destiny should be."

But there are so many things it is and could be, says Herrmann. Tacoma's inhabitants just have to recognize and use what they have. "There's so much more to this area than what we know right now."

#### **TACOMA DISCOVERY**

In the spring of 1792 the British sloop the H.M.S. *Discovery* sailed into the Puget Sound and dropped anchor just off Bainbridge Island. From this harbor, the crew took expeditions in small boats to explore and map the shoreline around the sound. When, about 28 miles south, they neared the Dalco Passage, they were the first non-Indians to admire what would become Tacoma's waterfront. They noted the stunning aspect up the shoreline to a snow-capped mountain. In their diaries, Vancouver and several of his crew remarked on the area's beauty, the abundant woodlands, and the serene climate.

But that wasn't enough to lure pioneers. Because of the remoteness and the availability of fur and food in other places, the first settlers

didn't arrive until 1864 when Job Carr filed a claim for 168 acres along the waterfront of what would become Old Tacoma. The area then started to draw residents of European extraction.

Soon others, including Carr's sons, bought up and platted the land and started clearing the dense timber to build a town. In 1873 Tacoma beat Seattle and Olympia to win Northern Pacific Railway's Puget Sound terminus. By the 1870s, Tacoma was a lively and growing metropolis, the center of the Sound. Anyone intending to travel between Portland, Olympia, Seattle, and Victoria had to pass through Tacoma where they would catch a steamboat or a train. Because of the wooded, hilly landscape around the Sound, what few roads there were could at times be impassible.

So Tacoma owes its existence to its waterfront. Its bay, a rare deep saltwater harbor, was ideal for a shipping-based economy. A hub for transportation, it also drew industry—fishing, logging, and boat building. In 1877, the city adopted a plan that filled the waterfront with railroad tracks, yards, and wharfs. By the 1890s warehouses, lumber mills, tall ships, and steamboats lined the shoreline. Tacoma was the state's key port for shipping eastern Washington wheat and western Washington hops, coal, and lumber, as well as for receiving goods from Asia including tea, silk, and rice.

The tideflats at the south end of the bay were filled in and channelized to create eight waterways, including the Thea Foss, which is closest to the city and named for a Norwegian immigrant who started a tugboat business on the bay. Foss, a savvy businesswoman, was the basis for the MGM movie character "Tugboat Annie."

For a few decades, Tacoma was the star of the Sound. Its downtown was a jewelry box of beautiful buildings including the Italianate-style Northern Pacific Building, built in the 1880s, and the 1893 brick and terra cotta City Hall.

Then in the mid 1890s, everything fell apart. As the nation sunk into an economic depression many of the city's banks and businesses closed. By the end of it, the railroad had moved its hub to Seattle.

In the wake of losing its railroad focus, Tacoma turned to enhancing its industry along the water, which included shipbuilding, lumber, pulp and paper mills, oil refining, and chemical manufacturing and storage. There was a coal gasification plant and later an automotive recycling business. Construction pushed up the shoreline to the 67-acre site of the Asarco copper smelter.

While all these businesses brought jobs and money to Tacoma, they also contributed to the tars, acid, and other toxins along and in the water. By the 1980s, a century of heavy industry had made Tacoma an ecological disaster. In 1983 the 12 square miles of Commencement Bay were declared a federal Superfund site, one of the most polluted waterways in the country. At one end, the Asarco smelter had over the decades deposited 15 million tons of slag byproducts, including arsenic, cadmium, and lead, next to and into the Sound. At the other, the waterways' businesses had done their own share of polluting.

In the years since then, the government has made efforts to hold the polluters accountable and well over \$100 million has been spent to clean up Tacoma's waterways. Because of the oversight and involvement of local government and the Federal Environmental Protection Agency, Lara Herrmann hadn't thought much about the industrial site below her home until one night last year when she got up to feed her baby and realized her house was flooded with light. The source was a dock and two hulking military support ships just below the cliff that forms one side of

her neighborhood. Herrmann started thinking more about it when she heard that the dock's owner was requesting permits to add two more ships. Just by looking over the hillside, she could tell much of the large dock had rotted and collapsed. With the exception of a built-up area along one side, it was unusable. And considering the noise, the light, and the black smoke that comes from the ships, Herrmann couldn't imagine that site would be allowed to expand.

"Of course my city, my government wouldn't allow two more super mega structures right along the waterfront, right next to a salmon habitat, perched between two schools and two parks," she says. "But I was wrong." At a public hearing, Herrmann discovered that the council didn't have much to say in the matter, the area was zoned properly, and it was a "quasi-judicial," issue, she says. "I was so shocked. I realized if our community does not stand up and say enough, we're going to have a military shipyard right here on our working waterfront."

As Herrmann came to understand that the city couldn't stop the expansion in an area zoned for industrial use, her mission became clear. Tacoma has this great resource with its urban waterfront, she says, but it needs to be expanded and revitalized. It needs uses that are compatible with its urban and residential neighborhoods, as well as with the fragile ecology along the shoreline.

A grassroots group of Tacoma residents started meeting last fall to plan a campaign to unify and revitalize the waterfront. They settled on a catchy name "Walk the Waterfront," and began looking at other cities with waterfront issues. "Everything we're doing, none of it is original," says Herrmann, who is now president of the nonprofit organization.



The idea of using open space to revitalize cities has been around since the '60s, says Jeffrey Sanders, an assistant professor in history at Washington State University. Sanders, who specializes in environmental and Pacific Northwest History, remembers driving along the Tacoma waterfront during his childhood in the 1970s and being shocked when the car went by the Asarco site. "I was blown away by the strange mixture of denuded landscape with what seemed to be a really beautiful scenic drive."

What's happening now in Tacoma makes sense, he says, especially with individuals from within the community pushing for more public space. It's now more democratic, with community groups and grassroots organizations helping the city decide how and where public spaces should develop, he says. The challenge is making sure all the voices, including those of lower income residents, are heard. "I'm all for revitalization ... but you always have to ask the question, who is benefitting and who isn't from these changes," he says.

The Ruston Way portion of the waterfront draws residents from all over the city. That is a source of pride for Herrmann and her cohorts. On the weekday we visited, the path and parks were bustling. A large Russian family was out for a walk, a group of teens clustered under a tree to check out a friend's new guitar, and an older man rode by on a bicycle with a little boy, likely his grandson, perched sideways on the back. "This is our Central Park," says Herrmann.

#### **DRAWING ON THE PAST**

Twenty years ago, the City Club of Tacoma approached the city with a plan to unify the waterfront and build a walking path from the Tacoma Dome to Point Defiance. The club is a non-partisan, nonprofit organization. The painstakingly-researched report urged that the entire waterfront be redesigned as a people place—where the general public, rather than industry or business, is the primary component of the site. It even suggested rezoning the east size of the City Waterway from 15th Street from port industrial and terminal use to mixed public and private use.

Herrmann was thrilled when a city hall worker handed her the document. "It was like a present just lands in your lap," she says. "I had it in my hands and I'm going 'Are you kidding me? This work is already done." Though it's two decades old, much of it is still relevant, says Herrmann.

But, whether the issue was money, land use, or property rights, the plan was never fully pursued, nor were plans from decades earlier. As early as the 1940s, the city was trying to preserve the waterfront. It had plans to make some of the unused industrial sites into parks and recreation areas. In 1965, another city recreation and open space plan provided for the city to buy up shore-side properties for future public use.

Still, a polluted, dangerous waterfront greeted Phyllis Harrison when she returned to Tacoma in 1988 to work on a maritime folk life project. After graduating from WSU in 1973, Harrison had gone on to earn a doctorate in folklore. Now she was coming home. With grants from the National Endowment for the Arts and the Institute of the North American West, she and a fisherman/boat builder named Mike Vlahovich had the mission of creating a traveling exhibit that would capture and preserve the culture of living and working on the water. "It was not just the history, but what was happening right then—predicting the weather, boat building, longshoring, and all the layers of tradition that went into them," she says.

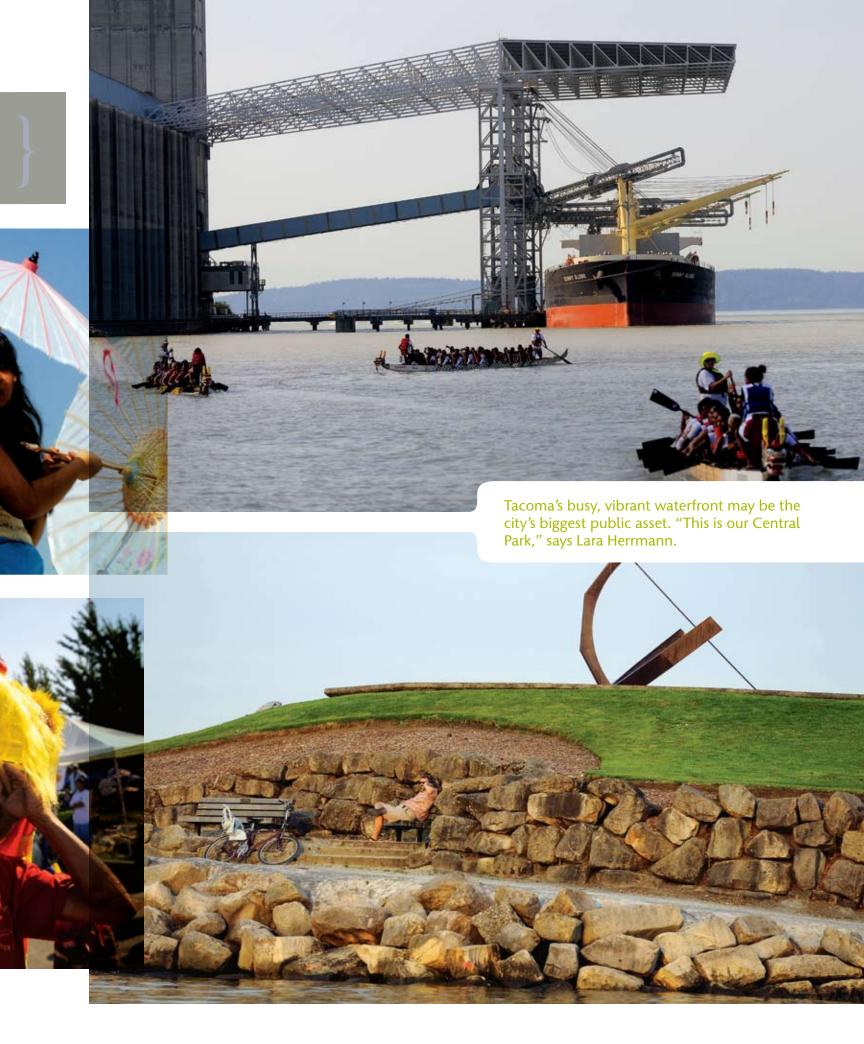
The project was a particularly good fit for Tacoma with its maritime roots, says Harrison. "Tacoma was the capital of wooden boat building and repair in this area for a long time," she says. The exhibit was also extremely popular, taking up residence at Sea-Tac Airport for



A few scenes from the waterfror include sunset at Chinese Reconciliatio Park (*left and opposite lower right*; and the Asian American Water Festiva and dragon boat races







a number of years. In 1995 it found a permanent home on Tacoma's waterfront when the city agreed to lease out part of the Puget Sound Freight building on the Thea Foss Waterway. The site was no beauty, says Harrison. In fact, it had a squatter in residence, the toilets (which couldn't be used) emptied into the Sound, and half of the building was space for police-seized vehicles. It was a seedy sight. On the other hand, it was right on the water, says Harrison, the perfect location for a maritime museum.

Their timing was ideal. The cleanup of the Foss waterway had started, and plans were underway for a new, improved waterfront next to downtown. It paved the way for the now world-famous Museum of Glass, and a small collection of tony condominiums—with water and mountain views. But, says Harrison with pride, the very first thing to happen on the waterfront was the Working Waterfront Maritime Museum. Harrison remembers the day she learned their project would work: "It was so exciting to know that finally there was a public space where people could start coming and learning about the waterway."

Prior Tacoma city councils have made many investments in protecting the waterfront, and providing for safe public access to the Thea Foss Waterway, which is closest to downtown, says Tacoma City Councilman Jake Fey, who also works at Washington State University as director of the cooperative extension energy program.

"We really have an asset that's unique and attractive to people," he says. How the council and community take advantage of that and also use the space in the best way is the real challenge.

When Fey first ran for city council in 1995, he knew he was vying for one of the larger and more complex districts in the city. His territory includes the port, downtown, several business districts, historic neighborhoods, a suburban hillside, and the waterfront. He admits the size, variety, and demands of the district can sometimes be overwhelming. But he's also inspired by the interest and involvement of constituents like Herrmann. "Tacoma is a city, but it's not so big that individuals can't rise to the occasion and make a difference," he says.

IT'S NOT THAT THE CITY OF TACOMA doesn't have a plan for the waterfront, says Herrmann. Actually it has many, including a shoreline plan, a waterfront trail plan, a Ruston Way plan, and a Foss Waterway plan. But they are piecemeal. "We need a plan that captures the entire waterfront, the owners, and the users who should have a voice," she says. "We can create something so spectacular that it would transform Tacoma."

And tying it into the city's history may be the key to getting it done. Herrmann's interest in local history started when she was a student at Tacoma Community College and wondered why the city didn't have a Chinatown when Seattle and Portland both did. In researching a paper, she learned that Tacoma once did have a thriving Chinese community. There was a neighborhood right on the waterfront called Little Canton that was filled with homes and businesses.

But during the economic downturn of the 1890s, after the railroad had been built, a mob led by Tacoma's leaders and business owners drove the Chinese residents out. Little Canton was burned to the ground. The brutal expulsion, later referred to as "The Tacoma Method," is a real stain on the community's past, says Herrmann. In recent years, the city has tried to make amends, by formally apologizing for the expulsion as well as dedicating a Chinese Reconciliation Park at the water's edge just outside of downtown.

The park is a great fit for the waterfront, says Herrmann. It has purpose and meaning and it is something that the community can use freely. That success has her thinking about the word "Che-bau-lip" and the Native American history in the area. At this point, Herrmann knows there are several spellings as well as explanations, a key one being that it is an Indian name of an area near the waterfront where the land slopes into the sound and where Job Carr built his cabin, the first structure in Old Tacoma. Many of the early settlers, including Carr, used the name for that location. According to historian Murray Morgan, a site below what is now the Stadium Way cliff had an Indian burial canoe and a boulder marked with petroglyphs, both now long-gone.

Members of the Puyallup tribe confirm the uses, noting that Indian history and legacy with this part of Tacoma have indeed at times been overloooked. Part of downtown, for example, was a village site, says tribal historian Judy Wright.

That's one more component of the waterfront that should be remembered, says Herrmann.

Considering urban waterfronts around the world, Herrmann wondered what characteristics Tacoma has that "makes our waterfront even better than your waterfront?" Well that's easy, she says. Besides the rich history specific to Tacoma, you have Mount Rainier. "You can't see Mount Rainier from Seattle's waterfront," she says. And on the other end, Point Defiance Park, a spectacular tree-covered park with trails, beaches, boat launches, museums, and even a zoo. "It's one of the best city parks in the country," says Herrmann.

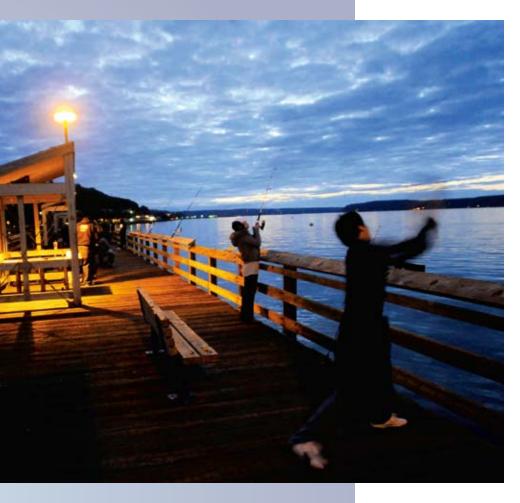
In between, there's the cleaned-up Thea Foss Waterway, the Maritime Museum, a Chinese Reconciliation Park, the original Job Carr settlement, the Tahoma salt marsh, and a long stretch of parks and paths in front of Old Tacoma.

The city needs this new generation of citizens to care about the waterfront, says Harrison. "And the waterfront needs to be a resource not only for heritage reasons," she adds, "but also because people should not spend all of their lives with their feet on concrete, especially if they live on the shores of Puget Sound."  $\otimes$ 





To see Tacoma from all angles, our photographer Ingrid Barrentine visited the waterfront from land and sea, and from the sky. She even parasailed over the Puget Sound for our story.





#### Downtown to Point Defiance

Museum of Glass • One of the first projects in the rehabilitation of the Thea Foss Waterway, the museum opened in 2002. It features glass artwork from Northwest artists led by Dale Chihuly as well as work from world-famous artists from around the world. The museum can be reached from downtown via a 500-foot-long "bridge of glass" filled with Chihuly's sculptures.

Working Waterfront Maritime Museum Whether it's a dose of history or a view of modern wooden boat building, the interactive museum provides the history, culture, and modern stories of Tacoma's waterfront. The museum is housed in a real piece of old Tacoma—the near-century-old Balfour Dock Building.

Thea's Park : At the mouth of the Thea Foss Waterway, this 3.4-acre park has trails, picnic tables, and a view of the last immediate remnants of Tacoma's industrial past.

Chinese Reconciliation Park The waterfront's newest park was dedicated in 2006, to commemorate the sad event of 1885 when Tacoma's leaders, blaming the Chinese for the downturn in the economy, forcibly drove them out of the city and destroyed their homes and businesses.

Schuster Parkway A scenic auto byway between downtown and Old Town Tacoma, but not much for walking. The parkway was built in the 1970s along the base of the cliff below Stadium High School to provide Tacoma residents a quick exit from downtown into some of Tacoma's older neighborhoods.

Jack Hyde Park :: At the edge of Old Town and on the water, this park was renamed in honor of a former mayor who, as a council member, was instrumental in promoting waterfront projects along Ruston Way. The park offers views of Commencement Bay and the Olympic Mountains.

Ruston Way A two-mile scenic spread with bicycle/pedestrian paths, public docks, restaurants, and parks scattered throughout. It's the waterfront for Old Town, a lively community of homes, restaurants, and businesses.

Point Defiance Park:: At 700 acres, it's one of the largest city parks in the country. Besides trees, trails, and waterfront, it holds a zoo, marina, lodge, and several historical and educational exhibits. Established 110 years ago, this park has long been the pride of the Tacoma community, making excellent use of the peninsula that juts out into the Sound.

The News Tribune's multimedia expert Joe
Barrentine '06 recently produced
a piece on the Tacoma waterfront. Visit
wsm.wsu.edu for a link to the video.





RYAN NORRIS NEEDED A TIME MACHINE. The Canadian ecologist wanted to know why a pigeon-sized seabird called the marbled murrelet was tumbling toward extinction. Since it nests high in the trees of old-growth forests, extensive logging of those forests throughout the Pacific Northwest was a likely culprit.

But Norris thought there was more to the story. Accounts from the early and mid-1900s said the stubby-tailed birds ate small fish. More recent accounts described them eating shrimp-like creatures known as krill. Had their diet changed? If so, could that be contributing to their decline?

Good questions—but how could Norris answer them? Finding out what marbled murrelets are eating now was no problem. Finding out what they ate 50 or 100 years ago seemed impossible.

Norris needed a time machine.

He found one, in Washington State University's Conner Zoology Museum. (See sidebar, page 37.)

THE FIRST THING YOU SEE when you approach the Conner Museum is the glassed-in room where the moose stands. The room also holds display mounts, in natural-looking poses, of an elk, some deer, a few dappled fawns. But it's the moose, with his massive antlers and doleful face, that holds your gaze.

Just down the hall from the moose, three more rooms display birds, mammals, and reptiles from Washington and beyond. This is the public part of the Conner Museum.

In the hallway, Conner Museum curator Kelly Cassidy ('91 Ph.D. Botany) beckons with a tilt of her head. "What we call the *real* museum is the research collection back here," she says.



"Back here" is a vast room at the far end of the hall. Other than a couple of computers and the low-slung fluorescent lights, it looks as it might have 100 years ago. Articulated skeletons of a chicken and an owl perch on a bookcase; a fully-feathered owl in strike pose hangs from the ceiling. Most of the room is occupied by rows of dark green metal cabinets that reach over seven feet high. Each cabinet is filled with wooden drawers holding skulls, animal skins that have been stuffed with cotton ("study skins"), and boxes of bones.

It doesn't look like a time machine. But thanks to new techniques and well-preserved specimens, scientists can now analyze the DNA, diet, and other attributes of animals and plants that died more than 100 years ago. Meanwhile, scientists continue to use "old" techniques like microscopy and careful observation to ferret out answers about biodiversity and species distributions. If you want to see a successful partnership between traditional skills and hot new techniques, go to a natural history museum.

WSU is home to three superb collections: the Conner Museum, Ownbey Herbarium, and James Entomology Collection. All three began almost as soon as Washington State College opened its doors in 1892. Herbarium director Larry Hufford says they were considered central to the school's land-grant mission to help farmers identify weeds and pests and to document the native flora and fauna of the state.

The collections soon grew beyond their teaching role. What makes them research collections, says Hufford, is "sheer numbers." The Conner has about 69,000 specimens, the Herbarium about 375,000, the James more than 1.25 *million*. A museum's reputation rests in part on the size of its holdings, and these numbers make WSU's collections among the best in the nation. The Conner houses one of the biggest collections of birds in the Pacific Northwest (about 15,000) and one of the largest collections of mammals in the country. Of 25 peer institutions nationwide, says Conner director Mike Webster, only two (Cornell and Louisiana State) have substantially larger collections.

The numbers are important, says Webster, because having multiple specimens of each species gives us a chance to understand the full extent of a species' range and the diversity within a species. Individuals of one species are not duplicates; they may have been collected in different years or different seasons, or from different locations. Even individuals collected at the same time from the same population differ from each other; and those differences are important to understanding a species as it is now and how it came to be that way.

The glory of the museums is their regional coverage; from half to two-thirds of their specimens come from Washington, Oregon, and Idaho.

"That's where we make a really important offering to the rest of the world," says Hufford. "We have a really good collection of those three states. In particular, we have the best dryland collections of all three of those states."

As for insects, director Rich Zack says the James Entomology Collection has more specimens from the Northwest than any other institution.







"The main reason someone would write to us is not to see insects from Malaysia, but to see insects from Washington, Oregon, Idaho, and the western United States," he says.

And yet, the museums also have some surprising strengths, thanks to the idiosyncratic interests of major collectors. The Herbarium, for instance, has a fine collection of Central American bromeliads, contributed by former director Amy Jean Gilmartin, and one of the world's best collections of sedges, brought in by curator Joy Mastrogiuseppe.

All three museums maintain a steady traffic of specimens on loan to scientists elsewhere. In 2007, the Herbarium got requests for material from 59 research institutions all over the world. Logbooks at the Conner and the James tell a similar tale.

Hufford, Webster, and Zack are trying to get their specimens into the hands of even more researchers by taking their collections virtual. Hufford has a federal grant to help him digitize all the Herbarium's specimens from Washington, Oregon, and Idaho. Zack will have key parts of the James collection online within the next year. At the Conner, Cassidy recently finished digitizing the birds—all 15,000 of them—and is now making her way through the mammals.

"We're trying to get our entire collection online, so it can be accessed by anybody in the world," says Webster. With a few mouse clicks a researcher in Patagonia who is interested in rosy-finches will be able to find out that the Conner has one of the three biggest collections of rosy-finches in the



Among the Conner's bird specimens are the stuffed skins of marbled murrelets that former museum director George Hudson collected from Georgia Bay, British Columbia, in the 1940s. They were exactly what ecologist Ryan Norris needed to determine what murrelets ate in decades past.

Norris used a new technique called stable isotope analysis (SIA), which examines the relative amounts of normal and heavy isotopes of common elements in biological samples. Krill contain low amounts of the heavy isotope of nitrogen. Fish, being higher on the food chain (and having eaten lots of krill), contain higher amounts of heavy nitrogen. Whatever a bird eats finds its way into the feathers; SIA of feathers can reveal what the bird was eating at the time the feathers were growing.

So curator Cassidy snipped off bits of four murrelet feathers—one each from the left and right breast and left and right belly of every bird—and sent them to Norris. He got similar samples from other museums, from murrelets collected as far back as the 1890s.

His analysis showed that marbled murrelets ate mostly fish, when fish were plentiful. When overharvesting decimated fish stocks, the birds shifted to krill. Krill are nutritious, but they take more time and effort to catch than fish do.

After consulting old records of breeding success, Norris was able to show that the murrelets' reproductive output dropped as their diet changed. His findings are crucial for efforts to help marbled murrelet populations recover. Now we know that in addition to big, old trees to nest in, the birds also need a diet rich in fish.

Opposite page: Conner Museum curator Kelly Cassidy reaches for a study skin.

*This page:* Display mounts of a bighorn sheep and gray-crowned rosy-finches. The finches were prepared by William T. Shaw, who directed and curated the museum from 1906 to 1925.



**>>** 

Soon after finishing their degrees with museum director Dick Johnson, Jim Reichel ('84 Ph.D. Zoology) and Derek Stinson ('87 M.S. Zoology) got jobs as biologists for the Commonwealth of the Northern Mariana Islands. They spent more than four years in the field, surveying the fauna of the islands, gathering life-history information, and preparing specimens. They sent nearly 300 bird specimens to the Conner, giving WSU one of the world's three best collections of Marianas birds. Only the Smithsonian's American Museum of Natural History and the Museum of Natural History in Paris have comparable collections. Reichel used the specimens in his research until his death in 1996. Stinson, who now works on threatened and endangered species for the Washington Department of Fish and Wildlife, continues to analyze and publish their findings. The specimens they brought back, and the work they did to document the bird life of the Marianas, have become especially valuable now that the islands are battling an invasion by the brown tree snake, a native of Australia, New Guinea, and eastern Indonesia that has already decimated the forest birds of Guam.

**Right:** Bird skins from the Mariana Islands, collected and prepared by alumni Jim Reichel and Derek Stinson. Clockwise, from top left: bridled white-eye, Pacific golden plover, golden white-eye, Micronesian honeyeater. **Below:** Former Conner director Dick Johnson with George Hudson's moose.

world. She could then request that some of WSU's rosy-finch skins be sent to her, or arrange to come to Pullman to examine them.

The collections also get hundreds of "service" requests every year: faculty wanting specimens to show their classes, gardeners trying to identify plants or insects, birdwatchers hoping to figure out what kind of hawk they saw floating over the highway. The Conner Museum's public displays are especially popular. In 2007 they drew at least 23,000 visitors, only 6,000 of whom were part of a class or campus tour group. The rest came in on their own to view the animals.

Despite their value to researchers and the general public, natural history museums all over the country have struggled in recent decades. They take a lot of space and they don't bring in a ton of grant money, which often is the main measure of a facility's worth. Many have had to close, their space given to more high-profile labs and their specimens given to other museums or simply thrown away.

The Conner had a close call when the building that houses it was renovated in the 1980s. The museum had occupied an entire floor plus a mezzanine in Science Hall (now Abelson Hall). Richard E. Johnson, who was director at the time, says partway through the renovation he was told that some of the museum's space would be turned into laboratories. He'd have to get rid of either the display collection or the research collection; there would no longer be room for both.

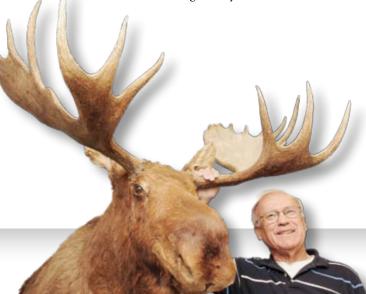
Johnson faced an impossible choice. He wouldn't consider giving up the research collection, and dumping the displays didn't make sense to him either.



"We were the second-biggest attraction on campus, next to football," he recalls. Besides, getting the larger mounts out of the building would have been an enormous (and expensive) task. Former director George Hudson had prepared most of the Conner's display mounts inside the museum, and some, like the moose, were too big to fit through the already-rebuilt doorways.

Enterprising graduate students took the museum's case to the public, and Spokane TV news crews came to campus to film their protests. Finally the college relented. The museum still lost space; it could no longer acquire large numbers of specimens, and about a third of its display mounts had to stay in storage. But both collections remained intact, to Johnson's great satisfaction.

"The moose never left the building," he says.



In 1997, on range land just west of Pullman, more than one quarter of the cows giving birth produced "crooked calves"—calves whose legs were bent at odd angles, with twisted necks, or with cleft palate.

"Some were so badly deformed they couldn't stand up," says range scientist Ernie Motteram, who investigated the case as part of his work with the Field Disease Investigative Unit at WSU's College of Veterinary Medicine. Of about 10,000 grazing cows, 27 percent had obviously crooked calves. Motteram estimates another 35 to 45 percent had calves with deformities that were less debilitating to the calf but just as devastating to the rancher. "How do you market an animal that has legs that are bent like that?" he asks. The monetary loss ran into the millions of dollars.

Crooked calf syndrome shows up whenever pregnant cows eat substantial amounts of plants containing a toxic alkaloid chemical. Motteram suspected a species of lupine known to contain the alkaloid. Since the affected calves were born in '97, the culprit plants would have been abundant on the range in '96.

Lupines are tricky to identify, and not all of them are toxic. Lupines weren't abundant on the range when Motteram visited in '97, but he found enough to bring specimens to the Ownbey Herbarium for positive identification. Herbarium staff confirmed that one of them was *Lupinus leucophyllus*, producer of toxic alkaloids.

Since then Motteram and collaborators with the USDA have been developing strategies to help ranchers work around the toxic plant. They've found that in most years, it isn't abundant enough to cause a large-scale problem. Even in boom years, it isn't toxic at all times during the season. And it actually benefits the range. Like other lupines, the toxic species improves the soil for all plants by fixing nitrogen. It's also 21 percent protein, making it a great forage plant when it isn't full of toxic alkaloids.

With close monitoring of field conditions in the field and reliable identification of the plants, Motteram thinks ranchers will be able to exploit the good properties of the toxic lupine while avoiding problems the next time there's an explosion of the species.





















Larry Hufford, director of the Ownbey Herbarium, pulls two heavy paper sheets from a cabinet. Each sheet bears a dried plant with toothed leaves about the size of the palm of his hand, and spikes of delicately fringed blue flowers. They are Synthyris schizantha and Synthyris platycarpa, both commonly called kittentails. Botanists long ago noticed that they're the only members of their genus with fringed flowers, suggesting they might be sister species derived from a common ancestor. Their geography, though, argued against that. They're both mountain plants, thriving in moist woods; but they're separated from each other by a couple hundred miles of dry lowlands: schizantha grows in a few spots in the Cascade and Olympic Mountains, and platycarpa occurs only in a few patches on the ridges above the Selway River in Idaho.

A few years ago, Hufford took advantage of the fact that dried specimens are great sources of DNA and allow a researcher to test a range of species without making field trips to gather fresh material. He extracted the DNA from all species of *Synthyris* and compared their sequences. He found that the two with fringed flowers were more closely related to each other than either was to any of the other species. Figuring out how they ended up on opposite sides of the plains of eastern Washington required a detour into the geologic history of the region.

"We think these cool mountain plants were continuously distributed across Washington at one time," says Hufford. Geologic evidence and pollen records show that the uplift of the Cascades about four million years ago created a rain shadow that dramatically changed the environment in central and eastern Washington. A vast dry area opened up, splitting the ancestor species into separate populations that were confined to high-altitude areas on either side of it. Isolated from each other, the populations have diverged to form the two species we see today.

Clockwise, from above: Toxic velvet lupine; Herbarium director Larry Hufford; grassyslope sedges; Selway Mariposa lillies collected by Marion Ownbey, who directed the Herbarium from 1939 to 1974. In the 1990s, as the Hanford nuclear site was being cleaned up, the federal government pondered what to do with the land. The Nature Conservancy and Department of Energy commissioned Rich Zack to survey the site's insect life to see if the area was special enough to set aside as a wildland preserve. Insects are good indicators of ecosystem health, says Zack. They respond more quickly to changes than bird or mammal populations.

Zack, Chris Looney ('97 B.Sc. '00 M.S. entomology) and coworkers found more than 200 species of insects that had never been reported in Washington before. They also found 45 that were brand new to science, including a caddisfly and a dung beetle.

The newly-described species at Hanford were probably more widespread at one time, says Zack. Land-use changes have shrunk the area that can support them, leaving relatively undisturbed tracts like the Hanford reservation as natural refuges where they can still survive.

Largely on the basis of Zack's findings, President
Clinton declared parts of Hanford a national monument.
The designation protects them from development or
agricultural use. It could end up helping Washington
farmers in the long run, says Zack. Many of the Hanford
insects he found have potential as biocontrol agents.

#### WHETHER SCIENTISTS A HUNDRED YEARS FROM NOW

will be able to use WSU's collections to learn about today's plants and animals will depend on which collection they consult.

The early 2000s will be well-represented at the James Entomology Collection. Zack is adding between 10,000 and 30,000 specimens a year, mostly from projects to document the insects of native Palouse prairie, the moths and aquatic insects of the Pacific Northwest, and the insects of Guam, where former Cougar Ross Miller ('84 Ph.D. Entomology) works.

The Herbarium is growing by about 2,500 specimens a year. That's a modest pace Hufford says he can sustain for 20 years, given the space available. He's targeting his acquisitions to record the changing flora of the Northwest—the spread of invasive species, increasing rarity of some natives, and shifts in species distribution due to climate change.





The Conner is not growing. "We are full to the brim," says Webster. Occasionally someone brings in a bird that flew into a window or a roadkilled rodent, but there's been no systematic collection for many years.

That's unfortunate, he says. By not adding present-day specimens, the museum is not storing up potential answers for the questions researchers will ask in the future. We don't even know what we're losing by not collecting, because we don't know what information scientists decades from now will be able to glean from the specimens. As Webster points out, Hudson and the others who made the collections the superb resources they are today never foresaw techniques like stable isotope or genetic analysis.

"They didn't even know what DNA was when they were collecting these specimens," he says. "That's going to be true in the future, too people are going to ask questions that we can't even think of right now. They're going to use techniques that we have no comprehension of, to get all sorts of insights about the environment and the world and plants and animals. And if these collections aren't being maintained, they won't be able to do that work."

The one place the Conner has a little bit of elbow-room is in the walk-in freezer where animals are stored until their skins and skulls can be prepared. Like a handful of other museums around the country, the Conner has begun freezing tissues for future genetic and chemical tests—tests that haven't been invented yet.

When a new animal comes in, Cassidy cuts fingertip-size samples from it and freezes them in small vials. She doesn't know which tissue will be most useful, so she takes several: muscle, brain, liver, fat. She also freezes the carcasses, in hopes the museum proper will someday have room for them. Traditional skins and skulls are still needed, she says; without them, researchers cannot verify that the species identification on a tissue label is correct, or compare their molecular findings with the preserved form of the whole animal the tissue came from.

"Some of the features that you might consider minor at the time you collect them, somebody down the line might consider important," she says. "You're trying to collect something that you hope will be of value."

SO THE VIALS of frozen tissue wait along with the skins and skulls and boxes of bones and pressed plants and pinned and pickled insects. They have much to tell now, and will have even more to say when someone decades hence figures out how to read more of their secrets.

In the big room of the James Entomology Collection, Rich Zack looks down the orderly rows of cabinets filled with the dried forms of thousands of insects.

"This is like a library," he says. "All the specimens in here are little packets of information."

Larry Hufford likes that comparison.

"The uses of a herbarium are limited only by imagination, and that's very much like a library," he says. "I like to think that when a creative, imaginative person walks into a herbarium, they find a way to use it.

"You open any cabinet, there are stories there."  $\otimes$ 



Opposite page: Insects collected by Rich Zack and colleagues at the Hanford Nuclear Site—a new species of winter-active dung beetle (left), and Becker's White butterfly (right).

Above: James Entomology Collection director Rich Zack with a few of the 30,000 specimens he collected in Guatemala in collaboration with Peter Landolt ('78 Ph.D. Entomology) of the USDA and colleagues at the Universidad del Valle de Guatemala. Their survey of insect diversity in high elevation habitats in Guatemala is funded by the Maurice T. and Helen James Endowment.

**Below:** Display mount of a male marbled murrelet in winter plumage.

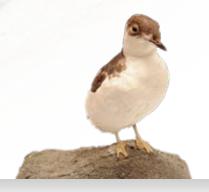
To read more and watch videos about WSU's natural history museums, visit Washington State

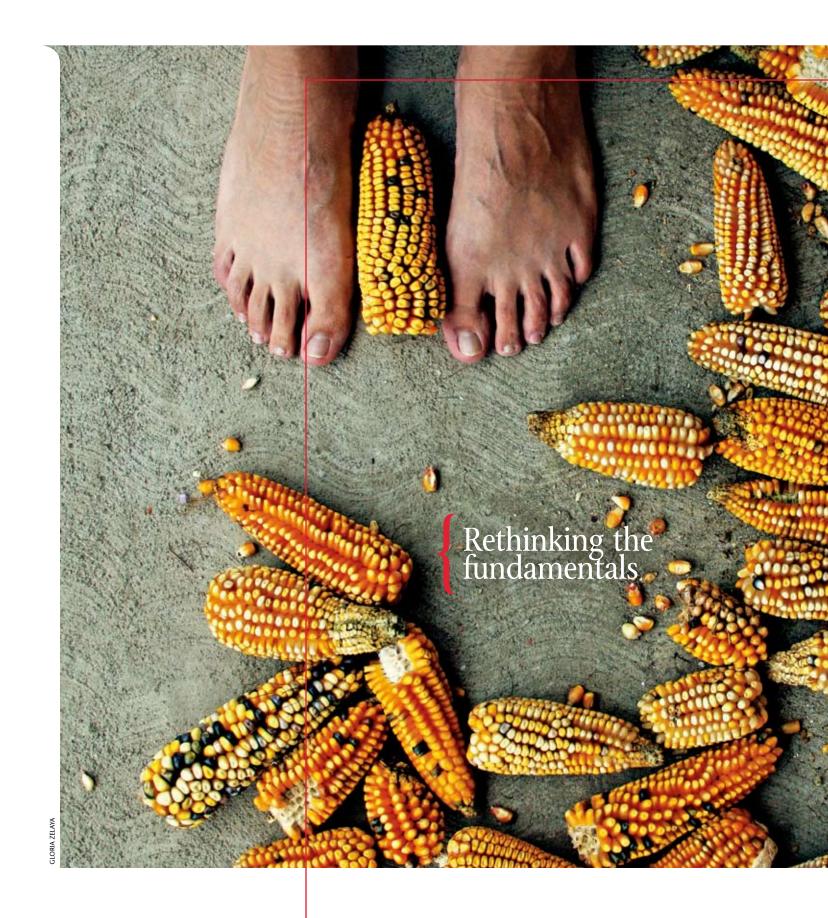
Magazine Online, wsm.wsu.edu, and:

**Conner Zoology Museum** sbs.wsu.edu/connermuseum

www.wsu.edu/~wsherb

James Entomology Collection entomology.wsu.edu/museum





:: by Tim Steury ::



Feeding the world may require us to use old knowledge in new ways

Last May, Trent Bunderson and Chris Pannkuk conducted an informal food price survey in Malawi and Afghanistan. Bunderson, a project associate with Washington State University's International Programs, has worked in Africa for more than 25 years with local farmers on agronomic and agroforestry projects. Pannkuk is director of international research for WSU. At the time, he was wrapping up a project in eastern Afghanistan that promoted alternative livelihoods to the prevalent opium poppy production.

Bunderson and Pannkuk found that in the local markets, where most people of those regions generally buy their food, the price of staple foods had doubled since January.

"We asked them why," says Pankkuk. "They said, 'we're not storing it here." Thus, local populations are dependent on merchants bringing the staples in from other areas. Farmers sell their excess crop at harvest, and small traders bring staples back as needed, at inflated costs.

In other words, those local markets in Malawi and Afghanistan are feeling the same reverberations in the world food markets that you felt last week at the grocery store—though considerably more directly.

Certainly, comparing food prices in Malawi, Afghanistan, and Seattle is something like comparing the role of, say, either Pacific salmon or cassava in the respective economies and diets.

For one thing, according to the United Nation's Food and Agriculture Organization (FAO), people throughout the developing world typically spend 60 percent of their incomes on food. In the United States that number is less than 10 percent. In July 2008, the FAO's food price index was 37 percent higher than a year before.

In contrast, food prices overall in the United States rose less than six percent over the same period. That relatively modest rise was a result of retailers absorbing much of the increase in commodity prices. Wheat, for example, was up over 80 percent, soybeans 73 percent, corn 47 percent, peas 63 percent, rice 50 percent, and lentils 148 percent.

One of many (and certainly the most argued) factors leading to worldwide price volatility is biofuel, particularly ethanol. Although biofuels, petroleum substitutes made from plant biomass, tend to get lumped together in the public mind, sources are quite different. Ethanol, a gasoline substitute made from corn, seems to be the primary culprit in the elevation of food prices, as corn—and high-fructose corn syrup—is ubiquitous in our processed foods. In Africa, corn (maize) prevails as a fundamental staple. Pankkuk worries that Malawi and Tanzania will succumb to the temptation of ethanol, diverting grain into energy production. That really would affect food prices, he says.

"I'm no apologist for ethanol," says WSU natural resource economist Jon Yoder, who directs a Washington Legislature-assigned study of the potential biofuels market in the state.

"My sense is yes, ethanol production in the U.S., maybe has a measurable effect on a select set of food types," says Yoder. But the effect is minor compared to the effect of energy costs on agriculture. Yoder's colleague, Jeffrey LaFrance, was similarly cautious.

However, a report commissioned by the World Bank and leaked in April to the *Guardian* argues that ethanol production has indeed had a dramatic effect on world food prices. I asked LaFrance for his assessment.

LaFrance, who'd just returned from an economic conference in Italy, e-mailed me this analysis:

"There are several reasons for the rise in prices for the basic staple grains, mainly (other foods probably will follow suit):

- **(1)** Global demand has risen in response to the tremendous growth in China and India—roughly 10 percent per year for the past decade. This growth translates into higher incomes, and a demand for better and more diversified diets. China has been shifting to pork consumption as an important source of protein. Pigs eat corn, soybeans, and other grains. India has been shifting to poultry (mainly chicken) consumption for the same reason. Chickens also eat corn, soybeans, and other grains.
- **{2}** Global supply—especially for wheat—has been interrupted by a seven-year running severe drought in Australia, the major U.S. competitor for wheat exports. Similarly, Brazil has had at least one severe crop shortfall in the past couple of years.
- **{3}** Global carryover stocks of stored grain have decreased over the past eight years, to their lowest level since 1938. Moreover, total world production plus carryover stocks (the total supply of staple grains) has not been as low as it was this past crop year since 1946.
- **{4}** All of the net increase in corn production in the United States (the major corn producing and exporting country in the world) has gone to ethanol production since 2001. This leaves the wet and dry milled residual as a feedstock in the U.S., but nevertheless, the total livestock feed supply has decreased.
- **(5)** In response to the higher corn prices, farmers planted a record number of acres (90.5 million acres) in 2007—the highest acreage since 1944 (63 years). **This increase in corn acreage is directly associated with a corresponding decrease in soybean and wheat acres—which in turn contributed to the high wheat and soybean prices we've seen recently. However, these higher prices for the competitor crops have stimulated record and near record acreage planted in wheat and soybeans this year.**
- **(6)** Commodity prices have risen considerably more in the United States than other countries due to the weak dollar. This weakness is caused by at least two economic forces. (a) Deficit spending—we now have more than \$9 trillion in public debt, which is nearly two-thirds of the U.S. GDP (\$14 trillion). Deficits imply borrowing, and about half of the lenders are foreign governments. China holds a lot of U.S. government debt. (b) Trade deficits—we buy more from other countries than we sell, and other countries end up with dollars in exchange for their goods, which weakens the exchange rate relative to their currencies.
- **(7)** Some countries have begun to ban grain exports to protect their domestic price levels. This hoarding increases the tension between supply and demand and will undoubtedly lead to more price pressure in the near term.

#### So, we have what might be called a perfect economic storm.

China and India are not likely to stop growing, and their governments don't have any incentive to impede this growth. A supply shortfall in any one of the major grain producing regions of the world will exacerbate the tension between supply and demand. Ethanol subsidies don't help. The U.S. federal government spending money like a bunch of drunken sailors doesn't help. We should expect relatively higher inflation (5-10 percent rough guess) and low, perhaps little or no, growth."



Whatever University of Chicago economist Milton Friedman's eventual status in economic history, one of his maxims will undoubtedly endure: "Only a crisis—actual or perceived—produces real change. When that crisis occurs, the actions that are taken depend on the ideas that are lying around."

Whether or not our current food and energy situation is a crisis remains to be seen. However, many are approaching it as an opportunity to change the status quo, reestablish some fundamentals, and create some new ideas to "lie around."

Fred Fleming '73 is a "recovering conventional farmer," he tells me as we sit in the Peacock Room at Spokane's Davenport Hotel, eating bread that started out as wheat in Fleming's field. Also at the table are the Davenport's marketing director Tom McArthur and executive banquet chef Bryan Franz. In the process of developing and marketing their Shepherd's Grain flours, Fleming and business partner Karl Kupers '71 have upended a lot of longstanding eastern Washington traditions and sensibilities.

It wasn't long ago that Fleming farmed like everyone around him, growing commodity wheat, soft white winter wheat that would then be shipped to Asia for whatever price supply and demand dictated. He was a "price-taker," as he puts it.

Every year, he'd crisscross every square foot of his acreage eight to twelve times, most of them high-fuel trips, pulverizing his soil so he could coax another soft white wheat crop out of it.



But Fleming is not the type of guy to just do the same thing over and over just because it's expected. He and Kupers were drawn to no-till, a method of cropping in which you use a very large Rube Goldberg-ish implement to inject the wheat directly into last year's untilled stubble.

The first time Fleming saw a no-till field, John Aeschliman's in Colfax, he thought the guy was crazy. The Northwest wheat aesthetic is as manicured as a suburban lawn. And no-till is decidedly unkempt. But he also noticed that Aeschliman had earthworms in his soil. It was spongy underfoot and held water far better than his own structureless dirt. And it didn't blow away. He started doing the numbers in his head.

Some guys like spending their lives on a tractor retracing the same ground over and over. But Fleming and Kupers had other things on their minds. Like breaking out of the commodity wheat game.

So one day, having established themselves as no-till farmers and experimented growing crops that no-till will coax out of eastern Washington conditions, Kupers and Fleming headed for Portland with samples of sunflower and safflower seed, to see what kind of deal they could offer those big-city grain brokers.

Well, says Fleming, the first place Karl rang the bell, he was told they'd talk to farmers between ten and four o'clock on the third Thursday of each month.

After recovering from the rejection and accepting the snub as a reality check, "We said, well let's grow what we do best," says Fleming. "Wheat."

They caught on to the odd fact that, here in the midst of one of the greatest wheat growing regions of the world, you couldn't get any good

local bread flour. That's because everybody knows you can't grow hard red or hard white wheat, the requirements for good flour, around here.

"Well, I'm so damn stupid I didn't know any better," he says with the loud infectious laugh that punctuates most of his statements. "Perseverance and ignorance will prevail!"

Brady Carter, at WSU's USDA wheat quality lab, suggested some hard whites and hard red spring wheats to try. Which they did.

"Didn't really do too well," says Fleming, referring to its quality as bread flour. But then they blended the two, and it "worked perfect." One of the varieties they're using now is Tara 2000, developed by WSU spring wheat breeder Kim Kidwell. Now they're experimenting with a hard red winter wheat.

One thing led to another, and now 33 farmers belong to the Shepherd's Grain cooperative.

"Now we're price-setters rather than price-takers," says Fleming.

All of the wheat raised by Shepherd's Grain is no-till. Fleming likes to describe his wheat as "beyond organic," as organic production of wheat requires tillage and the resulting disturbance of its microbial ecosystem.

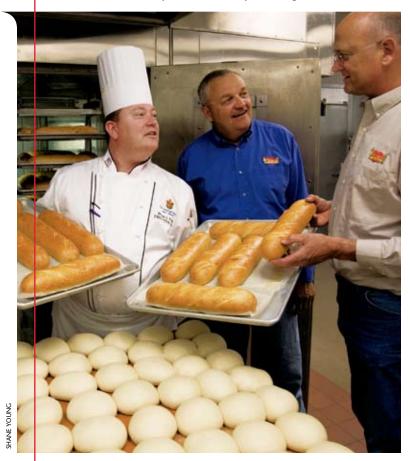
As early as 1912, Washington State College scientists were warning against soil erosion and loss of soil nitrogen and humus because of current farming practices. Their warnings were generally ignored, largely because those practices worked in the short term, producing large yields out of a topsoil that seemed endless to farmers.

According to a recent article in *Scientific American* on no-till farming by WSU soil scientist John Reganold and USDA researcher David Huggins,

by the late 1970s, soil erosion had removed 100 percent of the topsoil from 10 percent of Palouse cropland. Another 20–75 percent of the topsoil had been removed from another 60 percent of the cropland.

The Shepherd's Grain growers meet regularly, often with WSU and UI economist Kate Painter (who took over the task from Herb Hinman, when he became too ill), to work out pricing structures and economic strategies. Their directive is "cost of production plus reasonable rate of return."

This year, they sold 600,000 bushels of wheat as Shepherd's Grain flour. Fleming expects to break a million bushels soon. The Davenport bakes up to 140 loaves of bread a day, made exclusively with Shepherd's Grain. It is now



The Davenport Hotel in Spokane is one of many regional businesses that uses Shepherd's Grain flour, ground from wheat produced by the Shepherd's Gain cooperative, founded by Karl Kupers '71 (center) and Fred Fleming '73 (right), here with Davenport executive banquet chef Bryan Franz.

marketing a bake-at-home bread kit that includes Shepherd's Grain flour made exclusively from Tara 2000, locally pressed olive oil, and honey produced in the Greenbluff area. The kit is put together at Christ Kitchen, a non-profit ministry for poor women, just down the street from the Davenport.

This also signifies an interesting move by the Davenport. McArthur sees the bread as part of a move toward more regional, agriculturally oriented tourism. Rising costs of fuel and transportation will likely divert more people from foreign to domestic travel. "The Davenport is in the entertainment business," he says. "We take them rafting down the Spokane River, we come up into a farmer's field, we stop at a winery

on the way back, and that evening Bryan fixes them what they saw that day for dinner."

The best thing about the whole deal is that eastern Washington once again has its own high-quality, high-protein bread flour. Shepherd's Grain flour is now used throughout the kitchens of WSU. It's been adopted by many bakeries and food services. I don't know whether Kupers and Fleming were visionary, madly practical, or just crazy when they decided to break out of the commodity system. But they now have a rapidly growing regional market, drawing on locally grown wheat. When they came up with their idea, diesel was less than \$2 a gallon. Now it's near \$5. Fleming figures he reduces his fuel costs at least 38 percent by using no-till.

Perhaps most important in the overall sustainability quotient, however, is the fact that Shepherd's Grain is setting the price. Fleming allows that the Shepherd's Grain growers were all a little restless this year when commodity wheat spiked to \$12 a bushel, and they had contracted for less than \$9. However, next year, no matter what the commodity price, they'll sit down again and agree on a "reasonable rate of return."



#### Shepherd's Grain is a dramatic response

to the prevailing bad economic, energy, and food news, indeed against LaFrance's perfect storm. Following World War II, agriculture and food supply chains followed leads such as mechanization and economy of scale to become increasingly industrial-

ized and centralized. Although not inherently bad, the process involved consolidation of land, resulting in larger and larger farms, which, when accompanied by the supplanting of labor by mechanization, dissolved rural communities. Full-time agricultural occupations in the United States currently represent about 1 percent of the population, less than the country's prison population. Along with that population loss is a loss of regional infrastructure, such as local food markets, slaughterhouses, feedmills, and so forth.

One of the most vulnerable parts of our current food system is beef. More than likely, that pack of hamburger you picked up last night for \$2.31 a pound came from cattle that spent most of their short crowded lives in a feedlot, chomping down corn. Any number of factors threaten such a system: the price of corn, bacterial contamination, fuel costs.

Don Nelson is not about to give up a good rib-eye. He'd just like a holistic version.

Nelson, a WSU Extension beef specialist, is a devotee of a decision-making process called holistic management, which focuses on the functioning of the four ecosystem processes—water cycle, mineral cycle, energy flow, and community dynamics—when managing natural resources such as rangeland. Holistic management looks to mimic the actions of large wild ungulates (buffalo) as a model for raising cattle.

He looks at the more than one million acres of idle land in the Conservation Reserve Program in Washington and the cost of raising feedlot beef, both economic and environmental, and what he sees makes no sense.

CRP has a lot going for it in principle. The program was conceived to retire marginal cropland both for wildlife and conservation purposes and to boost grain prices by taking it out of production.

The problem with a lot of CRP land in the drier parts of eastern Washington is it gets "decadent as hell," says Nelson. The dried up plants

undergo oxidative rather than biological breakdown, returning no organic matter to the soil. The plants "pedestal," their roots exposed, and the soil blows away around them.

His solution is to graze prudently. Planned grazing mimics buffalo. They graze the forage and disturb the soil surface, says Nelson, but only once or twice a year, like cultivating. Mow it down, fertilize it, get off. Eventually, it's a beautiful thing, says Nelson. Good perennial groundcover, improved by grazing, holds water better and sequesters carbon.

Problem is, it's against the CRP rules. Or the rancher gets docked for grazing.

Funded by the Legislature-mandated Ag Pilots program, Nelson is working with regional farmers and ranchers to figure out an alternative to CRP that sustains the land and produces as much or more revenue, which currently is \$50-60 an acre.

He's been working with Greg Beckley, who has 5,000 acres of land in CRP. Beckley's spread is in Adams County, which gets 12–14 inches of rain a year, and the land is sandy and fairly steep. Much of his land, and much CRP land in general, is subject to wind and water erosion and is better off if never tilled.

However, rising grain prices tempt farmers to put CRP land back into wheat, land that should just stay in grass.

Now let's re-introduce Joel Huesby '86 (*WSM* Fall 2003), a former grain farmer near Walla Walla, got tired of riding a tractor and put all his land in pasture. A few years later, he runs Thundering Hooves, a pastured beef (and other animals) business. Problem is, he can't secure enough cows to meet demand for his meat.

So why not run cows for Huesby's business on Beckley's CRP land. Grazing on CRP is not without its problems. Some argue that CRP provides much-needed wildlife habitat, which is disrupted by grazing. However, Nelson says wildlife habitat can be protected and improved using planned grazing techniques. He considers grazing to be a tool that can be used to create the desired landscape.

Nelson considers grazing CRP as a way to add value to beef beyond the meat itself. "I don't think you can have a sustainable system without integrating animals with plants," he says. "That is the way nature intended it."

Recent economic fluctuations and rising fuel costs may have moved us into a new era, one in which our increasingly centralized and industrialized food production system may no longer be well-suited.

Feeding a projected nine billion people by 2050 presents a dramatic, and interesting, challenge, particularly with most of the best arable land around the world already under cultivation. Meeting that challenge will require much more creative approaches than simply scaling up.

Fleming, Kupers, and Nelson are hardly alone in exploring ways of farming differently. Throughout the university and across the state, farmers and researchers are exploring ways to counter what will surely be continuing economic and productivity challenges.

For example, the Center for Sustaining Agriculture and Natural Resources enlists a wide spectrum of WSU researchers to explore problems from the viability of the small family farm to adapting more climate-friendly agricultural practices.

Wheat breeder Steve Jones is developing new varieties of wheat to meet the demands of "organic" and perennial production (see *WSM* 

Summer 2004). He recently joined an international effort exploring more efficient use of nitrogen fertilizer.

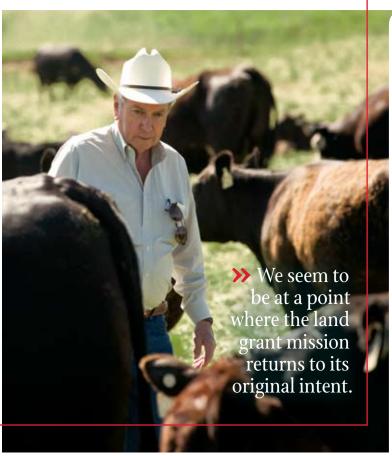
John Fellman, in horticulture, has been participating in a project funded by the Gates Foundation to develop a more nutritious variety of cassava, a starchy staple throughout the tropical developing world. An interesting twist on this project is that it has avoided a major problem of ownership by requiring that all the genetic material used in the project be donated, an encouraging move away from private accumulation of genetic material.

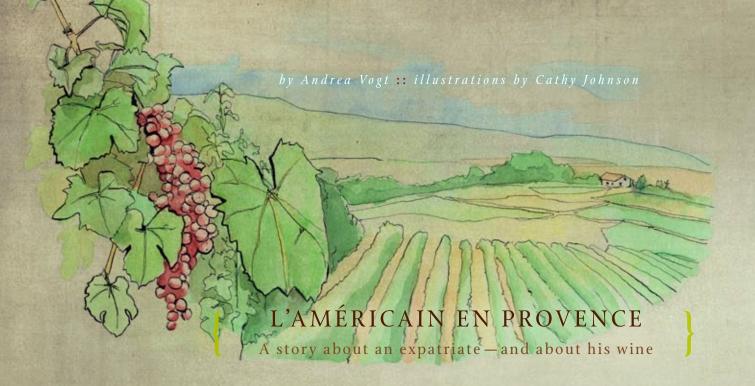
Geneticist Mike Kahn is puzzling over a recently identified mutant *Rhizobium* and how it might direct legumes to produce nitrogen more generously and thus help supplant the use of industrially produced fertilizer.

Carol Miles, at the Mount Vernon Research Station, has for years been addressing both African and American small farm needs through evaluation and field trials of beans and other crops amenable to small-scale farming.

The list is long, not only of projects and ideas, but of needs. We live, the old Chinese curse notwithstanding, in interesting times. Food production challenges, such as labor and global climate change, lend a whole new level of intensity. We may, in fact, have reached a point where the land grant mission returns to its original intent, conducting research and educating farmers toward a new way of doing business.  $\otimes$ 

"I don't think you can have a sustainable system without integrating animals with plants," says WSU Extension beef specialist Don Nelson. "That is the way nature intended it." Nelson advocates a decision-making process called holistic management, which focuses on the functioning of ecosystem processes—including community dynamics—when managing natural resources such as rangeland.





SAINT PONS LA CALM, FRANCE : At first take, Denis Gayte's story sounds like the kind of best-selling novel you'd pick up at the airport or throw in your bag for the beach:

All-American 20-something with promising dot-com office job moves from Seattle to a bucolic village in French Provence countryside to farm his ancestral land and make wine.

Of course there's a love interest—a beautiful fiancée who speaks no Français whom he must convince to join him in his crazy quest. Ah yes, *mon amour*, can't you just see the Van Gogh's fields of sunflower, smell the lavender, taste the wine and cheese à *la* Peter Mayle?

It certainly qualifies as a romantic adventure, but the real story is much more complicated. *Très difficile*, you might even say, though not without a happy ending. You can, after all, buy a bottle of Denis Gayte Côtes du Rhône (red or rosé) at the Whole Foods Market in Seattle. It retails for about \$11 and sells under the name "Harmonie." "We should have called it blood, sweat, and tears," jokes his wife, Kirstin.

#### THE AMERICAN DREAM

You can't tell Denis Gayte's story without dipping into that of his father's, a classic immigrant tale of success in the New World. One of six siblings in Avignon, France, Philippe Gayte struck out on his own to America in the mid-'60s. The son of a great French restaurateur, he eventually founded, managed, and was head chef at "Le Provençal," an institution of French country cooking in the Seattle area (Kirkland) until he sold it in 2001. Like many recent European immigrants, he carefully tended the relationship with his family back home, making annual treks with his wife and children to see relatives in Provence and keep the cultural ties alive. But despite this, the importance of integration into American life and the influence of an American wife resulted in little French being spoken in the home. In the small circle of French expats in Seattle, Denis was often working on his curveball at baseball practice while the other children were conjugating verbs at French lessons.

"He was just a typical kid from Bellevue who went to Wazzu," recalls Peter Dow, owner of Seattle's Cavatappi Distribution, which imports Denis Gayte wines. Dow and Gayte's father were friendly Mediterranean cuisine competitors. Dow had the Italian joint, Phillipe Gayte the French one. So when Gayte's son, Denis, turned up a few years after college with a bottle of his own Côtes du Rhône for distribution, Dow expected he would live up to the family name.

"I liked the wines, and they were priced where they needed to be—the magic number is \$10. You sell a lot of wine at that price. But when you go above that—well, you hit a big wall at \$20."

After four years at WSU, Denis graduated with a degree in communications. Before joining the workforce grind, he decided to ski bum the French Alps for a season. He quickly found a job at a chalet



hotel in Chamonix where he could live cheap and save money working nights to powder-hound during the day. All good things come to an end, however. Come summer, he returned to Seattle and found a respectable well-paying job at a public relations firm. Typical white-collar office stuff. Press releases. Advertising. Grant proposals. Fundraisers.

"One night I was making a call to hit up a client for \$15,000 to support a golf tournament and I realized my heart just wasn't in it. I was like, what am I doing? It was time for a lifestyle change."

#### THE FRENCH DREAM

His father called up a cousin in France and asked if Denis could come over for the summer and work the asparagus fields and cherry orchards. She welcomed her eager American nephew with open arms. But that year, the family lost its matriarch. When Denis's grandmother passed away, France's forced inheritance laws required her large estate to be divided among the six siblings. A carefree summer job turned into a complicated sorting out of family affairs, with Denis doing his best in limited French to represent his father's interests. They settled for a small apartment in the rural village of Saint Pons La Calm and several hectares of century-old vineyards on rocky, hard-to-farm soil. It was, essentially, the piece of the pie nobody else in the family wanted.

"I thought, well then, we'll take this. Then my father will always have a place here, he'll never lose his roots in France."

The estate's jewel—the premier hotel and restaurant in the main square of Avignon across from the Palace of the Popes—was taken over by the siblings willing to keep it running. Of course, there's a Denis Gayte wine on the list (marked up six times its retail).

"Eehh Denis. Alors, ça va?"

The sous chef in his billowy white hat and apron spots Denis as we walk by. How's it going? How's business? he asks.

Et le vin, ça marche?

Bien, bien, merci.

This is the man who originally apprenticed under Denis's grandfather, the *commis* who "remembers me from when I was in my superman pajamas," he explains. As we walk away the chef waves *au revoir*. The restaurant manager picks up the tab and then waves us off with his hand as if to say, "Did you really expect to have to pay here?"

We leave Avignon and head northwest into the Provence countryside toward Gard. The golden sun sets the pastels aglow—silvery green shrubs, pale sandstone homes with shutters painted periwinkle to match the lavender blooming by the front steps.

#### WHEN IN RHÔNE

The 125-mile Rhône Valley is one of the three great classic wine regions of France, though it has never quite achieved the prestige or price range of the other two—Bordeaux and Burgundy. The Rhône is second only behind Bordeaux in production of wines that are AOC, Appellation d'Origine Contrôlée, the government's certification of quality. The AOC system divides vineyards into a tangled web of appellations and classifications depending on regions and terroir. The wines in the northern and southern Rhône share the river and the name, but that is about all, as there are substantial differences in wines from the mountainous northern end and those from the southern end, which extends just below Avignon. Red Côtes du Rhône is usually dominated by Grenache, but Denis also has several of the other common varietals, including Syrah, Mourvedre, aromatic Cinsault, and Carignan. With so many varietals, most of the wines are blends, an art that depends on the producer's percentage of each grape, how wines are aged, and whether they are stored in vats, tanks, or oak barriques (he has all three).

In the little town of Domazan, he slows the car to a crawl as we pass an old unmarked stone building with enormous beat-up wooden doors. That's the "cave," he says, using the French word for wine cellar. We'll stop there later."



DENIS GAYTE BY ANDREA VOGT





We arrive at Gayte's village 20 minutes later. Its name, Saint Pons "la Calm," is an understatement. There's no café, no bar, no bakery or bank or post office or services to speak of. The big action is the daily early morning delivery of 40 baguettes and a bundle of newspapers to the church steps. Elderly men in tipped black berets and rubber farm galoshes gather to play cards in the parish house and smoke behind the church. Most of the young people have gone off to Paris or Lyon to study or work and only come home on weekends or for the annual cherry festival, where families come out to drink wine and eat grilled *saucisson* and the local kids all compete in the cherry pit spitting contest. The next day, the local newspaper reports on the story of the day: "Cherry Pit Spitting Record Broken in St. Pons!"

Right on the edge of town, with a picturesque view of the church and village, are Denis's family vines. We rattle down the dirt farm roads on the edge of town in his Renault farm truck, a robin's egg blue ex-French Telecom utility vehicle with a faded Seattle Mariners sticker peeling off the bumper.

"This is where I'd like to build a house some day," he says, as we bump up into the vineyard and park under the shade of an ancient cherry tree standing guard over several hectares of Syrah. Five years ago he ripped out the old Grenache goblins like those in the adjacent fields and planted syrah along a T-shaped trellis system like those he'd seen in Washington state. The locals laughed. "If you want to waste your money, go ahead," he recalls them saying. Now the valley is spotted with Syrah being grown that way.

Most of the wine produced here in Saint Pons la Calm—including Denis's—is AOC Côtes du Rhône. It is brought to the local cooperative, which then sells it in bulk to commercial blenders (négociants) who bottle, distribute, and export on an industrial scale. Each week the cooperative holds meetings to discuss prices, yields, and other business. Of the 76,000 liters Denis produces a year, more than half is sold to bulk wine buyers.

One step up on the certification scale is Côtes du Rhône Villages, which he uses for his Harmonie wines. At the very top are the "Cru" wines, which include some of the region's most famous names, such as Hermitage, Côte-Rôtie, and Châteauneuf-du-Pape, which produced the Wine Spectator's 2002 wine of the year. While his family vineyards produced grapes good enough for the local cooperative, they probably wouldn't suffice—in volume or quality—for his own retail wine. He would have to add acreage and different terroir. Getting his hands on Côtes du Rhône Villages vineyards wasn't easy. For an outsider, there seemed to be one bureaucratic or cultural obstacle after another. "I thought, I have a French passport, why not try to actually enter the French system?" Despite having just graduated from one of the best ag schools in the nation, he enrolled at a wine growing/oenology school in the Provence and set out to learn all he could about farming, winemaking, the Rhône Valley, and how things are done by those who know it best—the French. He apprenticed at a respected vintner in the famed "Châteauneuf-du-Pape" appellation region between Orange and Avignon, from where some of the finest Côtes du Rhône wines are produced. After two years, he earned a diploma recognizing him as a "young winegrower." That distinction made him eligible for government grants, low interest rates, and other incentives. It also gave him priority for buying land in the Rhône Valley. With the "young winemaker" diploma in hand, he went to the bank.

#### GO SOUTH, YOUNG MAN

Eighteen parcels of mostly Côtes du Rhône Villages land had come up for sale in the nearby village of Domazan, situated on a rocky plateau across the river from Châteauneuf-du-Pape vineyards. The property also included a place for making and storing wine, called a "cave," after the caves and catacombs where the wine was traditionally made and stored. Denis needed capital, fast.

In Denis's version, the banker took one look at the eager American with a solid business plan and a decent Audi, and pretty much rubber-stamped a significant loan. The financing, in fact, proved much simpler than actually buying the land. In accordance with French law, all potential buyers would have to submit candidacy in a lengthy bidding process with the family. Denis was one of 16 interested buyers. Though he held both a French passport and a newly minted "young French winemaker" degree, he was still referred to (and not always affectionately) as "l'Americain." But while the other buyers, mostly area farmers, wanted to buy a parcel here and there to augment existing operations, Denis wanted it all. He bid on all 12 parcels, plus the *cave*. The bid was accepted. In that moment, *quelle horreur*, he made

instant foes. One of the angriest was a neighboring farmer whose vineyards literally surround one of the best parcels. The Saint Sylvester vineyard was an island of opportunity for Gayte, but a thorn in the side of his new neighbor.

"He pretty much said what the f7\*\$&#\* are you doing here? You have no right to buy land here," recalls Gayte. "Even when you are from the next village over, you are considered an outsider. I had the advantage of at least having a clean slate. But it was hard in the beginning."

It wasn't just that he was young, American, or making rookie mistakes. He did unorthodox things on purpose. He still takes flack, for example, for letting grass (i.e., weeds) grow in his vineyards. Too many herbicides poison the soil, he says. Instead he just pulls out the worst ones and tills the rest under to give nutrients back to the soil. Across the road, the neighboring vines grow up through stones and cracked, barren earth.

"So what's the main difference between your vineyards and your French comrades'?" I ask him as we look out over the lush green hills. "I have grasses and flowers and it doesn't look like Baghdad," he jokes, nodding across the way. "Roots have to go down. I am a big believer in making the vines suffer a little, not spoiling them. You need them to work for it."

You could say his fellow French comrades felt the same way about him.

"Here, no one will ever tell you their secrets," he admits. "It is trial and error. You just have to do it."

His tenacity and can-do attitude has earned him some respect. Five years later he's one of the three (of 26) vintners in Domazan who sell wine to the U.S. market. And though some of their agricultural practices still differ, he's now friends with most of the guys who were hardest on him. They meet for coffee in the mornings and gather at the local bar after work for a few *pastis*, the anise-flavored liquor popular in the countryside. The neighboring farmer waves from his tractor as we pass in the fields.

#### TERROIR TRIO

The addition of Domazan vineyards gave him a total of three different terroirs (12 hectares in Domazan and six in Saint Pons la Calm), for a total of about 45 acres. The Domazan parcels, largely Côtes du Rhône Villages, have a longer grape maturity requirement and the soil and microclimates are very different from the family vineyards, "St. Pons," as locals call it. Here the red clay soil has given way to sandy quartz, limestone, and smooth alluvial stones the size of small frisbees. The rocks are hard on Gayte's tractors and tillers, but they do the wine several favors: they provide excellent drainage, they reflect the sun, aiding maturation, and they accumulate heat during the day, which is released at night. This leads to intense ripeness and higher alcohol levels. At his prized Saint Sylvester vineyard, which sits atop the Domazan plateau, there's a daily visit from the mistral that blows down the western flank of the Rhône river.

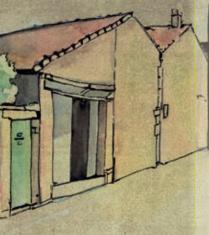
"Up here I know I have to be done with all my spraying in the morning," Gayte says of the mistral, which doesn't touch another of his vineyards just a few kilometers away. That reliable wind, which blows 158 days a year and is downright annoying in the colder months, is also a friend of the vineyards. It keeps the grapes dry (and therefore more disease-resistant) and moderates the temperatures summer and winter.

The appellation just above Domazan, Tavel, is reputedly the site of the best rosé wine in the world. No surprise, then, that Denis Gayte's rosé, which is 50 percent Grenache noir, 40 percent Cinsault, and 10 percent Syrah, is delicious—a full-bodied dry rosé, with a marvelous peachy hue. "Unfortunately, rosé has that zinfandel-blush reputation, the bum-on-the-street, bottle-in-the-bag stereotype, and it has not been taken seriously."

Gayte's 2007 Harmonie rosé is to be taken seriously. While conditions could have been better in the 2004, he notes, the Aurum 2005, dense and rich with black fruit and spicy notes, and Harmonie 2006, a full-bodied, fruit-driven wine packed with ripe cherries, cassis, and a hint of vanilla, are drinking well now. The *Wine Spectator* called the Rhône's superb 2005 "the valley's most consistent and cellar-worthy vintage since 1990." The Harmonie 2007, Denis says "is going to be really good."

His Harmonie 2004 scored an 80 in *Wine Spectator's Ultimate Buying Guide 2007 Compendium*. That's in line with many other reds in that price range, but fell short when compared to many of his French counterparts' Rhône scores.





"Having a grade like an 80 shows me the progress I need to make," Gayte said. "You can take it personally for about the first few minutes."

As blending is an important part of the Côtes du Rhône character, he now pays an oenologist from a private lab to analyze his wine and follow him through the season.

"It is important to have someone you can trust, who will say, 'oh there's a sharp tannin there,' and then you can play with the blend. In the end it is all about tasting, a bit of luck, and not making mistakes."

#### THE CAVE

"Well," he says sheepishly, opening up the creaky, weathered wooden doors. "This is it." We step into cool darkness. There's no ambient lighting. No jazz playing in the background. No signs, tasting room, or t-shirts for sale.

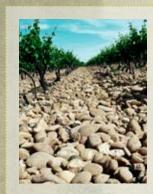
He grabs a lantern from an antique tool pegboard and closes the double doors, which still have their original square, hand-made bolts. Above us, massive hand-hewn beams crisscross the insulated ceiling. There are two underground cement holding tanks, a few oak casks, and several stainless steel Italian-made vats.

"Some might call it a winery. I call it a garage with some tanks in it. But this is where I bring my grapes and make my wine." Kirstin jokes that it's the laboratory where he plays mad scientist.

Using a large wine thief, he pulls two glasses of 2006 Carignan from the wooden barrels. He drinks a large swill, swishes vigorously, and then spits the wine expertly into a black plastic bucket nearby. Then we try the 2007 Côtes du Rhône from the tanks, followed by the 2007 Côtes du Rhône Villages from the vat. Each time he does the same routine. Drink, swish, spit. I sip and watch silently, wishing I were as savvy as he, but instead think up a myriad of reasons why I shouldn't spit it out. I can't hit the bucket. I'll probably dribble unladylike on my blouse. I have a high tolerance. And most convincing: "What a terrible waste of perfectly good Côtes du Rhône." I dutifully finish off each sample.

Let's see now. What do my notes say here? Oh yeah, the wine. Very fruit forward. A hint of cherry, of violet. Lots of body and character. Now this is an assignment I can get into. Using a specialized set of tongs, he lowers a bottle into the six-foot-deep tank of ruby-colored Syrah. "We'll drink this tonight." I nod as he opens the huge wooden doors and squint as we step out of the damp, dark cave into the bright Provence sun. I'm glad he's driving.

#### THE EURO BLUES



ANDREA VOGT

Gayte's timing could have been better. The 2002 Rhône grape harvest was one of the worst seasons in decades. Since then the euro has continued to rise, leaving the dollar scraping the bottom of the foreign exchange barrel. That has made European wines more expensive for Americans. In March, the president of France's Burgundy association announced producers would raise prices in the U.S. market by 10–20 percent.

In effect, Gayte pays expenses in euros, but has been "forced to cut margins" to compensate for the struggling dollar. In exchange, he's getting a foot in the door of the U.S. market.

It's not such a bad deal when you consider the huge potential of the American market. The U.S. wine market soared to an estimated \$30 billion in 2007 as consumption of wine continued to boom despite a bust economy. Wine has gotten a lot of recent positive press with studies showing that moderate consumption has positive health benefits. That hasn't sent Americans running to Trader Joe's for cases of two-buck chuck, however. They're gravitating toward premium wines, which translated into an eight-percent increase in actual

market value in 2007, according to a report issued by the wine industry consulting firm Gomberg, Fredrikson & Associates. That makes the United States the world's biggest wine market.

But while Americans are willing to pay more for good wine, the stiff competition from other French winemakers keeps prices of Côtes du Rhône low. You can't just slap on any price you want. In Washington state, there's a large cash requirement for start-up winemakers, explains distributor

Peter Dow. They have to buy fruits, build a winery, buy barrels. To cover that investment, Dow says, their bottles must cost \$20–\$40. Gayte says he couldn't get away with prices like that.

"In the United States, anybody can open a winery. You just find an investor with capital, but then you have to pay him back, so you start selling your Washington or Oregon wine for \$40 a bottle. I could never sell a \$20 Côtes du Rhône. I'd be tarred and feathered!"

He faces other problems that his U.S. counterparts do not—mind-boggling bureaucracy and labor union activism, like the dockworker's strike last spring that left cases of his wine (and many other French winemakers) stranded at the port of Marseille for months.

And then there's the crush of competition from the New World wines, those coming from Australia, the United States, South Africa, Argentina, and Chile. The United Kingdom used to be dominated by Old World (European) wines, but now it is getting tougher to sell a 25-euro bottle. What's hot are what Gayte calls "critter wines," those ubiquitous wines with names like Yellow Dog, Red Tail, or Jumping Frog featuring animals on the labels. The problem, Denis says, is that New World winemakers are often "obsessed with making their wines too perfect." He calls them Pamela Anderson wines. You know the type: big, sexy, flamboyant, but not really the kind of wine you'd like to settle down with for conversation at the dinner table. In their *French Wine for Dummies*, wine columnists and critics Mary Ewing-Mulligan and Ed McCarthy describe Rhône wines as offering "an animalistic sort of pleasure" that Bordeauxs cannot. Often under \$15 a bottle, they are food-friendly wine values, primitive yet comforting, meant to be drunk with a hearty, lengthy meal.

Denis Gayte's Harmonie lives up to this reputation.

"Everybody has a learning curve," says Dow, owner of Seattle's Cavatappi Distribution and also a winemaker himself (Sangiovese and Nebbiolo). "But his wines are comparable in quality, fairly priced, he's learning more and more each year and becoming a little more open-minded to possibilities of change and different things. He delivers high quality for the dollar and we've had a lot of success with his wines. We're happy to represent him."

Outside the Seattle area, Gayte's wines are also available in North and South Carolina, Missouri, Illinois, and Virginia.

#### ACKNOWLEDGEMENTS

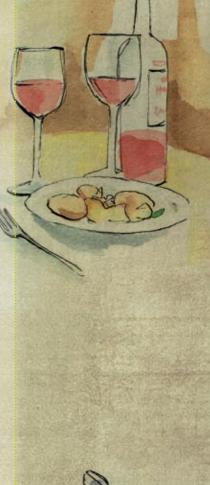
If you are Johnny Depp or Bono, or Brad Pitt and Angelina Jolie, it's easy to come over and buy a million-dollar vineyard in Provence. "But for me it was different," says Denis. "I had to give up everything. I had to put my soul into it."

A photo essay of the Denis Gayte winery would include shots of Denis on the tractor, Denis pruning (he hires a hand for nine euros an hour and five liters of wine a week), Denis tasting, mixing, bottling, marketing. It's pretty much a one-man show, though his family helps whenever they can.

The first years, he taught his dad to drive the tractor and together they yanked out the old vines and planted new varieties. When it's harvest or bottling time, "I call up all my expat friends and say, we're bottling on the first, and then we have a big work party picnic." His wife, Kirstin, a fellow Seattle-ite whom he met on his way to watch the Cougs play in the Rose Bowl back in '03, regularly accompanies him out into the fields to prune or pull leaves.

"We both put our i-Pods on and head out there together," she said. They have separate playlists, but are otherwise unified in their adventure. They've weathered the insular culture of rural France. They celebrate their local gastronomic artisans with fabulous fare at the dinner table. They just had their first baby, in a French clinic, just like Brangelina. While the locals may marvel with perplexity at these young foreigners heading out into the fields with their matching i-Pods, it symbolizes their affable mix of French *joie de vivre* and American ingenuity and optimism. They take advantage of long holidays, the slower pace, the excellent *vin de pays* of the surrounding villages, but they haven't shied away from the unique risks and challenges facing expatriate entrepreneurs.

"The wine is important, but I also think it is important to tell the story behind the wine," says Gayte between sips of a local Viognier in the quietly elegant Provence town of Uzès. "If it is just another Côtes du Rhône, who cares?" ⊗



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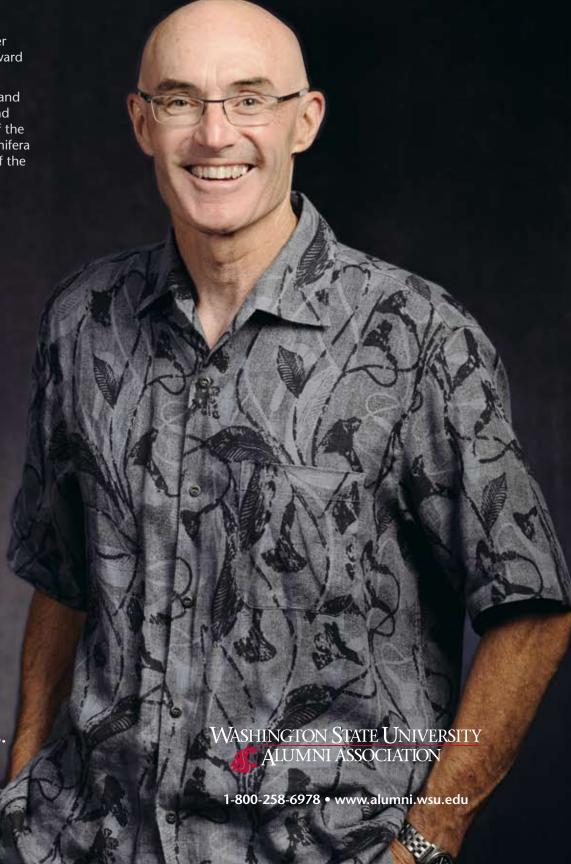
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#### CLASS NOTES

#### 1960s

Jon Wefald ('61 M.A. Hist. and Polit. Sci.), the twelfth president of Kansas State University in Manhattan, Kansas, will retire at the end of the 2008–2009 academic year. He will continue at the university as a part-time professor of leadership studies and history. He and his wife Ruth-Ann have two grown sons who also live in Manhattan.

**Edward J. Brunz** ('69 Ed.) taught and coached in the Burlington-Edison School District and retired in 1994. He was elected mayor of Burlington in January 2008.

#### 1970s

Joseph M. Quinn ('70 M.A. Speech) launched a Web site to tell the true story of his friend Amelia Lewis de Gremli, an Oxford-educated scholar and stroke victim who was abducted and held prisoner for six years while her assets were drained by her caretakers. Her plight changed Oregon law regarding elder abuse. Quinn, who lives in Oregon, is a practicing artist (oils, watercolor, silkscreen prints), writer, and baroque wood carver.

Lawrence Mahuna ('72 Psych.) will retire from the Hawaii County police department on the Big Island in December. He joined the department in 1973 and, prior to becoming chief in 2002, served as a detective and assistant chief in charge of the administrative bureau.

**Terrie Schmidt-Crosby** ('73 Lang. and Lit. '76 M.A.) and her husband Edward L. Crosby III recently became owners of their hometown newspaper, *The Odessa Record.* Schmidt-Crosby was formerly a reporter and associate at the newspaper. The couple, along with their daughter, Lauren, have lived in Odessa since 2002.

Rick Wayenberg ('73 Comm. M.A. Phys. Ed.) a longtime wrestling coach, has been inducted into the National Wrestling Hall of Fame. Wayenberg coached at various schools in Washington and Idaho. He also wrestled and coached for WSU. Upon retiring from teaching in 2006, he moved to Pullman.

**Steve Berentson** ('75 Comm.) wrote a 72-page memory book to commemorate Shell Puget Sound Refinery's 50 year anniversary. The book contains information ranging from history to recognition of current employees. Berentson, an Anacortes native, also wrote a 50-year commemorative book in 2005 for Tesoro Refinery.

**Pam Catlin** ('76) is the manager of horticultural therapy at Adult Services in Prescott, Arizona. She and her husband Tom live in Prescott, where Tom is the pastor of the Unity Church.

#### 1980s

**Kevin Shearer** ('80 Comp. Sci.) was named vice president of information technology and chief operating officer at the Weyerhaeuser Company.

**David Elms** ('81 Arch.) has been promoted to associate at the NAC Architecture firm, where he has worked for the past 16 years. His most recent projects include the acute care addition and remodel for Whitman Hospital and Medical



MATT HAGEN

What I've Learned Since College

# An interview with Sonny Spearman

Sonny Spearman '86 has traded technology for toys. As co-founder and chief marketing and operating officer of Matter Group, she leads a company focused on creating products to foster awareness of the environment.

Spearman started her career in technology and media, riding the wave of the Seattle-based tech boom in the late 1980s and early 1990s. She'd still be in the tech sector if she and company cofounder Amy Tucker hadn't decided develop a business focused on sustainability.

Their first product, which was released in 2006, is Xeko, an award-winning eco-adventure game for children eight and older. With a force of "secret agents" intent on protecting the world's vulnerable ecosystems and endangered species, Xeko's players are offered "missions" that focus on biodiversity hotspots like Costa Rica and Madagascar. Gamers play by collecting animal cards to earn points as well as learn details about creatures like the European otter and the manatee.

Spearman recently sat down with Hannelore Sudermann at the Xeko headquarters in the upper rooms of an old sewing factory in Fremont.

Look around: I didn't know what I wanted to do. Even when I went to school. First I was a phys-ed major. Then I was in engineering. That was for a semester. Then I switched to communication. It took me a while to find my calling. I knew I didn't want to work for an (advertising) agency. So I sold IBM typewriters and the first PS2, a typewriter with memory. I wasn't happy. I quit my job and worked construction for a summer. I did all kinds of informational interviews and found a job with a small publisher.

Get recruited: I got recruited out of there by a software company by the name of Aldus. Aldus is now Adobe. What a great, great company—really on the cutting edge. They invented desktop publishing. The culture created there was really fantastic—intelligent people from their 20s to their 50s and 60s, all going on 18.

Know yourself: I'm a startup person, I like to build versus maintain. While I was there (at Aldus) I saw all this opportunity the company was missing. So I put together a small business

## » tracking

plan. The way that company worked was if you had a great idea and you presented it to the board, and if they liked it they would fund it. I started a little business within the business there.

Try new things: A friend of mine came up with an idea for a company—the first electronic commerce company in the world. We created the first software that allowed you to build a catalog and put it on CD-Rom. At the same time the internet was getting hot, so we started building the software so you could have the catalog online. It was called iCat, which stands for interactive catalog. We sold that company to Intel. Realizing it and building it—there's a lot of adrenalin in doing that, which I really like a lot.

Work hard: (After the sale) Intel asked me to stay as part of the transition. I had been sleeping under my desk for five years working night and day. I lived out of my office. I had a pillow in there, a blanket, and my skis so I could take off and go skiing. I stayed for another year. Then I bought a one-way ticket to go to Hawaii. But our original investor at iCat called and said, "I want you to come and work for me and build my financial services company on-line." I went out to Detroit to talk about it and left with a job. I commuted from Seattle to Detroit for almost three years. I never got to Hawaii. But I got to work with another group of brilliant people.

Travel: Then I took two years off and traveled around the world. That was really a great period. I took off by myself and had friends who met up with me along the way. I saw Kenya, Tanzania, Egypt, Australia, New Zealand, Micronesia. I really loved Cambodia.

Work with your friends: Amy (her business partner) and I met 12 years ago. We really hit it off. She's an idea person, incredibly optimistic and fun loving. A lot of people say she's air and I'm earth ... or fire, whatever. We blend well together. Amy has about a million ideas a week. My skill set is in picking the ones that can resonate. We're both strong in execution.

Brainstorm: We spent a lot of time in coffee shops. We'd also meet in her house and we had sticky notes up all over. Part of what we have going for us is that we don't sit around very long. We move quickly. We had a prototype (for Xeko) put together in probably 10 or 15 days. Then we started to figure out how to make it work.

We started reaching out to other people in the gaming industry.

Washington is a great place for innovation: I meet new people every day with really great ideas. I think it is sort of a brain ground. People come here from other states for it. This is actually a great place for gaming as well. You have Bella Sera, Cranium, and the granddaddy of the gaming world, Wizards of the Coast.

Seize the moment: Once we started to raise money, I left my job with a high-tech services firm and focused on developing out the business plan and raising money almost full time. As it worked out, I had (another) job offer and had to get back to them in five days. But within that five-day period we raised a million dollars for the game. So I didn't take that job.

Find meaning: I wanted to do something that had more meaning in my life. Being able to build a healthy property for children and to do something that helps save the planet—that feels really good. I don't sleep at my desk anymore. Still, if there's no risk there's no fun.

#### Carol Edgemon Hipperson

# Writing history

by Cindy Hval:: When Carol Edgemon Hipperson was growing up in Coulee City, the eastern Washington community was too small for a library. However, every other Thursday during the summer, the Bookmobile from the North Central Regional Library pulled into town. "I was allowed to check out as many books as I could carry," says Hipperson '75. "I'd go straight home and curl up with my books until dinner time."

The idea that one day books with her name on the spine would appear on library shelves and in book stores didn't occur to her. "I never intended to become a writer," she says. "I just wanted to teach English. I couldn't imagine doing anything else."

Today Hipperson is a full-time writer, and with her husband Brian'71 splits her time between Spokane and a summer residence on Newman Lake. In October her second book, *Radioman:* An Eyewitness Account of Pearl Harbor and World War II in the Pacific was published by Thomas Dunne Books/St. Martin's Press.

Center in Colfax, and Pathology Associates Medical Laboratories tenant improvements in Spokane.

Lori Drummond ('82 Bus. Admin.) is president and CEO of Olympia Federal Savings and Loan. A longtime resident of the south Puget Sound area, Drummond started at the bank as a receptionist in 1984 and quickly moved into management, most recently serving as senior vice president.

Martin MacKenzie ('82 Ph.D. Plant Path.) is one of the U.S. Forest Service's go-to guys in California when it comes to fungi. He is stationed at the Stanislaus National Forest's headquarters in Sonora.

**Rick Dunn** ('86 Electrical Engr.) has been promoted to director of engineering at Benton Public Utilities District in Kennewick. Dunn has over 20 years of experience as an electrical power engineer.

**Steve Hunter** ('86 Electrical Engr.) has been promoted to director of operations at Benton Public Utilities District in Kennewick. Hunter started as an engineering intern while earning his electrical engineering degree from WSU.

Tony Olney ('86 Comm.) has been inducted into the 2008 Washington State Lacrosse Hall of Fame. Olney is credited for founding the lacrosse club at WSU in 1983 as well as for founding two Seattle high school programs. As a lacrosse coach he has led three high school teams. Olney is currently a high school history teacher at Bothell's Secondary Academy for Success.

Sayfe Kiaei ('87 Ph.D. Electrical Engr.) was recently named associate dean of research for the Ira A. Fulton School of Engineering at Arizona State University. Kiaei joined ASU in January 2002 as a professor in the Department of Electrical Engineering. In August 2002, he founded the Connection One Foundation Industry/University Cooperative Research Center.

**Sonda M. Sibole** ('88 Gen. Ag. and Animal Sci.) is the first woman to be president of the California Grain and Feed Association, a nonprofit agricultural trade association. Since graduating from WSU, Sibole has had a steady career in specialty animal feeds and nutrition including her current position with Kemin Agri Foods North America. She lives in California.

#### 1990s

Celeste Mastin ('90 Chem. Engr.) is president and chief operating officer for MMI Products Inc., a manufacturer and distributor of products used in residential and non-residential buildings. Mastin holds an M.B.A. magna cum laude from the University of Houston. She lives in Cleveland, Ohio, with her husband and two children.

Tracy Krause ('93 Ed.) was named the 2008 National High School PE Teacher of the Year by the National Association for Sport and Physical Education. He teaches at Tahoma High School.

Angie (Anderson) Weedon ('94 Child, Consumer & Family Studies) and Erik Weedon welcomed their second child, Annika Louise, on November 25, 2007.

Andrew Michael Roberts ('95 Ed.) is one of the two 2008 recipients of the Iowa Poetry Prize. Roberts won the honor for his debut collection, "Something has to happen next." He currently is the Youth Art Works manager at the Pratt Fine Arts center in Seattle.

**Pat Waer** ('95 History), a former Cougar baseball player, is assistant baseball coach at Fresno State University. Fresno State is the 2008 Division 1 NCAA Baseball National Champions.

**Jodi Watson** ('95) and her husband Tim announce the arrival of their son, Nathan Kobe Watson, born on November 5, 2007.

Kailan Elder ('97 Ag.) and his wife Kati welcomed son Robert on June 9, 2008. The family lives in Yakima.

**Dave Erickson** ('97 Lib. Arts) is a KXLY4 News anchor and Ironman triathlete. This year he held his "Dave's 30 in 30 challenge" to raise \$30,000 for cancer patient care. He asked the public to join him by committing to participate in triathlons during September and/or to collect donations.

**Kelly (Keeler) Reep** ('97) and her husband Kyle welcomed their second future cougar, Max Theodore Reep, in May 2008. He joins his two-yearold sister Ryann Lea Reep.

**Brian Grabinsky** ('98 Crim. J.) and his wife Carmen welcomed the birth of their first child, Kayla, on April 5, 2008.

**Gene Brown** ('99 Soc. Sci.) authored a book titled Reparations for Slavery and Disenfranchisement to Africal Americans: Four Hundred Years. Brown is a writer and advocate for civil rights who lives in Georgia.

**Jessica Caldwell** ('99 Comm.) and Mark Nazario of Pompton Lakes, New Jersey, married on October 19, 2008, in Lana'i, Hawaii.

#### 20009

**Becky (Staley) Reid** ('00 Psych.) and husband Jeff, of Olympia, welcomed the birth of their first child, William Garrison, on August 15, 2008.

**Lori (Lyman) Losee** ('01 Comm.) and her husband Steve ('00 Bus.) welcomed their second son, Jackson James, on June 28, 2007. He joins big brother Grant who was born January 11, 2005.

**Erika Schneider** ('01 Bus. Admin.) and her husband Dylan are proud to announce the birth of their daughter, Kassidy Joy, on May 28, 2008.

Kelli (Myers) Collins ('02 Ag. Econ.) and Jason Collins ('01 Civ. Eng.) welcomed their first son, Joseph Hamilton Collins, on July 8, 2008.

Holly (Wysaske) Jones ('02 Engl.) welcomed her son Victor Jones, a future Cougar. His grandparents are Cougar Alumni Ron ('74 Bus.) and Karen Wysaske ('74 Ed.), Aunt Kelly Ritter ('00 Music) and Uncle Kevin Wysaske ('08 DTC).

Ryan Palmquist ('02 Arch.) has been promoted to associate at the NAC Architecture firm, where he has worked for the past five years. He currently is working on the design for Deer Park High School as well as the new addition to NAC Architecture's office in Spokane.

**Brian Ruedi** ('02 Bus. Admin.) married Brooke Davis on August 18, 2008, in Wenatchee. The couple lives in Mill Creek.

Hilary Beam ('03 Engl. Lit.) returned to the United States in May after two years of service for the Peace Corps in Ukraine.

For several years after graduating from WSU, Hipperson taught high school English. After the birth of her daughter, Alexandra '02, she decided to pursue a master's degree at Eastern Washington University. She says she went out of her way to avoid writing classes but couldn't get around a non-fiction writing requirement, taught by author and WSU alum Pat McManus '56.

Hipperson agonized over her first assignment, a piece about a husband and wife sharing a pastorship at a Presbyterian church. When she turned it in, to her surprise McManus told her a magazine would surely buy it. He was right. *New Woman Magazine* picked it up, starting her on a freelance career. "I place most of the blame for anything I write on Pat McManus," she says.

After the arrival of her second daughter, Meredith, in 1985, Hipperson put writing aside. Then a call from an old friend from Coulee City brought her a tempting project. The friend had an unusual request. "She said, 'I just talked to Her interviews resulted in *The Belly Gunner*, an annotated biography published by Millbrook Press in 2001. Shortly after the book's release, Hipperson started getting phone calls, letters, and e-mails from World War II veterans. Many of them were asking when she would write about the sailors' experience in the Pacific. The idea intrigued her. She found a great subject in Ray Daves, a Navy radioman stationed at Pearl Harbor in December 1941.

Daves agreed to meet with her, and on his 82nd birthday began to share his story. With 25 interviews, some tearful, over the course of a year and a half, Hipperson was able to produce a gripping first-person narrative weaving Daves' personal story into the historical framework of World War II. "The purpose of *Radioman* is to tell the story of millions through the eyes of one," she says.

Hipperson's next book in what is becoming a series about war veterans will focus on a



Author Carol Edgemon Hipperson recently published Radioman, a book about Pearl Harbor. Photo by Brian Hipperson.

my Dad. I think he's dying, and he's finally ready to talk about his war experiences," says Hipperson.

Having always loved history and wanting to help her friend, Hipperson agreed to meet with Dale Aldrich, who'd been a belly gunner during World War II. "His memories were so sharp and detailed," Hipperson says. Aldrich had flown missions over occupied Europe and Germany, and had been shot down, captured, and interned in a Nazi prisoner of war camp.

soldier during the Korean War. She's passionate about the need to tell these stories. "My theory is typically when guys come home from war, they don't talk about it. They don't pass on the lessons they've learned."

Hipperson sees an urgent reason for these lessons to be shared. "If we did a better job passing on the stories of each generation of combat veterans, perhaps we as a society would be a little less eager to rattle the sabers and go to war."

## » tracking

Joey Nelson

## What he saw

by Eric Apalategui:: In the roughhewn world at Columbia Vista Corp.'s lumber mill near Vancouver, the sight of Joseph "Joey" Nelson '00 pushing spectacles into place might invoke visions of Clark Kent there among the conveyor belts and screeching saws.

But if the workers around him knew that it's Nelson's laser-scanning equipment—technology he started developing as a high school kid—enabling their mill to convert raw logs into perfect lumber within seconds, they'd recognize a technological Superman in their midst.

Nelson founded his company, JoeScan, from his dorm room in Washington State University's Streit Hall in 1999, the year before earning his bachelor's degree in electrical engineering.

A few years later, he and Ryan Phelps '00, '02 M.S., needed work after cutbacks at TriGeo Network Security. In less than a year, the two brought JoeScan's first model to market. Since then, Nelson has hired four more people, including design engineer Austin Skyles '02. And now JoeScan is a familiar name in the sawmill industry. "Our focus has been on making the scanners simpler to use and less expensive," says Nelson, whose typical unit costs \$8,000, well under the price of most competitors' scanners.

The technology employs line lasers and ultra-fast digital cameras that allow computers to almost instantaneously reset automatic saws

to get the most valuable lumber in the least time from every section of raw wood.

Joey Nelson remembers tinkering with computers at age five. Well before the Internet revolution he was writing programs and setting up bulletin boards with as many as 100 users.

"He's always been a scientific and investigative kind of guy. He had to prove things to himself," says his father, Rod Nelson '70, whose Nelson Bros. Engineering primarily helps improve mill production through technology.

In the early 1990s, a railroad client wanted Rod Nelson to write software to guide rail-grinding equipment. He handed the job off to Joey, who was still in high school but was also enrolled in college programming classes. The result was so good it was used in the Chunnel undersea railroad connecting England and France. "It was unbelievable now that I look back at it," Rod Nelson says. "At the time it seemed normal."

During Nelson's visit to Columbia Vista, eight JoeScan JS-20 scanners blasted red beams across passing slabs of wood to collect data to configure the blades. In less time than it would take a human to grab a measuring tape, smooth lumber was streaking down a conveyor belt.

To think, Rod Nelson tried to steer his son toward another career. "His advice was, don't get into the sawmill industry because it's somewhat of a dead end," Joey recalls. But the son ignored his father's advice. "My rationalization for getting into it is that the scanning technology actually could be used outside the sawmill industry," even if his success in the sawmill industry so far hasn't left him time to branch out. "

Patrick Bradley ('03 Comm) and Kari Kiehn ('03 Engl., Ed.) were married on July 7, 2007, in Puyallup. Patrick works for an advertising firm in Seattle and Kari is a ninth grade English teacher.

**Vitaliy Shved** ('03 Acct.) was promoted to senior accountant at Tully's Coffee Corporation in Seattle.

**Matthew Weaver** ('03 Comm.) has joined the Capital Press as a field reporter after nearly five years in Moses Lake. He will be based out of a home office in Spokane.

**Rebecca Fritch** ('04 Polit. Sci.) married **Andrew Flanagan** ('04 Mech Eng) on July 26, 2008. They recently purchased their first house in Portland.

**Nicole Schofield** ('04 Comm.) is an integrated producer for Crispin Porter + Bogusky and is currently working internationally producing commercials in Germany, Spain, and the United Kingdom.

Anthony "Tony" Kaauamo ('05 History) and Samantha "Sam" Benavente Kaauamo ('05 Ed.) married July 5, 2008, in Keanae, Maui. The couple lives in Oklahoma.

**Kathleen Wandler** ('06) participated in the American Lung Association-Washington "The Big Ride Across America." She travelled 3,600 miles in 48 days, going from Washington to Washington D.C. She participated with 37 riders from across the United States and Canada and raised over \$260K for the ALA of Washington.

**Diana Pickler** ('07 Gen. St.) made her Olympic debut this summer in Beijing, where she competed in the women's heptathlon.

**Judy Worker** ('07) and Paul Monhollen married on February 24, 2007.

#### IN MEMORIAM

#### 1920s

**Robert Ellison** ('28 Elec. Engr.), 94, January 2000, Grapeview.

#### 1930

**Carol Evelyn McClure-Crocker** x'31, 95, July 30, 2008, Spokane.

**Edyth G. Boucher** ('34 Bus. Admin.), 98, April 17, 2008, Bellevue.

Frances Rae Petsch ('34 Home Ec.), 95, July 2008, Spokane.

**Frances (Benner) Yeend** x'35, 95, April 27, 2008, Morgantown, West Virginia.

**Paul Dillon** ('37 Elec. Engr.), 93, June 23, 2008, Bellingham.

**Frances Cadzow Bracken** x'38, 90, July 31, 2008, Spokane.

**Dewitt Maguire** ('38 Ed.), 93, April 17, 2008, Blacksburg, Virginia.

**Arthur P. Schneider** ('38 DVM), 96, December 5, 2007, Boise, Idaho.

Howard Bollerud ('39 Econ.), 93, June 30, 2008, Bellevue.

**Roy I. Hostetler** ('39 DVM), 91, September 1, 2008, Vancouver. Also retired veterinarian for WSU Extension



Inventor Joey Nelson founded JoeScan in 1999. Photo by Bill Wagner.

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## Zack Goldfinch

- 2004 Graduate (B.S. Landscape Architecture)
- Project Manager, Olson Engineering, Inc., Vancouver, WA
- Supports his alma mater by giving to WSU!

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#### 1940s

John Scheel ('40 Pharm.), 92, July 21, 2008, Vancouver.

**Beaulah Mildred Stockman** ('40), 89, August 9, 2008, Spokane Valley.

**Paul Dalman** ('41 Chem. Engr.), 72, September 24, 2008.

Max Edward Agather ('42 Speech & Hearing Sci.), 87, August 19, 2008, Pukalani, Maui.

**Robert E. Delaney** x'42, 90, July 16, 2008, Spokane.

**Daniel E. Morse** x'43, 88, August 14, 2008, Coeur d'Alene, Idaho.

Mary Myrle Gisselberg x '45, 85, August 22, 2008, Ellensburg.

**Donald O. Dorman Jr.** ('48 Ag.), 85, February 20, 2008, Lacrosse.

**Lorraine S. Webber** ('48 Hist.), 81, May 9, 2008, Vancouver.

**Gloria Shepard McGregor Hyde** ('49 Gen. Studies), 81, April 28, 2009, Lincoln, California.

**Earl Minott Pruyn** ('49 DVM), 83, June 11, 2008, Missoula, Montana.

#### 1950s

**Richard L. Johnson** ('50 Civil Engr.), 82, August 16, 2008, Portland, Oregon.

**John Klobucher** x '50, 76, July 12, 2008, Spokane.

**Rodney Coolidge Roberts** ('50 Music, '52 M.S. Music Ed.), 81, July 14, 2008, Spokane.

Clarence V. Gadley ('51 Ag.), 83, August 25, 2008, Olympia.

**Laverne N. Pavlik** x'51, 78, July 24, 2008, Ritzville.

William Richmond ('51 Mech. Engr.), 87, April 24, 2008, Peoria, Arizona.

**Milton Davis Wilson** ('51 Polit. Sci.), 81, August 28, 2008, Issaquah.

**Clinton N. Charlson** ('52 Phys. Sci., '61 M.A. Teach.), 79, April 25, 2008, Edmonds.

**Arden Daubenspeck** ('52 Ed.), 74, August 21, 2008, Fairbanks, Alaska.

**Cole Edwin McFarland** ('52 Mining Engr.), 78, July 22, 2008, Rancho Mirage, California.

**Vernon Miller** ('52 DVM), 84, February 6, 2008, Newport.

**Paul Clayton Hooper** ('53 Civ. Engr.), 78, June 30, 2008, Bellevue.

John Carlson ('54 Comm.), 82, July 21, 2008, Snohomish.

**Robert D. Fondahn** ('54 Comm.), 77, September 13, 2008, Spokane.

**Priscilla June Thornberg** ('54 Soc.), 76, June 27, 2008, Seattle.

**Kenneth Fredrick White** ('55 M.A. Ed.), 87, August 13, 2008, Twin Lakes, Idaho.

**Bettie Alexander Steiger** ('56 Political Sci.), 74, August 3, 2008, Menlo Park, California.

**Nicholas Friedberg** ('57 Animal Sci.), 76, July 5, 2008, Bozeman, Montana.



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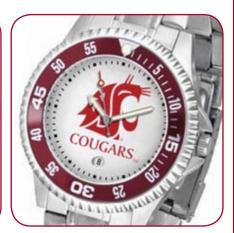




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**Dee Norton** ('58 Comm.), 76, September 7, 2008, Lake City.

#### 1960s

**Donald LeRoy "Don" Calhoun** ('60 Soc. Studies), 74, May 23, 2008, Seattle.

**C. Edward Miller** ('63 Gen. Studies), 68, February 2008, Rocklin, California.

Barbara Jo "George" Gucinksi ('64 Econ.), 65, May 29, 2008, Spokane.

**Richard Dean Rowbotham** ('64 M.A. Teach.), 84, February 23, 2008, Spokane Valley.

**Robert D. Abendroth** ('65 Bus. Admin.), 66, August 21, 2008, Seattle.

**Harold C. Van Tine** ('65 Phys. Ed.), 77, July 13, 2008, Spokane.

William J. Hardman ('67 Hort.), 64, February 9, 2008, Mehama, Oregon.

**Darryl Lee Dutke** ('68 Industrial Arts), 64, July 12, 2008, Spokane.

**Leda Marie Yolo** ('68 Elem. Ed.), 62, June 2008, Seattle.

#### 1970s

**Susan L. Schwetz** ('70 Speech Comm.), 77, August 4, 2008, Spokane.

**Allan Lock** ('71 DVM), July 22, 2008, Bethesda, Maryland.

Nadine Rae Chapman ('72 Nursing), 58, July 27, 2008, Spokane.

**Linda Sue Bredeson** ('74 Math), 56, July 14, 2008, Moscow, Idaho.

**Judith Lynn Cannon Price** ('79 Vet. Sci., '82 DVM),60, July 16, 2008, Spokane.

Joseph Roy Tom ('79 Ed.), 51, July 11, 2008, Kaneohe. Hawaii.

**Deborah Wright** ('79 Fine Arts), 52, August 22, 2008, Olympia.

#### 1980s

**Darrell David Souza** ('80 Crim. J.), 50, April 17, 2008, Beaverton.

David R. Biggs Sr. ('81 Bus.), 69, September 15, 2008, Spokane.

**Ruth Klavano** ('89 Ed.), 59, June 19, 2008, Vancouver.

#### 1990s

**Stanley N. Clarke** ('93 Ed., M.A. Teach.), 57, November 29, 2007, Waitsburg.

**Theodore Brooks Olson** ('93 Gen. Studies), 37, August 12, 2008, Snoqualmie.

Nancy Kay Sanders ('94 Comm.), 57, August 7, 2008, Nine Mile Falls. She also worked at WSU Extension in Spokane.

#### 2000

**Leah Rae Krahenbuhl** ('06 Fine Arts), 25, September 4, 2008, Pullman.

**David Neuhauser** ('07 Hum. Dev.), 44, September 3, 2008, Vancouver.

#### Faculty & Staff

**William Coey**, 69, retired engineering school staff, September 12, 2008, Snoqualmie.

**Glenn Crim**, 63, employee of WSU animal sciences, September 10, 2008, Colton.

**Harry E. Groseclose**, 85, retired CUB staff, July 1, 2008, Lewiston, Idaho.

**Esther Hibbs**, retired housing and food services staff, July 20, 2008, Hermiston, Oregon.

**Gerald Dale Kinkade**, 80, retired, May 2, 2008, Moscow, Idaho.

**Joyce Lynd**, 72, retired veterinary school staff, September 17, 2008, Palouse.

**Constance "Joy" Schroeder**, 87, retired illustrator from physics department, July 19, 2008, Pullman.

**Sharon Lee Wicklander**, 61, Intercollegiate College of Nursing in Spokane, July 19, 2008, Nine Mile Falls.

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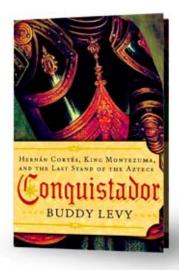
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Conquistador: Hernán Cortés, King Montezuma, and the Last Stand of the Aztecs by Buddy Levy BANTAM BOOKS,

NEW YORK, 2008 :: Review by Keith Petersen '73 :: I suspect I am a good example of the intended audience for this book, which is a popular account of the strange, tragic relationship between Cortés and Montezuma, and the destruction of a way of life. I can't remember reading anything about Cortés or Montezuma since high school, other than an occasional National Geographic article. So, I am not the best person to comment on the scholarship. But I can comment on the readability as a popular history, and Levy captured me in the initial pages. He has a way of spinning a good story, of keeping the pages turning, and as the pages turn, even the uninitiated learns a great deal about the early 16th century subjugation of the Aztecs and one of the most compelling, yet ultimately depressing, clashes between cultures in the Americas.

Levy has great admiration for Cortés. And, particularly from a military perspective, there is considerable to admire. Concerned about the possible mutiny of his troops, Cortés ordered

his ships sunk to prevent retreat from Mexico once his invasion began, an "act of incredible, calculated daring." In an audacious act of inhospitable behavior, Cortés took Montezuma prisoner in his own palace as the Aztec leader attempted to appease the Spaniard with generosity, "perhaps the most ... astonishing takeover in the annals of military history." Cortés's construction of 13 brigantines to assist in the siege of the great Aztec city of Tenochtitlan, including the transport of ship planks across mountains, constructing of a dam and canal to determine their seaworthiness, and dismantling, transporting 50 miles, and reassembling the boats, was truly an incredible undertaking. "It is still among the largest land-locked naval operations ever conducted in the history of warfare," and the overland portage "among the most outstanding achievements in military history: ingenious, audacious, unprecedented, and unequaled."

I'll grant the superlatives. Cortés was bold, powered by a greed that Montezuma unwittingly fueled. Time and again the Aztec leader gave Cortés golden gifts of exquisite craftsmanship hoping to buy him off or impress upon him the notion that Montezuma possessed unchallengeable wealth and power. Instead, the dazzling presents "piqued the greed and desire of the Spaniards."

And while Cortés's audacity can be unequivocally granted, it is a little easier to be daring when you hold immense technological advantages.

While ostensibly a "dual" biography of Cortés and Montezuma, Levy of course has the problem

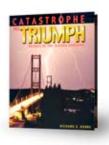
of dealing with a plethora of written records about one of his protagonists and a scarcity on the other. There is much we will never know about Montezuma. But even so, Levy seems to have little sympathy for him. Cortés takes Montezuma prisoner and the two seem to reach a one-sided accord whereby Montezuma acquiesces and facilitates Cortés's attempted "peaceful" takeover of Tenochtitlan. "The two men coexisted for nearly half a year," writes Levy, "in a bizarre captor-captive, ruler-puppet scenario of colliding religious beliefs."

Levy asserts that Cortés hoped to conquer Tenochtitlan without destroying the city or its people, and that Cuauhtemoc's "fight to the death" strategy led to the empire's demise. Perhaps. But it is hard to sympathize with a conqueror who reviled the Aztec religion, who allowed his Indian allies to burn and loot houses and slaughter innocents, who had chieftains burned at the stake as object lessons, who enslaved and branded ("the skin of their cheeks blistering and bubbling as they were held down") those who did not ally with him, and who had Cuauhtemoc lashed to a pole and his oil-soaked feet burned in an effort to convince the Aztec ruler to confide the location of treasure.

Readers might not be quite as enamored with Cortés as is the author, but Levy writes in an easy, descriptive way. The tale is tragic. The result is inevitable. But still you keep turning the pages, for Levy has taken on one of the more compelling episodes in history. He handles it deftly, in a way anyone can appreciate—and admire.

Keith Petersen is the Idaho State Historian. Buddy Levy is a clinical assistant professor in English at WSU.

## 



#### Catastrophe to Triumph: Bridges of the Tacoma Narrows by Richard S. Hobbs

WASHINGTON STATE UNIVERSITY PRESS. PULLMAN, WASHINGTON. 2006 :: *Review* by Larry Clark '94:: To the relief of many commuters, Tacoma's new suspension bridge over the Narrows opened in summer 2007, joining the long-serving 1950 span that connects Tacoma to the Kitsap Peninsula. Both Tacoma Narrows bridges, however, are heirs to the dark and twisting legacy of "Galloping Gertie," the original Narrows bridge that tore itself apart in the wind. Catastrophe to *Triumph* tells Gertie's story, and the stories of the ensuing successful bridges, using a wealth of archival photographs, exhaustive engineering details, and engaging character studies.

In one of the most compelling sections of his

book, historian Richard S. Hobbs captures the drama of the ill-fated 1940 bridge, a Modernist monument plagued with problems and brought down by a lack of understanding of aerodynamics. When the decision was made to span the Tacoma Narrows, Washington State Department of Transportation engineer Clark Eldridge ('20, engineering) had an original (and more stable) bridge plan that was rejected in favor of famed architect Leon Moisseiff's slender Art Deco-inspired design. Despite warnings from Eldridge and others, the bridge opened on July 1, 1940. It "bounced" in winds as low as four miles per hour, earning the bridge the nickname "Galloping Gertie."

Catastrophe to Triumph carefully details the rise of these public works wonders and their engineering. Biographies of intriguing characters complement the bridges' story and give the book

broader appeal. For example, Lacey V. Murrow ('23, civil engineering), younger brother of Edward R. Murrow, was director of the State Department of Transportation and an early advocate for the Narrows bridge. The stories of engineers, newspaper reporters, and bridge workers make the book about more than steel and rivets.



#### When the Circus Leaves Town by Brooke Ludwick '97 BROOKE

LUDWICK, 2008 :: Review by David Hoyt '84:: This album fits snugly into the genre of the contemporary country sound, blending familiar lyrical motifs with the Nashville/soft rock mix that currently prevails in this market.

There are some very nice grooves to be had here, the kind one can perhaps appreciate most when out on the open road, most notably When the Circus Leaves Town and Won't Back Down. Brooke's crisp, clear voice leads the way with the backing of solid musical performances by the instrumentalists.

Many of the lyrics concern themselves with cheating hearts and love lost, tough roads traveled ... and opportunity found: "life's like a merry-go-round, sometimes you're up, sometimes you're down..." These are all very approachable tunes but I found a few of the selections a bit prepackaged for my taste. Tracks such as If It Rains and New Word for Over would seem destined for radio play rotation. Quite happily, the album features a good mix of themes, tempos, and instrumentation to keep the listener thoroughly involved.

A Passion for the **Edge: Living Your** Dreams Now by Tim Tyler '74 EDENSCAPE PUBLISHING, ANCHORAGE. ALASKA, 2008 :: A memoir with guidelines for realizing your goals. The framework is the story of Tyler's motorcycle adventure through Alaska and Canada. 8

A Reflective Planning Journal for School Leaders by Olaf Jorgenson '88, '93 M.A.

CORWIN PRESS. THOUSAND OAKS, CALIFORNIA, 2008 :: A 12-month calendar with a theme for each month relating to the tasks and events common to the principal's year. 8

"Then Zorn Said to Largent..." by **Paul Moyer and Dave** Wyman with Chris Cluff '93 TRIUMPH BOOKS. CHICAGO. ILLINOIS. 2008 :: A collection of stories and anecdotes from the Seattle football franchise told by two former Seahawk players with the help of sportswriter Cluff. ⊗



by Hannelore Sudermann First came the doorknob.

The workers in the office of Washington State University's school of communication didn't know what to expect when the first of two shipments arrived from New York last spring. But they opened the box, took out the old doorknob and passed it around, wondering what sort of door it belonged to, wondering whose hands had touched it.

A few weeks earlier Darby Baldwin, an assistant in the dean's office, had called two CBS retirees on the East Coast because the husband had written a thoughtful opinion piece about his time working with Edward R. Murrow. It turned out that Joe Wershba was a close colleague of WSU's most famous journalism alumnus. His wife Shirley also worked as a news writer and producer at CBS during the time Murrow took on Senator Joe McCarthy and for

years after. "We were all worshippers of Edward R. Murrow," says Shirley Wershba, calling from their home in New York.

When Murrow was at CBS, the big black metal door to his office was rarely closed, unless he was writing an end piece for one of his shows or dictating something important. "He was very accessible," says Shirley. "We worshipped him as if he was a man on the mountain, but he was always available to us.

In 1965, after Murrow left CBS and shortly before he died, the network moved to the west side of Manhattan. The Wershbas and some of their coworkers realized that Murrow's office would be dismantled. "His name was still on the door," she says. "We couldn't let them throw it out."

It was decided the Wershbas would take the door since they had a big garage in which to store it. For a brief time, the couple considered using it. "But it just wouldn't fit in my house," says Shirley. "So we started thinking that it would belong someplace where it would be cherished."

The Wershbas had once traveled to Pullman with Diane Sawyer and several other well-known CBS journalists. They felt comfortable with campus and the work being done to preserve Murrow's legacy. That's why when Darby called, they decided they had a solution to a problem that had been lingering with them for more than 40 years. "I wasn't sure what to think," says Baldwin of their offer of the door. When she turned to her co-workers and asked if the school was interested, she was met with a resounding "Yes."

The door was unearthed from the garage where it had been stored flat with a curtain over the top to keep it clean. Faculty and staff from the Murrow school arranged for a shipper to arrive at the Wershbas' home, crate up the big black metal door, and take it away.

It finally arrived last spring during the Murrow symposium, and just as WSU's Murrow School was about to be transformed into the Edward R. Murrow College of Communication. Casey Murrow, Ed Murrow's only child, was on hand to help unwrap it.



To view footage from "This is WSU," a tour of the university narrated by Edward R. Murrow, visit Washington State Magazine Online at wsm.wsu.edu.

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