SUMMER 2012

CONNECTING YOU TO WASHINGTON STATE UNIVERSITY » THE STATE » THE WORLD

WASHINGTON STATE magazine

v11n3

Collectors edition

MANAGING NEMO :: THE COLLECTORS :: THE ATOMIC LANDSCAPE—CONSIDERING OUR PLUTONIUM LEGACY

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WASHINGTON STATE UNIVERSITY

Cover: *Brian Tissot looks in on some raccoon butterflyfish off West Hawaii. Photo Eric Sorensen*

"We should observe first, and think afterwards."
The Lancet 19 Oct. 1823

first words

The learned observer :: Part of the nature of a writer—but then again, perhaps I speak only for myself—is the constant reimagining of one's self and context, the repeated immersion in myriad and esoteric subjects, all the while desperately hoping for infinite reincarnations in order to fulfill all the things one would like to understand, experience, and be. On the other hand, being a writer embraces the perfectly paradoxical satisfaction with one's role as a learned observer.

Given the skeptical writer's reluctance to rely on reincarnation, the only way to grasp these multitudinous desires and perspectives is to be the ultimate generalist. And what better place could there be for such a person than a university? Well, the only thing better is being with a magazine that covers a university in all its manifestations.

How else would one have the opportunity to have breakfast with an esteemed poet or lunch the same day with an equally esteemed winemaker? Or snorkel with a marine scientist? Or be granted insights of a dissertation on atomic culture while the dissertation is in progress? Or immerse oneself in a tale of obsession, scholarly collecting, and crime? And at the end of the experience? Guaranteed publication. Well, almost guaranteed. The result does have to be literate, correct, and engaging. Spectacular, even.

Nevertheless, I admit to a certain perverse pleasure in breaking it to young writers, when given the opportunity, that writing never becomes any easier. In fact, I find the opposite true. One becomes more self-critical. The more you know the craft, the more aware you are of both shortcomings and potential. At a certain point, the process of putting one word after another becomes an indescribable mixture of the excitement of discovery and the pure slog of getting something down on paper within a deadline.

All you can do is continually hone an ability to observe, stripping away the distractions to focus on the matter at hand. Several years back, I quit taking a camera with me when working on a story. No matter how much I wanted to be both a writer and a capable photographer, I finally admitted you can't do both. At least I can't. Photography and writing are two very different crafts, two very different kinds of observation.

For any given story, a mere fraction of what you observe makes it into the text. And what does one do with the rest? Well, enjoy it. You have become a momentary expert. And then, given the writer's relatively short attention span, you have the incredible opportunity to start all over on a new story.

And I do overstate. No matter how difficult—this is a job, after all—writing about the University and all its manifestations is an extraordinary opportunity to *observe* experts at work, to *observe* one's understanding and insight, and to *observe* the truly exquisite sanctity of knowledge, vision, and professional skill and understanding.

Tim Steury, Editor

v11n3 SUMMER 2012

WASHINGTON STATE *magazine*

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Growing Partnerships. Building a Stronger Washington State.

WASHINGTON STATE UNIVERSITY

Office of the President

May 2012

Dear Alumni and Friends:

In March, I had the great pleasure of meeting Mel Netzhammer after he emerged as our search committee's top choice for the position of chancellor at WSU Vancouver.

The provost and vice president for academic affairs of Keene (N.H.) State College, Mel immediately impressed me—as well as the committee and community members who met with him during the process—as an enthusiastic and visionary leader who would be a great fit for the Vancouver campus. He will assume his duties as chancellor in July.

He had to be outstanding to rise to the top of the field of candidates who sought the position. The high level of interest in the job of WSU Vancouver chancellor is yet another reminder of the growing national reputation of our regional campuses, and the strength that they bring to our university and our state.

Twenty-five years ago the Higher Education Coordinating Board put forward a master plan which said Washington needed branch campuses to increase access to higher education and to promote regional economic development. The branch campus system was established by the Legislature two years later.

WSU President Sam Smith was, of course, the architect of our branch campuses. The late Hal Dengerink, founding chancellor of WSU Vancouver whom Mel Netzhammer succeeds, was also instrumental in their growth and organization.

Now, it is hard to imagine WSU without its campuses in Spokane, Vancouver, and the Tri-Cities. Each is a vital part of its community. Each works to meet the unique research and educational needs of its region. Each adds to the reach of our university. Each serves the needs of countless students who might otherwise be unable to pursue a WSU degree. And each helps build a stronger political and popular constituency for WSU's programs.

That final consideration has become increasingly important during our state's ongoing budget crises. Pullman is a tremendous place, but it is isolated from the centers of political power and population in our state. Our Extension offices give us a presence in every county, but our profile is raised immeasurably by the great work being done in and around our campuses in Spokane, the Tri-Cities, and Vancouver. Lawmakers from those areas have become some of our university's strongest and most thoughtful advocates.

WSU is very much Washington State's university, in no small part because of our strong regional campuses. It is a pleasure to welcome a new leader on board in Vancouver to help us continue to build on that legacy of success.

Warm regards,

Elson S. Floyd, Ph.D.
President

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posts

Special bond

Those of us who attended Washington State University (or College) have a special bond. This is our experience and memories of our time there.

Sometimes those thoughts are made even more poignant by an article such as "A Hidden History" in the spring issue of *Washington State Magazine*. For all of us there is a story. It is the thread of WSU that binds us together.

Thank you for providing a periodic reminder of this wonderful bond.

David Leonard '60

Quiet time

On the rare occasions where I have an unexpected hour of quiet time, I like to grab a magazine and read it all. This typically takes me through a *Rolling Stone*, *Sports Illustrated*, or the Sunday *NYT*. This evening I stumbled across a free hour and the first periodical in the pile was the latest *WSM*.

What a treat. The stories were not just informative and interesting, but captivating. From Orrin Pilkey to "Lessons of the Forest," "Closer Inspection" to "The Wire," it was a spectacular read from cover to cover.

Well done. Thank you.

Greg Witter '84

Flour power

I suppose it's a little late to be commenting on an article in your magazine, since I just received the spring issue, but I'm going to do it

Visit **wsm.wsu.edu** *to follow WSM and share on Facebook, Twitter, and our RSS news feed. We also welcome your letters and comments at* **wsm.wsu.edu/contact** *and at the bottom of every article online.*

anyway. The article on local wheat flour brought back memories of Flourgirls Flour, and some hope for the future.

Flourgirls was a great product but I was only able to use it for a couple of years, having discovered it late in the brand's life. If WSU were to produce a similar product and market it at the same outlets that handle Cougar Gold cheese, as well as natural food and regional specialty stores, I think you'd have a winner. I know I'd buy it and encourage everybody I know to do likewise.

Madilane Perry *'69*

Panoramas

Generally there are only two or three articles that I really enjoy. But I read the spring 2012 issue from cover to cover. Rather than a have a specific focus, you provided a wonderfully diverse picture of what is best in WSU and Washington; food, CSI, insects, books, farming, gardening—oh my.

Irene Tichelaar *'68*

From our website:

Let him swim

Great article! I've never met Tom [Jager], but had heard about some of his achievements through his father, Bob, with whom I worked at the DMA Aerospace Center (now NGA). I'm happy to see that Tom has established a good career in coaching. He should know a thing or two about swimming!

Phil Butler

wsm@wsu.edu

I love this magazine. However, I was wondering why, in your In Memoriam, you don't mention where the person lived? Their living group was very important especially in the first couple of years; it helps identify the person in case of similar names. Please consider this? Best wishes.

Nancy R. Lindenberg '56

This would be a good addition. However, this detail isn't in our records. If the residence is included in the information we receive, we will definitely print it.

-- Editor

#WSU's Aurora Clark talks about how she applied #Google page ranks to molecular connections http://bit.ly/ySEBIG

Winning a battle, losing a war: herbicides to save butterfly habitat may kill the butterflies. http://bit.ly/xAYaIw via **@1WildlifeNews**

Who would tickle a rat? #WSU researcher Jaak Panksepp, who explores the world of emotions http://ow.ly/9vZzZ via **@ABC #health**

Follow **@WSUDiscovery**

c.1926 Rogers Field construction

2012 Martin Stadium construction

GROWING A CLEAN TECHNOLOGY FUTURE AT THE ORGANIC SMART FARM

Imagine a farm where home-grown energy from windmills and solar panels powers everything from sensors to greenhouses. A place where computer science and architecture meet organic farming, where crops and animals sustain each other, and where students learn by living here. This is WSU's new Organic Smart Farm, taking shape inside one of the nation's leading programs in sustainable organic agriculture.

WSU. Big ideas grow here.

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cleantech.wsu.edu

3D MODEL COURTESY DAN FISHER/UNIVERSITY OF MICHIGAN

Bones of contention

by Eric Sorensen :: Thirty-five years ago, Carl Gustafson, an associate professor of archaeology at WSU, rubbed his fingers over a muddy bone and found what looked and felt like a projectile tip. That simple discovery, and the eventual realization that humans hunted mastodons in North America, came to define Gustafson's career. One can also argue that it is among the most significant discoveries ever to come out of Washington State University.

Last October, new research in the journal *Science* said the bone and its accompanying hand-hewn projectile dates North America's earliest known inhabitants to 13,800 years ago, 800 years earlier than the Clovis people, long regarded as the New World's oldest culture.

That conclusion was vindication for Gustafson, who had faced several decades of skepticism. But it was only one in a series of discoveries, the sum of which makes one of the state's great scientific stories.

First came Manny and Clare Manis's discovery of Sequim while on their honeymoon in 1971. They bought 16 acres in Happy Valley and moved up from California in 1975, planning to homestead. Manny, a machinist by trade and handyman by vocation, laid the bricks for their house and fixed the pin-setting machines of the bowling alley they bought.

"Manny could do just about anything, including finding mastodons," says Clare Manis Hatler, who remarried after Manny died in 2000.

In 1977, Manny discovered that the dry summer had drained the bog in front of their house enough that he could start digging out a pond with a backhoe he had rebuilt. He had dug a trench halfway around the area when he pulled up what looked like a curved, four-foot-long log, followed by one six feet long. The second one had a chalky white end, and when he cleaned it off for a better look, he realized it was some sort of elephant tusk.

Clare tracked down Richard Daugherty, the WSU anthropology professor, and a little more than a week later a team that included Gustafson started picking through the earth Manis had dug up. A couple hours in, Gustafson chanced upon the rib fragment and felt a small piece of bone protruding from it. Sediment around the bones was deposited soon after the last Ice Age glaciers, so the researchers assumed the site was 13,000 to 14,000 years old. If that projectile point was indeed from a human, it was evidence of the oldest human settlement in the Northwest.

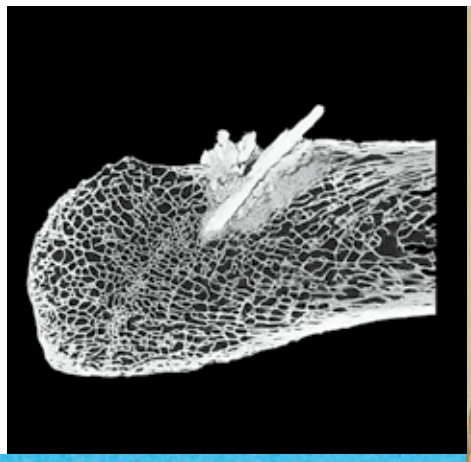
Three days after the researchers arrived, field supervisor Delbert Gilbow washed loose a molar tooth that he quickly realized came from a mastodon. Now the researchers were really on to something: the first evidence of humans hunting mastodons in North America.

Daugherty took Manny and Clare aside and explained that this was now an important find,

that reporters and other interested people were about to overrun their property. He suggested they put up a fence, post a sign giving specific hours when the place was open, and charge a few bucks to defray costs and discourage idle passersby.

Clare Manis recalls having only one condition: "We want an education. We want to know everything you do and why."

Manny built a gate, outhouse, and parking lot, fenced cows away from the dig, and turned a barn into a theater, where he showed an audio slide show. The Manises ended up entertaining 50,000 people from all 50 states and 43 countries.



Clockwise, from left: Carl Gustafson in 1977 inspects what appears to be a projectile in a mastodon bone. *Courtesy Carl Gustafson.* A CT scan confirms the bone contained a projectile. *Courtesy Texas A&M University.* Gustafson holds a mastodon tooth that was part of the 1977 discovery. *Courtesy Eric Sorensen.*

Radiocarbon dating put the rib bone at around 14,000 years old, but Gustafson faced sizeable disbelief from other archaeologists. They wanted to see stone tools at the site and questioned if the projectile point was from a human or, say, another animal's antler.

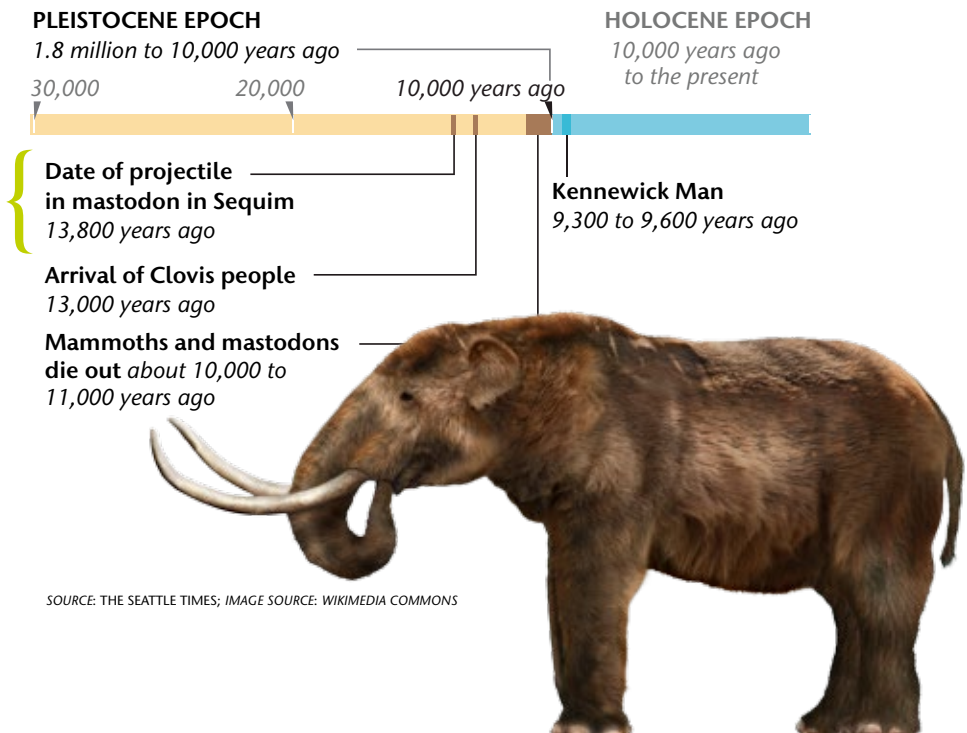
It frustrated Gustafson, but over the years he was resigned to being disbelieved.

"I accepted the fate of the site, so to speak," he says.

But recently a team led by Michael Waters of the Center for the Study of the First Americans at Texas A&M University offered to reexamine the materials with more modern techniques, including DNA analysis, CT scanning, and mass spectrometry. The testing showed the projectile was the bone of another mastodon and it had to have been sharpened to a point by a human 13,800 years ago.

"It doesn't take much to excite me, but I got pretty excited about this," says Gustafson, now an emeritus associate professor and a coauthor with Waters and others on the *Science* paper. "It certainly was one of the top moments of my life."

And of all the manifold discoveries that grew from the bucket of the Manis backhoe, Gustafson is fond of saying the ensuing story is as much about people, particularly the Manises, as it is about archaeology.



SOURCE: THE SEATTLE TIMES; *IMAGE SOURCE: WIKIMEDIA COMMONS*

"They became a part of their land, which they willingly shared with us," he writes in a booklet sold in Sequim's Museum & Arts Center, which has an exhibit featuring a mastodon mural, bones, and a cross section of the dig. "We talked of ducks and geese and blueberries, and a pond that someday will be; and of ghosts that still lurk around a pond that once was."

Read more about the Manis mastodon and the dig at wsm.wsu.edu/extra/mastodon.

Raising queens

by Hannelore Sudermann :: Few things are as mysterious and amazing as the life of the queen bee, says bee breeder Sue Cobey. Just a few days after she hatches from her cell, the queen's fertility is optimal and she has just a brief time to mate for the rest of her four-year life.

The timing is critical, says Cobey, as she describes the process to a roomful of rapt Puget Sound-area beekeepers. If the weather is warm and mild, she leaves the hive, flying low at first to avoid her own colony's drones before heading to a place where drones from other hives are waiting for a queen to fly by.

As many as 25,000 drones from 300 colonies could be in an area waiting for a queen, says Cobey, who splits her time between Washington State University and the University of California at Davis, where she manages the Harry H. Laidlaw Jr. Honey Bee Research Facility.

Over her first few days the queen will make several flights, mating with up to 15 drones a trip, Cobey tells the beekeepers who, even with their years of bee experience, are still amazed to learn these new details. This takes place at least 60 feet above ground and supplies the queen with enough sperm to produce eggs for about four years. "She saves a little bit of sperm from all the drones she mated with," Cobey explains.

Then, in about six more days, the queen is ready to lay eggs and start producing a new diverse generation of worker bees to tend to her and her hive. All this is complicated enough, but then there are impediments provided by humankind.

One of the biggest challenges is the Honeybee Act, introduced by the U.S. government in 1922 to stop all importation of honey bees to the United States for the purpose of preventing the introduction of the tracheal mite. "So all we have is this little population from 1922 that has established our honey bee stock," says Cobey. She doesn't think there's enough genetic diversity for the bees to deal with the new issues they face—from life-threatening parasites to colony collapse.

In addition, because we are so reliant on queen bee breeders, we're losing genetic diversity from our queens, she says. There are only a few queen breeders in the United States and they've been using the same stock and selecting for certain traits for decades. The lemony yellow Italian bees bred in California are, by far, the most popular, but they are sometimes more vulnerable. Cobey's solution is to make new queens with new genetic backgrounds, and at the same time encourage more local beekeepers to raise their own queens.

Cobey, who joined WSU in 2010, is world-famous for her bee work. In the 1980s she developed the New World Carniolan stock by backcrossing bees from around North America displaying Carniolan traits. Originally from the Austrian Alps and the Balkans, they are darker than the popular Italian honey bees, are known for their gentle behavior, and may be more suited to cooler weather and more populated areas. Besides backcrossing to create new stock, Cobey has worked with WSU entomologist Steve Sheppard to increase the bee gene pool by importing bee semen from Europe. After decades of seeking government approval to bring in new genetic material, they made their first collecting trip in 2006. "It took me 22 years to get that first tube of semen into the United States," says Cobey.

To ensure no new diseases would be introduced, the semen they collected from drones in Europe, sometimes in remote mountain areas, was tested for viruses. Virgin queens from the New Carniolans were inseminated with semen from the Old World bees to create offspring. The progeny was also tested for virus, and the offspring bees were kept in quarantine over winter in the Palouse, miles away from most honey bee enterprises. By doing this, Cobey hopes to improve the bee stock, with more resistance to diseases and less susceptibility to virus, mites, and the mysterious Colony Collapse Disorder.

She is also trying to breed bees better suited for the Northwest. The few queen breeding operations in this country are for the most part working for large-scale beekeepers in warmer climates, says Cobey. If you're a small-scale beekeeper, the queen breeders aren't as apt to provide you with queens, she says. Even at $20 to $30 a queen,

Above: Sue Cobey with New World Carniolan stock.
Below: New World Carniolan bee on lavender.
Photos Kathy Keatley Garvey/UC Davis

they want to sell in bulk, filling orders in the thousands, not dozens.

So you should produce your own queens instead of buying them, she tells the beekeepers, mapping out exactly what to do. You want a crowded hive and lots of food, a high ratio of nurse bees (the youngest of the worker bees who tend the queen and maintain the hive),

Discovery

Patterns in the sand: How tiger bush will grow in patterns found throughout other parts of nature, like the spots on a cat

wsm.wsu.edu/discovery

and either a restricted or absent queen. "Stuff the box with lots of bees," Cobey tells the beekeepers. "I want a beard out the front."

Detecting the lack of a queen, the nurse bees will feed royal jelly to the newly hatched eggs. As Cobey explains the process, the beauty and complexity become clear. Using tiny tools, beekeepers can place their selected larvae in queen cups, larger cells created by the worker bees especially for raising queens. Then, "it's all about the food she is given," says Cobey. The workers have four days to feed the queen larvae an exclusive diet of royal jelly, a bee-produced food that is much higher in nutrition than the meal that is usually fed to the larval worker bees. The queen larva will require up to 1,600 feedings in the four days before she pupates. The workers, by contrast, each receive only 140 feedings over five days.

The queen emerges in 16 days and soon after is ready to mate and start producing her own larvae. After she lays some eggs, the beekeeper can move those larvae to the queen cups and move the queen to a new hive stocked with bees. Then the process of feeding royal jelly in the queen breeding set-up can start all over again. It's not that difficult, says Cobey. "There seems to be kind of a mystique about raising queens," she says. "But it's worth doing. You learn so much more about bee biology."

With increasing challenges of pests and disease, selective breeding and genetic diversity offer the best long-term solutions, says Cobey. She says she will share some of the new lines she collected in Europe like the Caucasian subspecies, which gets most active in full summer and may be suited to cooler springs, she says. It's not ideal for the California pollination season, which is earlier and warmer than ours, but on cooler or foggy days when the Italian bees wouldn't think of leaving the hive, these bees will head out and hunt for flowers. "The goal is to get a bee that does well in the Pacific Northwest."

Watch a video about Cobey's work with queen bees at wsm.wsu.edu/extra/queenbee.

The company that eats together

by Larry Clark '94 :: Rebecca Portnoy started thinking about shared meals and came across a memory of closing time in a particular restaurant.

"I had been at a Seattle sushi restaurant at the end of the night, and the leftover sushi was being moved to a communal table for a staff meal," says Portnoy, an assistant professor of management at WSU Vancouver. "I had worked at restaurants and I was baffled and amazed that they were going to take the time at the end of their shift to eat together."

When she worked as a waitress, Portnoy usually saw people take off right after their shifts. She wondered, what was going on in the sushi place that's so meaningful to those workers?

Rebecca Portnoy (***at right***) lunching with WSUV colleagues Mike Morgan and Katie Witkiewitz. *Photo Bill Wagner*

A shared meal is a daily experience for many coworkers, and the basis for some of Portnoy's research questions. She asks what effect do shared meals have on work relationships? What is the experience of employees who join together for one of the most fundamental of human social activities, eating?

In her field of organizational behavior, she says, looking at shared meals "was a new idea, and there wasn't literature on the effect of food or when people share."

Portnoy's research has a particular resonance in an era when more workers are taking fewer and shorter meal breaks, and eating alone more often—in the United States, 75 percent of office workers eat lunch at their desks two or three times a week according to a 2006 study.

Portnoy and doctoral student Doug Miller tested their questions about shared meals first with interviews of faculty members, and then with custodians at the Pullman and Vancouver campuses. They wanted to see if the sharing of a family-style meal could shed light on the development of relationships.

They heard from all participants that the freedom to talk removed them from certain work constraints, allowed them to connect personally, and even let them disclose complaints about work.

"It seemed no matter who we talked to, custodians or faculty, the experience of going to a meal with coworkers creates what we called liminal space," says Portnoy. "There's a boundary that's created that separates the work culture from the meal culture."

The shared meal also equalizes relationships among coworkers.

"There was this potential, because of the meal in a separate space, for the hierarchy or notion of hierarchy to dissipate. The role of supervisor who has authority over a person's position or future in the company wasn't present in the way it would be in a meeting," says Portnoy.

Using the interview responses as a foundation, Portnoy is working on an empirical, quantitative study to better measure outcomes of shared meals.

What Portnoy and Miller study on a small scale, one company has taken to a much larger stage. Pullman-based Schweitzer Engineering

:: continued page 18

Doing Good through Blending

:: by Tim Steury ::

ABOUT THREE YEARS AGO, Monte Regier returned to Seattle from a year working on the hospital ship *Anastasis* off the coast of Liberia. Suffering from culture shock, remembering friends who go to bed hungry every night, he sat with his friend Martin Barrett over a glass of wine and mused on what a dollar would buy.

And then came the Idea.

"You know, Monte," said Barrett, "I think this glass of wine could feed a kid for a day."

One can imagine Regier's skeptical smile.

"Give me 90 days," said Barrett.

So Barrett started researching this idea of selling wine to feed kids and convinced himself that they could make world-class wine and "do it in such a manner that we can give away a boatload of money."

At this point, you might be pondering at least a couple of obvious questions:

First, why would a reasonably sane person even consider starting yet another winery in the midst of not only a recession, but also a worldwide glut of wine, world-class and otherwise?

Second, if you did end up making a boatload of money, why would you give it all away?

And then there's that odd juxtaposition of wine sales and people going to bed hungry, concepts that don't ordinarily occur on the same page.

Nevertheless, Regier bought the idea, and they started drawing up a business plan.

And then, says Barrett, "We pulled together 15 of the sharpest under-40-year-olds we could find around our dinner table for five or six hours" as a focus group.

"When we were through, we threw away 90 percent of the business plan," says Barrett.

"The only thing we kept was, the quality of wine has to stand on its own merit, and we have to be absolutely clear about what it does, what's the benefit behind it: This glass of wine will feed a kid for a day."

Still, let us consider that little question, How do you create a world-class wine?

Barrett knew his way around the wine business. He and his wife had been involved in the industry in various roles since 1994.

"Our initial thinking was to get a number of boutique wineries that had excess capacity to work with us crafting wine." So he went around to different wineries, tasting and thinking.

"Most wines in Washington are pretty good," he says. "As I'd go through the wineries, they were all good. But often a wine or two would stand out.

"And the name 'Cheryl Jones' kept popping up."

CHERYL (BARBER) JONES GRADUATED from Washington State University in 1976 with a degree in food science. She fully planned to go into the dairy industry.

But the dairy industry wasn't hiring right then, so she fell into a laboratory job with Chateau Ste. Michelle. And one thing led to another.

"I knew nothing," she says about winemaking, "except for a fermentation chapter" in one of her courses.

But the winemaker at Ste. Michelle at the time was the legendary André Tchelistcheff. Apparently, he recognized talent, and a palate, in this young dairy science graduate. He'd call her over, she recalls, and have her taste what he was working on. He became her mentor, teaching her all about how to make a wine better.

STAFF PHOTO/ILLUSTRATION

Within five years, she was the white-wine maker at Ste. Michelle. In another five, she was the head winemaker.

But winemaking, even at Ste. Michelle, isn't everything. She quit the vocation briefly, to raise her children, then was drawn back in. In 2001, when she was winemaker at Silver Lake and DiStefano, *Washington State Magazine* featured her on the cover of our first issue.

Since then, she has built a reputation for her blending expertise, consulting and blending for numerous wineries around the state.

And that's how Barrett found her.

"When I explained the idea to her," he says, "she just lit up. 'I get to craft great wines and feed people at the same time?'"

KYLE DOHERTY '07 POURS ME A GLASS of Generosity, one of the products of this merger of a great idea and great taste. They call that merger Sozo.

Nicola Towers '03 runs through the litany: Generosity, a Syrah blend from the Yakima Valley and Horse Heaven Hills; Potential, a Pinot Noir from the Willamette Valley; Abundant, a Mourvèdre blend from the Wahluke slope; Bountiful, a Yakima Valley Cabernet; Humanity, a Riesling from vineyards north of George. On each bottle is a number, which represents how many meals the sale of that bottle will buy. Generosity buys 10, Bountiful buys 25, Humanity buys 5.

Have I mentioned that Sozo Friends, the nonprofit that produces these wines and distributes the proceeds to food banks, is a winery only on paper?

"There will never be a Chateau Sozo," says Barrett. "It's not as fun as giving money away."

"My office is parked there across the street," says Doherty. Sozo's warehouse is Towers's garage.

Otherwise, here's how Sozo Friends works:

Having been dramatically immersed in the Washington wine scene for 35 years, Cheryl Jones knows where the wine is hidden. Well, not hidden exactly. Neglected, rather. Deprived of opportunity.

Given the worldwide wine glut, there is some very good wine across the state sitting in barrels or vats with no clearly defined future.

The industry is suffering not just from excess acreage, says Barrett, "It's excess square footage, excess stainless steel."

Also, the wine distribution network has consolidated dramatically in the last few years, he says. "That means the smaller wineries have a harder time getting their product to market."

When Barrett's idea started to come together, Jones put the word out on the street that she was looking for certain kinds of wine, says Barrett. She was inundated by samples. And started her blending magic.

"It's win-win," says Jones. "I find these great wines and buy two barrels. I blend them with someone else's and we give you cash.

"It serves a purpose not only for Sozo, but for some of these wineries. They kind of get stuck. They've got this inventory, but no money."

I should mention at this point that this wine that Doherty poured me, the Generosity, is really, really good, stretching my wine vocabulary to the max.

Sozo: to save, keep safe and sound, to rescue from danger or destruction.

Opposite, from left: Martin Barrett, co-founder of Sozo Friends, and Kyle Doherty '07, who as a "community developer" first promotes Sozo wine, and then more deeply, its mission. Cheryl Barber Jones '76 has turned her talent for blending wine toward feeding the poor. *Photos Matt Hagen*

Read more wine stories and find Cougar-owned wineries at wsm.wsu.edu/extra/wine.

Barrett explains how it came to be.

Jones told him she found this great Tempranillo, a Spanish grape that is doing very well in Washington. She gave him a taste. "What do you think?"

"Good."

"Yeah, but I'll be back."

Jones blended it with Syrah.

"I didn't know anyone blended Tempranillo with Syrah," says Barrett. Regardless, "Oh that is really good."

"Except it's got this big hole in the middle," said Jones.

He hadn't noticed.

Another tweak.

"Now I see," said Barrett.

"But I haven't closed the hole, I just made it smaller. "

She remembered a Petit Verdot that she'd tasted a couple of months before. It became 1 percent of her blend, and she put it all in new oak for six weeks.

"The whole wine came together," says Barrett. "It's amazing to me."

WHEN DOHERTY OR TOWERS, whose job titles are "community developer," walk into a restaurant to pitch Sozo wines, they first let the wine do the talking.

Once a sommelier or chef or whoever makes the wine decisions decides he or she is interested, then they get the rest of the story.

In the 18 months since Sozo launched, they have placed their wine in 75 restaurants in Seattle and Tacoma, including Canlis, Lark, Flying Fish, and other restaurants esteemed for both their menus and their wine lists.

When the wine sells, Barrett writes out a check to the food bank or other charity of the restaurant's choice, then delivers it personally to the restaurant, so they can send it. He does so both for the sake of transparency—"we said it was going to happen, and it's happened"—and "to build a sense of community."

In those 18 months, sales have produced just shy of 60,000 meals.

"WIN, WIN," everyone agrees. Indeed, who can lose?

Yet there's one more lingering, as yet not-quite-answered question: Sozo is indeed making a "boatload" of money." So why are they giving it away?

"We believe Jesus calls us to love the poor," says Barrett.

"We are committed to great wine. Thanks to Cheryl, we can deliver on that. But our passion is the poor. That's what drives us. "

"I want to combine my passion for business," says Doherty, "with how I love serving and being with people.

"It's a different way of doing business. It's not just the bottom line, but how it is affecting our community and people around us." ⊗

Mikal Thomsen in the original seats at Tacoma Rainiers' Cheney Stadium. *Photo Ingrid Barrentine*

Scoring position: A man buys his hometown team

by Hannelore Sudermann :: In the 1970s, when Mikal Thomsen '79 was a budding business student at WSU, he earned his tuition by compiling the stats for the football, basketball, and baseball teams. The job not only let him parlay an interest in numbers and sports into an entertaining occupation, it gave him free admission to all the games. With primo seats. During the football season, he had a bird's-eye view from the press box. During baseball, he travelled with the team as the official scorer.

Thomsen liked being in the thick of things, following the minutiae of the games, getting a sense of the players. Today, as a business leader and wireless boom success story, he has that again—with the Tacoma Rainiers, the Triple-A team he and a group of investors purchased last year.

Thomsen developed his taste for sports as a toddler, when his father brought him to one of the first-ever baseball games at Cheney Stadium in his hometown.

Thomsen's parents Donald '53 and Devena '53 had met as freshmen at Washington State College in 1949. They married as seniors. His father's enrollment through ROTC led to service at Fort Lewis, which brought the family to the Puget Sound region. They settled into University Place, at the time a developing suburb of Tacoma.

Donald Thomsen watched eagerly in the late 1950s as the town embarked on a project to woo the San Francisco Giants' Triple-A club to Tacoma. Local business leaders Ben Cheney and Clay Huntington joined up with the local governments to build Cheney Stadium.

"Dad was a big sports fan," says Thomsen. "He took me and my brother to many games." As the Thomsen boys got older, they would go on their own, or meet their father at the stadium after he closed his pharmacy for the day.

The Giants stayed in Tacoma for five years, followed by the Cubs, the Twins, the Yankees, the Tugs, the Tigers, and the Rainiers.

While he loved watching sports, Thomsen wasn't much of a player. He did find a role in high school taking stats for his classmates' teams, which led to his job in college.

He worked for the teams at WSU for two years, then switched his focus to student government. As an ASWSU student lobbyist in Olympia in 1977, he fought to keep tuition rates at one spot. Then he tried to ensure that if tuition went up, state support wouldn't diminish, he says, expressing sympathy for today's students.

He followed his facility with numbers into a career, working at different times for two major Pacific Northwest industries. "I counted pickles for Nalley's and logs for Weyerhaeuser," he says. While working in a log export yard in Tacoma at nights, he found daytime work on political campaigns, finally leaving his job in 1982 to be campaign manager for Ted Haley, a Republican candidate for Congress.

Though his candidate lost, Thomsen left the experience with new friends, including John Stanton, who hired him to become a consultant for a small but promising industry—cellular communications. "Back in those days a cellular phone cost about $2,000," says Thomsen. "It was a brand new industry. And it was a lot of fun."

Stanton and Thomsen started out working with McCaw Communications, originally a cable TV company. In 1992 they broke away and formed what became Western Wireless (of which Thomsen was president), which later sold to Deutsche Telekom and today is known as T-Mobile USA, one of the four largest wireless companies in the country. In the meantime, Thomsen met and married his wife Lynn. They have two sons, Sam and Pete.

After selling off the wireless company, Stanton and Thomsen co-founded Trilogy Equity Partners, a Bellevue-based venture capital firm. He also followed Stanton into other endeavors, including joining him as one of a group of owners for the Seattle SuperSonics.

About that time the Tacoma Rainiers came up for sale. Thomsen wanted to be an owner of the team, no question. "It was such a wonderful part of my childhood," he says. He went down to Cheney Stadium to "kick the tires." But what he saw caused him to turn around. It wasn't just that the stadium hadn't been updated since he first visited it as a child, "but there was no sign of improvement on the horizon."

In the meantime, he was in the thick of the saga of the Sonics. The NBA team had a really tough economic picture and what Thomsen describes as the "worst arena deal

in the NBA." They did what they could to support the team. "We bought seats, t-shirts, and hats, we helped recruit sponsorships, and find friends and relatives to buy seats. We became a big sales force."

Their efforts weren't enough. Instead, the major owners decided to sell, with the hopes the buyers would keep the Sonics in Seattle. But then they moved. "It was a very sad time for everybody involved," says Thomsen. "The upshot is I now had some experience with owning a team, and with seeing what the worst that could happen to you was."

His next sports experience came as part-owner of the Walla Walla Sweets. Stanton, who had attended college in Walla Walla, saw an opportunity to buy the amateur league team, which was made up of college players looking for a summer league. "I got to spend a year watching that unfold—starting the team, getting sponsors, selling tickets," says Thomsen. "That served me very well when it came time to think about the Rainiers."

So in the fall of 2010 when the Rainiers, with a newly-renovated stadium, went up for sale, Thomsen was ready. "Pierce County, the City of Tacoma, and some local folks had put about $30 million into the stadium there," he says. There were three times the number of places to buy food and four times the number of bathrooms. "And great seats," says Thomsen. "And more opportunities to attract fans."

"Of course, the price was a little bit higher than before," he says. Still, he liked the general manager. It was a package deal where he could buy the team and keep the management in place. He had just hired Isaac Wells '07 at Trilogy, and quickly put him to work on organizing the purchase and getting through the bureaucratic process of buying a team. Wells came in thinking he would be focusing on Trilogy's technology ventures. "Little did he know he was going to get a crash course in what it is to buy a team in minor league baseball."

Wells was up to the task. "I couldn't have a better mentor to learn from while going through it," he says.

Particularly challenging was recruiting other owners. "We had to convince them to not only join, but to expose their financial lives," says Thomsen. From the time the deal closed in March of 2011, they'd raised about $2 million in new investment.

Now Thomsen is enjoying the job of ownership. Last year, he went to 20 games. And 20 of the games were sell-outs, the most the team has ever seen.

"And the new stadium is beautiful," Thomsen boasts. He also followed the team to away games at several other Triple-A stadiums. "I was able to steal good ideas from each of them," he says, citing fireworks, fanfare, and food.

Because the Rainiers are where the Mariners keep their extra players, "We can provide a chance to see tomorrow's stars today." Minor league can be more engaging, more entertaining, easier. "It's got kind of a slower pace to it," says Thomsen. It's the perfect way to spend a summer evening close to home. «

:: from page 12

Laboratories (SEL) hosts a Friday lunch for 3,000 of its employees every week.

Nancy Hindman '84, chief operating officer and chief financial officer for SEL, says the Friday meal has been around since 1982, when Edmund O. Schweitzer III ('77 PhD), then a professor at WSU, started the company in his basement.

"They would order sandwiches from a deli or Dissmore's and sit around his dining room table and talk about what happened that week," she says.

Hindman joined the company, which designs and manufactures controls for electrical transmission, in 1989. At Friday lunch, they would talk about work—new customers, technical issues, products—as well as celebrate birthdays and babies.

She says the lunches developed into more structured events as SEL grew, but the company kept them going as a way to build the corporate culture, share information with all employees, and connect departments, both technical and non-technical.

The Pullman lunch is broadcast and recorded for all 89 branches worldwide. Each lunch features reports from several departments, an educational presentation, and a welcome for new employees.

"Every new employee who is in Pullman gets introduced in their first week of work. They talk about where they lived, their last job, and why they wanted to come work for SEL," says Hindman.

The Friday lunch has attracted attention nationally. In January this year, *Fortune* magazine placed SEL at number 97 among the top 100 companies to work for in the nation, partly on the basis of its shared meal.

Hindman says the benefits of keeping every employee informed and engaged far outweigh the cost of providing the lunch, particularly since SEL is employee-owned.

Employees in Pullman gather for Friday Lunch at SEL. *Courtesy Schweitzer Engineering Laboratories*

The Murrow boys

by Hannelore Sudermann :: In 1913 Ethel and Roscoe Murrow moved their family from their small farm in North Carolina to the Puget Sound community of Blanchard hoping to find a better living for themselves and their three sons.

The worldwide fame of their youngest, Edward '30, the broadcast journalist, overshadowed the stories of the rest of the family, particularly the two older brothers. But Dewey x'26 and Lacey '27, '35 forged the path for him to follow to Washington State College in Pullman. They, too, led interesting and productive lives and influenced the development of the state. They deserve some attention in their own right, says J. Clark McAbee '80, the new executive director of the Skagit County Historical Museum.

"We're going to tell a part of the story very few people know," he says, as we walk into the hilltop museum in La Conner where the exhibit opens this May. Plumbing the museum's archives as well as the memories and materials left in the area, McAbee and Craig Holstein of the Washington State Department of Transportation have assembled an exhibit that features all three brothers, their Pacific Northwest childhood, and their legacies.

When the Murrows first arrived they made their home in a tent near Samish Bay. After about a year they settled into a small house in Blanchard. Roscoe found work as a field hand, then took a job in the sawmill, and later became a railroad brakeman and engineer for the Samish Bay Logging Company. While he was away working, Ethel saw to bringing up the boys.

The exhibit, "Peak of Their Professions: the Murrow Brothers," is broken into several parts. The first explores the family's time in the Skagit Valley, and through that offers views of development, farming, logging, and rural life. All three boys earned money as farmworkers, and then as teenagers worked in logging camps. They also hunted, drove the local school bus, and played sports with their classmates.

The Washington State College section explores fraternity life, campus in the 1920s, the ROTC, and their studies. Lacey focused on engineering, Dewey on agriculture, and Ed on speech.

Edward R. Murrow pictured with brothers Lacey (***left***) and Dewey (***right***) at Quaker Hill in Pawling, New York, 1949. *Courtesy Digital Collections and Archives, Tufts University*

There's so much more to their story, says McAbee. For example, at the young age of 28, Lacey was appointed the Washington State Director of Highways. Though it was during the Great Depression, a number of significant projects were built with his oversight, including the Deception Pass Bridge and the first Tacoma Narrows Bridge, now known as Galloping Gertie because of its bucking and breaking apart in a 1940 windstorm.

While Ed and Lacey were ambitious, Dewey was the easygoing brother who dropped out of college to go to South America and prospect for gold, according to Joseph Persico's biography *Edward R. Murrow: An American Original*.

Edward had already witnessed the dawn of the Second World War, broadcasting from London when Lacey stepped away from the DOT and joined the U.S. Army Air Corps and Dewey enlisted in the Army Corps of Engineers.

After the war, Lacey went to work for the Association of American Railroads and Dewey became a mining engineer and businessman in Spokane. "These two other brothers had very compelling lives," says McAbee.

He tells their story with the help of family members, letters, materials at the museum, military records, the state department of transportation, and WSU's archives. His is an exhibit that explores the stories of not one, but three of the community's most successful sons.

Not quite right as rainwater

by Eric Sorensen :: Jen McIntyre is something of a rainwater connoisseur, but you wouldn't want to drink from her collection. Her preferred source is a drainpipe that runs from State Route 520 to a parking lot in Seattle's Montlake neighborhood.

Tens of thousands of cars and scores of buses pass by every day, dropping bits of tire rubber, brake dust, exhaust, and the occasional cigarette butt. In winter, passing showers might rinse off the road surface every few days or hours. In summer, a month might go by between rains, giving McIntyre a particularly potent stormwater cocktail, like the one she harvested last August.

Freshly bottled, it's brown and nearly opaque. If she freezes and thaws it, it clears up, with little pieces settling out.

"These are maybe bits of leaves, bits of rubber," she says while working one rainy afternoon with an October 20, 2011, vintage. "Sometimes there's sand, silt, and mud. Sometimes there's bugs, little baby spiders."

But it's the bouquet that's most fetching.

"Sometimes it smells poopy," she says. "The really toxic one, the one I got this summer, smelled like an ashtray."

She soon realized this makes sense. Cigarette butts are the world's most common form of litter, according to research she unearthed, and just one butt is enough to kill half the fish in a liter of water. McIntyre's own work has focused on the effect of copper on salmon, but there's a bigger picture here and no matter how you look at it, it's not pretty.

Discussions of endangered salmon have often centered on the Four H's of hydropower, hatcheries, harvesting, and habitat. In looking at the fish's urbanized environs, McIntyre and other researchers like to note that a salmon's habitat is both physical and chemical.

Simply put, cities, suburbs and their attendant roadways, rooftops, and parking lots are not the forests that salmon have swum through and adapted to over the ages. Scientists like McIntyre are now sorting out the implications as part of a broad effort by the WSU Puyallup Research and Extension Center.

"The major thrust of this center right now is addressing water quality for the future and we're doing it on many different levels," says John Stark, center director and environmental toxicologist.

The center's Low Impact Development Program has recently finished installing a parking lot of permeable asphalt and concrete. The pavement surfaces and various catchments will keep rainwater from washing into the nearby Clarks Creek while helping answer the question of whether the water is treated by the pavement and underlying gravel.

"This fundamentally changes how we are going to manage stormwater," says Curtis Hinman, extension professor and the program's science lead.

Nearby, rain gardens and mesocosms—plastic tanks filled with different soil mixes—take advantage of the soil's ability to retain and treat water. Researchers are using them to study which soil blends are better at removing pollutants.

Two 3,000-gallon cisterns catch runoff from 70,000 square feet of roofing and pavement, giving researchers a stormwater source that they can amend with, say, street dirt from Seattle, to test on different plants and soils.

In an indoor lab, McIntyre, a postdoctoral researcher and aquatic ecotoxicologist, tests water fleas, freshwater invertebrates that act as proxies for salmon food, to see how they are affected by stormwater. If the water is a week old, it's fine, possibly because hydrocarbons have evaporated or been consumed by microbes. But whole populations of water

Jen McIntyre *Staff photo*

fleas were wiped out by a fresh batch of her most potent August stew.

Her Seattle work is a collaboration of the Puyallup center and the National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center, where McIntyre first started working as a University of Washington doctoral student. There she found that copper, an element in brake pads, had dramatic effects on salmon.

At high levels, copper can kill a fish outright. But McIntyre is also intrigued by indirect deaths, which can stem from the demise of a creature's food source, or ecological death, in which a pollutant can affect an animal's reproduction or so disrupt its normal functioning that it dies.

Copper is a neurotoxin, and McIntyre looked at how it disrupts the sensitive neurons salmon use to smell. This is critical to a fish's feeding, migration, socialization, and reproduction, as well as defense, McIntyre's main focus.

"They can smell a predator," she says.

A key compound in a fish's defense is *Schreckstoff*. German for "scary stuff," it is a chemical produced when a fish is physically damaged, alerting nearby fish to a possible predator attack.

McIntyre has done experiments comparing normal juvenile salmon with salmon exposed to copper. The normal salmon will freeze in the presence of *Schreckstoff*, effectively hiding from motion-sensitive cutthroat trout, a common predator.

Salmon exposed to copper, says McIntyre, "just keep swimming around—'Everything's great,' and chomp!"

The work was part of research that led to state legislation phasing out the use of copper in brake pads.

In the early stages of her new work, McIntyre is looking at the effects of stormwater on zebrafish, whose rapid embryonic develop-

ment and transparent body make them "a pretty popular aquatic lab rat." Scientifically, they're giving McIntyre the revelations researchers live for; ecologically, they're a horror show.

She's seen embryos with small eyes, jaw deformities, nonexistent swim bladders, and hearts that are "just wrong," with swelling around them or poorly developed chambers. "The heart's beating, but it's just not doing its job," she says. "Often toxicology is a really depressing field to work in."

McIntyre will next start working with coho salmon, whose long tenure in freshwater makes them sentinels whose health speaks well for the food web, the quality of its streams, and the stormwater that does or doesn't run into them.

Watch a video about stormwater and fish at wsm.wsu.edu/extra/stormwater.

What moves you at WSU

by Larry Clark '94 :: One fuzzy old photograph of construction in downtown Pullman shows images of early days in the city: men laying a foundation by hand, a horse-drawn carriage on the street, a bicycle leaning on a post in the foreground. The photo has no date, but that bike, like a relic dropped by a time traveler, looks remarkably modern.

You won't see a horse-drawn anything on Pullman's streets now, except in parades, but you still see bikes among the buses, pedestrians, and a lot of cars.

Bridgette Brady, director of Washington State University's Transportation and Parking Services, envisions bike use on campus increasing over the next decade and sees a need to plan for it. In that vein, WSU hosted a bike forum last year with transportation expert Mia Birk, former manager of the City of Portland's bicycle program and author of *Joyride: Pedaling Toward a Healthier Planet*. In her visit with local and university leaders, bike riders, and others, Birk praised Pullman's trail system, but pointed out areas for improvement. Among them: "Stadium Way is very challenging," says Brady. "And we only have one or two bike lanes on campus."

So it is time for a change, says Brady. "We want to help students, faculty, and staff avoid the high cost of operating single-occupancy vehicles," she says. "We also want to support WSU's sustainability initiatives through reducing WSU's carbon footprint."

She would like more connections for bicyclists farther away from central campus, including perhaps a transit center combined with a parking garage. A center could house some of the BIXI Green Bikes from the WSU bike share program that are popping up all over campus. The lightweight gray metal bikes are currently parked in seven locations around WSU, as well as ridden around Pullman and out on the Chipman Trail to Moscow.

The bikes are for students and university employees, who can use their Cougar card to unlock a bike and borrow it for up to 24 hours at no cost. Some long-term bikes are also available for up to seven days.

BIXI operates shared bike programs around the world, but WSU is the first university to use the bikes, according to Jamie Bentley, coordinator of the year-old program through University Recreation. The program has become extremely popular, says Bentley. "We've had about 6,000 users and 16,000 rides in the last year. Students love them."

As an extra benefit, "students get out of their cars to use something that also gives them physical activity and gets them more connected with their surroundings," she says.

Green bikes aren't the only new sight around campus. Crimson-colored cougar-themed buses now prowl the hills and streets of Pullman, giving more than 1.5 million rides per year to students, faculty, Pullman residents, and visitors. Pullman Transit has

Bryan McLaughlin '11 (***at left***), Carrie Nevue '12, and senior Nathan Richardson ride BIXI green bikes on campus. WSU is the first university partner for the worldwide bike sharing program. *Photo Robert Hubner*

Coordinates

Dispatches from Morocco by WSU student Katie Gillespie

wsm.wsu.edu/coordinates

operated the bus system—along with a popular Dial-a-Ride service—since 1979. Now the buses have a new look and new, lower emissions.

According to Pullman Transit manager Rod Thornton, the system is one of the most efficient in the country. "Most transit systems run 20, 25, or maybe 30 passengers an hour per bus. We average, year-round, 60 passengers an hour. You get on the expresses, you're looking at 100-110 passengers an hour," he says. Students, faculty, and staff ride for free, as do visitors on football game days.

The bus system in Pullman has always been successful. "People said when we started, if we had 1,000 riders a day that would be good. We did that the first day," says Thornton, who was Pullman Transit's first employee.

The next generation will be even more efficient, with cleaner diesel hybrid engines.

Bikes and buses are just part of the story. Students sometimes need to travel farther. For that they can borrow a Zipcar. WSU signed a contract in August 2011 with the well-established car-sharing service. Students and others can pay a $25 annual fee and hourly costs to use a vehicle.

One Zipcar can take five single-occupancy vehicles off the road, another benefit for WSU's sustainability initiative, says Brady.

Of course, many students still have cars, but often use an even older form of efficient transportation: sharing rides. With a new system at WSU called Zimride, ride-sharing has entered the era of social networks. Students sign up, fill out a profile, and post or search for rides. They can select riders or rides based on cost, destination, or even musical taste.

As many students and former students know, sharing a ride can lead to some lasting memories and serendipitous occasions. One Zimrider from WSU caught a ride to the airport with Ethan, a University of Idaho student who told her a story about a backpacking trip with friends in north Idaho. They ran out of food and, while hitchhiking back to their cars, were picked up by an older gentleman and his nephew. The Zimrider smiled and said that offer of a ride sounded like something her grandfather would do.

Well, "It *was* my Grandpa and my cousin. Ethan and his friends went back to our cabin for dinner and met my whole family," she says. "You should have heard my Grandpa when I called to tell him who I had on the line waiting for him." «

Read more about WSU's sustainability plan at wsm.wsu.edu/extra/sustainability.

CATHLEEN ABERS-KIMBALL

RASPBERRIES

:: by Tim Steury ::

THE CULTIVATION OF RASPBERRIES is, compared to that of other fruits, a relatively recent endeavor. *Rubus idaeus*, "the bramble bush of Ida," purportedly grew on the slopes of Mount Ida and was enjoyed by the residents of the city of Troy. Ida, the nursemaid to the infant Zeus, pricked her finger while picking the originally snow-white berries, staining them red from that time forth. But it was not until the last four or five hundred years, writes D.L. Jennings in his *Raspberries and Blackberries*, that raspberries have been domesticated.

Today, nearly 60 percent of U.S. red raspberries are produced in Washington. Almost all of the state's raspberries, which totaled 70 million pounds last year, are grown within a few miles of Lynden, in the northwest corner of the state, just south of the Canadian border.

And most of those approximately 9,500 acres of raspberries are one variety, the Meeker, which was released in 1967 by WSU's first raspberry breeder, Chester Schwartze.

Schwartze started breeding raspberries at Washington State College's Puyallup Research and Extension Center in 1932. Area raspberry growers had approached the station four years earlier requesting help in developing a variety that had better winter hardiness than the Cuthbert variety they were currently growing,

Meeker is obviously a fine variety, a real workhorse. It offers great fruit quality and yield, says current raspberry breeder Patrick Moore. Its only problem is it is susceptible to raspberry bushy dwarf virus. The virus, which is transmitted on pollen, causes partial sterility and degrades the berry. Raspberries are composed of small sections called drupelets. Instead of a normal hundred or so drupelets, says Moore, a berry afflicted by the virus will have far fewer, causing it to crumble when harvested.

This means the fruit cannot be sold as "individual quick frozen," the highest grade of processed berries.

This results in a huge financial hit, says Moore. To offset its effect, fields must be replanted every six years instead of a normal 10 to 12, an enormously expensive procedure.

It is no wonder then that a top priority in Moore's breeding is virus resistance.

"Flavor, color, firmness, yield, machine harvestability, root rot tolerance, virus resistance," says Moore, listing off the traits he seeks in a new variety, not necessarily in that order.

Ninety-nine percent of Washington's raspberries are harvested by machine for processing, so the berries of a commercial variety must be firm enough to stay intact through harvest.

Plant breeding is a matter of compromise and tradeoffs. A breeder pursues as many of the desired traits as he or she can get, says Moore.

WSU has released 12 raspberry varieties over the years. Besides Moore and Schwartze, Bruce Barritt was the raspberry breeder from 1970 to 1980 and Tom Sjulin from 1981 to 1987. Moore has released six raspberry varieties since he started in 1987. He is also responsible for breeding strawberries and has released three varieties, out of a total of 13 developed by WSU breeders.

Breeding a new variety is clearly a long process, generally taking around 14 years. It entails not only the reward of a successful new variety, but also a share of frustration.

When I ask Moore if he has a favorite for taste, his answer is immediate.

"Cascade Dawn," a variety that he released in 2005.

Unfortunately, the berry does not come off the cane easily, making it hard to harvest. As a result, it is not being propagated.

Tulameen, from British Columbia, has good flavor, says Moore, but is pretty susceptible to root rot.

"One of my technicians prefers Meeker," he says.

The freshest berries, and thus tastiest, of course, come from one's own patch.

The first thing to look for in planning a raspberry patch is the raspberry variety, says Moore. Good choices for the backyard grower are Meeker, Cowichan, Chilliwack, and Willamette, all of which are adapted to a Northwest climate. Others include fall-bearing Summit, Prelude, Jaclyn, and Josephine and summer-bearing Cascade Delight.

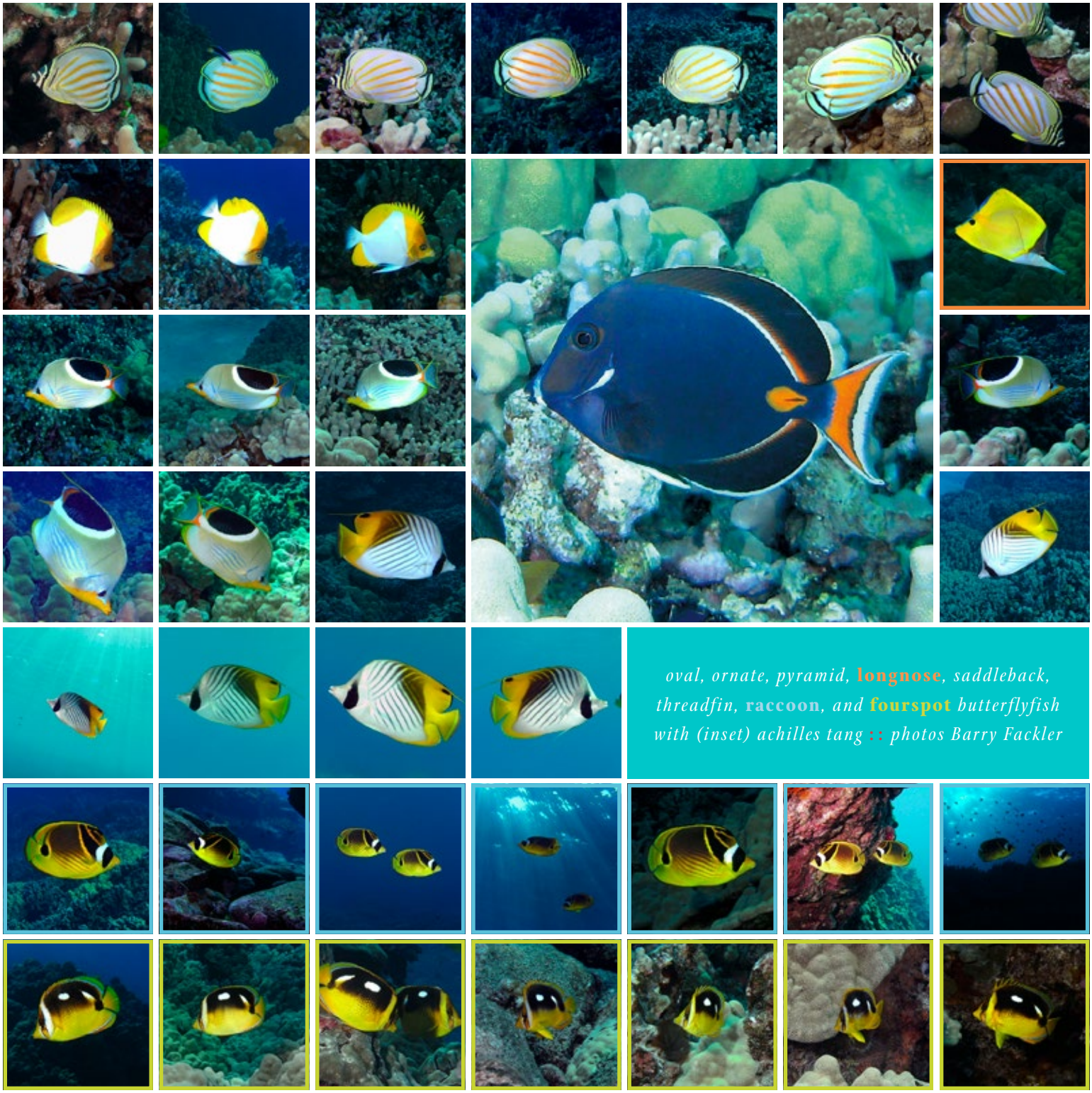
Perhaps the ultimate in raspberry flavor comes in a bottle. Winemaker Nicolas Quillé makes an intense framboise dessert wine at Pacific Rim's winery in the Tri-Cities from raspberries grown by Mike '66 and Jeanne '67 Youngquist in Mount Vernon.

Quillé uses a hybrid clone selected for its rich flavor and color. Grown on 13 acres of the Youngquist farm, the "Morrison" clone grows nowhere else. Quillé first ferments the raspberries just a bit, then soaks them in high-proof grape alcohol for 30 to 35 days. The final product is 16.5 percent alcohol and defines "raspberry." «

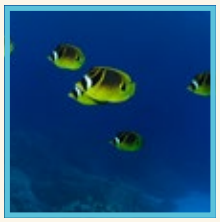
Find recipes for raspberry dishes at wsm.wsu.edu/extra/raspberry.

MANAGING NEMO

:: by Eric Sorensen ::



*oval, ornate, pyramid, **longnose**, saddleback, threadfin, **raccoon**, and **fourspot** butterflyfish with (inset) achilles tang :: photos Barry Fackler*



THE ISLAND OF HAWAII, lest it be confused with the state of Hawaii, is often referred to as the Big Island. In fact, it is the biggest of the Hawaiian Islands. But in many ways, it is like a small town, as Brian Tissot has once again realized upon returning earlier this year.

On short notice, he has scheduled a talk in the Kealakehe High School Library in Kailua-Kona, the largest town on the island's west coast, also known as West Hawaii. And in the days leading up to the talk, most everyone he meets has heard he will be speaking. Even an old acquaintance from across the island in Hilo, where Tissot was once a University of Hawai'i professor, caught wind of the talk. A traveling companion swimming off the town's waterfront met a woman from Alberta, Canada, who has also heard about it.

Tissot, accustomed to crowds of ten or so people on the WSU Vancouver campus, is excited about the prospect of a full room. He is nervous, too. His subject—the West Hawaii aquarium fishery, home to an array of charismatic, brightly colored creatures like those in the movie *Finding Nemo*—has for years been the subject of often bitter debate and worse.

"There were death threats," he says on the flight over, recalling a particularly intractable period in the '90s. "People were going on collectors' boats and letting fish out while the collectors were underwater. All sorts of bad stuff was going on."

Since then, Tissot, a marine scientist, has become a key figure in the fishery. He has documented the impacts of aquarium collectors and the ability of the reef to recover when areas are closed to collecting. He and his colleagues have shown how protected areas can "seed" unprotected areas with fish and larvae. In the first study of its kind, they mapped genetic connections between fish and their offspring miles away—a needle-in-a-haystack accomplishment writ across tens of thousands of square miles of water.

"Brian was the foundation of aquarium science here in Hawaii," says Bill Walsh, an aquatic biologist for the Division of Aquatic Resources and the state's top fish scientist in West Hawaii.

To Tissot, the West Hawaii fishery shows how a mix of science- and community-based management can reconcile competing interests and points of view to conserve a treasured ocean resource. Alongside similar efforts off Florida and Australia's Great Barrier Reef, it could be a model for conservation activities elsewhere. In particular, Tissot and a number of other researchers are concerned about the trade in aquarium fish, corals, and other items from the western Pacific's Coral Triangle, home to the richest, most diverse reefs in the world and a region of relatively lawless collecting.

So while Hawaii is relatively small, he says, "what we learned there is helping us think about the big picture."

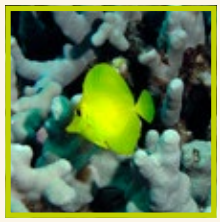
Central to that is the network of people needed to forge a consensus on what directions to take.

"We're studying people as much as we're studying organisms," he says. "Fishery management is more than just fish."

In a way, the fishery is a tidy, self-contained example—an aquarium unto itself—filled with the elements common to so many other fisheries struggling to responsibly manage stocks in the face of a hungry, growing, and interconnected global economy. It is subjected to deep and responsive scientific study from the likes of Tissot, Walsh, and others. It has several marine protected areas, darlings of the conservation world whose value reaches well outside their borders. And its voluntary management council has poured thousands of hours into smoothing out more than a decade of controversy to reach a consensus on the fishery's direction.

To Tissot, the West Hawaii fishery is a marvel of modern marine policy, an admirable blend of conservation science and sociology, or "integral ecology," capable of pointing the way for embattled fisheries around the world.

yellow, *chevron, sailfin, convict, goldrim, and* **achilles** *tangs*
:: *photos Barry Fackler*



Only now the fishery's hard-won consensus is being jeopardized by a group rekindling efforts for an outright ban on all aquarium collecting in Hawaii. Among those leading the charge is Robert Wintner, owner and namesake of the "Snorkel Bob" dive shops. He is an outlier among the aquarium trade's critics: brash, hyperbolic, unyielding, and prone to ego-flavored pronouncements that begin with, "I, Snorkel Bob." His website links to a *Honolulu Star-Advertiser* review of his book, *Some Fishes I Have Known*. The review says it "can be considered environmentalist propaganda and, as such, is most excellent at what it accomplishes."

As Tissot sees it, an advocate like Wintner uses the science that suits him and blows off the rest. A scientist has to play by different rules. His terms of engagement call for acknowledging and giving good weight to other points of view. Tissot has opinions, but he doesn't want to conflate them with his science, or shed the rigorous, impartial, redundant, and peer-reviewed scrutiny of science.

"If I give one bad talk," he says at one point, "it can be the end of my career."

Just a few days before his talk at the library, he hears Snorkel Bob might be there.

BRIAN TISSOT was a Navy brat. His dad, Ernest Tissot, flew 309 combat missions in Korea and Vietnam, was the third Navy aviator to land more than 1,000 times on an aircraft carrier, commanded the massive nuclear-powered aircraft carrier USS *Enterprise*, and retired as a rear admiral. This had several implications for the younger Tissot.

"Every two years, we'd move," he says. "But we were always near the water."

That meant surfing. He started at age 13, while stationed in San Diego. Footage of a spring break surfing trip in 1975, while dad worked at the Pentagon, has more than 40,000 views on YouTube. When the time came to go to college, he chose Cal Poly in San Luis Obispo. Sure, it had a good marine biology program. But Tissot thought, "Big waves, not too crowded."

His first major was journalism, and he knocked off a suite of photography classes. He was living at the beach 10 miles from campus, hitchhiking to class. One day he was picked up by a marine biology professor, who told him he wouldn't need to take any prerequisite science courses to enroll in his class.

"That was it," says Tissot. "I was gone."

While he used to sit on the beach waiting for waves, he would now walk the shoreline. He developed an interest in black abalone, a dark sea snail with an iridescent pink and green interior. He finished his undergraduate years studying their diet and growth. For two years after graduation, he worked for the Diablo Canyon nuclear power plant, studying how abalone were affected by the plant's warm-water discharges. While getting his master's at the University of California, Irvine, he met marine biologist Mark Hixon, who lured him to Oregon State University for a doctorate.

Two years into his studies there, he started seeing fewer abalone. In 1988, there were a fifth as many as the year before. It turned out the abalone were stricken by a bacterium that inhibits their digestive tract. Their feet, which they use to store carbohydrates as well as move and anchor themselves, wither away, making them more vulnerable to predators and starvation.

Tissot looked for them in remote places left relatively untouched by fishing, like Santa Cruz Island, in southern California's Channel Islands. He sailed on a converted destroyer to Mexico's Guadalupe Island. Upon arriving, the crew was told they had to leave in a matter of hours. It almost didn't matter; all Tissot found was shells.

"You go to a place where life was just teeming and suddenly it was empty," he says. "It was haunting. It was very sad."







Up to that point, Tissot was focused on the nitty-gritty of the research: biomechanics, morphology and evolution, diet. But as the abalone withered, Tissot's conservation ethic grew, shifting "from science for science's sake to protecting the things I love."

IN 1979, Tissot was basking in one of the Seven Pools of Hana, on the island of Maui, when he spotted a long form in the distance. He wondered out loud what it was.

"That's the Big Island," said his brother.

"I had a moment," Tissot recalls one night over ribs and a golden-orbed sunset at a waterfront restaurant. "I felt I would end up here. There was something about this island that always appealed to me."

Truth be told, Tissot is prone to moments. He had another one the next year, when he visited West Hawaii and dove north of town.

A strong ocean surge sent water in and out of the black lava cliffs and underwater caves. Against this backdrop, clouds of fish swirled back and forth, going with the flow, moving in to pick at rocks before streaming out. Tissot documented the scene with an underwater 8-millimeter movie camera, or thought he had before realizing he forgot to load it with film.

"I just figured I'll have to remember it," he says. "And I have."

And in a move familiar to many Hawaii visitors, from smitten honeymooners to the cast of "Lost," he got back to the island.

In 1992, not long after he got his doctorate, he was hired as the first faculty member in a new marine science group at the University of Hawai'i at Hilo. It was a busy time. He taught 15 different classes in the first two years, sometimes staying just a chapter ahead of the class. He started teaching two-week summer workshops in quantitative underwater ecological surveying techniques, or QUEST, training scores of divers to monitor the health of reef communities. He also gave public talks about coral reef conservation, ecology, and human impacts like pollution and overfishing. At a meeting in 1994, Lisa Choquette of Dive Makai, a scuba tour operator, told him aquarium collectors were destroying the West Hawaii reef, with many species of fish being harder to find.

"This was the first I ever heard about it," says Tissot.

The issue had been simmering since the early '70s, when the state required collectors to obtain permits and file monthly reports. In the ensuing two decades, several forces came to a head. Saltwater aquariums grew in popularity, aided by improvements in tank technology and jet travel that could speed colorful, tropical fish to pet stores.

Permits and reports did little to slow collecting. But it did provide a paper trail of the trade's growth, from fewer than 100,000 fish collected in 1973 to more than 400,000 in 1995. The bulk of collecting also shifted to the Big Island, as much of the reef around Oahu was overfished and destroyed by hurricanes in 1982 and 1992.

At the same time, a growing number of tourists were visiting West Hawaii and availing themselves of snorkeling and dive services like Choquette's, while many Hawaiians and mainlanders were moving to the Big Island.

Tina Owens was among the newcomers, arriving from Oahu in 1993. Then, as now, the ocean was a huge part of local life, be it through snorkeling, scuba diving, catching word of a humpback whale on the Ironman triathlon swim course, or taking in the ocean view from homes along the flanks of Mauna Loa.

"Here people have their faces in the water all the time," Owen says one afternoon over lunch and a beer with Tissot at the Kona Brewing Co.

The view out her scuba mask in the early '90s was alarming.

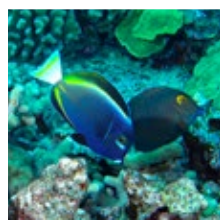
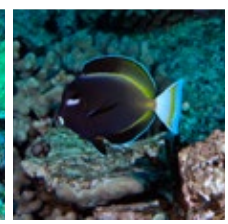
"I had a number of dives where I could literally count the yellow tang on one hand," she says, referring to the most frequently collected fish. "Those were dark years, but that's when people started getting upset about it."

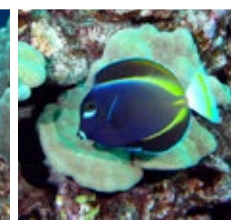
Frustrated by a lack of legislative action, Owens formed The Lost Fish Coalition and began pushing for a total ban on fish collecting. She got 4,000 petition signatures in favor of the ban and wrangled 400 pieces of testimony to committees weighing the proposal. Shortly before a hearing on the ban, she picked up the phone and heard a voice say, "You're dead. You just don't know it yet."

ABOVE THE WATER, scores of tourists are taking advantage of the 65-foot *Kanoa II*'s sybaritic delights: the high-dive platform, the 20-foot water slide, Mai Tai specials at the bar, lunch.

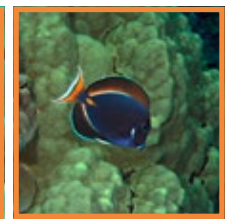
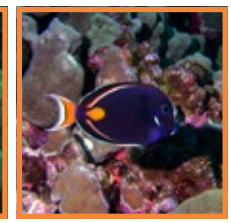
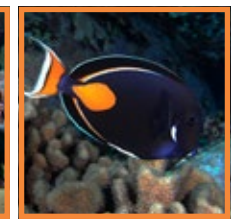
Underwater, a fair number of guests in snorkels and scuba gear are drinking in the scenery that gives Hawaii's coral reefs an





Opposite, at left: Brian Tissot surfaces near the Red Hill replenishment area. *Staff photo*

estimated recreation and tourism value of nearly $400 million: strikingly banded butterflyfish, solid gold yellow tangs, and the parti-colored reef triggerfish, Hawaii state fish and owner of one of the longest Hawaiian fish names, Humuhumunukunukuapua'a. Mullets shimmer past, possibly to escape a trevally. Playing rhythm to the chorus of bubbles and surf is the gentle ticking sound of black durgon fish picking algae off the coral.

Tissot surfaces, pops out his snorkel, and mentions a school of dark fish with bold orange splotches on and near their tails.

"Those are Achilles tangs," he says. "You don't see them very often. They're very coveted by collectors."

But while the other fish seem abundant, Tissot says he can't tell by simply looking if their numbers are up or down. That requires counting, which he started doing in the mid-90s as the aquarium debate gathered steam.

At the state's request, Tissot and a University of Hawai'i colleague ran multiple, 50-meter transects, tallying fish on industrial-strength waterproof paper in two protected areas and nearby areas open to collecting. One pair of sites was by the Old Kona Airport, where Tissot first dove in 1980. The other sites were at Red Hill, a stone's throw from the *Kanoa II*'s mooring.

The results were dramatic. Seven species that accounted for 90 percent of the aquarium trade were significantly reduced in unprotected areas. The areas had roughly half as many moorish idols, Potter's angelfish, longnose butterflyfish, and yellow tang. Four-spot butterflyfish were down 75 percent. Meanwhile, fish outside the aquarium trade were unaffected.

"The collectors couldn't believe it," says Tissot. "They said, 'How did you know the fish weren't there some other time?' Because those others were, and at multiple sites, and aquarium fish were not there dozens of times. They couldn't believe it. They didn't want to believe it."

Tissot shared his preliminary findings with a legislator who went on to forge legislation to ban collecting in certain areas. Owens' coalition agreed to the compromise and in 1998, the legislature passed Act 306 barring collecting in "Fish Replenishment Areas" that covered more than 30 percent of West Hawaii. A broad-based fishery council—including collectors, dive tour operators, fishers, divers, and community representatives—picked nine areas covering 35 percent of the coast.

A hearing on the replenishment areas drew more than 800 people and was the largest ever conducted by the Department of Aquatic Resources. More than 93 percent of the attendees supported the areas.

But not everyone was happy. Tour operators and community members were upset that the new rules didn't have enforcement provisions. And while the collectors are a small industry in Hawaii—four or five dozen people grossing less than $2 million a year by the latest estimates—they felt singled out for using what they thought was a seemingly limitless resource.

At Tissot's suggestion, Claudia Capitini '03 MS canvassed the fishery council's players for her master's thesis and found the collectors felt the council's conclusions were too heavily skewed by scientists.

One collector told her, "there needed to be more than biology" behind the decisions.

"Nobody had ever done this before and here is a case where you have an information asymmetry," says Capitini, who now carries the title of "sustainability maven" for an environmentally friendly products company. "You have people who have a lot of information about why these fish are important, about what the habitat is like, on a level that's different than the people who live there."

Capitini notes that similar asymmetries appear in other ecological disputes, like the debate over global warming.

"This happens all over the world," she says "This is not new."





Hawaiian reef fish including **moorish idols**, **black durgon**, *and* **reef triggerfish** :: *photos Barry Fackler*

TISSOT IS NAVIGATING his rented Chevrolet Impala along the waterfront's Ali'i Drive on his way to a dive shop, then to Kahaluu Beach Park for some snorkeling. He passes one of Snorkel Bob's ubiquitous dive shops, and the thought of its owner and namesake, Robert Wintner, has Tissot seeing red. And purple. And green.

As the aquarium fishery issue continued to simmer, Tissot started thinking about the reef's people as well as its fish. He used something called "integral ecology," which applies the theories of biochemist and New Age philosopher Ken Wilber and others to the human-nature interface, in this case, marine protected areas and their management.

Wilber's philosophy can be a bit hard on the mind, so sit tight for a second. As Tissot explains in an article for *World Futures: The Journal of General Evolution*, the Integral Model describes evolution as taking place in four dimensions or "quadrants": the exterior-individual quadrant (behavioral), the exterior-collective quadrant (systems), the interior-collective quadrant (cultural), and the interior-individual quadrant (experience). It gets even more intense, which is what one should expect from an author with a book subtitled, "A Brief History of Everything."

Woven into the map of quadrants are color-coded stages of development. They start with beige, which is akin to the selfish early years of a human's life built around survival, warmth, and shelter. Two stages up is red—the impulsive self, aligning with power, taking what you need, being what you are, and doing what you want.

The blue stage sees a life of meaning bounded by rules and law. In here, says Tissot, you can find politicians, law and order, organized religion, environmental regulation. Orange features incentive-based achievement, rationalism, science and knowledge. Stages above that start to recognize stages below and move toward a sort of broad-minded enlightenment.

It's all pretty far afield of science, which, in a way, is the point. Science is one way of seeing the world. By looking at all quadrants and all levels, an ecologist can start to consider the various perspectives of, say, a fishery, and recommend solutions that, as Tissot writes, "honor each perspective while maximizing the sustainability of the system as a whole."

Aquarium collectors are blue, says Tissot. "This is perfectly legal. There's nothing wrong with it."

Environmental organizations are "all over the map." The mainstream ones will be orange and blue. More radical environmental groups, like Friday Harbor's direct-action anti-whaling group Sea Shepherd, are red. For that matter, Snorkel Bob, who sits on the Sea Shepherd board, is red too.

"The colors are unimportant," says Tissot as he steers the Impala into a rival dive shop's parking lot. "It's where they're coming from and why."

TEN MINUTES before it is scheduled to start, the sign-in sheet for Tissot's talk has a handful of signatures. But when it comes time to speak, nearly 50 people have filled the chairs.

Their body language suggests they are a circumspect lot. One woman videotapes the proceedings with a small handheld camera. Tissot is wearing one of his dozen-plus aloha shirts, this featuring Hawaii's state flower, bird, and tree. His speaking has the breathless quality of a nervous person, but the words come easily. When he asks how many people are divers, half the hands go up.

He packs in a lot, first framing the West Hawaii fishery as part of a bigger picture that has 30 million aquarium fish coming from some 30 countries, but mostly the Philippines and Indonesia. Fishers will stun fish with cyanide and dynamite; run rough over reefs, and rove about, flaunting local laws. If the trade is banned in Hawaii, "probably one of the best managed

Left: Fish abound in the protected waters of Kealakekua Bay, home of the Capt. Cook monument. *Staff photo.* **Above:** The predatory bluefin trevally is a common site in the Hawaiian reefs. *Photos Barry Fackler*

systems in the world," says Tissot, even more of it will move to less regulated areas of the globe.

He recapped the late-90s research showing that seven of ten aquarium species were down in collected areas.

"That says, 'Yeah, collection does have a big impact,'" he says.

But later, he shows how much that story changed once 35 percent of West Hawaii was closed and the fish had a chance to rebound. In less than three years, fish densities in replenishment areas shot up to be even with those of no-take areas. From there, the densities in each went up and down together in a cyclical pattern. Overall, the fish in the newly protected areas went up 74 percent.

"They replenish fish very quickly," Tissot says.

Even more striking is work showing genetic relationships between parents and offspring that end up 15, 49, 140, even 184 kilometers away.

"What it demonstrates is all these populations are all connected, which is really good," Tissot says. "So if you wipe out a population in one area, it will be reseeded from somewhere else, which is what you want."

Still, there are some species that have continued to fall off, a reason some managers and fish advocates are pushing regulators to create a "white list" of fish that can be caught. And both the number of permits and number of fish caught have roughly doubled since 1999, building the case to limit the entry of collectors into the trade.

Such changes would be in keeping with adaptive management, the iterative decision-making process advocated by, among others, *Compass and Gyroscope* author Kai Lee. Near the end of his talk, Tissot puts up an image of Lee's book. The compass, he explains, is science, data, monitoring. But the gyroscope comes from the public, which is all over the West Hawaii fishery—in the dozens of Fisheries Council members putting in tens of thousands of hours, in the local Division of Aquatic Resources workers, in the network of people swarming the Big Island, living with their faces in the water, and turning out for talks like this and others put on by the local Sea Grant.

The resilience of the community, says Tissot, is key to the fishery's sustainability.

"You've got to have good science, but you have to have a resilient community, one that is engaged, responds together," says Tissot. "With those things, you're going to keep this fishery going. You're going to keep the reefs healthy, you're going to keep the fish in high abundances. If something goes wrong and you see big declines, you do something different, but that's what management is about. And most fisheries don't respond like this."

The crowd is a mix of tough and perceptive, noting small details like the difference between the average change in fish numbers and absolute change. But given the heat that surrounded the fishery 15 years earlier, it's a remarkably calm, even encouraging reception. Two collectors even thanked Tissot, and one said Tissot's research has become "a cornerstone of the debate."

"I've never had two aquarium collectors in one night thank me," Tissot says the next day.

Snorkel Bob was a no-show. ⊗

Read about a conversation with Snorkel Bob at wsm.wsu.edu/extra/snorkel-bob.

BRIAN TISSOT *STAFF PHOTO*

bandit and **potter's** *angelfish*
:: photos Barry Fackler

The Collectors

by Hannelore Sudermann


The Count


The Collector


The Thief


The Detective

A tale of tenacity, obsession, and ancient texts

illustrations by David Wheeler

The papers were yellowed, fragile, and disorganized, but in December of 1941, on a search for rare books and documents in Mexico, Spanish professor J. Horace Nunemaker found his treasure.

A long-time collector who spent many hours searching for old Spanish texts and papers through booksellers and dealers in Spain and the United States, Nunemaker had just turned his efforts to Mexico City. There he made the find of his life, a collection that dated almost as far back as the Spanish conquest of the Aztec Empire and contained the business dealings of one central elite family and several families who had intermarried.

Nunemaker's wouldn't be the only quest for these papers. Four decades later, a portion of them were hunted out and plucked from the University's locked archives by a notorious book thief. That led to a police investigation and ultimately a third quest, this one involving a WSU police officer, the FBI, and a snitch.

But first, how they came to Pullman.

DURING NUNEMAKER'S TIME, President E.O. Holland was the ultimate collector at Washington State College, aiding faculty from a variety of disciplines in their efforts to acquire art and literature that would enhance the school's museums and library. In one vein, he envisioned the state college as a center for Central American studies. With that in mind he both encouraged and, at times, financially supported Nunemaker's acquisitions.

Nunemaker had come to Washington State to teach and be chair of the foreign languages department in 1928. He had honed his passion for travel and collecting as a young faculty member at Denison University, voyaging to Spain and leading summer tours through a program in New York. "His Spanish was perfect," says his son John Horace Nunemaker '43. For his doctoral thesis, he focused on the kings of Spain and their interest in geology. It fed his fascination for scrutinizing old Spanish texts. "We had all kinds of stuff that he brought back," says his son, "things bound in parchment and dating back to the sixteenth century. He was very excited about anything historical, especially in the Spanish language."

In 1939, at the end of the Spanish Civil War, Holland sent him back to Spain to find books for the library. His trip, supported by the Friends of the Library, was a great success. He obtained 2,000 books and 26 manuscripts. But then he ran into trouble with the outbreak of World War II. He lost his passage home on a German ship. "We were pretty worried," says his daughter Mary Emma Eriksen '48. Fortunately, after a few weeks, he found berth on a Greek ship from Lisbon.

Since war had made Europe so difficult to reach, Holland and Nunemaker turned their sights to Mexico.

Eriksen has memories of her father in his study—upstairs in a converted bedroom of their brick home on B Street. "He would sit in a chair cross-legged. I would often go up to see him," she says. He would talk about his discoveries, details he found in his translation of a rare book or document. "He had a way of making historical information very interesting." Of the stories he told, there was one of Spanish-born Pedro Romero de Terreros, the Count of Regla, who was at the core of the Mexican collection he procured in Mexico the winter of 1941.

ROMERO DE TERREROS was the fourth son in a relatively poor family. He left Andalusia around 1730, at the age of about 20, and found fortune across the Atlantic in "New Spain." His uncle had already become established in a town north of Mexico City, with a variety of business interests. When the uncle died in 1735, Romero de Terreros took charge of managing the inheritance and business dealings for the heirs, and did quite well. Six years later, he was making large investments in silver mines around the region. From there his wealth and fame grew. He married the daughter of the Countess of Miravalle, whose family had been in New Spain for 150 years and who could provide him more with connections than money.

As his own fortunes grew, he lobbied for greater recognition from his homeland, eventually earning the title of Conde de Santa Maria de Regla (Count of Regla) from King Carlos III. The count was, in Nunemaker's own words, "one of the wealthiest men in all the Indies." Mexico's silver mines "were the source of his wealth and generosity, which included even a fully-equipped battleship as a gift to the king."

Four generations of Romero de Terreros descendants married into other long-standing elite families, managed their businesses, estates, and silver mines, and contributed to the Catholic Church and local charities. As Regla and his heirs journeyed through time, they left a trail of documents that not only help us understand the families, but also offer land records, business transactions, estate inventories, and community events, throwing light on many aspects of life and history in Colonial Mexico.

In 1918, the Regla archive was moved from a country estate into a descendant's home in Mexico City where they were organized by a family member, according to historian Edith Couturier, who wrote *The Silver King: The Remarkable Life of the Count of Regla in Colonial Mexico*. In 1939, a portion of it was made available for sale, according to Couturier.

IN THE WINTER OF 1941–42, Nunemaker arrived to buy it. There aren't many details in our archives about how he found the papers, but the professor was well-known to antiquarian book sellers and dealers who specialized in Spanish-language materials. With money from the Early Birds, a civic club in Spokane, he was able to buy the collection of about 22,000 pages for $9,030.83.

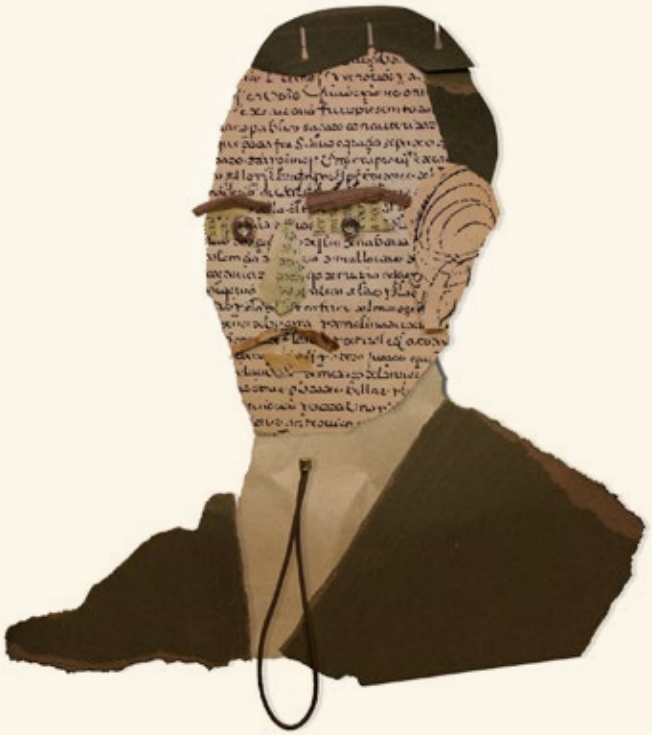
Holland credits his find in a 1948 letter. "Very likely we would never have been able to get the Regla collection if you had not been in Mexico City at the time this great quantity of source material was placed on the market," he wrote.

Acquiring the papers was only the first hurdle. Getting them out of Mexico was another concern. It took some doing and a full year of delays while the Mexican government reviewed the deal, "but he was able to get them back in a diplomatic pouch," says his son. The Mexican government withheld a small portion of the papers, of which Nunemaker was able to obtain micro-filmed copies by 1945.

Back in Pullman the professor was provided a space to house the collection in the basement of the Home Economics building. He quickly filled the room with file cabinets and bookcases, though he had hoped the site was temporary and that sometime soon could be relocated to a better, more permanent space in the library.

While many of the business papers were organized and bound in leather, a good portion of the collection was loose-leaf vellum and in no particular order. Nunemaker had a great task ahead determining the content of these materials. He enlisted the help of his better students. "They were very fragile," says Genevieve DeVleming '48, who took a turn translating for her instructor. "With some of these documents, you had to guess at what they meant." The language came in different versions. Particularly difficult was the formal and sometimes antiquated Spanish.

NUNEMAKER EVENTUALLY HAND-PICKED Jacquelyn Melcher Gaines '47 to be his research assistant. She was a student from Lummi Island who had done well with her Spanish major and decided to continue to graduate school. She took great care



with the materials, was meticulous enough to meet her professor's high standards, and had a real facility with deciphering the content and meaning of the papers. "I think I had a monkish side to me," she says. "I spent hours poring over these hand-written documents.

"The loose papers were all mixed up in these drawers," she says. "My job was to try to get them in chronological order." It wasn't an easy task, since the documents were both fragile and inscrutable. "Eventually you got used to a particular scribe," says Gaines. Some of the papers carried prominent signatures. "To find the signatures of the kings of Spain, that was really impressive," she says. "Then figuring out which king it was made it even more thrilling."

Documents from the extensive Regla Collection including a dowry ***(center)*** and family tree ***(center, lower right)***. Photos ***(clockwise, from upper left)***: J. Horace Nunemaker, Jacquelyn Melcher Gaines '47, J. Stephen Huntsberry ***(left in photo)*** with John Guido, Stephen Blumberg. *Courtesy WSU Manuscripts, Archives, and Special Collections*

ROBERT HUBNER

She also enjoyed seeing her mentor at work. "I think there was nothing he liked more than to work on a manuscript which had the most illegible writing," she wrote about Nunemaker in a memorial. "He told us, 'We know there must be something that makes sense there; it is only a question of solving the puzzle of the handwriting.'"

Nunemaker prized the papers and had planned a career with them. "It was to be his life's work, if he had been spared," wrote his colleague A.W. Thompson. But his plans were cut short by leukemia. Even with failing health, he tried to spend time with the documents. "He kept coming in to check on me," says Gaines. "But he looked so pale."

Gaines was able to finish her degree and complete what is now known as the Gaines Calendar, a chronological organization of the loose-leaf papers. Her work was so extensive she was told by the faculty she could publish a few papers on her work and easily complete her doctorate.

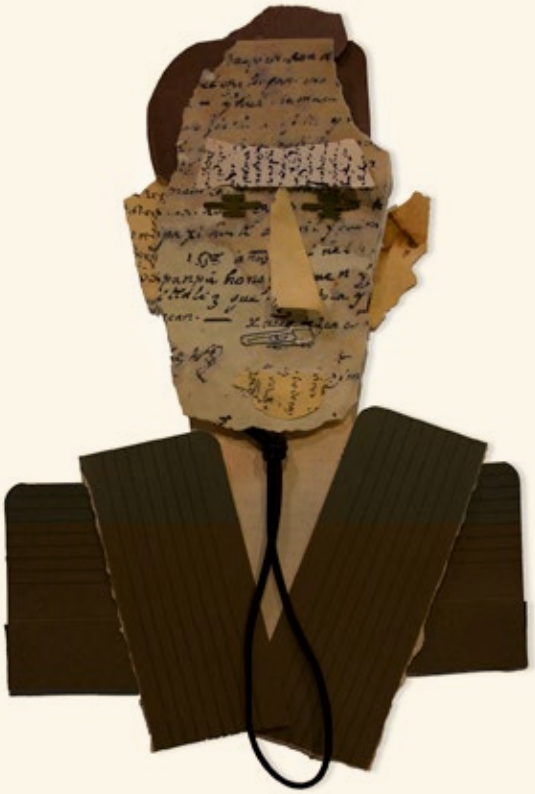
After Nunemaker's death in 1949, the materials were absorbed into the archives. In 1963 the Gaines Calendar was published, making it possible for scholars to know of and access portions of the collection. The 1970s saw a new approach to history, one that brought the Regla Papers new attention. This "new social history" considered daily life, family business, contracts, and official business and government papers in looking at the past by building a context of time and culture.

"Historians of social and occupational groups, regions, communities, and enterprises began to better appreciate the centrality—and often indispensability—of the undistilled and immediate documentation found so abundantly in collections such as the Regla Papers to the study of these topics," writes historian John Kicza. When he joined the Department of History faculty in 1980, he was very interested in spending time with the Regla collection since it fit with his expertise in Latin American history. While Kicza and other scholars have dipped into the papers over the years, Gaines was likely the person who had spent the most time with it. "Few similar collections for Latin America exist in the United States," Kicza writes.

KIZCA AND THE ARCHIVISTS had plans to further explore the Regla Papers, but those plans were interrupted in 1988, when a portion of the collection disappeared.

Officer J. Stephen Huntsberry (Steve to his friends), was called to Holland Library in the early winter of 1988. He thought it was yet another report of a missing book. He'd dealt with these before: pages razored out of rare volumes, or entire books smuggled away in a backpack.

The first indication of this theft likely came when a job candidate asked to see an item from the archives for his own interests. The librarians weren't able to find it. Later at a meeting, it came out that another item was missing. In a building of thousands of books, materials can often be misplaced or simply misshelved. So, without much ado, the archivists set out on a shelf-by-shelf hunt for those things, only to discover that still more materials were gone. These included a first edition 1589 book by Richard Hakluyt, *The Principall Navigations, Voiages, and Discoveries of the English Nation*. The extremely rare and valuable book was key in promoting British settlement of North America. Gone as well was William Butler Yeats's 1917 *Responsibilities and Other Poems* with annotations and corrections in the author's own hand. So were Hudson's Bay Company documents, 40 books from the fifteenth and sixteenth centuries, and a very large chunk of the Regla Papers.



Archivist John Guido, a small character with a goatee, ushered the much taller Huntsberry into the collection and handed him examples similar to the things that were gone. Cradling a document that was created before 1501, at the dawn of printing, Huntsberry was charmed. "I suddenly understood the attraction of rare books and documents," he says. "And I realized this was not simply somebody misplacing documents."

It seemed as each day passed, new losses were discovered. "I think it was a sickening feeling for everybody involved," says Eileen Brady, a librarian who then was on the Faculty Senate Library Committee. At first, they must have all looked at each other, she says. "The theory is that most thefts like these are inside jobs."

In total 357 books and 2,500 manuscripts, about $500,000 worth of rare materials, had been stolen from WSU's archives. Huntsberry threw himself into the investigation, first looking at staff, students, and faculty, then reviewing visiting scholars who had spent time in the library. Huntsberry checked motel records. He discovered that WSU wasn't the only school that had recently suffered a substantial loss of rare materials. He heard about a theft of pioneer diaries from the University of Oregon, and of another, similar situation in Southern California. "Then I thought, whoa, this is a much bigger thing than I imagined."

Many of the affected schools were keeping quiet. News of theft from their archives implied that they weren't properly protecting their materials. And often the school officials and police didn't consider book theft a serious crime. "Back then the penalties for stealing were a slap on the wrist," says Huntsberry.

Looking through records, the detective found a name—that of a University of Minnesota professor who had signed in to several of the affected libraries. He printed up flyers with a sketch and some general information including that this person seemed knowledgeable about rare books. He sent them around to other schools. Then, that April, a librarian at the University of California at Riverside discovered a suspicious-looking man in a closed area of the library. The man was detained and processed by the police, who discovered what could be considered burglary tools in his bag. He also had maps of other libraries and a schedule of the business hours for Holland Library at WSU. Someone called and left Huntsberry a message. "I called them back right away and said 'Don't let him go.' But they had," he says.

Still, they had recorded a drivers license containing the name of the Minnesota professor, as well as fingerprints. Huntsberry forwarded his materials to the FBI. They weren't that interested, he says. He also sent his report to authorities in Minnesota and several other states. What he got back was not the Minnesota professor, who was able to prove he wasn't in the places where his ID had turned up, but the name of Stephen Blumberg, a Minnesota native in his 40s who had prior arrests for trespassing and burglary. The WSU officer was pretty sure he had his man. But there wasn't much he could do.

"I was told I couldn't traipse around the country," says Huntsberry. "It was out of my jurisdiction, anyway. So I gave it over to the FBI."

Two years later, with the help of an informant, the FBI arrested Blumberg in Ottumwa, Iowa. When they entered his home they discovered the greatest cache of stolen books and manuscripts in the history of United States. "It was like a small town library," says Huntsberry, who later traveled to the Midwest with Guido to recover the WSU materials from the FBI warehouse. "Only with Gutenberg bibles."

Blumberg had set out to build himself his own private library of the rarest and most significant books of American history and literature. Over years, he had filled it with books he had pinched from the shelves of Harvard University, the Claremont Colleges, and hundreds of others. His lair was a large crumbling brick Victorian. There he covered over the windows and filled every room with bookcases. He was wily in his thefts, squeezing his small frame into tight spaces, riding in dumbwaiters, taking advantage of shift changes at the checkout counters.

With the help of the librarians, Huntsberry traced Blumberg's steps in Pullman. He had stolen a set of "sub-masters" for the University from a desk in an employee area of the library.

The keys could get him through a variety of doors around campus. He let himself into the library after closing, probably through the loading dock doors on the north side of Holland Library. The archives were kept on the same floor behind locked cages in an area closed to the public, but there were gaps at the top of the eight-foot cages that the slender 125-pound Blumberg could wriggle through. He climbed in and retrieved his targets, sliding them under the cages and carrying them through several doors to his pickup at the loading dock. "He picked and chose," says Huntsberry. "He would research what to take." If there were multiple copies, he would take the very best one. With the Regla materials, he likely used the Gaines Calendar to make his selections.

Historically Yours

:: *by Hannelore Sudermann*

PAUL PHILEMON KIES, a popular professor of English, was one of the keenest collectors at Washington State College. When he wasn't teaching, advising, or shooting photographs on campus, he was filling his office and home with rare books, autographs, letters, and photographs.

Robert B. O'Connor, a student, profiled Kies in 1970. It's a portrait of "a unique personality" whose "office was so crowded ... with a lifetime of accumulation of everything imaginable that there was never any available chairspace."

As a young scholar from the rural Midwest, Kies learned his culture in Chicago from the Ringling family (as in the Ringling Brothers Circus) in the late 1920s. He was the personal music teacher of their son Robert. It was, in a way, a finishing school for the young man who was also studying for a doctorate in English at the University of Chicago. "I ate with the family and not the servants because his parents wanted him to respect me," Kies once said. "That's how I learned the proper utensils to use."

In Pullman, Kies assumed the life of a bachelor scholar. He rented a room from chemistry professor Harry Cole. "He lived there for something like 35 years," says Cole's nephew Bob Smawley '52. So as not to inconvenience the family, he rarely ate or showered at the home, instead procuring his meals at the student commons. Sometimes, he was known to sleep in his office amidst his books. "It was filled with shelves built from boards from the lumberyard and books underneath," says Smawley.

What Smawley remembers most about the professor is the sight of him with a camera around his neck, eagerly documenting the events of college life whether they were basketball games or concerts in Bryan Hall. Kies said he had three great passions: photography, music, and autographs. He jokingly called them his "diseases."

He started his collecting habit with first edition books, which he bought to show students. That led him to rare book catalogues, which led him to the autographs. "He 'bit' on a Shaw item, and has been hooked ever since," wrote O'Connor.

"They're not the kind of autographs you're thinking of," Kies once told the *Pullman Herald*, prizing history over celebrity. "My autographs consist of the letters and documents written by famous people."

One of his prize acquisitions was a lengthy handwritten letter in which Oscar Wilde summarizes a scenario for a comedy of manners. Further research revealed that Wilde sold the outline for 50 pounds and it was turned into a play by another writer. "If you like Wilde, this is so fun to see," says archivist Cheryl Gunselman. "It's probably one of the most important letters in the collection,"

Gunselman recently combed through Kies's papers to pull together an exhibit. She mused over the list of items she would use: a note from Sarah Bernhardt, a letter from Pearl S. Buck, a government document signed by Adolph Hitler, a copy of a poem by Langston Hughes.

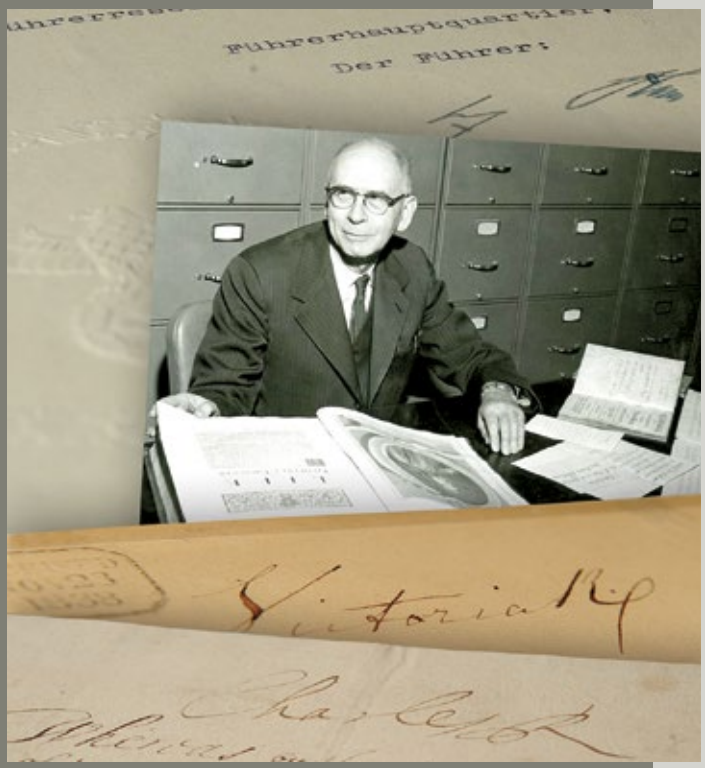
"Ah, here's a prize," she says, noting a Charles II manuscript from 1670. "It's a pretty beautiful one." The notes Kies left about acquiring the piece and documenting its authenticity make it even more interesting. "Part of the fun of the collection is that he's all over it, too," she says.

Kies, who had few other expenses, used his own money to build the collection. His efforts hit full speed in the 1950s, as evidenced by his letters and bills of sale.

"I've long had a fascination about this collection," says Gunselman. "I want to explore the research value in a collection like this."

Kies kept his collection around him until shortly after his 80th birthday party in 1971, when he died of a stroke. WSU bought the materials, which included more than 400 pieces of memorabilia, and moved them into the archives for safekeeping.

His friend and colleague Ruth Slonim, who had attended his birthday party, wrote about Kies in his memorial. "His suit pockets were files, his briefcases repositories of photographic flash bulbs, other paraphernalia, and manuscripts; his cranium, the locale for an infinite resource of eagerly gleaned knowledge, always readily at hand."



Paul Kies, English professor and consummate collector, loved books and autographs.
Staff photoillustration

See some samples from Kies's extensive collection at wsm.wsu.edu/extra/kies.

IN BLUMBERG'S HOUSE in Iowa, the FBI found 16,000 rare books and manuscripts valued at the time between $25 million and $35 million. Blumberg was tried in 1991. His lawyers argued that that his stealing was a symptom of mental illness. He later told a writer that he believed he was protecting the books and manuscripts from neglect or worse in the hands of the libraries.

The book thief spent four and a half years in prison. At the end of that time, Huntsberry and WSU librarian Eileen Brady were called to testify at his parole hearing. Huntsberry told the court that he thought Blumberg would reoffend. Brady testified about the damage he had done taking original documents. "The original material tells you a lot of things that you cannot get from a photocopy," she says, noting writing in the margins, ink and paper used. Even the smell and the feel of them tell you something, she says. She also testified that simply posting a photo of the thief in libraries around the country would not much help librarians if Blumberg continued to steal. "Once you look at a picture long enough, you get used to seeing it and then you don't really see it anymore," she says. "Besides, he's a rather unprepossessing person." The latter statement, she says, was the only time he looked at her during the hearing.

Blumberg is now out of prison and may be living near his family in the Midwest.

Huntsberry lives in Arizona and works on contract with the border patrol. Since the Blumberg affair, he has been invited to consult with libraries and museums around the country about security and investigating thefts. He admits that during his time at WSU, his dogged pursuit of Blumberg and the books might have ruffled a few feathers. Back then, federal law enforcement and others didn't value rare books the way they did artwork or other stolen artifacts, he says. "If I did anything right by being stubborn and obnoxious about this, they're over that now."

Today almost all of the books and papers recovered from Blumberg's house have been returned to their libraries. And many of those libraries have changed the way they house and use their rare materials.

The Regla Papers and WSU's rich collection of rare books and manuscripts are today kept behind several layers of security in locked underground storerooms at the Terrell Library. To access them you have to go through the Manuscripts and Archives offices and have keys to both elevators and doors.

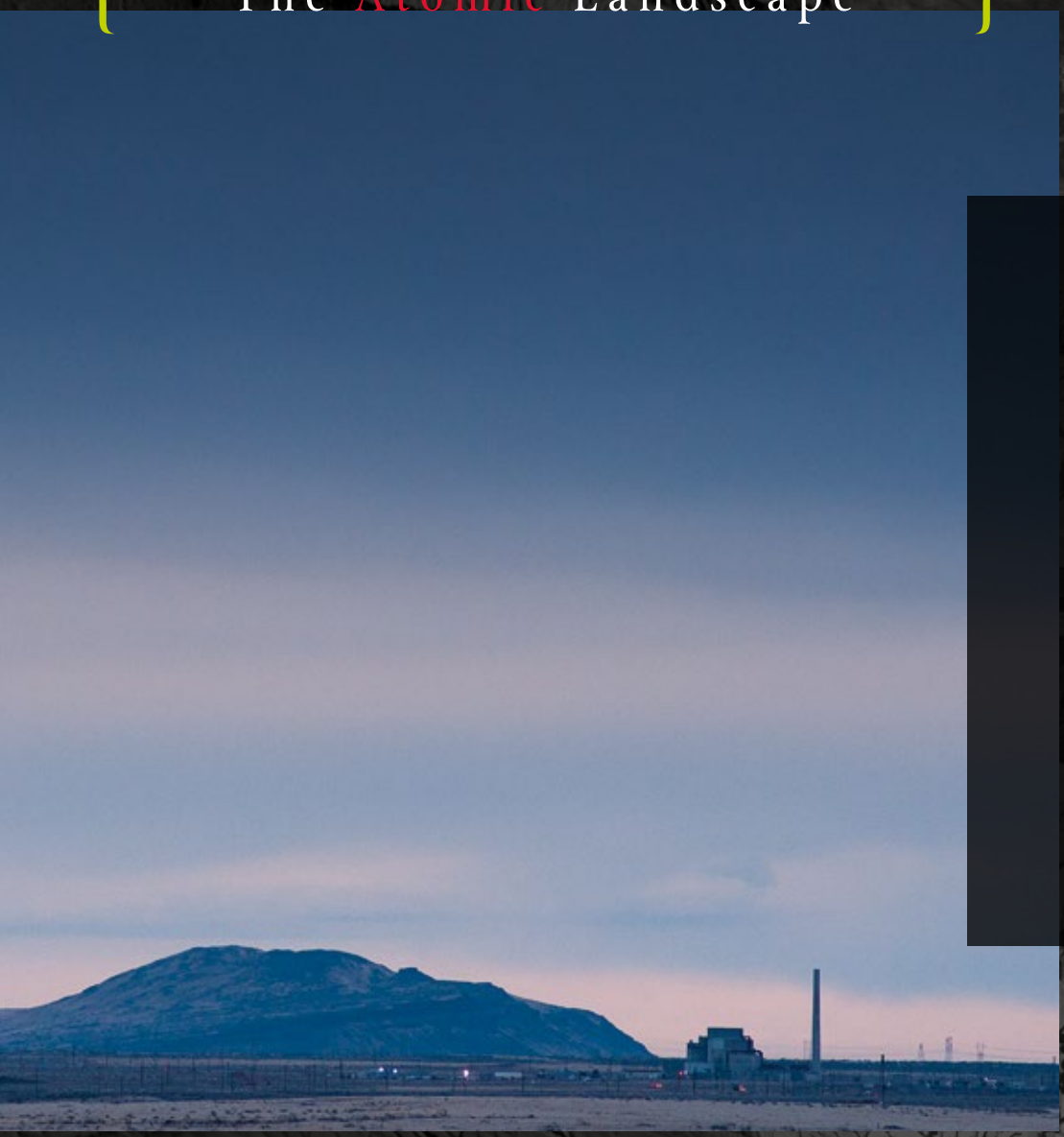
But scholars, students, and members of the public who want to work directly with the materials, in the way Nunemaker and Gaines once did, can certainly do so. There is a small glass-walled reading room where they can peruse the documents under the watchful eyes of the archives staff. ⊗

See some of the Regla Papers and historical photos at wsm.wsu.edu/extra/Regla.

REACTOR B FROM STATE ROUTE 24 EAST OF VERNITA BRIDGE *PHOTO ZACH MAZUR '06*

by Tim Steury :: photos on subsequent pages from "Chain Reaction: Circum-navigating the Hanford Nuclear Reservation" by Zach Mazur

The Atomic Landscape



N 46° 39' 7" | W 119° 42' 58"

Work considered in this article:

Plume
Kathleen Flenniken
University of Washington Press 2012

Made in Hanford: The Bomb that Changed the World
Hill Williams
Washington State University Press 2011

Making Plutonium, Re-Making Richland: Atomic Heritage and Community Identity, Richland, Washington, 1943-1963
Lee Ann Powell
Thesis, Department of History, Washington State University 2007

Seven decades later, we consider our plutonium legacy

WHEN PRESIDENT FRANKLIN D. ROOSEVELT gave the go-ahead for the Manhattan Project, he set in motion an extraordinary collaboration amongst scientists and the military to develop an atomic bomb, driven by fears of Hitler's creating one first. Whether or not the eventual dropping of the bombs on Japan was necessary to end the war in the Pacific will probably never be resolved. But the bomb undoubtedly changed the world, as well as the cultural, historical, and physical landscape of southeastern Washington.

On the afternoon of February 26, 1943, Lt. Col. Franklin Matthias appeared in the office of the *Pasco Herald* and asked to talk with the editor. The editor, Hill Williams '16, invited him in.

After asking that the door be closed for privacy, "Matthias told him a secret project of utmost importance to the war effort would be built nearby," writes Williams's son Hill in *Made in Hanford*. "He gave no hint as to the nature of the project but said it would be huge and stressed again its importance to the war effort and the necessary secrecy."

Having undoubtedly commanded Williams's full attention, Matthias then made his request, that Williams not publish anything about the top-secret project.

Twenty years later, a young Kathleen (Dillon) Flenniken sits on her father's shoulders as they watch President Kennedy dedicate a ninth production reactor at Hanford, as Flenniken '83 now recalls in her volume of poetry *Plume*:

Somewhere in that sea of crisp white shirts

I'm sitting on my father's shoulders

as you dedicate our new reactor and praise us

for shaping history. The helicopter that set you down

in our proudest moment

waits camera right, ready to whisk you away.

A half century later, I click play again and again

for proof you approve—

but the nuclear age is complicated.

Excerpt from "My Earliest Memory Preserved on Film"

Because Hanford is so complicated, poetry might be an apt way to contemplate it.

"I wrote the book so I could figure out what I thought," says Flenniken.

For anyone interested in understanding the atomic legacy of both Washington and the nation—which I would urge you to do, not out of moral obligation or such, but simply because it is so fascinating—an excellent way to start would be to combine Flenniken's work with Williams's book and other notable texts.

Although Hanford might be a classic example of how history gets made and remade, as WSU Tri-Cities historian Robert Bauman puts it, the area has yet to produce a big, definitive book about itself. Michele Stenehjem Gerber's excellent history of the area's toxic legacy, *On the Homefront* (University of Nebraska, 2002), follows a timeline from the creation of the B Reactor—the reactor that produced the plutonium for Fat Man, the bomb that was dropped on Nagasaki in 1945—through the development of and resulting waste of an additional eight reactors during the Cold War. But it does not attempt to encompass the complexity of identity and emotion that the Hanford phenomenon has produced.

Other works, including the fine oral history, *Making the Bomb* (S.L. Sanger, Portland State University Continuing Education Press, 1995), present a fascinating and sweeping account of the era. But to get a sense of the time, from the urgency of the scientists rushing to head off Hitler's presumed nuclear progress to the revolutionary science involved, to the toxic hangover of a landscape dedicated to producing bombs with insufficient caution and foresight, these three slim and very approachable works lend concise history and insight to our understanding.

True to his newspaper sensibility, Hill Williams, who was science writer for *The Seattle Times* for 35 years, has produced a volume about as succinct as can possibly be, considering the scope of his work runs from Leo Szilard's realization in 1933 of how a nuclear chain reaction might be feasible to the author's visit as a journalist to Runit Island in the Bikini Atoll in 1964.

The original plan for the Manhattan Project was for the plutonium to be produced in Tennessee. But given the risk and uncertainty of the endeavor, the idea was abandoned, as Knoxville was a mere 15 miles from the proposed plant.

So the planners set their sights west. The frontier. Wide open spaces with few people. Southeast Washington's apparent desolation, the Columbia, for cooling water, and the Grand Coulee project, for the huge amounts of electricity required, coalesced to produce plutonium.

...Our families all came from elsewhere,

and regarded the desert as empty,

and ugly, which gave us permission

to savage the land. ...

Excerpt from "Rattlesnake Mountain"

What Williams recounts as a journalist, Flenniken tries to make sense of.

Flenniken's *Plume* is a remarkable volume of poetry that presents a vivid and gripping blend of documentary and her emotional history of Cold War Hanford. Flenniken's father, a doctoral chemist, started working at the "area" in 1951. As with many of Richland's scientists and engineers, the actual nature of R.L. Dillon's job was shielded from his

GEORGE WASHINGTON WAY INDUSTRIAL PARK | GOOSE EGG HILL (BACKGROUND)

{ The Atomic Landscape }

CLOCKWISE, FROM TOP LEFT: GATE 117A; GATE 110A; NINE CANYONS GATE; GATE 121 | RATTLESNAKE HILL (BACKGROUND)

children by Cold War secrecy. Although she found a few references to her father's work in technical papers, all she originally knew about it, primarily in the site's 100 Area, was his description of himself as a "manager."

You're eighteen. It's August brim to brim

and your father is at the wheel. He points proudly

at distant reactors and spires, sun-baked highway

and barbed wire, and offers them to you.

You've waited all your life.

A gate patrolman waves you across the threshold

into the Cold War world. ...

Excerpt from "Self-Portrait with Father as Tour Guide"

Flenniken's parents would tell the story that sometimes in the middle of the night, her father would get a phone call from a security guard, who had found a filing cabinet open. He would drive the 50 miles to his office to lock the cabinet, then drive back.

After graduating in civil engineering from WSU in 1982, Flenniken herself took a job, in hydrology, in the 200 Area, rising each morning at 5:30 to catch a bus for the 45-minute ride to her laboratory.

Perhaps the key to understanding the cultural history of Richland is its intense pride over its accomplishments in both WWII and the Cold War. But Flenniken suggests the emotional part of Hanford is as complicated as the science behind fission.

As Richland native Lee Ann (Hall) Powell recounts in her thesis, Hanford workers were considered war heroes: "Almost immediately after the Americans dropped the atomic bombs on Japan, the national spotlight focused on Hanford, its people, and its secret wartime mission. The government and the nation recognized HEW [Hanford Engineering Works] workers as war heroes ... by helping to make the bomb they had won the peace. General Groves reinforced this identity when in October 1945 he visited the Village to congratulate HEW workers and present all of them with the Army-Navy 'E' award, the highest civilian production commendation of World War II."

Powell discusses three eras of Richland history: "the Indian history, the pioneer history or pre-atomic era, and the history that begins with the Manhattan Project. Synthesizing these parts is difficult." The combined histories of the region are "wonderfully rich but fragmented."

Throughout the Cold War, residents transformed that sense of historic accomplishment to a patriotic certitude. Part of the area's creation myth, as historians refer to it, involved a distinct separation. A souvenir program from the 1948 Atomic Frontier Days noted that "the old farming center of Richland was evacuated and transformed into a modern community."

Indeed, the transformation accompanying that accomplishment was so dramatic, it required a disassociation with the region's past.

"The impact of the Hanford project on a relatively undeveloped central Washington, even while land was still being acquired," writes Williams, "seemed astounding to those whose memories of the Great Depression were vivid." The Hanford landscape changed almost literally overnight. In April 1943 work began on facilities for an estimated 25,000 workers. By July 1944, some 1,200 buildings had been erected and nearly 51,000 people were living in the construction camp. At its peak, the construction camp was the third most populous town in Washington state, and Hanford operated a fleet of more than 900 buses, bigger than Chicago's.

Hardly anyone knew what was being produced at Hanford except that it was part of the war effort. Since DuPont was the civilian contractor, some guessed that nylon stockings would be one eventual product.

Regardless, because the project progressed so unbelievably quickly, the secrecy was also short-lived. The elder Hill Williams was at the press conference hurriedly organized on August 6, 1945, by Colonel Matthias

Clockwise, from top left: Kathleen Flenniken, Hill Williams, Lee Ann Powell. *Photos by Elisabeth Flenniken, Roy Scully, Robert Hubner, respectively*

following the startling announcement by President Truman that an American plane had dropped a bomb on Hiroshima with "more power than 20,000 tons of TNT ... an atomic bomb ... a harnessing of the power of the universe."

The next issue of the *Pasco Herald* headlined the biggest type that Williams owned: IT'S ATOMIC BOMBS!

On August 9, the bomb containing plutonium produced at Hanford was dropped on Nagasaki. Shortly after, but before Japan surrendered, the "Smyth Report" was released. Written by physicist Henry D. Smyth, the report had been commissioned by the director of the Manhattan Project, Major General Leslie Groves, to explain to the public the general science involved in the bomb. Williams believes it is the first time the word "plutonium" was used publicly.

THAT SENSE OF PURPOSE AND PRIDE in its role toward winning the war and changing the world became as integral to the cultural landscape as Rattlesnake Mountain is to the geographic landscape:

On the morning I got plucked out of third grade

by Principal Wellman because I'd written on command

an impassioned letter for the life of our nuclear plants

that the government threatened to shut down

and I put on my rabbit-trimmed green plaid coat

because it was cold and I'd be on the televised news

overseeing delivery of several hundred pounds of mail

onto an airplane bound for Washington DC addressed

to President Nixon who obviously didn't care about your job

Excerpt from "To Carolyn's Father"

But that cultural pride also included a set of blinders.

Prior to the dropping of the Nagasaki bomb, which finally revealed to all what was actually going on at Hanford, most who worked there had no understanding whatsoever about what they were building. But in the Cold War years, with the destructive power of the area's plutonium now a matter of history, residents faced another part of the site's dark side.

"When I was growing up, people just didn't talk about that part of it," says Flenniken. "It was never about the actual bombs and what happened. It was more about the race to create it and the amazing feat that people could do under these circumstances, these hardships, come up with this amazing new technology, human miracle.

"The story just ends right there."

I remember the red phone, and missile codes,

how every movie hinged

on a clock ticking down.

We call it the arms race

and there were two sides.

It was simple.

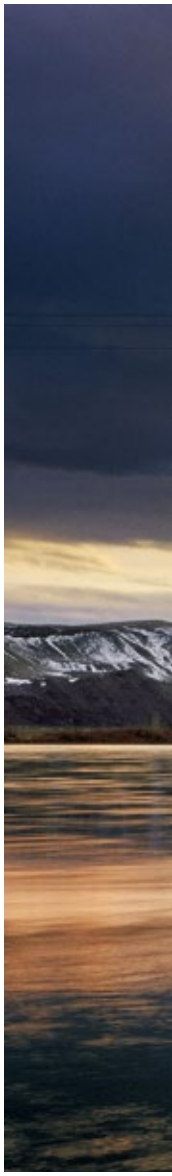
Excerpt from "The Cold War"

Although the selection of Hanford to produce plutonium was not a foregone conclusion, it ultimately met the criteria determined essential by Leslie Groves.

B Reactor went critical September 20, 1944. Its criticality began not only a new era and new potential for destruction, but also an entirely new form of pollution.

The B Reactor produced plutonium for the Trinity test in New Mexico and for Fat Man, the bomb that was dropped on Nagasaki in 1945 and, with its predecessor the uranium-fueled Little Boy, which was dropped on Hiroshima, hastened Japan's surrender.

The B Reactor is an engineering marvel. Built in only 13 months, it was completed less than two years after President Franklin Roosevelt approved the Manhattan Project. Enrico Fermi managed the first sustained nuclear chain reaction at the University of Chicago in 1942, then supervised the design of the B Reactor. On February 3, 1945, B Reactor plutonium was delivered to Los Alamos, New Mexico.



According to the Department of Energy's history division, the reactor core is a 1,200-ton, 28- by 36-foot graphite cylinder, penetrated horizontally by 2,004 aluminum tubes. Two hundred tons of uranium slugs, the size of rolls of quarters, were inserted into the tubes. Cooling the reactor core required water pumped from the Columbia at the rate of 75,000 gallons per minute.

As Williams writes, when that water was first pumped through the reactor core to cool it, it marked the first time large quantities of radioactive material were deliberately released into environment.

The most worrisome byproduct of plutonium production at Hanford was the highly radioactive waste deposited, temporarily, in underground tanks. According to Williams, each ton of uranium slugs produced 10,000 gallons of liquid waste containing, among other products, fission products.

If you visit Richland's Columbia River Exhibition of History, Science, and Technology (formerly the Hanford Science Museum) and examine the replica cross-section of the storage tanks, your worries about that waste might be temporarily assuaged. Thick concrete is faced with thick plate steel in the single wall tanks. The double wall tanks, with room for inspection, would reassure even the most skeptical—unless of course, as Williams suggests, one thinks too much about the definition of "temporary":

> But military demands for plutonium during the Cold War … took precedence over finding a permanent solution. Hanford ended up with a much greater volume of waste than anyone anticipated in 1945 and temporary storage turned into semi-permanent. Twenty or so years after the end of the war, tank waste was leaking into Hanford's dry soil and drifting toward the river, causing problems we still face today.

If production had ended with the dropping of Fat Man, the waste would likely still be problematic. But, Williams points out, that initial waste was dwarfed by the combined production of eight reactors during the Cold War years. A plume of radioactive waste moves inexorably toward the Columbia, underlying a stark and transformed terrain with a legacy against which we seem powerless. And a grand plan for turning Hanford's tank wastes into stable glass has so far been stymied by the complexity of the problem and process, an unfortunate mirror to the fascinating complexity of the area's landscape. ⊗

{ The Atomic Landscape }

COLUMBIA RIVER, FACING SADDLE MOUNTAINS | NINE CANYONS WIND FARM (BACKGROUND)

To view photographs of "Chain Reaction" go to wsm.wsu.edu/extra/chain-reaction.
For a gallery of historical photos visit wsm.wsu.edu/extra/Hanford.

Why Wait? Join Today.

There has never been a better time to join the WSU Alumni Association (WSUAA). The 10,000 new members who have joined in the last few years (that's like every fan at a sold-out Cougars game in Beasley suddenly joining the WSUAA!) made the decision to join. Why wait any longer? You should join, too.

With a ten-fold increase in the number of WSUAA benefits, members enjoy taking advantage of:

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- No membership fee when joining the *Wine-By-Cougars* wine club
- Savings on Cougar gear at The Bookie, Crimson & Gray, and the Washington State Connections store
- Special rates at many preferred hotel chains and car rental agencies
- Discounted rates to play Palouse Ridge Golf Club in Pullman
- The Alaska Airlines Cougar VISA Signature Card
- Access to WSUAA *Career Support Services*
- And many more…

When you join, you instantly help fuel WSUAA programs and services that support alumni, students, and the University. In addition, you enable the WSUAA to contribute to an even stronger WSU. Call or join online today. We all know that Cougars are capable of doing extraordinary things and, in true Cougar fashion, you can support the WSUAA's efforts to help WSU soar.

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Class notes are now online!

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CLASS NOTES

1950s

Bob Schuster ('50 Geology) retired after 60 years as a teacher, research scientist, and engineering consultant specializing in the studies of geologic hazards.

1960s

Chuck Stocker ('60, '67 Ag.), former East Valley School District superintendent and a long-time Spokane Valley resident, was selected by the Greater Spokane Valley Chamber of Commerce as the 2011 Harry E. Nelson Citizen of the Year.

Iain Baxter& ('64 MA Fine Arts) is a conceptual artist in Canada. A retrospective of his work was recently displayed at the Museum of Contemporary Art in Chicago and is headed to Toronto's Art Gallery of Ontario through August 2012.

Joel DeLisa ('64 Zoo., Pre Med.) of Chatham, New Jersey, was recently elected into the Institute of Medicine. He has served as professor and chairman of the Department of Physical Medicine and Rehabilitation at the New Jersey Medical School for the past 25 years.

1970s

Marsha Monro ('70 Comm.) was recently appointed director of development and fundraising for UCSF Partners in Care. She also serves as vice president of Associates for San Francisco Opera Guild.

Thomas H. Ulrich ('71 Zoo., '75 Genetics & Cell Bio.) recently joined OriginOil's board of advisors. OriginOil, Inc. develops technology that extracts oil from algae.

Don Warrick ('71 Bus., '76 MBA), a paraeducator and student supervisor at Syre Elementary School, has been selected as the 2012 Shoreline School District Support Person of the Year.

Lee Robinson ('74 Hotel & Rest. Admin.) is retiring after more than 27 years as vice president of sales in the cruise industry, most of it with Princess Cruises and Cunard Line.

Bill Baker ('75, '77 MS Forest and Range Magmt.) retired from the Bureau of Land Management after 35 years. He has served as Twin Falls, Idaho, district manager for the last 21 years.

Boyd Spratling ('75 DVM) was reappointed to the Wild Horse and Burro Advisory Board by the Bureau of Land Management. He has a large animal veterinary practice in Elko County, Nevada, where he has lived since 1963.

Vicki Thayer ('76 DVM) is president of the board of directors of the WINN Feline Foundation.

Dan Lundberg ('78 Music) of Capital High School was inducted into the Washington Music Educators Hall of Fame February 17 during a special ceremony in Yakima.

Stephen L. Starr ('78 Hort.) joined the senior management team at Pacific Coast Canola as vice president of seed procurement.

Sam Adams ('79 Bio., Ed.) won the 2011 Miller-Manchester Mentor Teacher Award bestowed by the WSU College of Education.

1980s

Cameron Mitchell ('82 History) a Benton-Franklin Superior Court judge, was the 2012 recipient of the Martin Luther King Jr. Spirit Award. Mitchell was appointed to the bench by Governor Gary Locke in 2004.

Maureen Hyzer ('83 Forest & Range Mgmt.) is deputy regional forester for the Pacific Northwest Region of the U.S. Forest Service.

Mark Thoma ('85 PhD Econ.) was recently made a fellow of The Century Foundation, a nonpartisan think tank and nonprofit public policy research group. He is a macroeconomist at the University of Oregon and the author of the blog Economist's View.

Mitch Bulthuis ('86 Forest & Range Mgmt.) is acting district ranger for the Hells Canyon National Recreation Area and Eagle Cap Ranger District.

Doug McMakin ('86 Elect. Engr.) of PNNL's National Security Directorate has joined the elite ranks of Battelle Distinguished Inventors, reserved for staff members with 14 or more U.S. patents over the course of their careers.

Blaise D'Sylva ('87 Comm., Ad.) leads Anheuser-Busch's U.S. media, sports, and entertainment marketing division.

Bret Larreau ('87 Ag. Engr.) is manager of business development at Walla Walla's Key Technology, a designer and manufacturer of automation systems for food processors.

John Volk ('87 Elect. Engr.) has a doctorate in systematic theology from Marquette University in Wisconsin, where is is now an adjunct theology instructor.

Roger L. Heeringa ('88 Civil Engr., '89 MS Civil Engr.) is president of DCI Engineers in Seattle, which provides project and client management and structural engineering design on projects throughout North America.

John O'Toole ('88 Arch.) was named principal at Boora Architects in Portland, Oregon.

Rick Pratt ('88 MS Elect. Engr.) of PNNL's Energy and Environment Directorate has joined the ranks of Battelle Distinguished Inventors, which is reserved for staff members who have received 14 or more U.S. patents. In 2006, he received PNNL's Inventor of the Year award.

1990s

Celeste Beeks Mastin ('90 Chem. Engr.) is on the board of directors for Metabolix, Inc., a Massachusetts-based bioscience company focused on developing sustainable solutions for the world's needs for plastics, chemicals, and energy.

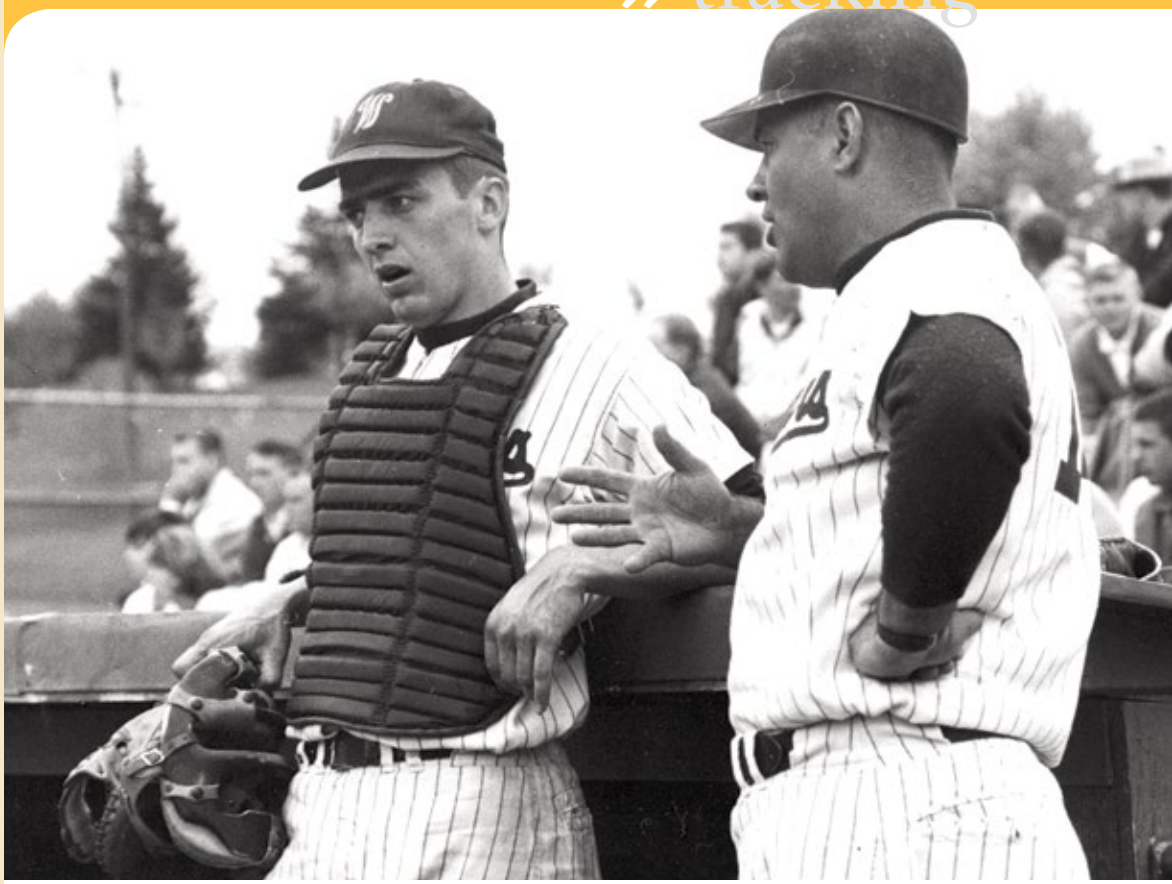
Tom Matula ('90, '93 PhD Physics) is chairman of the Scientific Board for Plandai Biotechnology, Inc.

Randy Dickey ('91 Comm.) and his wife, Heather Gardner, welcomed the birth of son Lennon Carlysle Dickey on November 20, 2011.

Pete Hughes ('92 Comm.) was hired by DNA Seattle, a full-service advertising agency, as associate creative director.

Chris Roberts ('92 Bus. Admin., Finance) is vice president and commercial banking team leader for AmericanWest Bank in Spokane.

Terry Goldman ('94 Hotel & Rest. Admin.) became hotel manager for the DoubleTree by Hilton in Portland after serving 14 months as the president/CEO of the Washington County Visitors Association.



Catcher and team captain John Everett Olerud '65 with Coach Bobo Brayton, 1965. *Courtesy WSU MASC*

John E. Olerud '65

Science is a lot like baseball

by Larry Clark '94 :: Whether he's studying how wounds heal or he's tagging a runner out at home plate, John E. Olerud '65 knows two techniques to succeed: work hard and stick with it.

Olerud credits those lessons to the man who recruited him to Washington State University's baseball team, Chuck "Bobo" Brayton. "He was one of those guys who taught you a lot of lessons about life, not just baseball," he says.

The lessons learned have led to achievements on the diamond—as catcher and captain of the 1965 Cougar baseball team that played in the College World Series, and as a professional player for seven years—and in academia, as head of dermatology at the University of Washington School of Medicine.

Olerud has many accolades. He was named to the WSU Athletic Hall of Fame in 1986, received numerous medical honors, and has published 92 refereed science and medical articles since 1974. Last December, he also received the Regents' Distinguished Alumnus Award, the University's highest honor given to alumni.

With two passions, and two careers, Olerud found that he can apply the same approaches to sports and science. As he researches the complex skin biology of healing wounds, Olerud the dermatologist recalls Bobo's words to his players. "He used to have a saying—he probably wasn't thinking it would apply to me as much later in life—'A swinging bat is a dangerous bat. So when you're up there, swing!'

"I haven't always been the guy who gets the grant the first time, or gets the paper published in the good journal the first time. But I keep at it until I get it," says Olerud.

Following his own mantra "Don't let anybody outwork you," Olerud was selected as a baseball All-American in 1965. "Don't let anybody be better prepared than you are," he says. "That's

very important on the baseball field, having all the bunt plays, the pick-off plays, the relays where you can have the little things that matter help."

As a student, even with his success at baseball, he longed to pursue a childhood dream of becoming a doctor. "When I was a boy in Lisbon, North Dakota, there was a family doctor whose kids were about the same age as me," he says. "I was always fascinated by being around his office and looking through his microscope."

Olerud followed that path with encouragement from his academic mentor Herb Eastlick.

Olerud speaks about his research after receiving the Regents' Distinguished Alumnus Award. *Photo Shelly Hanks*

"He took some ownership in getting me pointed in the right direction in terms of medical school," he says. And he taught him some of the same lessons as Bobo. "He would tell you if there was something that you could be doing better," he says.

When Olerud graduated with a bachelor's degree in zoology in 1965, he wasn't ready to choose one course over the other. So he pursued his medical degree at the University of Washington, at the same time playing professional baseball in the minor leagues with teams like the Seattle Angels, the San Jose Bees, and the Tulsa Oilers. The UW program made special arrangements to accommodate his sports career. "I could take two quarters of medical school and then play baseball for six months," he explains.

When medical school was done, Olerud decided to retire from baseball and concentrate on research and medicine. He worked for the U.S. Navy for three years at a research lab at Camp LeJeune, North Carolina. His focus on sports medicine at UW led him to study rhabdomyolysis, a skeletal muscle tissue breakdown that recruits would get when they overexerted in training. He published several papers on his work there.

Olerud returned to Seattle, completed residencies at Harborview Medical Center, UW, and University Hospital, and then joined the faculty of the University of Washington. "I always wanted to be a teacher, but I could be a teacher in medicine," he says, of blending two of his great interests. "So I've been an academic medicine person through my whole career."

Olerud became fascinated with skin and its potential for basic science research. "It's easy to get at the skin, the skin cells do all the same tricks that cells in other parts of the body do, and it's an immune organ," he says.

One major focus is on people with diabetes, whose wounds heal very slowly. "Patients with diabetes lose the nerves in their tissues, so could it be related to the neuropathy? Could it be related to the bacteria that live in the diabetic ulcers?" he asks. "Recently we've been doing research on bacterial biofilm and how the bacteria talk to the skin cells, and how the skin cells try to fight the bacteria."

Olerud and his team are looking at that relationship and at strategies to get the new skin cells to migrate faster onto wounds. He is also working with other medical scientists and bioengineers to look at devices put through the skin, such as catheters, as well as connections between tissue and prosthetics. "The problem is always the interface between the skin and the device that goes through the skin," he explains. Skin cells don't tend to seal around an inserted device such as a titanium rod. Instead the skin hits the device and goes down into the body, followed by bacteria that can create dangerous infections around the implant.

The trick, says Olerud, was to figure out how to get the skin cells to attach. Part of the answer: holes in the device. "If you create little holes or little pores in the material, the skin cells migrate in and set up housekeeping inside the material," he says. Olerud's eyes light up as he describes the research.

Naturally, baseball continues to be part of Olerud's life. Many associate the name "John Olerud" with his son and namesake, the standout Major League Baseball player and Cougar baseball star John Olerud x'88. The senior Olerud recognized young John's ability and passion early. "I'd go to spring training and he was a little kid who really loved balls and to hit," he says. "I remember once in spring training I was with the Montreal Expos organization, and we were in West Palm Beach, he'd be down there with this little plastic bat. I'd be throwing balls and he'd be ripping the balls into the surf. People would stop and say, 'Wow, that little kid is good!'"

Jason Sturgill ('98 Marketing) recently finished a project at the Portland Art Museum titled "Art is Forever." He is currently in the MFA program at Portland State University.

Joe Wilds ('98 MBA) recently joined Chicago-based Maddock Douglas as managing principal of health care innovation.

2000s

Malia Jacobson ('00 Comm., '04 MBA) appeared on the "Parent to Parent" segment on King 5 News in December 2012 to talk about her article "Raising Moral Children," the cover story in December's issue of *ParentMap* magazine.

Kate Kurkjian ('03 Hosp. Bus. Mgmt.) is director of convention services at the Seattle Convention and Visitors Bureau.

Jeron Chatelain ('04 MS Crop Sci.) is a research associate at Limagrain Cereal Seeds, the North American subsidiary of farmer-owned seed company Group Limagrain.

Keola Loo ('05 Social Sci.) joined the Arizona State University football recruiting staff as a graduate assistant working with the on-campus recruiter.

Scott Walter ('05 PhD Higher Ed. Admin.) is librarian at DePaul University. A former member of the WSU library faculty, he has been named the 2012 Distinguished Education and Behavioral Sciences Librarian by the Association of College & Research Libraries.

Justin Ulbright ('08 Movement Stud.) is coordinator for the Peavy Papers, the student portion of the *Journal of Kinesiology and Wellness*. He is a manager and personal trainer at Snap Fitness in Cheney, Washington, and a coach for Team St. Luke's, a Spokane wheelchair sports team.

John Schork ('09 Liberal Arts) has joined IDW Publishing, a San Diego-based graphic novel and comic book company, as associate manager of marketing and public relations.

2010s

Dan Tappel ('09 & '10 MS Civil Engr.) was selected by *The Wenatchee Valley Business World* as one of "30 Under 35." He is a structural engineer in training for Pacific Engineering and Design and volunteers as a mentor in 4-H robotics competition.

Jim Brown ('10 Public Admin.) earned his diploma after 27 years. He worked as a sheriff's deputy and eventually became a sergeant with the Washington Department of Fish and Wildlife and recently returned to WSU to complete his degree.

Shavana K. Howard, ('10 Social Sci.) completed U.S. Navy basic training at recruit training command, Great Lakes, Illinois.

Mike Urban ('11 Acctg.) finished his degree after enrolling at WSU 19 years ago. A Mount Vernon resident, he owns an equipment rental store and is in his second term as city councilman.

IN MEMORIAM

1930s

Jean A. Giboney (x'32), 97, December 11, 2011, Spokane.

Roy Arnold Anderson ('35 Geology, '36 MS Geology), 98, January 30, 2012, Spokane.

John Albert Shaffer ('36 Elec, Engr.), 96, February 4, 2012, Pittsburgh, Pennsylvania.

Evalyn Tonsfeldt Keating ('37 Speech & Hearing Sci.), 96, February 16, 2012, Kelso.

Howard "Chuck" Hunter (x'38), 91, January 23, 2012, Spokane.

James. R. Moergeli Sr. ('38 Ag. Ed.), 96, November 29, 2011, Tacoma.

Myra Miller Walter ('38 Elementary Ed.), 96, November 23, 2011, East Wenatchee.

Harold F. Radmaker ('39 Music), 94, November 4, 2011, Lake Forest Park.

1940s

Kathryne B. Schmidt (x'40), 90, March 2, 2008, Aberdeen.

Ernest C. Diedesch (x'41), 92, November 26, 2011, Spokane.

Jeanne Helen Johnson (x'41), 91, January 9, 2012, Spokane.

Merle D. Johnston ('41 Electrical Engr.), 97, November 8, 2011, Chehalis.

Etta Wegner ('41 Fine Arts), 94, December 10, 2011, Pullman.

Alvin H. Adams (x'42), 91, December 19, 2011, Touchet.

Robert Amil Beck ('42 DVM), 92, January 4, 2012, Modesto, California.

Mary Jane Keegan ('42 Speech & Hearing Sci.), 88, November 2007.

Robert S. Langdon ('42 Mech. Engr.), 91, January 30, 2012, Fort Wayne, Indiana.

Elmer Schneidmiller ('42 Ag.), 93, December 9, 2011, Liberty Lake.

Harris O. Van Orden ('42 MS Chem.), 94, January 5, 2012, Salt Lake City, Utah.

Anita Marie Dunham ('43 Bus.), 90, January 28, 2012, Olympia.

Though he ended his pro career, Olerud has never stopped working at the game. He and his Classics AAAA team, the Washington Titans, successfully defended their title in the top-level 60+ *Legends* World Series last fall in Florida.

Dan Newhouse '77

Farm to director's office

by Larry Clark '94 :: In 2009, Dan Newhouse '77 was walking through the wings of the state House of Representatives when the governor's chief of staff approached him with a surprising offer.

Newhouse was a four-term Republican representative from Sunnyside and floor leader for his caucus, so he didn't expect to be asked to be director of the Washington State Department of Agriculture by a Democratic governor. "At the time, everyone knew there was a vacancy, but being from a different political party I didn't think I would be considered for that position," he says.

Soon after, Newhouse visited with Gov. Chris Gregoire about agriculture once. Then he went back for a second visit. Then he took a week to think it over. "I decided regardless of political parties, that it was a huge opportunity and one that I couldn't pass up," he says.

WSDA director Dan Newhouse. *Courtesy Weldon Wilson/Office of the Governor of Washington State*

Newhouse calls himself a hops grower, which is not surprising considering 75 to 80 percent of the nation's hops are raised within 30 miles of his home. He also grows cherries, nectarines, wine and juice grapes, and some field crops.

He grew up on the farm with four sisters and a brother, his mother Ruth '45, and his father Irv '43. But he was always familiar with the state capital. The Newhouse name is prominent in Washington state politics. Irv Newhouse served in the state House and Senate for 34 years. He retired in 1998, and state lawmakers named the Senate building after him. He passed away in 2001 at age 80.

"I was nine years old when my father first ran for office. In my own way I felt I was involved in campaigns, and as I got older I got a lot more involved in the issues he was involved with," says Newhouse, who eventually became president of the Hop Growers of Washington and Hop Growers of America.

Washington State University was also an important part of the family. All of Newhouse's siblings attended college in Pullman. Newhouse earned his degree in agricultural economics in 1977. But it wasn't all work, he admits. He smiles as he remembers being a Cougar Loudmouth.

"[George Raveling] had an idea of a student cheering section for all the basketball games. We got t-shirts that certified that we were Cougar Loudmouths. We got to sit in the courtside bleachers and it was our job to make lots of noise," he says.

He lived at the Alpha Gamma Rho fraternity, which led to his first post-college job with the AGR national organization. Coincidentally, one of his friends and co-workers at the headquarters in Kansas City, Missouri, was Walter Whitcomb from Maine, a dairy farmer's son who served in the Maine legislature and is now head of Maine's agriculture department.

"After a couple of years, I made the decision to come back to the farm. I never looked back," says Newhouse. "There's something about farming, making something grow out of the soil, something you can harvest and either eat or sell. It's a rewarding thing for me to do."

Dan Newhouse on his Sunnyside farm with Casper ***(at left)*** and Libelle. *Photo Zach Mazur*

He accepted the job as Washington's agriculture director because of his strong ties to the vocation and industry. From the start he has had to make some tough decisions. "Ever since my very first day on the job, we've been looking at questions surrounding budget issues," he says. "What are we going to cut? What are we going to shrink? What are we going to quit doing?"

He points out that food safety, animal and plant health, and inspections are duties of the department, which are "critical not only to the industry but to the citizens of the state."

Smaller farms, farmers' markets, and urban agriculture will feel the budget impacts even more than bigger farms, he predicts. "One of the big cuts we faced from past legislative sessions was our domestic program. We provided a lot of services for small farmers," he says.

And Newhouse doesn't believe the news will improve. "About 60 percent of the WSDA budget is funded by services we provide and the fees for those services. Only about 20 percent is state

Robert J. Seney ('43 Ag.), 91, April 9, 2011, Spokane.

John Harvey Miller ('44 DVM), 89, January 27, 2012, Balboa Island, California.

Patricia S. Neilson ('44 Speech & Hearing Sci.), 88, December 21, 2011, Seattle.

Robert E. Ebright ('45 DVM), 88, January 24, 2012, Bellingham.

Harriett Rainsberry Inman (x'45), 91, February 7, 2012, Bella Vista, Arizona.

Donald W. Cornwall (x'46), 88, January 27, 2012, Fairfield.

Helen Eskeberg (x'46), 84, January 29, 2012, Spokane.

Dorothy E. Puryear ('46 Home Ec.), 87, January 19, 2012, Surprise, Arizona.

Dessie M. Brady ('47 Pharm.), 86, December 5, 2011, Sunnyside.

Dawn F. Jacobs (x'47), February 6, 2012, Puyallup.

Matthew B. Maberry ('47 DVM), 94, January 26, 2012, Beaverton, Oregon.

Margaret J. "Joan" Oliver ('48 Psych.), 86, December 29, 2011, Phoenix, Arizona.

Paulu T. Saari ('48 Wildlife Bio.), 91, January 16, 2011, Ketchikan, Alaska.

Donald W. Bushaw ('49 Math), 85, January 15, 2012, Portland, Oregon.

Clifford D. Chambers ('49 Physical Ed.), 90, January 21, 2012, Eagle, Idaho.

Robert L. Gillis ('49 Ag.), 87, December 12, 2011, Spokane.

Betty Hasbrouck Hughes ('49 Engl.), 83, November 5, 2011, Lake Forest Park.

Irene L. Sampson ('49 Bacteriology), 83, November 13, 2010, Palo Alto, California.

1950s

James R. Anderson ('50 Fine Arts), 84, January 14, 2012, Seattle.

Charles F. Banko ('50 Wildlife Bio.), 86, December 6, 2011, East Wenatchee.

Bob Worth Berry ('50 Political Sci.), 85, December 6, 2011, Denver, Colorado.

Walter O. Carsten ('50 Music, '53 EdD), 84, December 20, 2011, Des Moines.

Winston A. Duchow ('50 Elect. Engr.), 83, January 28, 2012, Pittsburg, Pennsylvania.

Bonita M. Fogerty ('50 Comm.), 82, December 25, 2011, Tacoma.

Scott Hodgson ('50 Animal Sci.), 86, November 8, 2011, Puyallup.

Marion E. Huggins ('50 Home Ec.), 83, January 3, 2012, San Jose, California.

Gordon Benjamin Irvine ('50 Mining Engr.), 79, February 15, 2011, San Diego, California.

Ethel Margaret (Kruger) Lowe ('50 Home Ec.), 88, February 1, 2012, Des Moines.

Jane L. Lyts ('50 Home Ec.), 84, January 6, 2012, Portland, Oregon.

Fred C. Campbell ('51 Hort.), 84, January 13, 2012, Pueblo, Colorado.

Clarence F. "Clancy" Gansberg ('51 DVM), 88, December 5, 2011, Yuma, Arizona.

Kenneth O. Greene ('51 Social Sci.), 76, August 22, 2005, Vancouver.

Phillip W. Moeser ('51 Bus. Admin.), 82, January 4, 2012, Sun City, Arizona.

Thomas W. Ohlson ('51 DVM), 88, July 14, 2011, Danville, California.

Betty J. Scodeller (x'51), 82, January 26, 2012, Everett.

Wanda E. Van Horn ('51 Pharm.), 81, October 29, 2011, Tieton.

Edward L. Anderson ('52 PhD Chem.), 83, February 9, 2012, La Jolla, California.

Joseph J. Barratt ('52 Chem. Engr.), 82, February 17, 2012, Camas.

Charles D. Comstock ('52 Hotel & Rest. Admin.), 83, December 27, 2011, Bellevue.

Aileen L. Jones ('52 Soc.), 80, November 3, 2011, Spokane.

Jean VanLeuven (x'52), 77, February 7, 2012, Ellensburg.

William T. Gough ('53 Journalism), 82, February 6, 2012, Seattle.

Howard K. Michaelsen ('53 Liberal Arts), 84, December 28, 2011, Spokane.

Thomas Paynton Moar ('53 Pharm.), 81, February 17, 2012, Spokane.

Ernest E. Provost ('53 MS and '58 PhD Wildlife Bio.), 90, November 25, 2011, Sylva, North Carolina.

David Mann Lowery ('54 Political Sci.), 79, February 9, 2012, Tucson, Arizona.

Martha Jane McGough ('54 Home Ec.), 79, November 28, 2011, Moses Lake.

Clair Hunt Tribble ('54 Speech Comm.), 80, October 7, 2011, Wenatchee.

Robert A. Buckholz ('55 Business Admin.), 83, November 17, 2011, Spokane.

Frank Eichelberger Jr. ('56 Materials Sci. & Engr.), 80, December 29, 2011, Spokane.

Shirley A. Jenkin ('56 Nursing), 77, January 14, 2012, Spokane.

John Chen ('57 Animal Sci.), 91, February 2, 2012, Beltsville, Maryland.

Peggy C. Hedstrom ('57 Home Ec.), 76, November 28, 2011, Shoreline.

George Papakyriazis ('57 Gen. Stud.), December 20, 2011, Athens, Greece.

Terence Stephen Tarr ('57 History), 76, December 10, 2011, Santa Fe, New Mexico.

Lee Hudson, DDS ('58 Zoo., Pre-Med.), 75, November 20, 2011, Everett.

G. Olof Larson ('59 PhD Chem.), 85, January 25, 2012, Rexburg, Idaho.

Jack Clifford May ('59 Liberal Arts), 75, December 25, 2011, Kirkland.

Estelle Rayton ('59 Home Ec.), 76, August 6, 2011, Lynnwood.

William K. Roberts ('59 PhD Ag.), 82, March 3, 2011, Phoenix, Arizona.

Charles E. Stearns ('59 Geology), 80, December 31, 2011, Redmond, Oregon.

1960s

Joycelyn S. Greene ('60 Bacteriology), 72, February 6, 2012, Sequim.

Richard D. Hawthorne ('60 Liberal Arts), October 21, 2011.

Ronald Lee Ahlf ('61 Mech. Engr.), 73, February 11, 2011, Shelton.

Fred Segrest ('61 Polit. Sci.), 72, December 26, 2011, Salem, Oregon.

Walter E. Vockert ('61 DVM), 80, December 5, 2011, Portland, Oregon.

Lawrence I. Whitmore ('61 Speech Comm.), 76, October 26, 2011, Redmond.

general fund. In the future, I see that percentage shrinking even more," he says.

Although his work as head of the agriculture department is a full-time job, Newhouse had one major request for the governor before taking the job: He wanted time to be on the farm for harvest and other key events. "She thought about that for a minute and she said, 'If I have to call your farm in order to talk to my director of agriculture, that's a good thing,'" he says.

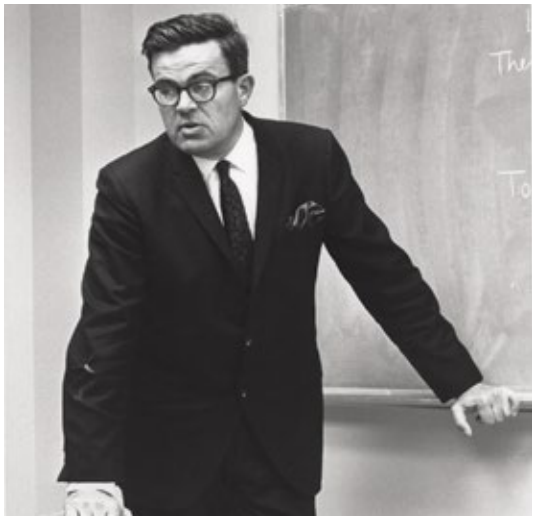
Newhouse travels home to Sunnyside every weekend, and keeps in close touch with the people on the farm including his brother, his son Devon, and employees who have been with the business for over 30 years.

Donald Wayne Bushaw
1926–2012

A great teacher and a great learner

"Learning should be an unending process," said Don Bushaw in an interview some years back. Anyone who knew him at all will know this was no idle observation. Bushaw, who first arrived at Washington State College in 1943 as a 17-year-old freshman and returned, a doctorate in mathematics from Princeton in hand, to teach and lead for a distinguished 43 years, passed away in Portland, Oregon, on January 15, 2012, surrounded by his wife and children.

Don Bushaw was born in Anacortes, Washington, on May 5, 1926, to Elmond and



Bushaw early in his teaching career. *Courtesy WSU Department of Mathematics*

Ruth Bushaw. The family moved to Bremerton in 1930 when Elmond took a job at Puget Sound Naval Shipyard.

Bushaw graduated from Bremerton High School in 1943 and entered Washington State College. After serving for two years in the U.S. Navy, he returned to WSC, where he met and then married Sylvia Lybecker '47 in 1946. Don graduated from WSC with a degree in mathematics in 1949, and went on to graduate school at Princeton.

At Princeton, he studied under Solomon Lefschetz, who during the early Cold War believed that the United States lagged behind in aspects of differential equations most relevant to missile technology. Bushaw's resulting dissertation opened up the new mathematical discipline of

control theory, which has many ramifications for national defense.

Bushaw, with his family, returned to Pullman in 1952 as a mathematics instructor, climbing the academic ranks to full professor in 1962. During his 43-year tenure at WSU, Don served as mathematics professor, mathematics department chairman, acting director of libraries (twice), and vice provost for instruction. He taught 62 different courses in mathematics. He also taught a University Honors class on Eastern civilization.

His research and writing ranged widely, encompassing control theory, differential equations, topology, and mathematical economics, as well as mathematics education, the history of mathematics, and mathematical biographies.

Among many other awards, Bushaw delivered the Faculty Invited Address (1968) and was the first recipient of the WSU Faculty Excellence Award for Instruction in 1983.

Apart from the time Don spent on family and professional activities, he had a passionate lifelong interest in traveling and learning languages. He had good friends all around the world. He also translated books and research articles in a variety of languages, including Russian and Chinese.

In a 1993 *Daily News* article celebrating Bushaw's 50 years at WSU, Cal Long, who joined WSU's math department in 1956, four years after Bushaw, said of his colleague, "There is simply nobody I've known who is as bright and knowledgeable across the board. I don't know anybody on our faculty who's more respected … But he never flaunted it … If I were funding a university, I'd want to staff it with Don Bushaws."

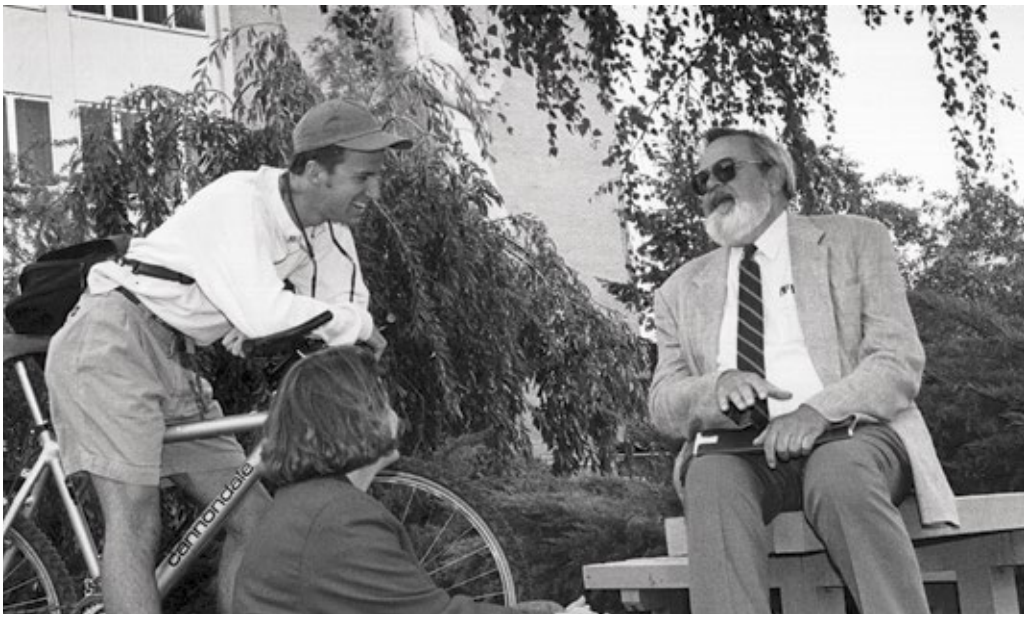
When asked to introduce an article on great teaching for the University's 1992 financial report, Bushaw submitted the following:

"Teaching itself can be described as making it easier for others to learn, and it can be done in many ways. Great teachers teach greatly. Active student involvement is often the key to good learning, and the great teacher may be precisely the teacher who can provide strong motivation, guidance, and intellectual resources for that involvement. In doing this, the great teachers—like all good teachers—draw on such qualities as knowledge, organizational skills, enthusiasm, and a sense of humor. And they care about the learners."

In a handwritten note attached to his submission, Bushaw wrote: "Not very flamboyant, but (I think) honest."

Don is survived by his wife of 65 years, Sylvia, and his sister, Shirley Hanson of Gig Harbor. He leaves daughters Amy Bushaw and Margaret Parker of Portland, sons Bruce '74 of Richland, Gordon of Silverdale, and Tom of Kennewick. He also leaves three grandsons, Brice Bushaw, Neal Bushaw, and Robert Parker, and his great-granddaughter Natalya Parker.

Remembrances can be made to the Donald W. and Sylvia R. Bushaw Scholarship in the Glenn Terrell Scholarship Program at Washington State University. «



A colleague said that if he were to fund a university, he would staff it with Don Bushaws. *Courtesy WSU News*

Elbridge G. Pond ('62 Forestry), 76, June 15, 2011, Coos Bay, Oregon.

Vaden Forrest Floch ('63 Ag. Ed., '69 MS Ag. Ed.), 70, January 21, 2012, Asotin.

Glenn E. Anderson ('64 Forest & Range Mgmt.), 69, July 12, 2011, Anchorage, Alaska.

Rosa Velia Dominguez, (x'64), 65, November 18, 2011, El Paso, Texas.

Lowella Young Jones ('64 Liberal Arts), 66, April 4, 2008, Fort Worth, Texas.

David Louis Martin ('64 Polit. Sci.), 69, January 11, 2012, Seattle.

Frederick H. Michel ('64 Mech. Engr., '96 Engr. Mgmt.), 72, December 12, 2011, Kennewick.

Robert James Bailey ('65 MAT Music), 85, January 17, 2012, Bellevue.

Ronald Boyd, ('65 Industrial Tech.), 75, December 20, 2011, Spokane.

Robert S. Estling ('66 Fine Arts), 68, December 30, 2011, Gainesville, Florida.

James D. Paton ('66 Phys. Ed.), 68, January 1, 2012, Colbert.

Carol Jean Lane ('67 Ed.), 66, January 12, 2012, Richland.

David D. Moore ('67 Civil Engr.), 65, September 2, 2011, Ephrata.

Gerald T. Van Horne ('67 Police Sci.), 68, December 3, 2011, Tacoma.

Lewis Eng ('69 BPH Pharm.), April 28, 2009, San Francisco, California.

Gordon Louis Erikson ('69 EdD Counseling Psych.), 81, March 7, 2010, West Richland.

1970s

Charles R. Webb ('70 MED), 86, December 18, 2011, Sedro-Woolley.

Thomas Roland Fowler ('71 Math), 62, December 17, 2011, Bainbridge Island.

Gustav Jon Ivar Fabbe ('72 History, '73 Sociology, '74 Polit. Sci.), February 10, 2012, Spokane.

Richard John Silver ('73 Elect. Engr.), 71, August 2, 2011, Port of Spain, Trinidad.

Barry Bybee ('75 Mech. Engr.), 62, November 27, 2011, Spokane.

Wayne Hagen Donaldson ('75 Bus.), 61, February 10, 2012, Olympia.

John P. Montgomery ('75 Vet. Sci.), 62, January 21, 2012, Victoria, Texas.

Patricia Johnson Schultz ('75 Interior Design), 85, February 3, 2012, Pullman.

Channon K. Murphy ('76 Ag. Engr.), 63, January 1, 2012, Spokane.

1980s

John Lowry Ellicott ('80 Polit. Sci.), 54, January 30, 2012, South Jordan, Utah.

Jeannie Lynne Rawley ('80 Ed.), 54, December 31, 2011, Mt. Hood, Oregon.

Michael E. Mucha ('81 DVM), 64, November 22, 2011, Selma, Oregon.

Wendy J. Williams ('82 Comm.), 53, January 10, 2012, Eureka, California.

Mark R Bottemiller ('85 Arch.), 51, October 17, 2011, Vancouver.

Keren Dimah ('86 Psych., '88 Polit. Sci.), 48, January 8, 2011, Matteson, Illinois.

Dana Thomas Brandt ('87 Hotel & Rest. Admin., '93 MBA), 47, November 22, 2011, Portland, Oregon.

Michael Thomas Hackett ('88 Civil Engr.), 47, February 3, 2012, Severna Park, Maryland.

Mary Elizabeth Davis ('89 Rec. & Leisure), 74, January 3, 2012, Tacoma.

1990s

Lewis Bush (x'90), 42, December 8, 2011, San Diego, California.

James W. Bozich ('93 Const. Mgmt), 44, January 29, 2012, Gig Harbor.

John Lewis Franke ('93 Bus. Admin., Law and Public Policy), 40, December 26, 2011, Bellevue.

Stephen D. Stairs ('93 Civil Engr.), 49, January 21, 2012, Richland.

Dale Wayne Harlis ('96 Bus. Admin.), 65, November 24, 2011, Veneta, Oregon.

2000s

Rory Curtiss Van Hyning ('06 Comm.), 34, January 11, 2012, Spokane.

2010s

Faith R. Proctor (x'11), 20, January 1, 2012, Spokane.

Faculty and Staff

Talmadge Anderson, 78, retired faculty Comparative American Cultures, 1970-1995, Savannah, Georgia.

Paul D. Bishop, 65, former faculty Biochemistry, 1983-1987, November 25, 2011, Fall City.

Ronald Boyd, 75, WHETS coordinator 1990 - 1997, December 20, 2011, Spokane.

Donald W. Bushaw, 85, Vice Provost for Instruction 1986-1994, January 15, 2012, Portland, Oregon.

Howard M. Carlisle, 83, former faculty, November 21, 2011, Salt Lake City, Utah.

June Cleveland, 70, University Publishing, 1988-2006, December 13, 2011, Lewiston, Idaho.

Clayton T. Crowe, 78, Professor Emeritus Mechanical & Materials Engineering, 1969-2004, February 5, 2012, Pullman.

Dorothy Gustafsen, 99, Intercollegiate College for Nursing Education, 1970-1982, November 16, 2011, Lakeland, Florida.

Angela M. Hajnal, 84, WSU Housing 1960-1982, January 22, 2012, Pullman.

Arthur R. Hard, 94, Industrial Research 1945-1981, November 11, 2011, Pullman.

Scott Hodgson, 86, Puyallup Research and Extension Center, November 8, 2011, Puyallup.

Shirley A. Jenkin, 77, Intercollegiate Center for Nursing Education 1970-1999, January 14, 2012, Spokane.

Frances Maier, 91, Dining Services 1949-1979, December 31, 2011, Minot, North Dakota.

Christopher C. Morgan, 78, former staff, November 19, 2011, Bellingham.

Arvid Neibergs, 98, retired herds manager 1957-1979, December 2, 2011, Post Falls, Idaho.

Pauli D. Owens, 90, retired faculty, Sociology 1985-1987, January 24, 2012, Moscow, Idaho.

Enrique O. Polle 92, former staff, Agronomy/Crop and Soil Sciences, December 30, 2011, Pullman.

Patsy M. Rogalski, 69, former instructor, Intensive American Language Center 1988-2003, February 3, 2012, Pullman.

Sharon Stone, 65, retired staff, Housing and Dining Services 1975-2002, January 24, 2012, Yuma, Arizona.

WSU Alumni Association News

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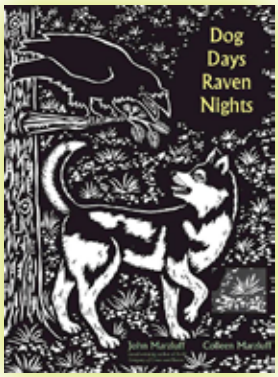
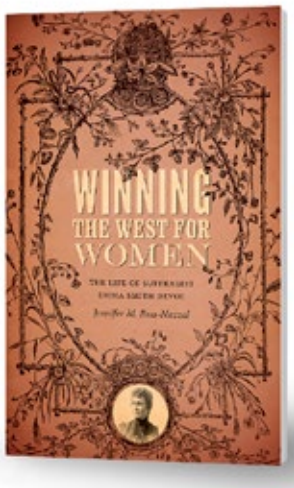
To join and learn more about WSUAA, visit **www.alumni.wsu.edu**.





Winning the West for Women: The Life of Suffragist Emma Smith DeVoe *by Jennifer M. Ross-Nazzal '04 PhD* UNIVERSITY OF WASHINGTON PRESS, 2011 :: *Review by Hannelore Sudermann* :: At a time when women's rights and politics are dominating our national discourse, it would be good to consider our past. Emma Smith DeVoe's story, for example, enhances our understanding of our nation's Women's Suffrage movement as well as the history of women in Washington. DeVoe led the 1910 campaign in our state—organizing, giving speeches, and raising money for the cause. "In short," Ross-Nazzal writes, "Emma's career is a microcosm of women's struggle to achieve the vote."

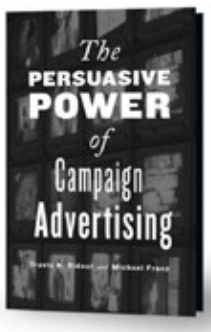
Ross-Nazzal describes a right to vote movement quite different than the generally accepted accounts, which imply a unified effort among women across the country. That was far from the truth, writes the historian who exposes the infighting and controversy within the movement in Washington.

While pursuing the right for women to vote and run for office, DeVoe had several clashes including one with May Arkwright Hutton, a flamboyant and wealthy Spokanite. When the time came to go to the legislature, Hutton took the aggressive route, loudly demanding the state politicians pass a suffrage bill. At the same time DeVoe believed patience and an approach of being "good natured and cheerful" would differentiate Washington's women from the radical and often marginalized protestors in England and back East. Despite the negative press brought on by Hutton and her supporters, the bill did pass. Still, the issue kindled a bitter struggle for control over the movement in Washington that lasted years.

Nonetheless, the successes of the efforts in Washington and throughout the West revitalized the national movement, eventually leading to the passage of the 19th Amendment.

No stranger to old documents and archives, Ross-Nazzal encountered challenges building the story. DeVoe's childhood in Illinois had little record, no diaries, and very few personal letters. The local newspapers were often in tatters. Material came from DeVoe's own accounts, written as brief biographies during the movement. One oft-told story of her youth, though likely a fiction of DeVoe's own devising, frequently came up. When Susan B. Anthony visited DeVoe's hometown and asked who would stand up for women's rights, the only one who did was an eight-year-old Emma. It may not be true, but it does say a lot about DeVoe, notes Ross-Nazzal, that she sought to build her reputation by aligning with Anthony.

Still, with materials from the Washington State Archives and a number of regional libraries, the author gives us a rich view of DeVoe as an organizer and activist. Ross-Nazzal has produced a clean narrative with telling details about the activists, their opponents, and the woman at the heart of the campaign for women's suffrage in Washington. ⊗



The Persuasive Power of Campaign Advertising *by Travis N. Ridout and Michael M. Franz* TEMPLE UNIVERSITY PRESS, PHILADELPHIA, 2011 :: *Review by Larry Clark '94* :: Another major election year has arrived and with it, the inevitable onslaught of political advertisements. Do those ads influence the way we vote, or do they just provide the background noise and distraction that build cynicism toward the modern democratic process?

Those are critical questions asked by Washington State University associate professor of political science Travis Ridout and his colleague Michael Franz, an associate professor of government and legal studies at Bowdoin College, in their empirical study of televised political advertising.

Ridout and Franz examine several aspects of campaign ads to determine their effects: context of the political race (general or primary, incumbent or challenger), tone or emotional appeal of the ad, characteristics of an ad's viewers, and influence of news media reporting or Internet buzz about ads.

The results of their work show that indeed, political

For more reviews and sample tracks, go to wsm.wsu.edu.

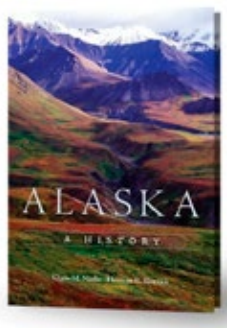
Dog Days, Raven Nights *by John and Colleen Marzluff, illustrated by Evon Zerbetz '82* YALE UNIVERSITY PRESS, 2011 :: Using field notes, personal diaries, and beautiful linocuts by Evon Zerbetz '82, the Marzluffs chronicle their three-year endeavor to research the common raven, while raising and training sled dogs to help them with their work in Maine. Zerbetz is an artist in Ketchikan, Alaska, and illustrator of six books for children and young adults.

advertising does influence the votes people cast, and how much depends on the circumstances of the race. For example, they found television ads had a more powerful impact in open races and for challengers against incumbents.

One surprising finding shows that even political partisans can be affected by the advertising. Ridout and Franz write, "The larger message we draw from this is that political advertising is broadly influential in American politics and for a wide segment of the voting public."

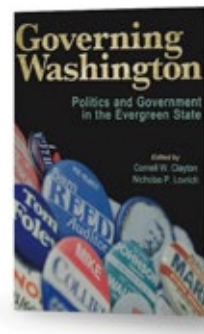
The Persuasive Power of Campaign Advertising contributes significant insights into campaign advertising for students of political science, journalists, and anyone involved or interested in political campaigns. As a major source of information on candidates, television advertising has a strong effect on American democracy, and this work gives a basis for understanding how it works. ⊗

Alaska: A History *by Claus-M. Naske '70 PhD and Herman E. Slotnick* UNIVERSITY OF OKLAHOMA PRESS, 2011 :: *Review by Larry Clark '94* :: In 1867 the Russia of Czar Alexander II was broke. As part of the solution, the country sold its North American lands to the United States for $7 million in a deal brokered by Secretary of State William Seward. The transaction angered many Russians, who felt they shouldn't give up the colony. At the same time, it went unnoticed by many Americans. The newly-acquired land was placed under military control and named "Alaska."



Distant Alaska didn't truly enter the imagination of many Americans until gold fever took hold in the late 1890s. New settlers flooded into the state, eventually leading to its territorial status and in 1959, statehood. The story of Alaska had become one of boom-bust cycles, disregard or misunderstanding of Native rights, military significance, and the struggle of the U.S. government to manage or support such a large and remote land. Following the discovery of oil, that story continues today.

This comprehensive text, now in its third edition, covers the vast expanse of time and geography of the northern-most state, beginning with the earliest known origins of Native peoples and stretching to ongoing debates about use of Alaska's natural resources and dispensation of Native lands. Claus-M. Naske '70 PhD and the late Herman E. Slotnick, both retired history professors at the University of Alaska, tell the story of the largest U.S. state with fascinating detail and the nuanced explanations of expert historians. ⊗



Governing Washington: Politics and Government in the Evergreen State *edited by Cornell W. Clayton and Nicholas P. Lovrich* WSU PRESS, 2011 :: *Review by Larry Clark '94* :: Washington state has its own distinct brand of democracy, growing from the early Populist and Progressive movements of the early twentieth century. This series of essays from leading scholars, journalists, and authorities on Washington's government and politics delves into the unique facets of the state's leaders, voters, and laws. Edited by WSU political science emeritus professor Nicholas Lovrich and Cornell Clayton, director of the University's Foley Institute and professor of political science, the works analyze Washington's elected officials, constitution, judiciary, media, and political culture and landscape. Any Washington voter and student of politics can gain insight into Washington's current political system with this book, one of five volumes in a series dedicated to Washington government and politics published by WSU Press. ⊗

new & noteworthy

Sexual Abuse in the Catholic Church: A Decade of Crisis 2002-2012 *edited by Thomas G. Plante and Kathleen L. McChesney '71* PRAEGER, 2011 :: A series of essays analyzes the lessons of clerical abuse scandals in the Catholic Church, and lays out paths to effective reform and prevention of future abuses. ⊗

Coyote :: *by Kathleen Flenniken '83*

*—Pronunciation: \ kī–ō′–tē, chiefly Western kī′–ōt *

After years away,
I met you again on the tongue
of an old friend from home. *Kī′–ōt*.

Trotting through sagebrush. Wild
by any name. I'd moved to a green isle city
that pronounced you *kī–ō′–tē*

and abandoned you by the side of the road.
I'd forgotten your silver, slope-shouldered form
and gaze.

You're not a citizen of language or memory,
but I am. Changing your name
was a betrayal of home

born of living among outsiders,
born of looking back through outsiders' eyes
at interchangeable houses landscaped

with wishing wells and pansies.
I could never love the brown hills around us.
Now, in the city, who can love the desert in me?

Kī′–ōt. *Kī–ō′–tē*. You live outside pronunciation.
I'm become like you
and can't say your name either way.

From Flenniken's second collection of poetry *Plume*, University of Washington Press, 2012. Recently she was named Washington's poet laureate for 2012–14.

Photo—"Near Gate 110A" from "Chain Reaction: Circum-navigating the Hanford Nuclear Reservation" by Zach Mazur

Watch a video about Flenniken's collection *Plume* at wsm.wsu.edu/extra/Plume.

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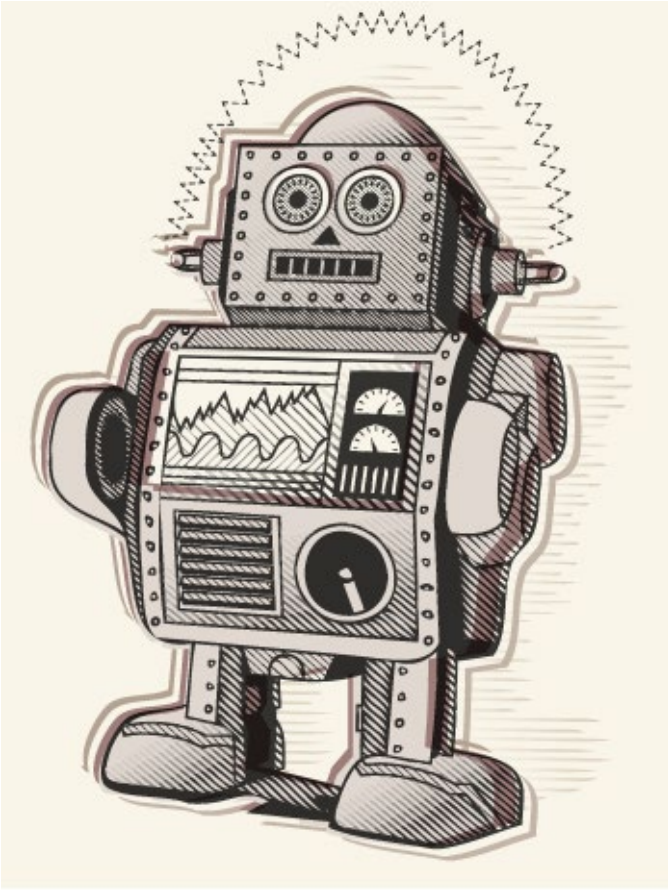

RADIO CONTROL TOY, CIRCA 1898

Nikola Tesla demonstrated the first radio-controlled toy at Madison Square Garden.

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