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SUMMER 2010

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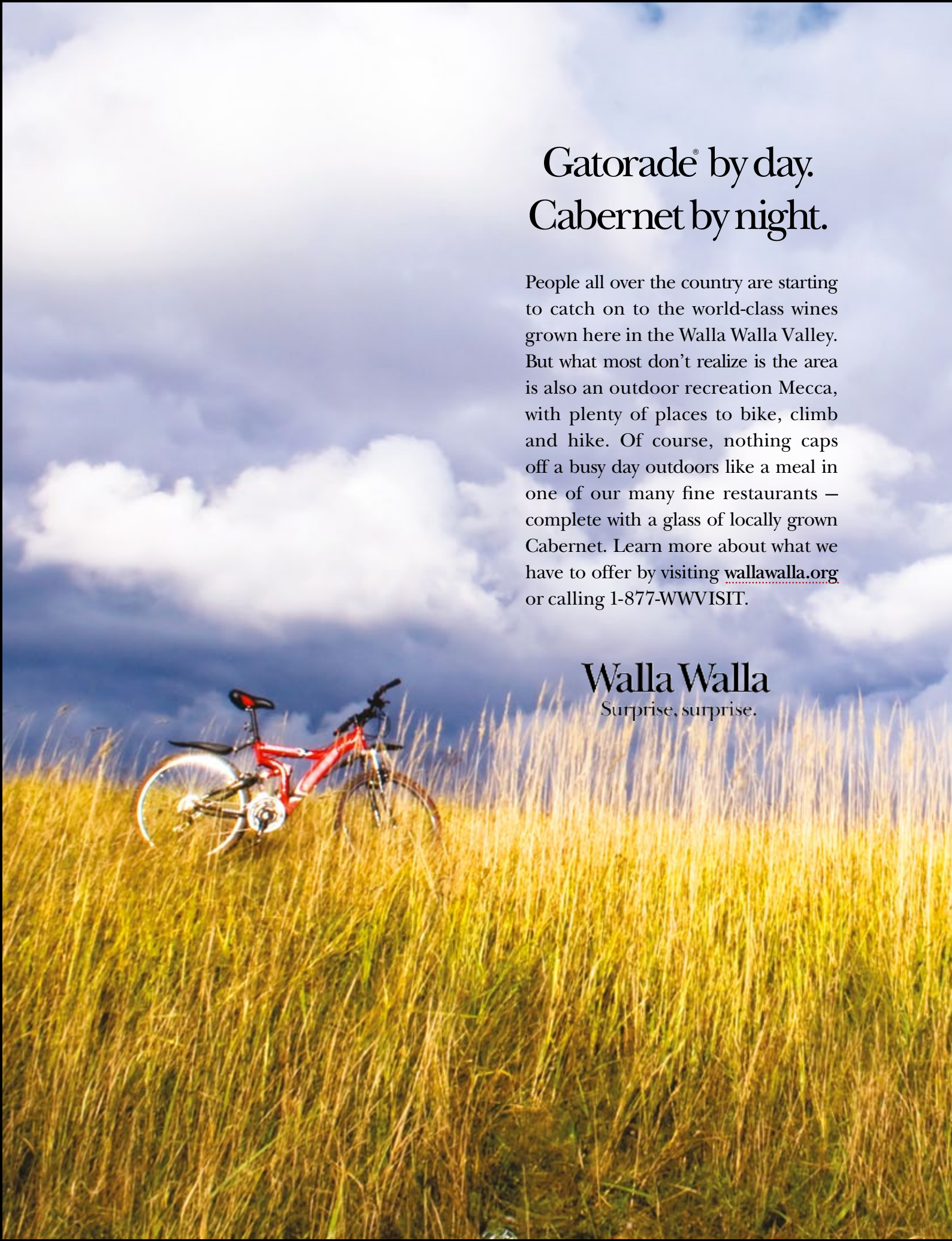
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Surprise, surprise.

first words

Shall I Eat a Peach? At the risk of sounding either shopworn (which I hope I'm not) or like a Luddite (my identification with said philosophy depending on the day of the week), the thing I'm most looking forward to in "retirement," besides being able to focus full-time on farming and my craft, is being able to go as long as I want without having to stare at this computer screen.

Don't get me wrong. This computer is a marvelous thing. Besides serving as a super-charged typewriter, it gathers all sorts of information, almost effortlessly, in far less time than that outmoded method of reading books and poring through abstracts or indexes in a library.

"Knowledge is of two kinds," noted Samuel Johnson in 1775. "We know a subject ourselves, or we know where we can find information upon it." Johnson would surely raise an eyebrow over how his observation has been amplified. Indeed, that second type of knowledge is now so negotiable as to render the first almost unnecessary.

Just kidding. I think so, anyway.

But what is it about this medium, which offers so much in the way of information and communication, that irks and oppresses in various ways. Is it that it delivers its information so unfiltered, with such little discretion that it becomes in the end more diversion and distraction than useful tool? Is it that the information it delivers is so dominantly trivial, juvenile, and silly? Is it, as some worry, that it is destroying my concentration, my ability to read a book?

And I have, indeed, noticed a strange disruption of my attention span, an exaggerated compulsion toward diversion and tangent, a tendency to glean my information in bits and chunks. And it's hard to argue with the fact that I can learn all I need to know about Eisenhower's role in D-Day quickly, in easily digestible summary, from this computer. Why would I need to read Michael Korda's *Ike* to attain that isolated information?

Well, besides what I think are obvious reasons, such a question strikes me as parallel to the challenge of those clean-fingernailed folks who ridicule the habit of gardening because it can't possibly be economical. (And even though it was also Dr. Johnson who said, "No man but a blockhead ever wrote except for money," the pleasure here is indeed in the writing.)


The medium, as Marshall McLuhan argued long before the Internet entered the public imagination, is never neutral. It is, in fact, the message. Of course, Socrates understood the same thing centuries earlier when he worried that writing would damage one's native memory.

One wonders what form the Big Ideas explored in this issue might have taken had their originators spent their days in front of a computer screen? I doubt that entomologist A.L. Melander would have spent much time at all watching videos on YouTube had it been available in 1915. But then again, the seduction of the Internet's databases might well have drawn his attention away from the careful observation that led him to first realize that certain populations of insects were not dying from pesticides as they should have been.

Or what if Enoch Bryan had spent his days deleting his email and writing his education blog rather than tending to his growing young college? The role of the liberal arts in an agricultural and scientific education may have lost its import in the face of the Internet's presumed universal knowledge.

But then again, with such readily available information to aid their thinking, their ideas might well have been even Bigger.

Tim Steury, Editor



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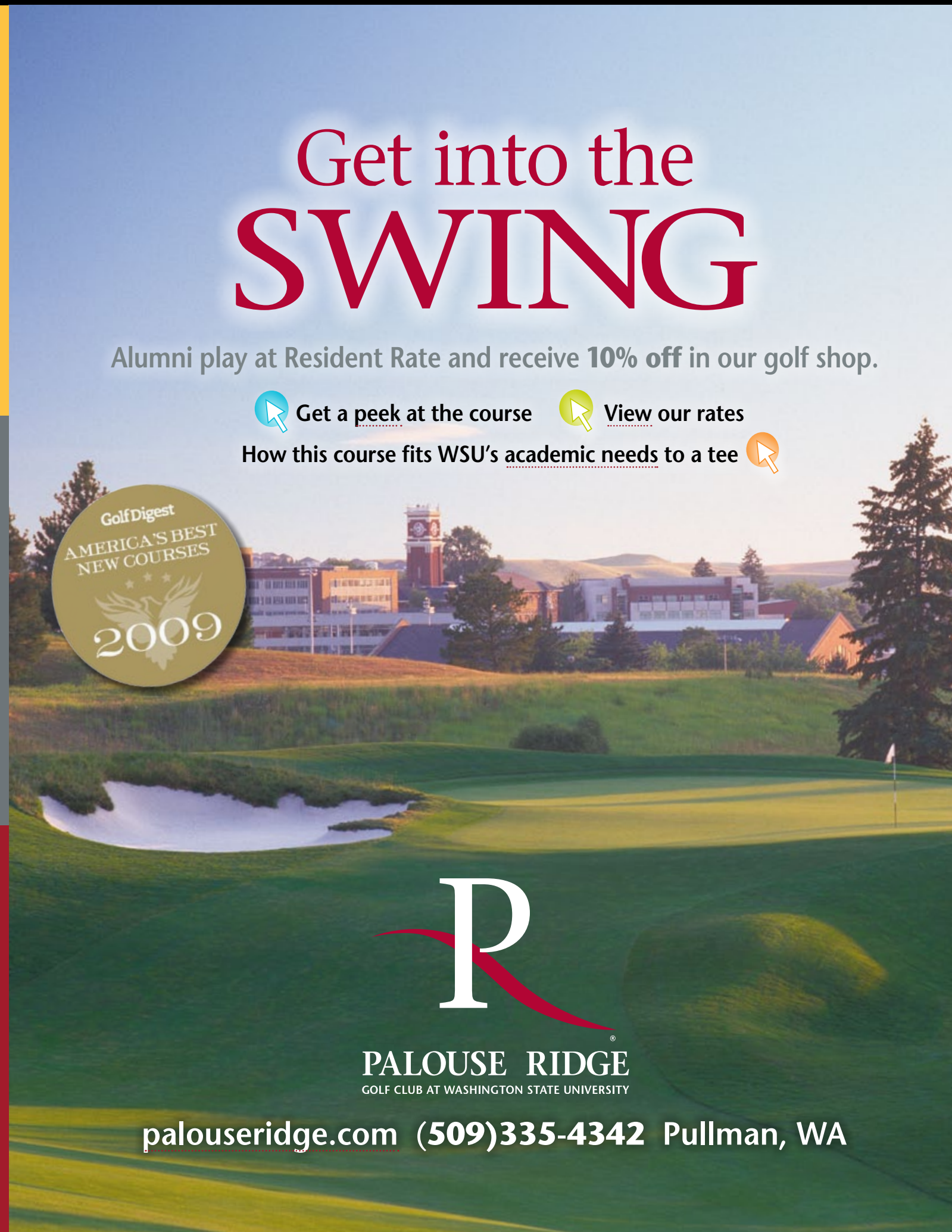



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letters

North Cascades

Loved the article in *Washington State* this issue, on Cascade Pass archaeology, with Bob Mierendorf.

The big mystery at the end, comparing the photos from 1910 and today and showing MORE trees NOW than back then, implying that nothing was “pristine” when whites arrived is probably fine, but the answer is also probably quite simple: FIRE suppression by whites (the cult of Smokey the Bear) has allowed smaller trees to live in places that fire would have burned them routinely over the millennia. Natives also burned, but natural fire was enough to do the job, most agree.

Philip Fenner

I really enjoyed the article on Bob Mierendorf's work in the North Cascades National Park.

However, a couple of the photos raise some questions. On page 29, the top two photos show a large culturally modified stone. In the left photo Bob has his hand on it, in the right hand photo it is next to his arm.

How did that stone become so modified? And what do you think its purpose was? There are no hints in the article or the caption for those photos. My personal guess is the stone was used as a whetstone? Am I close?

I enjoyed the whole article as well as the photos on page 33. However, the caption on page 32, of the photos on page 33, was very unprofessional and stands out as a piece of personal propaganda. Not the quality I would expect of WSM.

The black and white photo from 1916 is looking north, the color photo that it is being compared to is looking south. One photo is in black and white, one photo is in color. It is not possible to compare how “lush”

the pass is, or is not, or come to any other conclusion when the photos are not of the same subject, and in the same medium.

Herman R. Goetjen

(Regarding the rock, Bob Mierendorf replies: *The quick answer is that we're not yet certain about the stone's function, but we are investigating this. The longer answer is: this is one of several "tabular rocks" that we found that had been carefully placed in horizontal position around the edges of two heating pits. Possible functions for these tabular rocks might be as cooking feature furniture; alternatively, as a griddle; and then we will be identifying other possibilities. As for the "whetstone" idea, this is a viable possibility, at this point. The rock does have some broad, shallow, subparallel grooves that immediately attracted our attention, and we thought this could be a grinding stone of some sort, but the rock surfaces are so weathered and pitted that I cannot with confidence support one hypothesis over the other, given current data, but we are still collecting data, so we'll see.*

Regarding the “personal propaganda,” Tim Steury replies: *The comment regarding warming, which was, I admit, offhand and unsubstantiated in context, refers to another feature at the pass and related analysis. For more on this, and Mierendorf's analysis of the rock, go to wsm.wsu.edu/godigital/letter-reply.*

Your picture of the North Cross State Highway (the name we used at the time) brought back lots of memories. While an engineering student at WSU I worked summers (1961 to 1965) on a survey crew surveying the North Cascades Highway. We packed back in on pack trains of mules and horses and lived in tents. Compared to

today's survey equipment we had very primitive tools. We took sun shots with transits to locate our positions and used metal chains to measure distance. My dad worked on a survey crew in the 1930s surveying the same road. It was amazing how close we came to their survey monuments both horizontal and vertical. If I remember right that is Liberty Bell Mountain in the picture.

Bob Bell '66

And thank you

I am not an alumna of WSU. Sorry... But a few years ago a friend who lives in Richland told me about a Labrador dog found abandoned and severely injured, and I donated to the dog's care. I have been receiving your *Washington State Magazine* ever since. I intend to donate as I can, usually toward the end of the year. The WSM is wonderful. This last issue was enthralling. The Cascade Pass got me hooked once again on our ancient history in this state.

Gwen Nixon, Anacortes

My son is a senior at WSU. I began receiving the magazine when he was a freshman and after donating to the alumni association.

I received this quarter's edition Tuesday and I finished it on the elliptical machine this morning. I have enjoyed each one and read from cover to cover. Where else would you get information on bees to cougar mascots? The articles are informative and fascinating. I appreciate the money involved to publish anything at this point in time and am grateful it's still continuing. Thank you, I truly enjoy the magazine.

Gail Atkins

I may wince at times on the near religious tone for evolution in some of the articles (!), but I also

applaud the quality of your magazine. The background research for the articles appears well done, and the presentation of topics is executed with a good balance between useful, deep information and readability for us non-experts. The graphics are pleasing *and* useful as well—not something we always find in the consumer magazines. To open up a copy of WSM is more than just entertainment.

Maybe I'm prejudiced by being a WSU alumni, but I find the Washington State Magazine more interesting and meaningful than some of the national magazines covering history, science, etc! As an example; the Fall 2009 issue was a real winner, front to back.

I am sorry that budget constraints will reduce the paper issues per year, but please don't sacrifice the quality.

Keep it going!

H. Molony '77

Leave it to the beavers

I was recently loaned an old book called *Three Against The Wilderness*. The story is of a family in British Columbia in the 1920-50s and their experience replanting beaver in an area that had not had beaver for years. There were still old beaver dams left and the new beavers in a few short years changed the whole ecosystem, including flood control, on parts of the Frazier drainage system. Anyone against beaver should read that story and what it did for a small part of B.C. If the researchers haven't run across that book it would give them even more proof and good feelings about what they are doing.

David R. Smith DVM '72

Not your father's Esquire

It's tempting to say the magazine is one of the most enduring forms of communication, informing and delighting readers for just over three centuries. That's true, but it's also possible to say this digital iteration is just another riff on an ever changing form.

The earliest magazines were more like books—mostly text, few illustrations—with personal opinion and satire on a regular basis. They were read by an elite few until the late 1800s, when less expensive, mass-market magazines arrived. Even those were still mostly text, assuming a habit of concentrated, deep reading.

"In the 1800s reading habits were different," writes Art Kleiner in "The History of Magazines on a Timeline," a 1981 article he wrote for *CoEvolution Quarterly*. "You started at the very first page and read straight through, column by column, until the end. People didn't flick through or skim, and magazine layouts didn't encourage them to."

Improved presses and processes led to what is now the modern magazine of sophisticated photos, graphics, and layouts supporting and enhancing long narratives. Much of the work is the stuff of journalistic legend: Gay Talese's "Frank Sinatra Has a Cold" in *Esquire*, Roger Rosenblatt's "Children of War" in *Time*, Norman Mailer's "Armies of the Night" and Sallie Tisdale's "We Do Abortions Here," both in *Harper's*, and a long line of *New Yorker* stories: Jon Hersey's "Hiroshima," Joseph Mitchell's Joe Gould accounts, Elizabeth Kolbert's "Climate of Man" series, Malcolm Gladwell's profile of Ron Popeil.

These were stories—modern versions of a cultural artifact as old as telling stories around a fire, and often with the flourishes of New Journalism. Now half a century old, the style brought fiction's scene-setting, dialog, and character development to non-fiction. Things happen in these stories. Difficult questions get broached. Illuminating angles and insights and human nature are revealed.

And they were a bit long—3,000 words at a minimum, and often book length. Reading them was an act of concerted, linear concentration.



The tsunami

In 1979, three years before the computer was *Time's* "Machine of the Year," Art Kleiner was predicting a revolution in magazine production and how we might approach reading:

"Once magazines, newspapers and books start to come in over the home terminal, or the terminal down at the corner computer center, then the boundaries between them won't be necessary; they'll merge into a steady flow of information, stories, opinions, pictures, design, photographs. You might never have to stop reading: like Homer Price's donut machine, the terminal will type out the stories, and the photo-typesetter will click, buzz and release the photocopied pages, and printouts will pile high in the recycling centers. If input channels are kept open, advertisers may lose their hold on the magazines, and designers will have to develop another new language to give visual personality to a flowing, undivided stream."

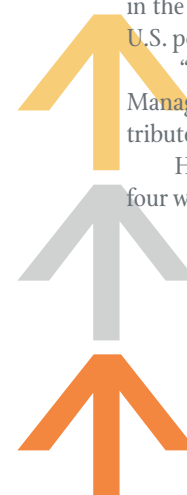
The "flowing, undivided stream" of information—once mostly text, images, TV and radio—is now a tsunami of text, images, sound, video, databases, video games and applications. We walk through it, we drive through it, it washes over us at work and at home. A recent analysis by the Global Information Industry Center at UC-San Diego estimates Americans consume information almost 12 hours a day, an increase of more than four hours over the last three decades. And thanks to the computer, reading is holding its own against its biggest competition, the television.

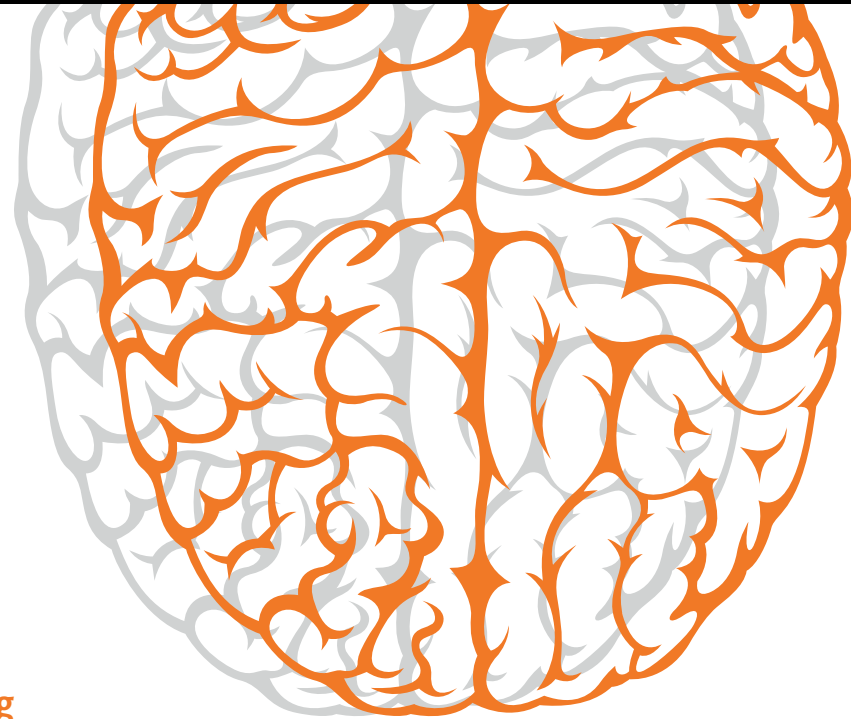
In fact, we take in more printed words now than we did 50 years ago. It's what we're reading and how we're reading it that has changed.

Even if you haven't looked at a newspaper in a few years, and many people haven't, you would know that we're reading fewer books, newspapers and magazines. Newspaper readership has been in decline for half a century; magazine audiences have been shrinking since the mid-1990s. Books are the revered but increasingly ignored elder statesmen of our culture. Literary reading declined in the past quarter century to where, according to the National Endowment for the Arts, "The U.S. population now breaks into two almost equally sized groups—readers and non-readers."

"I have stacks and stacks of *Business Weeks*," says John Wells, a WSU associate professor of Management Information Systems who specializes in business-to-consumer web design. "It's a tribute to my inability to digest them. But when I get tested on current events, I do pretty well."

He reads a lot on the web, as do most of us. The San Diego study estimates that one in every four words we consume is now coming through the computer.





Mind reading

The printed word is a powerful thing.

We're not talking here about something like Thomas Paine's pamphlet, "The American Crisis," whose lead to end all leads, "These are times that try men's souls," rallied support for the Revolutionary War. No, we're talking about the power of the printed word to get a grip on the inner workings of the brain.

The seemingly simple act of reading, says Paul Whitney, cognitive psychologist and senior associate dean in the College of Liberal Arts, is one of the singular feats of the human mind.

"If we understand all of reading," he says, "we understand all cognition."

In reading, we recognize and convert a symbol into a sound. From that, we create a word and meaning. Then we synthesize them in a sentence. If the engine is firing on all cylinders, the sentences contribute to a larger analysis.

This process is so automated, that if you see the word "blue" written out in red letters, and someone asks what color you're seeing, you will feel compelled to say "blue."

"You can't turn it off, even if you want to," says Whitney. "That's how powerful the process is."

Our mind's ability to process the written word is unlikely to change as we go from print to the screen. But how we approach those words when they're on the screen does change, to the point where many fall by the wayside.

"There's much more information filtering about what I am going to look at and how long I'm going to read it than with traditional deep reading," says Whitney.

So where the writing in a magazine is linear, the web is a study of options, multiple roads diverging in a digital wood. Eye-tracking studies bear this out, with readers first looking at the upper left hand corner of a page, just like it was a book. But then the eyes move in an F-shaped pattern, or in a set of loops, skimming, looking for key words and scanning.

Nearly three-fourths of web readers come to a page through Google—surfing or searching, finding what they need, then leaving. On our own site, about one-third of the visitors come from Google, look at a page or two, and leave in less than a minute. About as many visit from a bookmark or by typing the web address. They'll look at half a dozen pages and stay for nearly seven minutes—long enough to read several short articles but only about half of a long feature.

So if you've read this far, you're ahead of the pack, above average, and thank you. But please keep reading.

 WSU neuroscientist Jaak Panksepp talks about your brain on the Internet at wsm.wsu.edu/godigital/panksepp.

If we understand all of reading
we understand all of cognition.



The mouse roars

The web does offer something print media will never have: a direct two-way connection with the reader. Every click counts, to where an outlet can instantly analyze what is resonating with the readership.

That in itself troubles Brett Atwood, a clinical assistant professor who teaches online journalism in the Edward R. Murrow College of Communication. Atwood has worked as both a print and online journalist, writing for newspapers, *Billboard*, *Rolling Stone*, and editing for Amazon.com and RealNetworks. He's seen the power of the click, and recalls editors and reporters in one newsroom debating how much they should let click-through rates affect what they covered.

"We would see crime stories, things that might frighten people, would always get the most clicks," he says. "What do you do with that information? Do you just say, 'That's nice,' or do you change your formula? Maybe we'll assign more reporters to those kinds of stories because we know that more people click on them and it generates ad revenue and it's what people want."

The downsides are obvious. Care, quality, and crafting give way to clicks. It's all carnival barker, with "a collective dumbing-down" once people come inside the tent.

"So where's the information that challenges your world view," he says, "that introduces competing information to make you think differently, that expands your knowledge base?"

Sometimes we really need to think deeply, notes Paul Whitney. A quick look at the national health care debate, he says, yields a few buzzwords and claims. At this level, a reader will activate what experts in choice behavior call a "confirmation bias," an innate tendency to seek out information that confirms our preconceptions.

With such a shallow, one-sided approach, says Whitney, "You just end up with a few slogans that buttress what your belief is. Does that make you an intelligent, informed reader? I don't think so."





The horse to water analogy

In a way, the web shows you can lead people to information but you can't make them read. It's even harder to make them think.

It has always been that way. That's why writers are trained to use snappy leads. It's why stories have cliffhangers, compelling 19th Century readers to buy the next chapter of serialized Charles Dickens novels. Except now a piece of text on the web competes with a host of bells and whistles on the page, as well as incoming email, Facebook updates, perhaps an MP3 in the background, hyperlinks, and the risk that at any moment the reader will decide to check out Jimmy Fallon's interpretation of "Pants on the Ground."

It's why much of what you find on the web is broken into smaller, digestible chunks. To some extent, this very story has been "chunkified." It's an acknowledgement that the terms of engagement have changed, says Atwood.

"In chunking you're basically saying, 'You know, we recognize that readers in many cases, one, might have a shorter attention span,' he says. 'And two, that they might want to have control over the order in which they receive the facts and information in a story. So let's literally chunk up the story into its own sub-narratives and present it in such a way that's non-linear, so then readers can make decisions about which they want to click on and in which order and even omitting part of the story.'"

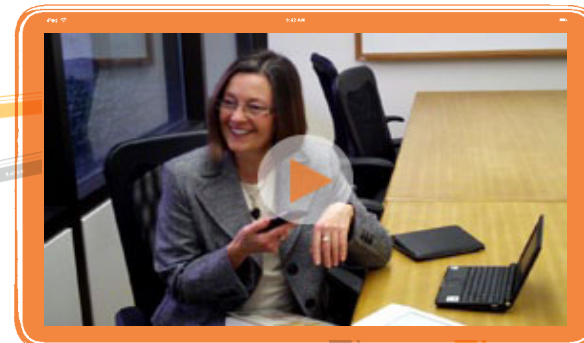
Readers can often do the digital equivalent of finding a quiet, undistracted place. For many of us, that's 35,000 feet up.

"I find often that reading on an airplane, I can focus more because I don't have any web access," says Chris Hundhausen, an associate professor who specializes in how people use computers. "I need to turn off email and other stuff when I'm trying to focus more on reading a document."

View some of the earliest printed magazines at the Bodleian Library, University of Oxford



Patty Ericsson discusses digital tech's past and future.
Full video at wsm.wsu.edu/godigital/ericsson.



The Heraclitean view

In the stream of information, the only constant is change. Just ask Patty Ericsson.

Since 2003, Ericsson has directed WSU-Pullman's Digital Technology and Culture degree program.

"I'm looking at how technology changes our lives, how it changes the culture in which we live, how it changes the way we do things and the way we think about things," says Ericsson. "My whole focus is we've got to think about this stuff. We can't accept it mindlessly."

She has four computers. She largely ignores her office phone and has a voice-mail message saying write an email instead. She wears a machine-woven Norwegian sweater and reads a first-generation Kindle, the electronic book reader that last Christmas helped Amazon sell more electronic books than paper books, or what Ericsson calls "ink stains on tree carcasses."

To give her current students some sense of perspective, Ericsson will have them looking at old maps one day and old money the next, all with an eye towards seeing how technology changes over time. And change it does, generally in concert with its culture. In some ways, the only thing that stays the same is the fairly overblown shock and outrage as technologies emerge.

I mention to Ericsson that I had on my desk Nicholas Carr's recent *Atlantic* article, "Is Google Making Us Stupid?" The headline writer could have omitted the question mark, as the article, adapted from Carr's book, *The Shallows: What the Internet Is Doing to our Brains*, contends we cease to think deeply if we power-browse and skim at the expense of reading deeply.

Ericsson is not so alarmed.

"Go back to the Platonic Dialogues," she says. "It's absolutely the same thing—the same thing but different... People didn't like the pencil when it first came along."

Sure enough, the Phaedrus dialogue, unearthed with Google's help, says writing "will introduce forgetfulness into the soul of those who learn it: they will not practice using their memory because they will put their trust in writing, which is external and depends on signs that belong to others, instead of trying to remember from the inside, completely on their own."

The printing press, Ericsson adds, was also going to ruin us.

"If we let the masses read and teach them how to read, it's the end of civilization as we know it," she says. "The fact that people got bibles and were able to read them on their own, rather than having an anointed person giving them the word of God, was thought to be something really dangerous. I grew up in the Catholic tradition where we still didn't read the bible."

Now, she says, we're at another pivot point in how we communicate, with devices converging, new ways of communicating, a shift in who has control over who says what. Print, she says, "is headed to a device no smaller than an iPod or a Droid. We're going to get almost everything there. However, books won't go away. Maps, paper maps, are more likely to go away. Money is totally becoming an abstraction," a magnetic strip on the back of a Cougar Card.

As for the written word, she says, "words are only words and words alone aren't good enough." A writer now needs to be "a multi-modal composer," combining words and pictures—the magazine's old forte—plus music and video. Down the technological road, a writer could be using touch and smell.

She has her own feelings about this. But at her age, 59, "my literacy is not that important. We've got people coming up who have totally different literacies. They're different people."

Dear reader

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Something to tweet?
Go to twitter.com/wsmagazine.

The future is different from you and me

Justin Hartley, a WSU sophomore, regularly reads the paper versions of *USA Today* and the *Daily Evergreen*, plus a video magazine. He also reads about three books a month.

"I would much rather have a book," he says. "You can't get the same feeling of turning a page, of not knowing what's going to come next, with something electronic."

Among his peers, Hartley is a statistical outlier.

"That opinion is not very universal at all," he says. "They really like life on the screen. The digital era has definitely taken over as a huge part of this generation. It's what defines it."

John Wells, the Management Information Systems professor, notices that his students expect reading assignments in "digestible chunks"—that word again—and shrink from a long piece.

"It's much more daunting," he says, "because they're online creatures now."

In the process, he says, it is unclear if they learn more or do a better job of synthesizing what they read than when he was in college. Then again, in a world of abundant but diffused information, the savvier people will be those who learn how to digest and discard. Among the members of this generation, filtering is an emerging skill.

And they're far more likely than older generations to be comfortable with a Kindle, or an iPhone, or an iPad.

This January, the day before the iPad was announced, I broach this possibility with WSU Marketing professors David Sprott and Darrel Muehling. They study nostalgia, the rose-colored glasses with which people see a better past, even if it wasn't as great as they imagine. Marketers and psychologists have given this a lot of thought, and some particularly influential work by researchers at Rutgers and Columbia suggests that our preferences for certain films, music, and other consumer choices tend to be set around the age of 23 or 24.

So scoff as some of us might at the thought of reading a magazine online, or curling up with a Kindle, the laptop- and iPhone-toting young people outside Sprott's office may well be heading squarely into a lifelong love affair with surfing on a portable screen.

"The things that they're doing now, their kids are going to be saying, 'Oh my gosh, Dad, I can't believe you're still on Facebook and using an iPhone—that's so old-school,'" says Sprott.

"But most of the readers of your magazine are going to be older," adds Muehling, "and they do count. And they're still wanting to curl up and read a magazine that's not in electronic form."

Indeed. We'll see you again in August, online, and in print. ✱

Eric Sorensen is the new science writer
for Washington State Magazine.



Dear Reader

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Bees collect sunflower pollen at the Tukey Orchard organic farm Photo by Robert Hubner for Washington State Magazine

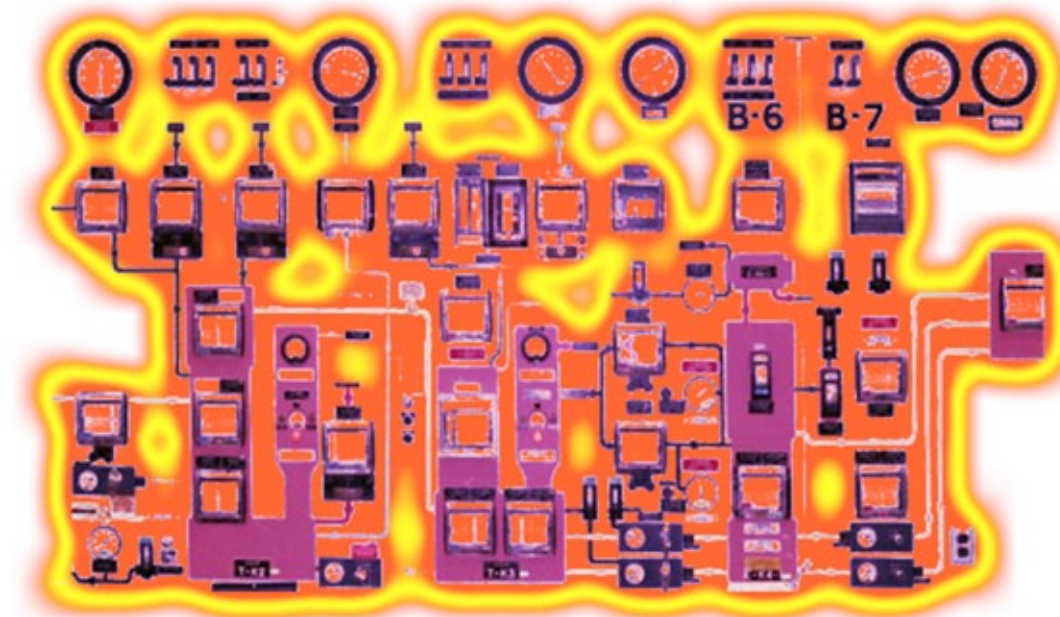
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www.libarts.wsu.edu/english



» panoramas

SUMMER 2010



INSTRUMENT PANEL AT HANFORD PUREX PLANT—ILLUSTRATION BASED ON PHOTO BY ROGER RESSMEYER

You, too, can run a nuclear reactor

E. Kirsten Peters :: Particles moving faster than the speed of light. Elements transmuted from one to another. A million watts of power. Hands-on practice controlling a nuclear reactor.

These are some of the selling points of Chemistry 490, a specialized elective class offered by Donald Wall, director of WSU's Nuclear Radiation Center, which houses the university's research and teaching nuclear reactor. The course, which has been filled to capacity both times it's been taught, gives students of all backgrounds a chance to learn enough about nuclear reactors to pass the formidable exam to become a federally licensed nuclear Reactor Operator (RO).

For the students, the class is a whole new world, one with some serious math, physics, and chemistry and much else about how to operate reactors.

"And it all comes together in the RO exam," says senior English major Mathew King. "There's a written, an operations, and an oral part of the test."

By "operations," King means responding on the fly, actually sitting at the controls of WSU's nuclear reactor, to anything the examiner can throw at the person applying for a license. A sudden increase in power. A sudden decrease. A simulated earthquake. A full "SCRAM," an acronym going back to the very first atomic reactor in the United States. It's the ultimate shut-off in case of emergency, known as the "Safety Control Rod Ax Man," who literally wielded an ax to cut through ropes and quickly release the control rods, "turning off" a runaway reactor and potentially saving the day.

King, a veteran of Chemistry 490, took the RO exam and passed it several semesters ago. This winter he took the Senior Reactor Operator (SRO) exam.

"Someone from the Nuclear Regulatory Commission comes out from D.C. for the exam. The SRO exam is set up so you simply have to know everything" about the reactor, he says. "You don't know anything about the structure of the exam—it could be anything from oral to operations to written. You just find that out when they start. In my case, it was all oral."

Taking an oral exam from officials of the Nuclear Regulatory Commission who have flown across the country specifically to give you the exam is pretty intimidating. But by the third question or so, King knew his answers were in the right ballpark and started to breathe more freely.

» panoramas

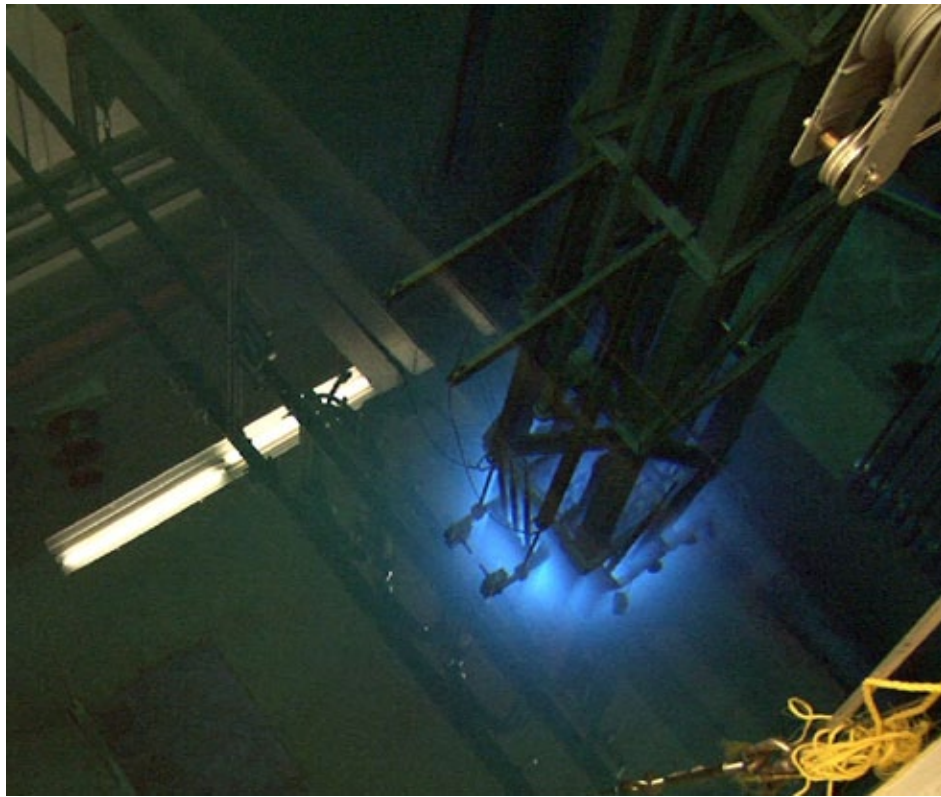
King credits Chemistry 490, his time working at the reactor, and daily contact with reactor supervisor Corey Hines with helping him achieve his two reactor credentials.

But it's not yet clear where King will head professionally. He's only 13 credits shy of a degree in English and is determined to earn his degree. He then can pursue an interest in creative writing or he can go into the nuclear field.

It's quite clear, however, where another veteran of Chemistry 490 is headed. Chemistry major Jessica Drader took the class as an undergraduate and earned her RO status. She has gone on to be a graduate student in radiochemistry at WSU.

"I wanted the license, and I enjoy operating the reactor," Drader says. "But that's all more of a hobby for me. My energy really goes into the PhD-level research I'm involved with under the supervision of Dr. Wall and Professor Ken Nash. They are my co-advisors."

Drader's particular interest is aspects of the chemical behavior of americium, curium, and other radioactive material that is a part of a much larger research effort into creating the next-generation technology for nuclear fuel recycling. Currently fuel recycling—as a matter of government policy going back to the 1970s—isn't practiced in the United States



Above: The glowing blue core of WSU's nuclear reactor. **Below:** Senior Mathew King at the controls of the university's 1.0 megawatt reactor. **Opposite:** A Cougar-themed sign graces the door to the reactor. Video stills by Matthew Haugen



even though it was developed in this country. It is, however, used in France, Great Britain, and Japan and could become standard practice in here if our policies change. The aim of the research at WSU is to improve the selectivity and efficiency of the process to reduce waste to very small and relatively easily manageable amounts.

A future of abundant electrical power and well-managed nuclear waste animates the usually carefully measured conversation of Don Wall. He volunteered to teach Chem. 490 on top of his other responsibilities at the nuclear reactor because he believes the young generation might be open to fresh ideas about what he considers "green" energy. In the face of carbon concerns and rapid worldwide industrialization, nuclear power creating abundant electricity is part of Wall's vision for the future.

"Nuclear energy is clean, safe, and reliable," he says. "It's a baseload power source that can keep the lights on during a still night when solar and wind are not available. It's much cleaner and safer than coal, which we still lean on heavily in this country for electrical generation."

Wall likes to point out that France gets about 80 percent of its electricity from nuclear plants. France recycles its fuel rod waste and, in fact, does the same on a commercial basis for some other nations.

"That could be us," Wall says.

Wall has an open-door policy for groups of visitors at WSU's nuclear reactor, believing that demystifying the place and its operations can only help reduce the fear of the technology in which he believes so strongly. He shows visitors the reactor pool and explains how the careful



design of WSU's reactor ensures it cannot fall into a "runaway" mode.

Wall also likes to explain to people on the tours that undergraduates who earn their RO license at WSU and get some experience on the university reactor can find jobs in the nuclear power industry with starting salaries like \$75,000. That can get the attention of parents.

King, the English major, sometimes helps with the visits.

"It's fun to be here with a tour. When I say I'm an English major, there's shock that's clear on people's faces," King says with a smile.

But in the world of Chemistry 490 as run by Wall, everyone interested in nuclear technology is welcome.

"My world," he says, "is one where people with enthusiastic idealism can make a real contribution that will make the world a better place to live."

Watch a video tour of WSU's reactor at wsm.wsu.edu.

Interview with Michael Pollan

Tim Steury :: Michael Pollan has been a leading voice in the re-evaluation of how we eat and farm. The author of *Omnivore's Dilemma*, the book selected for this year's Common Reading, Pollan visited campus in January to talk with the students who had been discussing his book and present a lecture on "The Sun-Food Agenda." *Washington State Magazine's* Tim Steury interviewed him by phone prior to his visit. The following is an edited version of their conversation:

W S M : There's been a real sea change in how we think about food in this country. I wonder if you could address what laid the groundwork for your ideas being so widely discussed. What was the tipping point?

POLLAN : There have been a few things that happened:

Omnivore's Dilemma happened to meet a culture ready to hear a discussion of where our food comes from. There were certain things that happened to make people very curious and very nervous. I think Mad Cow Disease, even though it never became a tremendous problem in this country, was a real wake-up call for people, that food was being produced in ways they hadn't been told and they were very troubled by, the idea we were feeding cows to cows when we produced meat.

The food safety problems in the early 90s, Jack in the Box and other *E. coli* outbreaks. I think the animal rights movement, too, had shown people how some food is produced. *Fast Food Nation*, the book, I think was really important. And then of course you have the obesity epidemic and diabetes epidemic getting people's attention. I think a lot of interest in the food system is driven by these public health challenges we face. Those were really coming to the fore

in the early days of this decade. It was clear that there was something wrong with the American diet.

That was a perfect storm of factors that prepared a public that was asking questions it hadn't asked before. And also the fact that we had got so out of touch with where our food comes from that people were willing to read a book telling them that. You could not have sold people a book telling them where their food comes from 75 years ago. Everybody knew.

W S M : Your ideas have been well received. Have you seen any real change in industry in response?

POLLAN : Yes, there has been some change. A lot of it is public relations. But some of it is sincere effort to change. You have companies trying to simplify some of their food in order to make it healthier, and there are initiatives. Some of it is insincere. When you add one gram of fiber to Fruit Loops and then start boasting about it as health food, it's not exactly what we're talking about.

You have some companies changing their production. You have some retailers bringing in more local and organic food. So I think there's a lot going on in the industry. It's a mixed bag. I don't think you can generalize about the food industry any more than you can generalize about agriculture.

W S M : Looking at the same thing from more of a cultural side, we've seen a lot of growth in farmer's markets and related interest in food. But without a real food culture in this country, is that momentum sustainable?

POLLAN : Well, the real question is, are we in the process of building that food culture? That's what would make it sustainable. There are some signs that we are. We're getting interested in quality ingredients. There is much more interest in fine food and cooking and where food comes from. All this could turn into a healthy and enduring food culture. Or not. It's hard to tell.

:: continued page 25

Discovery

Scientists discover what makes a cobra's hood spread. The volcanic birth of the Columbia Plateau may have changed the earth's climate and caused extinctions. The peach genome is now sequenced. Language may have been spread by males. Sheep are the new Petri dish. The spotted owl is absolved.

Watch a video tour of WSU's reactor at wsm.wsu.edu/discovery



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Back from the ranch



Bill Moos '73, WSU's new athletic director.
From top, photos by Dan Pelle/The Spokesman-Review and Tyler Tjomsland.

by Jim Moore '78 :: Sometime before May 1, Bill Moos '73 will become athletic director at WSU. So much needs to be done, but with Moos, it all seems possible.

This is because he's done it before. Moos helped turn Oregon into a Pac-10 and national power before leaving in 2007. He oversaw \$160 million in facilities improvements that included the renovation of Autzen Stadium. The Ducks won 13 Pac-10 titles in various sports in his 12 years as AD. You could argue that it was the best era in Oregon history.

"I'm proud of my legacy there," Moos says. "I had great imagination and I'm competitive as hell. You put that together with a supportive administration, and you can be dangerous."

The sequel could be better and more fulfilling than the original. WSU President Elson Floyd is completely supportive and will no doubt give Moos the same creative license that he had at Oregon. Then there's the not-to-be-overlooked factor that resonates with most alums—the guy's a Cougar who is motivated to leave his mark on

a school that has meant the world to him. Talk about a dangerous combination.

That's why everyone was so excited before Moos was even hired. Usually athletic-director searches are conducted behind closed doors, and we don't see the winner until he's announced at a press conference.

With Moos, Floyd was so inundated with calls and emails from alums that he paraded him through Pullman on a day in which WSU and the prospective new AD gauged each other's interest.

But you already knew the mutual-interest level was off the charts. So the day turned into a Bill Moos Love Fest in which the wandering son was welcomed home. It surprised no one when Moos was hired a few days later.

I spoke with him in early March while he was tending to business on his cattle ranch off the Palouse Highway, 12 miles south of Spokane. He grew up on a cattle ranch and likes having his own now. He was getting yearly \$200,000 direct deposits from Oregon, which was part of his non-compete buyout when he left Eugene.

» sports

At 59, he could have kicked back on his 66 acres and called it good, and no one would have blamed him for retiring early and enjoying life. But the pull from WSU was too strong for him to pass up.

"I'm the kind of guy who never wants to be a 'gee-iffer,'" Moos says. "Most gee-iffers are 40 pounds overweight and waiting for softball season to start. At this stage of my life, when I do get to be 65, I don't want to look back and say I had a chance to do something for Washington State and not taken the opportunity."

He has hoped and prayed for this job for almost 50 years.

"I've basically wanted it since I was 12," says Moos, who grew up in Edwall, the son of two Cougs.

It killed Moos when WSU chose Rick Dickson to be its new athletic director in 1994. Moos was AD at Montana and had done a good job there. He seemed to be the perfect fit. As chapped as he was then, Moos is philosophical now.

"I'm far better prepared for this task than I would have been in '94," he says.

When I spoke to him, I hoped Moos would be in the mood to challenge the Huskies, just as he did when he took over at Oregon.

"We said we were going to put Washington in our sights and that we were coming after

them," Moos says. "We caught 'em sleeping and took 'em over."

But he's more diplomatic this time around, saying: "Right now we're taking aim at the Cougars. We'll focus on what we need to improve on, and once we establish those areas and develop a plan to attack our own shortcomings and get healthy, then we'll aim to get competitive in the conference. We've got to take little steps first. We're not in a position right now to take on anybody."

Whatever those steps are—and facilities improvements figure to be high on the list—Moos is expected to attract a more receptive audience. The Cougs are last in the Pac-10 in athletic donations, but that could change with Moos in charge—he's a dynamic, charismatic, make-things-happen kind of leader who figures to boost contributions.

He will explore every avenue, and yes, he'll even get in touch with Paul Allen, the Microsoft billionaire who once went to school at WSU and now owns the Seahawks and Trail Blazers. Moos' relationship with Nike founder Phil Knight was a key to Oregon's success.

"I've got a great deal respect for what (Allen) has accomplished," Moos says. "I have to get up to speed with the dialogue that has occurred with Paul Allen before I make any suggestions. I would love just to meet him. He's one of us, he's a Cougar, and he obviously has some interest in sports."

With Allen and others involved, it will start making Cougar athletics more attractive.

"You can raise a lot of money when people are fearful about missing the party," Moos says. "Right now there's plenty of room in the ballroom."

That won't last. Moos envisions a sold-out Martin Stadium for every game and a packed-to-the-rafters Friel Court. When he spoke to the crowd at the Husky-Cougar basketball game in February, the standing ovation moved him.

"Hopefully, three years from now, they'll stand again," he says.

And 10 years from now when he's back on his tractor, Moos pictures himself saying: "Gee, we did that?"

During the Bill Moos Love Fest, he reminisced about the days when he walked up those same steps to the CUB as a student-athlete.

"I was dreaming of one day wearing a Gray W sweater," Moos said, "and not only did I earn one, now I'm going to be handing 'em out."

"It's going to be fun to roll up my sleeves and get after it." <<

Jim Moore '78 writes for seattlepi.com and his website www.jimmoorethego2guy.com. He also appears weekdays from 3 to 6 p.m. on "The Kevin Calabro Show" on 710 ESPN Seattle.



SHELLEY HANKS

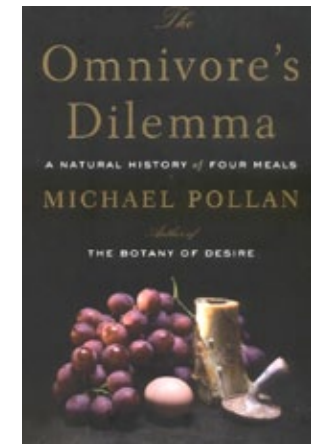
Click on image at right for video of press conference announcing Bill Moos as the new athletic director.

» panoramas

I would revamp the commodity programs top to bottom—in a way, by the way, that would help farmers, not hurt them.

WSM: We have 3,500 young readers here on campus discussing *Omnivore's Dilemma* and related ideas. What's the main distilled message you want to convey to them Wednesday evening?

POLLAN: That food is really important. Debating how we should grow food, how we consume it is vitally important too, and we have let this slide for too many years. Food was cheap, and



POLLAN: (Laughs) Oh man. He's too smart to do that. But the first thing I would do would be ban important human antibiotics in livestock production. I think that is a real threat. I think the feedlot system in this country is a disaster waiting to happen. We have already seen the evolution of swine flu in hog confinement operations in Mexico, and staph is coming out of hog confinement operations. We've created a really dangerous incubator for lethal diseases. If the FDA were to say, look, these antibiotics are too important to squander routinely on animals. I'm not talking about treating animals, I'm talking about putting them in food to promote growth and permit greater levels of concentration. If we did that, much would change in that system. Meat might become a little more expensive, that is true. But as it is, we're eating too much for our own good or the planet's own good. So I think that's something important the FDA could use.

I would push for more transparency in labeling.

I would prohibit health claims on food. When the least healthy foods in supermarkets have the loudest health claims, there's something wrong with that picture.

WSM: As the head of the USDA?

POLLAN: Man, I'm getting tired.

I'd take a good hard look at all our farm policies. I'd figure out a way to revamp the commodity subsidy programs. I'd keep the amount of support for farms exactly the same. I would not cut them. But I would ask farmers to do something else in exchange for their subsidy checks for corn, soy, wheat, cotton. I would enlist them in helping to solve two of our most important problems: the public health crisis around food, obesity and diabetes, and climate change. Farmers are very well positioned to help solve those problems. In the same way they answered the challenge of producing as much food as possible that we set for them post-World War II, I'd say now the challenge is different, it's not the quantity of food that's so important as quality of food, and doing it in a way that doesn't use so much fossil fuel.

nobody had to think about it. And by doing so we allowed two very serious problems to grow. One was a public health problem, and the other is an environment problem. We need to address them both. There are some very exciting ways we can. Food production is potentially the most sustainable sector of our economy, because it relies on solar energy, on photosynthesis. So there are opportunities to push food back onto its solar footing and off of fossil fuel. That would accomplish a lot of benefits at once.

So I'm very optimistic. I think farmers hold the key to solving our problems, and we just have to give them the right set of incentives. When I say we, I mean consumers and government. We're just at the beginning of this debate over the future of food and farming, and it will be decided at campuses like this one.

» from page 21

At the same time as you have all these alternatives springing up, you have cooking still in decline, although I think it has made a bit of a comeback in the last year with the recession. You hear this from people who sell kitchen equipment and people who sell bulk food and ingredients.

In a recession, people stay home and cook more, and that's a very positive thing. It's too soon to say whether we're talking about a fad here or any enduring change, and I wouldn't want to venture any predictions.

WSM: John Mackey (founder of Whole Foods) has criticized what he calls your "exaltation of the little." That does perhaps reflect the major criticism of your work.

POLLAN: Well, I think we have to do it on every scale we can. There's nothing wrong with working on several scales at the same time. It's not an all or nothing proposition. I don't think we're going to go back to a hundred percent local food economy. We haven't really had that for many hundreds of years. We've lost a lot of the agricultural land near cities you need to make that happen.

That's not to say you can't work to make 20, 30, 40 percent regionally a worthwhile goal. Many good things would come of that, for the landscape, the farmers, the public health.

We tend to think in black and white in this country, it's all meat or all vegetarian, it's all local or all global, and that's not the real world. Can organic feed the world? I don't honestly know if organic can feed the world. I think we need to try and get as close as we can, because we don't have the fossil fuel to do it any other way.

I don't think the goal is to blow up the industrial food system. I think the goal is to shrink it and give us some alternatives so all our eggs are not in one basket.

One of the ways people battle a message like mine is to suggest that—this is the message the Farm Bureau tells farmers—that writers like me want to destroy farming as we know it and turn back the clock. These are cartoon charges.

I see what we're doing is building new markets for farmers, new options for consumers, and I don't see the mainstream supermarket disappearing anytime soon.

WSM: A couple of what-if questions. If Barack Obama were to appoint you the head of the FDA, what would be your first move?

Our Story

How Congo came to have a Washington State University High School. The Sam Mompong connection. Memories of Rush 1963. Economists play Monopoly.

wsm.wsu.edu/ourstory

WSM Summer 2010



WSU myths and legends

Hannelore Sudermann :: Every school has its myths and legends. Washington State's include miles of secret underground tunnels, a ghost, giant cows, and an icon of the psychedelic 60s. We decided to define, dispel, and debunk these stories. The results may surprise you.



A GIANT COW—CHUCK GOOLSBEE

1 Washington State University is breeding giant cows

False. For years, freshmen have been driving by the cattle enclosures on the east side of campus and marveling at the enormous bovines that graze there. Rumors have spread around the world about the "giant cows" on Washington State's campus. But there's nothing aberrant about them.

"They're steers," says Charlie Powell, spokesman for the Veterinary Teaching Hospital, who recently fielded a phone call from Egypt about

the big bovines. "Most people have never seen a full grown steer." Typically cattle raised for meat don't live past 30 months and when they're slaughtered they can weigh up to 1,000 pounds. But WSU's emasculated bulls have had years of good food and easy living. With that they can grow to more than 2000 pounds.

Powell has fielded his share of calls from students and others concerned that WSU is somehow engineering giant cattle. There are no genetic mutations or steroid cocktails with these animals, says Powell. The simple fact is that those at WSU are up to 15 years old and have just had a lot of time to eat and grow.

2 WSU is a Playboy party school

True. But not as true as you might think.

The rumor that WSU is one of Playboy's top party schools has been floating around for decades. And for years, it just wasn't true at all. In 1987, Playboy published its first list of party schools. The list was created based on research the magazine staff did with student leaders and fraternal organizations. And, really, WSU was nowhere to be seen.

That changed in 2002 when Playboy reprised the party feature. WSU ranked at number 18, and in 2009 rose to number 16. The dubious achievement may be worth bragging about for some, but for recruiters and administrators, it's downright irritating.



Lately, according to the Playboy web site, the ranking isn't done with research, but with student nominations. Based on this unscientific method, if WSU makes the list again, we think

it only proves that the students who nominated us are more persuasive writers than those at other schools.

3 Timothy Leary was a student

True! Really. 1960s acid icon Timothy Leary, who coined the phrase, "Turn on, tune in, drop out," attended Washington State in the mid-1940s and earned a graduate degree here. But it was long before he ever dropped acid and a good two decades before he became figurehead of the psychedelic scene. While at Washington State, Leary studied under educational psychologist Lee Cronbach. His masters thesis bore the title, "The Clinical Use of the Weschler/Mental Ability Scale: Form B." He must have realized the title didn't sing, because he later renamed it "The Dimensions of Intelligence."



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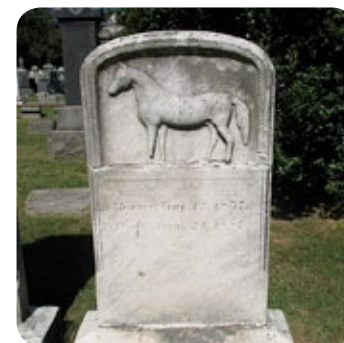
A quick check of the library shows one copy of Leary's thesis housed in the archives. The other copy, which should be available to check out, has been missing for some time.

4 Roy Orbison was a student

False. It's hard to say where this rumor started, but it is scattered all over the web in a number of on-line biographies of the Rock-and-Roll pioneer. Even an article in *The Oregonian* recently suggested the connection (and later retracted it). Since Orbison finished high school



and went on to college in North Texas in 1955, we combed the alumni database and the Chinook yearbooks for signs of him from the mid- to late-1950s. Orbison was seen a lot during that period in both Texas and Tennessee. And in 1956, he was busy with his band of high school buddies, the Teen Kings, recording "Ooby Dooby," and then signed with Sun Records. No official Orbison source links him to Pullman. Our loss.



JENNIFER HANSON/FILICR

5 There's a horse buried on campus

True. In fact there are probably all kinds of animals buried on campus. It's a remnant of more than a century of teaching veterinary students and running an animal hospital. Just a few years ago, when construction workers on the east end of campus started a project to add to the Facilities

Opposite, at bottom: Movie poster for "Animal House" designed by Rick Meyerowitz. **Opposite, at right:** Timothy Leary by Dean Chamberlain. **This page, at top:** Local press photo of John Lennon and Ringo Starr attending the 28th birthday party of Roy Orbison at La Dolce Vita restaurant in London, 1964.

Operations complex, they uncovered animal remains that had been buried there decades before.

There's also a horse memorial in the center of campus. It's for Piccolo, the only racehorse to beat Seabiscuit twice. Piccolo, a thoroughbred, was born in 1933 and had 91 starts, 15 wins, and 15 places. At some point the animal became part of WSU breeding herd and was stabled at Hilltop years ago. When it died, its ear and tail were buried there. The memorial was recently relocated to an area near Hulbert Hall when the University sold the property.

6 The campus is riddled with underground tunnels

True. Some are wide and tall. Some are so narrow and pinched, you would have to shimmy sideways or get down on your hands and knees to get through. And they run miles through campus connecting up to practically all the buildings.

According to University records, some of the earliest tunnels were already built by the 1920s to bring heat to places like the Men's gym and Bryan Hall. And ever since they've been used to discreetly disseminate heat and water and house things like phone and computer connections.

As we wondered about the tunnels, we stumbled across a WSU alumnus from the 1990s who not only (risking possible expulsion) snuck down a manhole to explore our subterranean campus, but with his friends (they called themselves MoleNet) made a map and video of their excursions. They had some interesting discoveries—a bomb shelter, three dead cats, and a mysterious laboratory.

Our mole, a Seattle-area computer engineer who asked to remain anonymous, first noticed the tunnels as a freshman in 1994 during WSU's



FROM AN UNIDENTIFIED WSU EXPLORATION/FILICR

Communications Infrastructure Renewal project. Workers were stringing wire down through manhole covers throughout campus and he couldn't help but observe the constant tunnel work.

Curious, he and his friends went down several times, unable to pass up an intersection, a new tunnel, a locked door, without wanting to see more. "WSU seems like a much older place when you factor in what's down there," says our source. "A few areas really show their age, with cloth-insulated wires strung between wooden blocks on the ceiling and other stuff like that."

He admits the explorations were dirty, dangerous, and sometimes—because of the heat from the pipes—very uncomfortable.



SHEELY HANKS

7 Bryan Hall is haunted

We're not sure. There are rumors of ghosts of students all around the dorms, but this is a story of a president who will never leave campus. It is said the ghost of Enoch A. Bryan still visits the 1909 building that bears his name.

Bryan was president at Washington State from 1893 until 1916. The year he retired, the Board of Regents named the building for him. He attempted a run for U.S. Senate, served as Idaho's Commissioner of Education, and later returned to Washington State to teach economic history until 1939.

He died in Pullman in 1941 at the age of 86. Because Bryan has such a hand in building our small agricultural college into a university we figure that if any departed president would still be hanging around it would be him.

Are there stories about WSU that you're wondering about? We'd be happy to explore and explain. Just send us a note: wsm@wsu.edu.

Cougs behind the camera

Larry Clark :: Alan Baker was looking for a Frank Lloyd Wright house in Pullman.

Of course Baker ('94 PhD) knew there were no actual Wright-designed houses in the town, but he needed to find a Modernist,

The search for the Wright house in Pullman failed. But as we drove around the area, Baker, a communication professor at South Puget Sound Community College, gave me an insider's look into the juggling act of schedules, locations, crews, actors, and equipment behind the creation of a film.

WSU has a long history of preparing students for work in television and film production. The broadcasting program started in 1964, but had its roots in journalism and speech

Many WSU alums have moved on to careers in television news and entertainment. Edward R. Murrow, namesake of the College of Communication, defined television news broadcasting. Keith Jackson's sportscasting career with ABC spanned 40 years and earned him honors from the National Football League and the Murrow Award. But the Cougs behind the camera make the stories on film come together.

"It's amazing a movie ever gets made," says Baker. "If any of the 85 people don't do their



COURTESY ALAN BAKER

spacious home overlooking the Palouse for an ideal movie location. As a location scout last summer for *The Big Bang*, an Antonio Banderas thriller in production, and other feature films, Baker wandered through Washington identifying, photographing, and securing places for directors to make movies.

from the early 1920s. KWSU-TV, the on-campus public television station, began operation in 1962, giving broadcasting students experience in all aspects of producing television shows. The station's production division opened its renovated high-definition facility in 2008 to produce local programs.

job, the film goes over budget and over schedule and may never be released."

It's all about problem-solving and having a couple of fallback plans, says Baker. Location management showcases that need for flexibility; locations and schedules must change quickly if an actor drops out, funding falls through, bad weather hits, or any other unforeseen circumstance causes delay.

The location scout reads scripts and attempts to decipher what a director or producer needs for scenes. Once a location is found and filming begins, the logistical nightmare begins for the manager to take care of everything from bathrooms for a huge crew



COURTESY ALAN BAKER

Opposite: Alan Baker '94 PhD working the camera on the set of indie film "The Mountain, the River, and the Road." **Above:** Baker (wearing hat) with Ghost Alice and special effects makeup artists on "John Carpenter's The Ward." **Below:** Students learn production hands-on at KWSU on the Pullman campus.

to power for the array of lights and other equipment.

Last summer's location work for Baker included finding and managing places for director John Carpenter's upcoming suspense movie *The Ward*, filmed primarily in and around Eastern State Hospital in Medical Lake. "Carpenter doesn't like to do computer-generated special effects, and we needed to burn down a farmhouse. It was quite the process getting permits to do that," he says.

If a massive effort is required for a big budget movie, an independent film demands double the doggedness. Bill Jacobson '88 discovered just how much sacrifice while toiling as co-producer and crew member on *Journey to Sundance*, a documentary about indie filmmaking and the struggle to complete a film.

The five-year process began with Jacobson, director and co-producer Julian Starks, and co-producer Jennifer Sorenson trying to answer the question "What is independent film?" through a look at the annual Sundance Film Festival.

"We wondered what it took to move an idea from 'soup to nuts.' So we filmed us creating the documentary at the same time," says Jacobson, who began as a theater actor at WSU and started acting professionally on an indie film in the 90s.

The Tacoma native described the process as "tedious." After extensive planning meetings to figure out schedules, where to get money (beg, borrow, or steal?), and how to accomplish it all,

Jacobson and the others packed up and headed to Park City, Utah, for the festival.

"We shot every day, all day at Sundance for three years in a row. You're filming constantly because you never know what will pop up in front of the camera," he says. They also shot extensive interviews whenever they could in Los Angeles with celebrities such as Vin Diesel, Jennifer Aniston, John Malkovich, Salma Hayek, and Javier Bardem.

Everyone has to be committed to an indie film, says Jacobson. "If money is tight and people start working for free, you have to believe. Many quit halfway and become disenchanted with the whole industry."

Journey to Sundance still waits for release as the independent filmmakers look for a distributor, the next challenge of the business. Jacobson isn't losing hope.

"There are always road bumps and hiccups along the way. My advice to those who want to climb into the industry comes from Winston Churchill: 'Never give in. Never, never, never, never,'" he says.

Baker agrees with the sentiment, as he teaches a new generation of filmmakers in his community college classes. "Some love it, some hate it. But I don't want them to be surprised."

His digital cinematography class is entering its second year, with students working on a

narrative short film. The students put in 18- and 22-hour days with Baker for filming due to the cost of leasing cameras and using locations—a realistic schedule even for big-budget features, according to Baker.

"I want my students to understand the work involved. Either they have a lot of money or connections to make their own films, or they have to be prepared to work very hard as a production assistant," he says.

Baker calls on his work on feature films, plus his experience teaching television production at WSU and working at KXLY in Spokane, to give students a sense of the reality behind the lights. He remembers his own first feature as a tough time. "I was yelled at a lot and thought, I'll never get another job. I discovered it's a tight-knit community, and I soon had another offer for work."

Baker's students have already worked on feature films in the last year. For some, their introduction to the glamour of cinema came from cleaning bathrooms and removing asbestos on the set. They worked 19- and 20-hour days on set for *Hit List*, a movie filmed last year in Spokane.

He wants students to understand the importance of doing whatever it takes to succeed and tells them, "Be honest. Know how to say 'I don't know how to do that, but I'll find someone who does.'" <<



SHELLEY HANES

Coordinates

Bicycle (vicariously) "The World's Most Dangerous Road." Also, read "Dangerous Beauty," page 72.

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» in season

{ THE BEST BERRIES }



by Hannelore Sudermann

THESE ARE NOT your ordinary grocery store strawberries.

They are nothing like those California berries, bred for size, long truck rides, and shelf-life, locked in plastic clamshells under the florescent lights of the produce section,.

The berries of Washington are juicy, fragile, flavor-packed fruit. Because Northwest berries are mostly grown for processing, their texture and flavor are paramount, says Patrick Moore, WSU's strawberry breeder.

And what grows best here are typically berries bred for this environment. Hood, an Oregon variety, is one of the most widely-grown in the region. It has large, dark red fruit and a clean, sweet taste. And like the rich, deep red Shuksan, an older WSU-released variety, it's ripe and ready for a few short weeks each summer. If you can't find either of those, there's also the Rainier, the Puget Summer, and the Tillamook. Because these berries are so perishable, the best way to find them is in a farmers' market or at a farmstand, picked the morning you buy them.

How they came to be in Northwest fields is a story as colorful as the berries themselves. The grandparents of the modern-day strawberries are native to the Americas, but they took a tour through Europe before coming home to live in American farms and gardens.


In ancient texts there are just a few references to the strawberry. By the 1300s, the fruit was cultivated in Europe and listed among the produce in the gardens at the Louvre. Still, it was a novelty, a treat for kings, according to horticulturalist George M. Darrow, author of *The Strawberry: History, Breeding and Physiology*.

The European berry was nothing like the strawberry of today, notes Darrow, who worked with small fruits for the USDA from 1911 through 1957. It was a tiny fruit, the size of a fingernail, but still sweet and delicious. In the 1500s it had become a common garden plant. Still, for most people it was more of a treat than a dietary mainstay. It took the discovery of the New World and the return of explorers bearing the much larger American berries to give the modern strawberry its start. In 1714 French explorer and spy Amédée François Frézier went on a mission to Chile to size up the Spanish-ruled ports and determine the best approaches of attack for France. While there, he found a berry that bore fruits as large as a whole walnut. He returned to France with five plants of the *Fragaria chiloensis*. They were crossed with another American emigrant, *Fragaria*

» in season



WSU scientist Patrick Moore samples a strawberry from a Western Washington field. Moore is breeding new varieties of strawberries for farmers and gardeners. Photo Gilbert W. Arias/Seattle Post-Intelligencer

 Strawberry fields are forever in our online gallery. Go to wsm.wsu.edu/gallery.

virginiana, according to Darrow. And years later, after much back-crossing and hybridizing, the strawberry was carried back across the Atlantic.

The 1800s saw the first commercial strawberry production in the United States. Since strawberries are not a major crop, the industry was small and slow to start, says Darrow. They reached the Northwest in the 1830s, in the days of Fort Vancouver.

No Northwest strawberry story would be complete without mention of the thousands of Japanese farmers who grew them. The Japanese-born farmers were able to adapt the intensive cropping practices from Japan. Among them was the Sakuma family who settled in Washington in 1915. They trucked and ferried their produce into Seattle from their main farm on Bainbridge Island. In the 1930s four of the Sakuma brothers moved up Skagit Valley to grow strawberries, a crop that could be grown on small plots of land and at the same time be very profitable.

The Sakumas were forced to stop farming during World War II. The Skagit branch of the family was sent to an internment camp at Tule Lake, California. When they were released years later, they returned to Skagit Valley and berry farming. Today the Sakumas' children and grandchildren, including Steve Sakuma '69, and Bryan '78, run one of the largest berry farms in the Pacific Northwest. Some of the varieties they grow are from public breeding programs like the one at WSU.

Washington's first varieties came from the WSU Puyallup research and extension center in the late 1920s. Chester Schwartze was hired as WSU's first official strawberry breeder in 1932. He bred Northwest, which for a time in the 1960s was the most-widely planted strawberry in the country.

In 1956, he released Puget Beauty, a sweet, aromatic fruit, according to Moore, and parent to many of today's Northwest cultivars. Over the years, WSU has released a number of other delicious and desirable berries. About 22 percent all the strawberries grown in Washington, Oregon and British Columbia come directly from WSU, and another 43 percent have a Northwest parent. And Moore is on the verge of releasing a new variety. "It's big," he says. "The first fruit were about 50 grams. We're looking at eight to 10 per pound."

"Also, it has excellent, excellent flavor," says Moore, dispelling the notion that only the smaller berries are tasty. A few years ago he invited some Seattle chefs to sample some. "I wanted to educate them there are differences between strawberries. I also wanted to learn what traits they were looking for," he says. The two they favored were Hood, the standard, and this new one.

Moore says his berry has a full, balanced flavor: "It's not a real sweet one, but not real tart." It's probably best as an eating berry, he says. Because it ripens later than many others, by the time it's ready, the processors have done most of their strawberry work and are ready to move on to other fruit.

Kirk Klicker, whose family has been growing strawberries in Walla Walla since the early 1900s, sampled some of Moore's new berry in his fields last summer. "It's incredibly addictive," he says. Hood, by contrast, is a good berry, but it's like fudge. You have some and you're satisfied, he says. But these new strawberries, "when people eat them, they devour them. Then they want more."

Eat them now, freeze them now, or make jam out of them. The Northwest strawberries are the best for all three uses, says Moore. And if you find them, don't hesitate. "It's about a two to four week season, depending on which variety and when you're looking," he says.

If you miss the June flush—don't despair. Washington still has some "everbearing" varieties that will produce strawberries throughout the summer. «

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time out in the world

See the world. Make a difference.
Today's graduates are looking for more than a job.

:: by Hannelore Sudermann ::



Scott Jones is taking some time off.

After five grueling years in WSU's architecture program, he finished his degree last May and decided to travel the world, hang out, and just plain take a break. The 23-year old from Vancouver isn't ready to settle into his lifelong plans.

One morning in January, Jones wakes up in a house full of roommates. It's a small, slightly shabby rental edging the glassy waters of Lake Samish. The driveway is cluttered with cars, including one with its hood open. Inside, two roommates are already in their ski pants and gulping coffee before heading off for Mount Baker. Another is just waking up on the couch. Jones, who has tugged a cap over his unruly hair, is standing in the middle of it all with a bowl of Frosted Mini-Wheats.

He and his friends ski. They motor around on the lake. They jump on the trampoline in the yard. They do a little construction work for cash. And, as Jones had planned, they hang out.

The thing is, Jones, who wanted a year off, is not so much the slacker that he might seem. He has designed a year that he knows will be one of the most demanding and exciting in his life. By the time this story runs, he will be on his third trip to Africa, where he's helping a non-profit organization build rural health clinics and orphanages.

When he's stateside, he's on his computer creating plans for Kenya. He has also been asked by another non-profit to work on a project in Rwanda. And he's continuously honing a concept to build chimneys for Kenyan cookfires that would cut down on eye infections and respiratory illnesses caused by smoke. His life, he says, is near perfect. "I get to ski or hike in the day and come home and work at night."

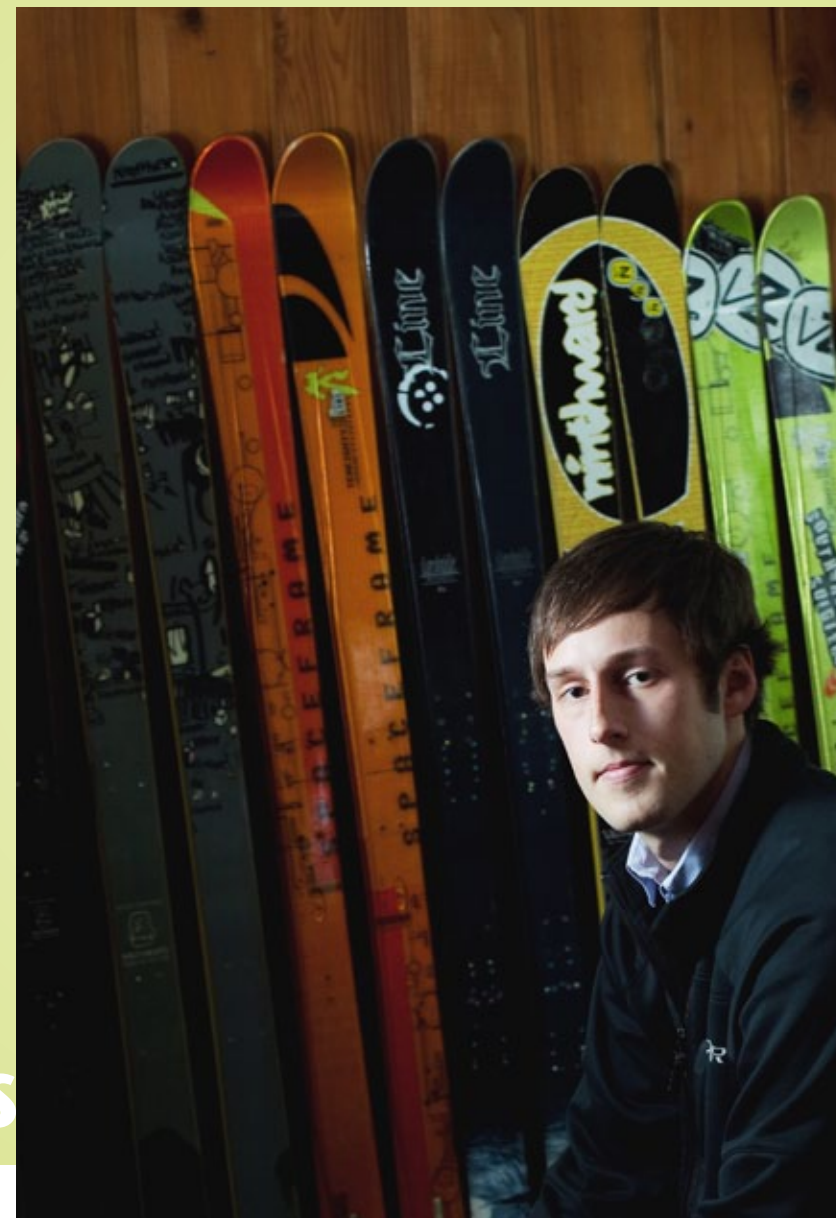
Just two days after graduation last year Jones left on his first Africa trip, traveling with Agape Partners International, a non-profit Christian organization. Through a network of pastors in Kenya, the group channels resources into communities to build and support orphanages and medical clinics. The volunteer job is a good fit for Jones, who in his last year at WSU started looking into designing low-income residential housing. "It's interesting how the role of the architect is geared toward the upper class," he says. But if you flip that, and work with lower-income clients, the design experience can be "a lot more interesting and dynamic and rewarding," he says.

One of his professors, Bashir Kazimee, had been contacted by Agape for help with a medical clinic in Kenya. Seeing a chance to combine his interests in designing affordable architecture and getting a global perspective, Jones jumped in. The group wanted a modular design that could

be repeated in other places. The young architect was able to parlay the project into a relationship that not only led to trips to Africa (for which he paid his own way), but to a way to satisfy his desire to help others.

Jones has visited a boys' orphanage near Nairobi, toured large-scale construction projects in Africa, and spent time in remote communities with thatch-roofed homes. He also learned to use a machete and braid bark, saw a black mamba, came down with malaria, and helped a village make its cook fires healthier.

Jones is just one of many recent Washington State graduates who are taking time after college to find ways to see the world and make a



Opposite: Scott Jones at home in the Bellingham house he shares with his friends. *Photo Rajah Bose.*

This page, left to right: Local volunteers in Kenya frame up a hood. A villager sits by her cooking fire under a hood that Jones designed. *Courtesy Scott Jones.*

y o u n g h u m a n i t a r i a n s



positive difference. Vivvi Pierce ('07) is teaching English in Hungary. Jeremiah Campbell ('05, M Ed. '08) is headed this summer to Bolivia to work in a school and residence for children of women in prison. And Cody Moore ('07) is working in Spokane to help keep elderly and disabled people in their homes.

PULLMAN

This desire to volunteer often comes with students when they arrive in Pullman, says Melanie Brown, head of WSU's Center for Civic Engagement. Today the notion of community service is fostered in elementary and high schools. Sometimes it's even a high school graduation requirement, says Brown. More and more students come to Pullman with that experience and an expectation of finding ways to be involved in their community. Brown recalls being blown away by one freshman who came in with a community service portfolio: "It was a big binder filled with photos."

The center got its start in the early 1990s, when the University formed a task force to respond to the faculty's desire to incorporate community-based learning into the undergraduate curriculum. Through academic courses, students could find work and internships in the community that would contribute to their studies and interests. The notion became the Community Service Learning Center.

Over the years, the focus of the center has evolved from academic programming to a service fostering students' exploration of themselves in their society. Just recently it became the Center for Civic Engagement. "It meant that we started to serve the needs related to community involvement," says Brown. The center works with living groups, classes, and individuals with an interest in community service, as well as students who

have conduct problems for which they have court-ordered community service. "There are people who really want to do it, and students who really don't," she says. But sometimes even for those who don't it "clicks," she says. Recently Brown placed a young man ordered to do community service with a nursing home. He bonded with an older woman with whom he was paired, and celebrated the first time he could help her leave her room and join the other residents for a meal.

On the other hand, there are students who find their way into the center on their own and use it as a resource for what they want to do while in school. Brown points to Edison Kent, the ASWSU director of philanthropy and community service, and Malia Suzui, a senior majoring in public relations who recently organized a campus American Red Cross club.

Suzui got a taste for community service as a high school student in Walla Walla. As a freshman, she jumped at the chance for a work-study with the Pullman Red Cross office. "It was the most awesome opportunity," she says. "I get to do so many cool things." Her job is mainly clerical, but she was delighted to be asked to help write press releases and organize projects. Last fall, Suzui researched forming a campus chapter for the Red Cross. "There are a few hoops to jump through," she says. The group had to write a constitution, learn the rules of Student Involvement, and find a faculty advisor. Now there are 10 members, most of whom have been health and safety certified and can perform CPR and basic first aid. This is something the students do not for themselves, but for the community around them, says Suzui. "You never know when an emergency is going to present itself."

Just days after the January 12 earthquake in Haiti, Suzui led the "Cougs for Haiti" campaign to collect donations for Red Cross relief >>

efforts. “We wanted to facilitate a way for students to donate easily, without having to seek something out,” she says. “People are so generous and sweet.” Students who donated \$10 or more received a shirt promoting the campaign. “Every college student loves a t-shirt,” says Suzui. Besides donating, when the students wear the shirts, they continue to promote awareness of the needs in Haiti. In the first few days of the campaign, the club collected more than \$2,500.

While her work with the Red Cross and forming a campus club has been rewarding, it has also convinced Suzui that after graduation and some time learning public relations with an agency, she would ultimately like to work for a non-profit. “It’s the people,” she says. “People who work at places like that are just so dedicated to their jobs.”

This ethic of involvement stays with the student after he or she leaves WSU, says Brown. A recent WSU Research and Assessment office survey of the 2005-2006 graduating class drew more than 1,000 responses. Seventy-one percent said they spent time volunteering or working in a community action program. On average, most of the respondents spent between one and three hours a month doing vol-

unteer service. The largest sector was religious activities (28 percent). It was closely followed by conservation activities (23 percent) and tutoring and teaching (23 percent).

“It’s not just about what they do here,” says Brown. “It’s about developing an ethic of service and habits... Really, it’s about citizenship in the long run.”

KENYA

That first visit to Kenya didn’t unfold as Jones and his companions had hoped. But that’s how it can be sometimes in East Africa. It was frustrating, says Jones. “Trying to plan was really a stretch. And I didn’t get to do a number of things I had wanted to.” Each day the group would have to start from scratch—decide where to go and how to get there.

Jones, who met his traveling companions for the first time at the airport that May, was a great addition to the team, says Darby Kruger, chief operating officer of API. “He’s very wash and wear, even-keeled,” says Kruger. While the group had pastors and outreach coordinators, no one had the architecture and engineering skills Jones could bring.

When they could they visited sites in Nairobi and out in the countryside, checking out permit offices and touring construction projects. Jones looked at the basics like getting electricity and water, seeing architects at work. He saw things that interested him and things that alarmed him. “We went to a school under construction for about 250 kids,” he says. “They tried to make a new kind of brick, a tongue and groove brick with the idea that you wouldn’t have to use any mortar. But you could go to a wall and push it out five inches.”

For Jones, the uncertainty of the schedule left a few days open and the opportunity to visit Otatai, a very small village at the edge of a rainforest and near the Ugandan border. With no electricity and limited roads, it was an experience that “feels most African,” Scott says. The roads weren’t passable by car, so Jones and Kruger went in on dirt bikes.

Jones had heard of villages like this. They had several major health concerns tied to the lack of clean drinking water and to smoke inhalation. The villagers were living in the traditional mud daub buildings with thatched roofs. Jones was impressed by the quality and durability of these hand-built structures, but noted immediately that they didn’t have

proper ventilation. Fires inside the huts are used for heat and cooking. The smoke would rise to the thick thatched roof and slowly filter out. Since the roofs held in so much smoke, the people had eye irritations and respiratory problems. Women were dying in their 30s and children regularly had upper respiratory infections. Everyone had red eyes.

“For me it was intolerable after about three or four minutes,” says Jones. “Some of them were inhaling smoke four to six hours a day.”

Jones was excited to do something the first day. He looked around and talked with people in the village. Then he started sketching, thinking about what western techniques might solve these problems. After learning he couldn’t compromise the roof, he started thinking about going through the wall. “I thought there’s got to be a really simple solution,” he says. “I wanted to work with the people to come up with the design.

The second day he looked around for materials like “bark, branches, leaves, and ropes.” The villagers spoke English and, once they understood that he wasn’t interested in using purchased building materials, helped him scavenge. “We started getting materials together, we started playing around,” he says, pulling out the small black leather sketchbook where

amanda & todd WRIGHT



Above: Botswana has the second-highest HIV infection rate in the world. Photo courtesy Peace Corps.
Right: Amanda and Todd Wright will spend the next two years in Botswana. Photo Rajah Bose.



See the world.



BOTH AMANDA AND TODD WRIGHT had traveled some as undergraduates. He volunteered in Nicaragua to help an orphanage and a bakery that supported it during one spring break. She had been on a nine-month religious mission in Slovenia.

But even after graduating and getting married, they knew they wanted to see more of the world and help people in the process. When you live abroad, “you learn a lot about yourself, about the world, and what you think of things,” says Amanda (Krull) Wright ‘06. “The experience is so valuable.”

This spring the newlyweds went with the Peace Corps to Botswana, where they will join other volunteers in helping the country cope with its HIV/AIDS epidemic. Botswana has the second-highest HIV infection rate in the world.

Amanda Wright, a business major and property manager, will put her skills to work for non-governmental organizations that provide services to the general populace as well as to children orphaned by AIDS and other reasons. “Historically, people went there to help, but they didn’t necessarily have the administrative talent to stay successful,” she says. “With my business background, I can help.”

After graduating from WSU in 2008, Wright found work managing apartment buildings. Until mid-March she was managing more than 500 Pullman apartments for two different owners. “It’s crazy and chaotic. Most of our tenants are students,” she says. The work often entailed 50- to 80-hour weeks. “I figure after that I can be ready for almost anything.”

Todd Wright ‘08, who has a medical science degree and plans to have a career in medicine, will also work with NGOs, but will likely have more direct involvement with the people in need by visiting clinics and traveling to rural areas. Both Wrights have the general responsibility for motivating community members to take advantage of different programs that are offered—whether educational or medical.

Before they left Pullman they sold or gave away all their belongings—save for their wedding gifts and a bed, so they’ll have something to sleep on when they get back. Then they spent a couple of weeks with their families in Clarkston and the Tri-Cities before heading to Africa to start their Peace Corps training and language classes on Setswana, which along with English, is commonly spoken there.

The Peace Corps is a long stint – three months of training and two full years of service, says Wright. She admits having some concerns at first about committing so much time. “I wondered, will I be able to have a career if I just go off for 27 months to another country?” she says. “There’s so much pressure to get through school and get that awesome job.”

But going as a couple will help them get through missing what’s familiar and missing their families, she says. “This is something we can do now while we’re young and not necessarily tied down to a mortgage and kids and all that.”



Above, left to right: Jones applies a mud/clay shell to a fire vent in Otatai. Women and children are affected most by the smoke from the indoor fires. *Courtesy Scott Jones.* *Opposite:* Alison Foliart takes a break from her administrative duties to visit with the young residents at Perinatal Treatment Services. *Photo Rajah Bose.*

ALISON FOLIART had more than a decade in a corporate career. She worked her way up to a job as a fuel supply manager and pricing specialist at a petroleum company.

But last year she stepped off that track for a job helping women and children out of dire straits—drug addictions and unhealthy environments. She became director of Perinatal Treatment Services, a Seattle-based non-profit for drug and alcohol-dependent women who are pregnant or mothers to young children.

Foliart, '08, who finished her Pullman studies at WSU in 1995, returned to college recently to complete her degree through the Distance Degree Program. She first became involved with the treatment facility when a friend asked her to serve on the advisory board. "I didn't know the magic that happened here until I joined," she says. The organization started as a National Institute of Drug Abuse demonstration project to provide recovery services to pregnant women with the goal of healthier newborns and patients willing to remain longer in drug and alcohol treatment. The project became a private organization in 1994 and today serves women from all over Washington state.

It's one of very few facilities in Washington that allows children to live with their mothers while they are in treatment. The program helps mothers learn how to be better parents and

provides children with a nurturing, safe, and supportive environment. The 180-day program gives women a longer runway of abstinence so that they can ideally take off into a safe, sober, and healthy life, says Foliart.

Last year, the organization was left without a director and a search wasn't turning up great candidates. That's when Foliart decided to offer herself. "I wasn't really looking for a job," she says. But her knowledge of the program, her managerial skills, and her ability to network on behalf of the program all counted in her favor.

Foliart now oversees the organization, making it possible for the staff of 35 to do their jobs caring for, counseling, and teaching the 30-some clients and their children who are there. On the day we meet, Foliart has done her a.m. tour of the parking lot for litter and is dealing with boiler issues and thinking about marketing an out-patient program. Later she will check on workers who are painting and installing new floors in some of the residents' rooms. On the chair just inside her office door, a duckie-themed set of toddler pajamas rests atop a plastic sack of donated clothes.

Besides having an alternative to jail, the clients can maintain and build bonds with their babies. It also provides children with a nurturing start to life, says Foliart as we visit the room where clients leave their babies while they're in treatment.

» he had been keeping notes and questions from site visits on the rest of the trip. Jones doodled out his ideas for channeling the smoke out of the huts. He noted the roofs were made of grass layered four inches thick, and that they are replaced every five to six years. Then he sketched a side view of a wall with the cook fire next to it and drew in a type of range hood that would direct the smoke out through a hole high up in the wall. As he worked, he showed his drawings to the villagers around him.

They went looking for materials that could work. "People would come up and say, 'I know how to work with these materials. I know how to do this. There's a better way.' And then they'd show me," he says. Then they found a woman in the village willing to let him build a version of the hood in her home.

They tied and wove a frame together and then covered it with mud to make a non-porous surface that would catch and direct the smoke. "We had the kids helping us making rope and showing how to make the mud, which has a certain clay content and a certain water content," he says.

"We got everything together and built it and then got everyone together and lit the fire," he says. "It worked."

Jones carried this experience in his mind long after leaving Africa, honing and rethinking the construction. Then on his return trip last August, he went back to Otatai to see how the original chimney was faring. "I had to beg and bargain with both my family and the organization to let me stay on and go out and see the village," he says.

One of his first stops was the home of the first chimney. "It had all but fallen down, just because we hadn't built it very well," he says. "But it was still getting the smoke out." The woman said it was an improvement. The air was cleaner, she and her children were suffering less, and they were still getting the heat from the fire.

That night Jones sat down with the respected men in the community and showed them his new drawings and talked about what he wanted to do. One of the leaders said he wanted a chimney in his home. Once he announced that, others started asking for one, too. With two weeks to work in the village, Jones helped a team of men organize to go into homes and build the chimneys. "It was great to take my ideas and take their abilities and put them together," he says. Through the process, the villagers learned they »

Make a difference.

A woman walks into the light-filled room at the front of the facility to find her little girl is lying on the mat-covered floor tugging at her socks and toying with a book. Smiling, she lifts up the baby and snuggles into her. Foliart smiles, too: "It's mommies and babies, what's better than that?"

We head into the dormitory and immediately run into another client. "Hi Allie, I'm on my 101st day," a young woman beams. Another, older woman walked by a few minutes later and says, "Hey Allie, I'm in Phase 2." "Oh, good for you," Foliart says putting her hand on the woman's shoulder. As we tour the next floor, a woman with tears in her eyes rushes by. "You're here as an employee, but you can't help caring about the people who are here," says Foliart. Sometimes it can be heartbreaking, especially when children are removed from a mother.

As we stop in the parking lot to wrap up the tour, the woman who had been crying in the hallway darts out to greet her children, who arrive with a children's agency worker. She comes up to Foliart with a little boy and a little girl with an armful of Barbies in tow. She explains that they were able have a visitation. Foliart bends down to greet the toddlers and then urges the woman to go make the most of her time with her kids.

"This was more than a career change," says Foliart, with a smile. "It was a life change."



alison FOLIART

young humanitarians



Top, left: Cody Moore '07 coordinates home improvement and neighborhood revitalization projects in Spokane. *Photo Rajah Bose.* *Below:* Moore with Kevin Sylvester, a disabled Air Force veteran who had help upgrading his home. *Courtesy Cody Moore.*

CODY MOORE SPENT THE SPRING in the Hillyard neighborhood of Spokane looking for houses and homeowners in need of help.

As an AmeriCorps VISTA worker a few years ago, the 2007 political science major was placed with Rebuilding Together Spokane, a non-profit organization that focuses on low-income and disabled homeowners and neighborhoods in need of revitalization. His job is to find people in need and connect them with the materials and manpower they require to make their homes more habitable.

The Hillyard community, in the northeast of the city, is an older neighborhood that grew up around railroad yards in the late 1800s. Throughout the 20th century and even up to today it has been home for newer immigrants and has long been one of the poorer areas of the city.

Hillyard and its residents are excellent candidates for the non-profit's services, says Moore. Many of the residents do own their own homes, he says. "But often they are a few steps away from not being able to keep it, or keep it up."

As the community coordinator for Rebuilding Together, Moore's job is to select

» could easily improve their health by channeling the smoke. Jones left satisfied that the men he worked with would build more chimneys and spread their knowledge throughout the community.

"It's in their hands now," he says. "They have ownership. It's all just local, free, sustainable materials and they have the confidence and knowledge to do it."

Now Jones is applying to graduate school, doing local design work to raise money, and continuing to work on projects in Africa. A lot of his friends have moved to Seattle. They're working full-time jobs, paying rent, and getting married. "For me, I just don't see that right now," he says. There's still work to do overseas. "Every time I look at the pictures, every time I talk with someone who has been there, I just want to go back." ☒



See a video about WSU students' volunteer vacation at wsm.wsu.edu.



Above: Scott Jones visits with villagers in Kenya. *Courtesy Scott Jones.*

homes and homeowners eligible for support. "We look at income level, and then sit down in the person's home to interview them with their family," says Moore. "We get to know them and then look at the project."

Then he finds sponsors to donate materials and volunteers, often from churches, non-profits, and schools, who are willing to dedicate a day to working for someone else. Moore and his teams of volunteers have done everything from painting houses, hanging cabinets, and roofing to landscaping and installing new sewer lines. "Our goal is to keep the homeowners warm and safe and happy and independent in their home," he says. Last year, the group completed nine projects valued at \$95,000.

On April 24, 2010, which was National Rebuilding Day, Moore and a team of more than 400 local volunteers went to work in Hillyard on 10 different projects. They painted, landscaped, and built a garden at the Northeast Youth Center and put up fencing, landscaped, and built a shed at a transition home for formerly homeless veterans.

They also completed seven projects at private residences, making five of them handicap

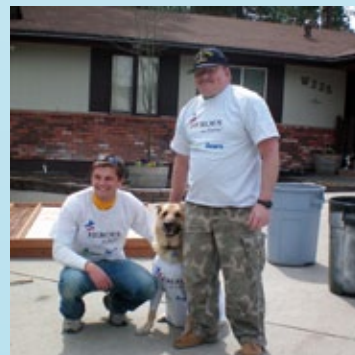
accessible, replacing one roof, and painting six of them.

With the help of the volunteers and donors including Albertsons, First Presbyterian Church, Providence Health and Services, and Cricket Communications, Rebuilding Together was able to obtain or pay for all the equipment and supplies. Moore estimates the value of the work they completed to be around \$100,000.

He is in his second year of his second term with AmeriCorps. The job suits him, says Moore, since he ran a painting company in college and already had some property improvement work in his résumé. While the position isn't permanent, the experience is providing him with more responsibility and opportunities than he would have found in a regular job straight out of school.

Mainly, he says, it's satisfying work to help improve people's quality of life—to ensure they have a safe and healthy home.

"Housing is such a tangible issue," says Moore. "The money I'm making now is not the best, but the rewards of making such a change in people's lives is great."



codyMOORE



The Academic Library

A conflicted meditation on the mustiness of old books, universal knowledge, and an unusual beetle.



Washington State Agricultural College's first full-time librarian, Miriam Tannatt, was fired in 1898 after only a year on the job. Miss Tannatt was apparently reasonably competent and well-liked by President Bryan and his 12 faculty members. But the school's regents dismissed her not only because they decided that it was inappropriate for the daughter of a regent to be employed by the struggling college, but that it could not afford both a library and a librarian.

PROLIFERATING ORDER

"Libraries still do the same things essentially they've done for thousands of years," says humanities librarian Bob Matuozzi. "Acquire, organize, preserve, and make content available."

Gutenberg, of course, changed the medium with his invention of the printing press, shifting the predominant information medium of the library from scrolls and manuscripts to printed books, thereby increasing enormously access to knowledge—and leading already to information overload.

"In some sense," says Matuozzi, "libraries are the site of proliferating chaos and proliferating order. We attempt to regulate that order in the face of chaos."

in the Age of Google™

by Tim Steury

After another year went by, however, they reconsidered, and the college once again had a full-time librarian to tend its few thousand books.

The library itself moved around the first few years of the college's existence before finally settling in a new building—which would later be named Bryan Hall—constructed in 1909 specifically as a library and auditorium.

Today, the Washington State University libraries hold more than two million books. They employ 131 people working on four campuses around the state. Approximately 35,000 volumes are added to the collection annually. The libraries also have 30,000 periodical subscriptions as well as maps, microforms, government publications, electronic databases, manuscripts, archives, and special collections. WSU is also part of a consortium of 35 libraries in Washington and Oregon that lends access to over 28 million items. The Libraries also provide access to the full text of over 25,800 digital resources, including current journals, books, documents, and electronic databases.

Interestingly, the digital revolution has in many ways made the role of the research library even more pertinent. But adjusting its mission while trying to map its way on the digital highway has been neither obvious nor smooth. When asked how the research library was changing, librarians across campus generally answered, "Daily."

The development in the 1970s of the OCLC cataloging system began the movement from the card catalog toward digitization and networking, a signal change in how we organize that chaos. In the nick of time, one might say.

Then, says Matuozzi, came the Worldwide Web. Not quite, he ventures, on the level of Gutenberg. "But damn close," he says, "in terms of social impact—and on libraries." Indeed, some of the most dramatic change in how we use, produce, and manage information has occurred in just the last few years, an enormous amount of change, innovation—and profit—squeezed into an extraordinarily short time.

Google, the ubiquitous search engine, etc., company, has declared that its goal is "to organize the world's information and make it universally accessible and useful." In Google's view, "information is a kind of commodity, a utilitarian resource that can be mined and processed with industrial efficiency," writes Nicholas Carr in "Is Google Making Us Stupid?" "The more pieces of information we 'access' and the faster we can extract their gist, the more productive we become as thinkers."

Part of Google's plan for world digital domination is its Google Books project, by which it plans to digitize all books available in the world's libraries.

Such ambition might well turn our attention to the academic research library, if not libraries in general. Perhaps the most dramatic effect Google's growth and influence has had is the assumption it leads us to—that it gives us access to everything.

A BRIEF DIGRESSION

On my desk is a remnant of a much different era: *The Fertilisation of Flowers*, by Hermann Muller, translated by D'Arcy Thompson, with a preface by Charles Darwin, dated 1883. It is stamped in several places with the mark of Washington State Agricultural College and School of Science, accession number 210.

Now, just out of curiosity, what do I get when I search for "fertilization of flowers" on Google? Wikipedia of course.

"Flowering plants usually face selective pressure to optimise the transfer of their pollen, and this is typically reflected in the morphology of the flowers and the behaviour of the plants," reads the first sentence of the entry, clearly, but woodenly.

"It was not until the close of last century that the true purport and significance of flowers began to be perceived," reads Muller in translation. "Christian Conrad Sprengel seems to have been the first to view the subject in the light of adaptation, and to show how all the colours, scents, and singular forms of flowers have some useful purpose."

Read each of those passages aloud, and I may have made a point about the two different mediums.

Good grief, I hear you thinking. The old fogey's on a rant about the good old days and digital decadence and all. I realize how unfair my comparison is, certainly unscientific and perhaps irrelevant. But bear with me please.

On the one hand, I really do find more pleasure and excitement, both intellectual and sensual, in Muller's book than in the first 50 results of my Google search. On the other, know that I like Wikipedia and Google and use them all the time and think the library itself today is, well, a lot more useful, immensely more comprehensive, than it was just a few years ago.

Which reminds me. It did not automatically occur to me to search for Muller's book on Google Book Search. But in a split second, up it pops on my screen, scanned from a copy in Harvard College Library, its nameplate indicating it originally belonged to Prof. F.W. Taussig.

Fertilisation has an extraordinarily comprehensive index, so the search capability attached to the digital version is an unusual instance of not being that great an advantage. I'm curious as to whether Muller discusses the blossom of the apple tree. According to his index, no—which surprises me. So I Google it. Apart from one sentence regarding the larvae of the apple gouger, no discussion. But I do find out, which I would not have apart from a thorough reading of at least the first 50 pages, that the apple gouger is the only beetle that Muller knows of whose larvae feed on flower parts.

It's obviously quaint of me to appreciate that tidbit. But it also illustrates my inner conflict between contemplation and expediency.

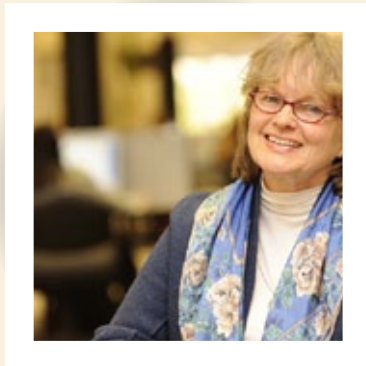
STILL A PLACE?

In many ways," says Cynthia Kaag, head of the Science Libraries, "the library as a big box, a storehouse, is gone."

Not so very long ago at all, the library was essentially self-contained. Once information was delivered in the form of a book, a journal, a pamphlet, a map, it resided there, in physical form, taking up space. And the readers of that information took up space, too, sitting in reading rooms.

In 1915, William Foote began a 31-year term as head librarian just four months before Ernest Holland began a 29-year term as president. Although they shared some of the more formative decades of Washington State, they never became close. But they did share a love of, and a compulsion for, collecting.

On a trip to Europe in the winter of 1923–24, Holland discovered the pleasures of buying books. Foote wrote him letters, urging him to visit bookstores and look for bargains, government reports, serials, geological



CYNTHIA KAAG / ROBERT HUBNER

publications. With undisguised opportunism, Foote commented that "at the present time of starvation and general disturbance it should be quite possible to locate wonderful private libraries at ridiculously low prices." He coached Holland on how to bargain as craftily as the booksellers.

For three decades, Foote collected, aiming to make WSC's library one of the most important in the West. And for three decades, he bought books and collections without increasing the space of the Bryan Hall library. He stacked the shelves higher. He argued for the expulsion of the Young Women's Christian Association from a basement room. By the 1940s, he had books stored all across campus, in the Rifle Range, in the basement of the Home Economics building, in any space he could commandeer.

In order to use what had become a very serious collection (although Foote would draw criticism that he collected indiscriminately), students had to request books from the closed stacks, or from the Women's Gymnasium basement (which could take a couple of days to retrieve), then sit in the crowded reading room to study.

As early as 1919, Foote wrote in his annual report, "During the first semester seventy-five to a hundred persons were unable to find seats during the evening hours and the busiest hours of the day."

By 1926, the Regents were practically begging the Governor for a new library building: "Not only is the seating capacity insufficient but the shelf space for books is not large enough to care for the volumes on hand. This has been the case for several years. The basement, the attic, all closets, and every available cubic inch in the building is stacked high with material for which no space exists on the shelves."

But they would not repeat their request for many years. And WSC would not get a new library building until 1950.



JAY STARRATT / ROBERT HUBNER

Besides their collecting predilection, Foote and Holland also shared a vision of a new library. Both dreamed of building a monumental, cathedral-like library, similar to the Suzzallo Library at the University of Washington. It would be located at the highest spot on campus and would be an inspiration.

Four days after WSC's new president, Wilson M. Compton, took office, he charged Holland with the job of researching the eminent libraries of the East, with the goal of a building that would accommodate new information media and technologies.

Which Holland's gothic dream would not. The soaring, stained-glass cathedral that Holland envisioned was just that. It was not the functional tool that Compton and many faculty members believed was needed to support WSC's aspirations and needs.

So we ended up with the ironically named Holland Library, a very 1950s building. Other than some nice marble in the lobby, it was pure function. In fact, its most identifiable feature, Nature Boy, a bas-relief sculpture on the southwest corner, was added later, to lend some interest to a very functional but uninteresting piece of architecture. Although its structure was intended to be flexible so it could accommodate anticipated changes in usage and technology, it was essentially a box to contain books.

That definition has changed dramatically.

Now, says library dean Jay Starratt, "We're a service as much as we're a place or a permanent collection." That service entails helping students and faculty find what they need in an overflowing and not particularly well-ordered universe of information.

Whereas William Foote spent his acquisition money on printed material, the current WSU libraries spend about 70 percent of their money on digital resources. "And it's just going to grow," says Starratt.

"We made an early commitment to electronics," says Kaag. "We could see this coming."

"We're in the Association of Research Libraries, the top 120 or so research libraries in the U.S. and Canada. We're way down there in funding... Maybe 95 out of 120."

However, she says, "We are 10th out of 120 in the percentage of money we spend on electronics. We looked at our mission, looked at our users, at Distance Education, at our extended campuses ... and thought okay, we're going to go electronic. We can't afford both paper and electronics."

"It tears our little librarian hearts right out of us sometimes," she concedes. "But where academia is, is where we need to be."

TECHNOLOGY IS NOT INFORMATION

Trying to get things from the Internet is like drinking from a fireplug, full-blast," says Bob Matuoizzi. "You need to discriminate."

"For that reason the librarian will never go away."

Although students these days are extraordinarily savvy when it comes to technology, they are relatively adrift regarding information retrieval. They have fallen into the same assumption many of us suffer, that everything is retrievable through Google. Google's strength is also its weakness.

Recall, if you can, a freshman essay topic. Let's say "local food," just to play along with the common reading theme this year.

Let's suppose we're researching the paper back in the 70s. (Let's also pretend the search term actually shows up.) After a quick search of whatever encyclopedia is available, we'll search the card catalog. The subject version, under "food, local." Hmm. If we've had any instruction in library research,



BOB MATUOZZI / ROBERT HUBNER

next we'll try the *Reader's Guide to Periodical Literature*. We'll go back, say, five years, searching through each volume for that elusive topic. Maybe, if we're really savvy, we'll search the *New York Times Index* and even the *Essay and General Literature Index*. Several hours later, we've collected



Noon concerts by student and faculty musicians in the Terrell Library atrium demonstrate that the modern Library is still very much a Place. Photo Shelly Hanks

The Academic Library in the Age of Google

three books and six articles. Maybe, just maybe, we'll seek out a reference librarian who will put us onto some more esoteric, but useful searches.

But today, since that paper's due tomorrow, we'll just Google it, print off the first 20 entries or so, and crank it out later this evening. However, Google takes 0.37 seconds to deliver 176,000,000 results. Although there seems to be some order of descending relevance in the results, no one has yet determined how the search engine's secret algorithm orders the selections. How are we to know if our best source isn't number 124,987 on the Google list?

Nevertheless, in our blissful ignorance, we certainly have everything to crank out that paper!

"Our students are technologically literate, but they are not information literate," says Kaag, reflecting on one of the challenges faced by the modern librarian in a techno-philic world.

TECHNOLOGY IS NOT CHEAP

That informational naïveté suggests a blind faith, by myself as well as others, in the offerings of Google and other search technologies—mirroring a general faith in technology that in some ways defines our culture.

My library habits have changed enormously. Whereas I used to spend countless hours in the library poring through the card catalog, through paper indexes and references (and occasionally consulting a reference librarian), I confess today I do much of my background research right here at my desk, often by Google. Of course the nature of much of my background research concerns what might be termed "general knowledge." The "specific knowledge" for the stories I write for this magazine generally comes from face-to-face interviews and scientific or scholarly papers by WSU authors.

Were I conducting a literature search as background for work in genomics or a scholarly work on medieval poetry, my approach would be much different, of course.

And much of what I'd be after would not be automatically available through an Internet search.

In fact, the most pertinent information for current research in just about any field, but particularly the sciences, does not come from the traditional book, but through journals, the management—and cost—of which have become the modern research library's greatest challenge. These journals are essential and very expensive—and thus, very lucrative to and closely guarded by their publishers.

The apparent paradox of the academic journal is illustrated by the second floor of Owen Science Library. Until recently, the entire floor was occupied by shelves of current journals.

"They kept getting smaller and smaller," says Kaag. "Now we have a tiny current journal section on the first floor."

Kaag estimates that 95 percent of the science journals currently subscribed to by the WSU libraries are electronic. Much of the daily change, and challenge, to today's academic library comes from this steady shift in format.

The cost of those serials has had a dramatic effect on how the library's budget is apportioned. According to Starratt, the price of serials has been steadily rising by 7 to 8 percent per year. Along with the steady rise in costs comes the rapid consolidation of the publishers.

"Big publishers keep getting bigger," says Starratt. Because they control such a large portion of the serials market, when their rising costs exceed university budgets, it's not the bigger publishers, the Elseviers and the Wylies, that get cut.

"You're cutting the smaller publishers," says Starratt.

For a while the rising costs were masked. "When they started going digital, publishers could make a deal," offering cooperative deals, offering joint access to, say, the UW and WSU for a small percentage more. Offering package deals such as this obscured the rising price.

"But we're coming to the end of that," says Starratt. "Elsevier and Wylie are saying 'take it out of somebody else. We'll get ours.'"

Reflecting on the explosion of research results available digitally, Starratt says, "You can make a case for why your organization could go away. But what a library does—access, preservation, concern for fundamental issues—you can't trust that to a company."

One antidote to the monopolization of information by the big academic publishers is pressure by the large research institutions such as National Institutes of Health (NIH), as well as by major research universities, on the journals to allow authors to place their publications on university servers. WSU's version of this is the "WSU Research Exchange."

Such a concession on the part of the publishers came about through pressure by Harvard and NIH on their faculty authors themselves to publish only with journals that allow the institutions to post the publications on their repositories.

"Much of the research is publicly funded," says Kaag. "Why should Elsevier benefit under copyright for the next 20 years?"

All of these changes, which are neither gradual nor incremental, require flexibility of libraries, including constant training for developing technologies and techniques.

"It used to be we'd look at change over five years and think, wow, we've come a long way," says Rhonda Gaylord, who runs the Fisher Agricultural Sciences Library. "Now it's five months."



RHONDA GAYLORD / ROBERT HANSEN

A SENSE OF PLACE

With the change in information technology have come other fundamental changes. Gaylord has worked in the Fisher library for 24 years.

“The thing that’s most noticeable for me, of course, is that we have fewer patrons using the library.

“I would say in the 90s this really was a social gathering place. This was where students came between their classes. It was kind of like a study hall, I guess. Email was new and exciting. Everybody wanted to come down to the library and email. Also, study groups were very popular.

“That has changed. Students study much more independently now. And they have their laptops. They don’t need to come to the library anymore.”

Although library usage in general is down, the numbers have actually increased for the Holland/Terrell Library, due mainly to a tunnel that connects the newly renovated CUB with the library. That convenient access has definitely increased traffic into the library.

If you follow a student through the tunnel, you’ll notice some other differences in atmosphere and decorum. No longer are food and drink banned. Fears of spills and damage have been superseded by the desire to make the library more friendly and comfortable.

Anecdotal observation would show the main library is very much a social place, though overall usage and circulation are down, a clear expression, at least in part, of the rapidly changing digital landscape.

Perhaps, in regard to the modern library, we should no longer define it strictly in terms of physicality.

“We have multiple spaces and places now—analog/physical and digital/virtual,” wrote librarian Lorena O’English in response to a *Discovery* blog entry I wrote about the library as a place.

THE DIGITAL PAST

One might surmise that manuscripts and archives would be the least vulnerable to digital change. The repository of old letters, records, and photographs is simply that, a repository, quiet and solemn, full of insights on the past to the solitary scholar who might wander in.

“Actually in some ways it’s the opposite,” says Trevor Bond, the interim head of Manuscripts, Archives, and Special Collections. “With the Internet and shared resources, what makes libraries different is magnified. We used to be put away in the basement, out of sight. Now we’re more and more visible.”

When Bond started at WSU in 1998, he found an abundance of enthusiasm about technology, but little in Manuscripts and Archives that exploited the new technologies. Much has changed since then.

Not only is much of the collection available online, particularly photographs, MASC participates in joint ventures, such as the Northwest



TREVOR BOND/ROBERT HUBNER

Digital Archives. These archives provide access to archival and manuscript collections in Idaho, Montana, Oregon, Alaska, and Washington.

“In some ways,” says Bond, “I think the library is a more vibrant place than it used to be.

“But it’s a big production to keep it all organized.”

AND NOT YET DIGITAL

In the back of the Agriculture Library resides a collection of plant pathology reprints collected over the last hundred years. The collection includes 70,000 documents, a phenomenal collection, says the iconic plant pathologist Jack Rogers. But the only access to the collection is through a card catalog sitting along the north wall. Because of the collection’s importance, there was a move toward scanning it and making it available digitally. But it was simply too expensive.

Dipping into the collection at random, I find articles such as “Elm Disease in Slavonic Forests” (1933, in Russian); “The Aster Yellows Disease of Truck Crops in Idaho” (1943); and “The Contribution to the Life History and Physiology of *Cylindosporium* on Stone Fruits” (1914).

The collection has its origin in the very early days of Washington State Agricultural College.

“Some of this stuff probably goes back to C.V. Piper, an early botanist here,” says Rogers. Piper, who came to Pullman in the late 1890s, was one of those multi-faceted scientists, like William Spillman, of whom Piper was a contemporary, who made up the small faculty of the young college. “He was a good botanist, a pretty good mycologist, and a good entomologist,” says Rogers.

Such a collection is quite rare, he says. “You could go to Harvard, you could go to the National Fungus Collection in Beltsville, you could go to the National Agricultural Library for some of it.” Or the Royal Botanical Gardens at Kew.

But here it is, a rare and valuable collection, available to those who know of its existence and a willingness to come visit it in person, an anomaly in this digital world perhaps. But I doubt it. There is still much left to digitize, much to find beyond the reach of Google. ☒

Bill Morelock '77 :: illustrations by David Wheeler

BOOKED: *The LONG SENTENCE of an APPRENTICE READER*



Is knowledge naught to you
Unless another knows that you know all you do?

—Aulus Persius Flaccus, *satirist of Rome*
ca. 60 CE

ONE EVENING NOT LONG AGO, a tour group of Cub Scouts and their parents filed into my broadcast studio at Minnesota Public Radio in St. Paul. I explained what I did—play recordings of classical music, talk a bit, push buttons; the guts of radio is still pretty much an analogue thing—and tried to describe the purpose of the rather dazzling array of electronic control boards and digital displays. One Scout, about 9, raised his hand.

“Why do you have so many computers there?”

A sensible, but also a shattering, question. Above the console floated no fewer than four computer monitors. And one, a recent addition mysterious even to me, was dark, waiting for some future *raison d’etre*.

An important moment, I believed. This boy, obviously touched by a certain genius, was forging a 21st century update of a timeless fable. His question deserved more than quotidian details. Yet I knew that this was the kind of thing parents explained to their children in their own good time. I should respect that, not usurp their role. But I couldn’t help myself. With a sheepish look at the grownups, I

faced the avatar of the boy who reasonably observed that the Emperor had no clothes, and blurted out, “Honestly, I have no idea. But, as your parents know and can explain further, the world is run by the IT Department.”

A slow dissolve now away from electronics to a soft chair in a quiet nook out of sight, out of time. Here, legions of a 500-year-old technology dominate the scene. They stand patient and mute, a little dusty, secreting once-vital information, row after row, stack after stack. Thousands of them. The library as we’ve known it. The library as Michel de Montaigne designed it for himself in 1571, when he retired from the world of affairs to write his *Essays* (thereby *inventing* the essay), among them “Of Solitude,” which includes the epigraph by Persius above.

If this is your fond idea of what a library should be, brace yourself. The library is becoming a creature of IT, too.

Technology drives its priorities and growth. And this magazine: It’s changing in the way it’s presented, too. Responding to costs,



{ BOOKED: *The LONG SENTENCE of* }
an APPRENTICE READER

efficiencies, opportunities. Nothing, we may lament (a constant of human experience), is permanent.

The purpose here, in this poor drab shadow of Montaigne's invention, isn't necessarily to ask, like the Cub Scout, why are there so many computers there? Rather, accepting that we billet the magic beasts as we would occupying soldiers, it's to suggest a homely salve for those of us feeling grimly flushed out of one refuge after another.

But before beating our chests and rending our clothes over the loss of the library as refuge, a haven for thought, a place for solitude, please note that by-now familiar underlined type. Almost everyone knows by now that if you click that hyperlink while you're online you'll take a magic carpet ride directly to another source. Aren't we a little foolish to sell short such an astounding thing?

Connectedness, and instant, on-demand information are at issue here. Not merely as cool benefits of the integrated circuit and its offspring, but as needs. Basics for economic and emotional survival.

What would it mean to refuse connectedness? Or, at least, to de-fuse its invasiveness as a putative tool that metastasized to become an appendage, or even a vital organ? Is it even possible? At the same time, is it even desirable? Doesn't connectedness, after all, represent a boon for democratic interests? For leveling the playing field? For giving everyone unprecedented access to information? Hasn't our homely old book symbolized an old entrenched privilege?

The mind reels.

The novelist Walker Percy, in an essay written in 1954, discussed the difficulties of maintaining what he calls sovereignty over our own experience. Can we continue to exercise certain faculties, of observation, valuation, appreciation, in the face of towering technocratic hierarchies? I quote the opening passage, because of its poetry, and because of its utility:

Every explorer names his island Formosa, beautiful. To him it is beautiful because, being first, he has access to it and can see it for what it is. But to no one else is it ever as beautiful, except for the rare individual who manages to recover it, who knows that it has to be recovered.

—Walker Percy
“The Loss of the Creature”

Percy's point is that few of us get there first. None of us is going to discover the Grand Canyon again. We are all latecomers. News of the world mostly comes to us in filtered form, either through media, or through the oracular assertions of experts, whether doctors, electricians, geneticists, anthropologists, or the IT guy who launches your company's new financial software. Even when we do observe something directly, there's a good chance we'll wonder what the experts might say. Their verdict is more “real” than ours.

Yet, Percy suggests, the specialists are not there to vex us. Their interest in their subjects is genuine. They work at their crafts, their arts. If collectively their efforts amount to an assault on our self-reliance, or conspire to shift the ground beneath our feet every other day, we could respond by railing at these gods of our complex, networked world. (Something that we've been doing, in one way or another, since before James Thurber swore at his Mixmaster.) Or we could acknowledge the struggle inherent in maintaining sovereignty over our experience, and prepare a battle plan.

This sets us up for a complicated confrontation with technocratic systems. We may chafe at them, but we ARE them. They've infiltrated not only the means of our economic prosperity (if not our survival), but our ways of thinking.

So it may be a little late in the game for hand-wringing about the Kindle replacing books or the digitizing of everything. Productivity and efficiency are fetishes we ourselves have accepted step by step for generations now. If we can't deal with that elephant in the room, we shake our heads at secondary implications, mere droppings: the passing of this or that way of thinking, this or that way it used to be.

This may sound defeatist, even dystopian. But if optimism means a selective alarm over such changes, even as we validate and embrace them in a thousand other ways that seem to serve us and whose darker implications we don't choose to notice, then I'll take a certain gloom. Because that gloom leads me back, (as refuge, haven) to the heavy-lifting of recovering something beautiful for myself: the book.

In “Of Solitude” Montaigne says that at some point a person naturally ought to be able step away, if they choose, from affairs in the world, from leadership, contending with business, to think, read, paint, plant, write, whittle, in solitude. It's just that you won't wield influence, or gather laurels, anymore.

On a political level, of course, such a stance is disastrous. If we think certain essential values are under threat, we must act, not bury our heads in the sand. Right?

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But in this case, I'm not sure what's under threat. If anything. Whatever comments I make here might, in two years (or two minutes), expose me as a cousin of the Cassandras declaring "The end is near," when trains reached 30 mph.

So the strange thing is, I wouldn't dream of advocating the pleasures and challenges of the book. Or even recommending them. They're far too isolating, even dangerous. It's a rarified need, this refuge for a certain kind of book-related thought. It's a rarified complaint, this skepticism over connectedness. To withdraw from the essential agreement of *logging in* has consequences. It's a vast commitment, like becoming an artist, or a priest.

Talking about the book this way is bound to lead me into all kinds of snares. Am I suggesting a Manichean world, where one either surfs the web or bathes in Dante and Proust? No, of course not. But granting and charting complexities doesn't necessarily assure happy co-existence, either, whatever the conflict.

I simply don't understand well enough the gulf between the experience of the book and the experience of digital information consumption. To be able to measure it accurately I think it's likely, though, that the gulf is wide, and that something is lost in going from one to the other, or in trying to include both. Whether that something matters a great deal is, I suppose, a personal debate.

My own debate involves a sense that my ability to wrestle with a difficult, discursive but rewarding text involves a certain vigilance. Doesn't matter if it's late Henry James or an early Naval diesel engine maintenance manual. If I don't commune regularly with these things, the ice is going to form on the top of my poor brain's chilly cistern, and I'll have to spend time breaking it up before I take it up next time. Neglect them too long and the water freezes through and the book is closed.

Since I quote Montaigne, I should stress moderation. (Even he warns against excessive bookishness.) But because the rewards of reading the physical book are peculiar, cumulative, and result as much from the act as from the information "downloaded", I can't say for sure that such a balance (forced on most of us anyway by economic necessity and habit) isn't a chimera.

I only know that when I hear Paul Otellini, the CEO of Intel, say to Charlie Rose that when we have every sort of networked connection in every device (phone, car, television, computer) it will mean the obsolescence of ignorance, I wanna run to my Orwell.

In his book *Four Arguments for the Elimination of Television* (1977), author Jerry Mander suggests a common self-deception among

television viewers: that if we choose to watch the Super Bowl or a documentary about Kenya, we believe we're engaged in different activities. Essentially the same idea as Marshall McLuhan's "The medium is the message." The content matters less than the fact that we're all watching television. Or fiddling with your favorite mobile device.

I don't know where or if a tipping point resides. But, I don't have to know. Neither do you. This isn't another test, another evaluation of happiness or the lack of it, and certainly not another drug or bromide to enhance the one or treat the other. It's merely an observation: that if there's a dissatisfaction with a certain kind of informational treadmill, a certain unease with relentless change (which, as realists, we call a constant), retreats do exist and refusals are possible. They just come at a price.

If we're harboring the expectation that, given the right conditions or the right encouragements, people might still discover Trollope, or Lucretius, and make them part of the national conversation, don't you think we can stop now, and let that go? They're the dust-gatherers, and they don't (in a particular way) matter. But maybe it's not such a bad thing to be drawn to what doesn't matter. Maybe no one needs to know what you do. And considering the implications of connectedness, could this augur an untapped reservoir of freedom?

In the end, the book is beginning to look like a totem of an obscure practice, every bit as esoteric as cultivating bonsai trees or practicing voodoo. Public commerce, education, even spiritual institutions progress to faster, more efficient systems for information retrieval and dissemination. These systems become normative, and our homely book occupies the place to which it, as a new technology, consigned the illuminated manuscript, just as the manuscript made unnecessary the cultivation of prodigious memories.

We haven't mastered the book and moved on. We've been hurried along, and we've responded like kids on a snow day. Innovations in technology create markets and jobs and wealth (all of which we tend to like), not to mention sugarplums dancing in our heads.

I realize that five decades after learning to read, I remain an apprentice in the world of the book. And I always will be. That's its requirement and its promise, a quality of thought that endures and embraces the realities of living precariously.

In spite of the dust, in spite of the foolishness, we're still perfectly free to luxuriate in the irrelevant, archaic pleasures of the book. Nobody's yet stopping us. That should be enough. ☒



AndNotionsThoughtsTheoriesPostulations
FindingsInventionsRevelationsEndeavors
BreakthroughsDesignsInnovations@WSU

IN SPITE OF THE FINE CENTENNIAL HISTORIES by George Frykman, Bill Stimson, and Dick Fry, as well as earlier histories, we have no comprehensive history of research and scholarship, no history of ideas from Washington State University. Unfortunately, the following will not rectify the situation.

What we hope to do, however, is spark a collective effort to generate an informal history of big ideas, accomplishments, discoveries, and so forth. The ideas here are a just a sampling. [Our list continues on our website.](#) Most important, we hope you will help us build this encyclopedia of what really is a remarkable accumulation of intellectual accomplishments.

And all of it started with ideals to match the largeness of the ideas that would follow. President Enoch Bryan obviously believed deep in his heart that Washington State College was the epitome of the land grant mission. “Hitherto college education had ministered to the professional classes,” Bryan told a meeting of the Washington dairy association; “henceforth it was to minister to the industrial classes.” By industrial, he did not mean timeclock factory laborers, but the industrious in contrast to the professionals. Farmers, carpenters, business people. All, he believed, deserve the best education available.

A huge caveat is in order here. In offering this list, we claim no scientific method for its development. We consulted no citation indexes or focus groups or lists of prizes or grants. We simply found them all very interesting, integral parts of WSU’s rich intellectual history. We also believe that all of them have added to our understanding of us and our universe or have resulted in making the world a better place.

On the other hand, the absence here of an idea, an accomplishment, or a person does not indicate they are not great. This list is merely a start. Please [help us build it.](#)

Tim Steury, Editor

1 Washington State College

Enoch Bryan

The 1913 *Chinook* opens with a lengthy homage to President Enoch Bryan. In part: “We realize full well that the growth, the development of the State College, has not been due to the natural outgrowth of the economic conditions of Washington, but rather that the magnificent buildings, the atmosphere of learning, the joys, the hopes, the memories, all, in fact, that make the institution dear to our hearts, have been brought about chiefly through the efforts of one man—Enoch Albert Bryan—that but for his untiring and persistent work the State College would stand today as it did fifteen or twenty years ago, an agricultural college in embryo, without organization, without equipment, and without support.”

Fourteen years earlier, facing fierce resistance from the University of Washington, various legislators, and farmers, Enoch

Bryan began his fight to change the name of Washington Agricultural College and School of Science to Washington State College.

In recounting the years of his effort, President Bryan wrote that the original name was “misleading and a hindrance to the fulfillment of the very functions of the college prescribed by both state and na-

tional law. People would persist in a wholly erroneous interpretation of the functions of the college, thinking that it was confined to instruction in farming and having a total misconception as to what instruction in agriculture involved.”

His antagonists fought back. Farmers objected to anything that

lacked “agricultural” in its name. Supporters of the UW feared that Bryan was trying to create a second state university.

But finally in 1905, after six years, Bryan prevailed. In the name change, Bryan made the seemingly conflicting point that even though Washington State College was never just an ag school,



Washington State College in 1909. Courtesy WSU Manuscripts, Archives, and Special Collections (MASC)



PRESIDENT BRYAN AND SON, CAMPUS DAY, 1913. COURTESY WSU MASC

it would be a fully developed college that offered all the dimensions necessary to agriculture.

That same year, he convinced the Regents to authorize a three-year school of music. “Mere empirical knowledge,” he had earlier warned students, was “helpless to give you the power you seek.” Rejecting the old classical curriculum he had absorbed, he championed a mix of science, agriculture, and the liberal arts. No matter what their major, students at the time studied chemistry, American and European history, mathematics, English literature, and two foreign languages.

Reflecting on the legitimization of science as an academic study as well as the merging of liberal arts and science in his big idea, Bryan described the radical new curriculum enabled by his and other land grant schools. He told the Association of Land-Grant Colleges and Universities in 1898, “Slowly the notion was forming that the mind grows by what it feeds upon, and that it feeds upon the multitude of sensations which come flocking inward through the open windows of all the senses; that the blue-bird’s wing and the silver sheen of the speckled trout meet with a corresponding somewhat in the human mind just as surely as does the epigram of Plato; that truth and beauty lie

no more deeply concealed in every dull clod and crawling worm of this great cosmos about us than in the mysteries of this microcosm within us.”

2 Application of Mendel’s laws of inheritance to agricultural breeding

William Spillman

When President Bryan was traveling in England in 1911, he visited Cambridge University and was given a tour of research laboratories. In one, which was studying Mendel’s laws of inheritance, he noticed photographs on the wall of studies on wheat hybridizing.

“Why, that looks like Professor Spillman’s work,” he exclaimed.

“That is Professor Spillman’s work,” answered his guide.

Recruited by Bryan, William Jasper Spillman had been one of Washington State Agricultural College’s first faculty members. Although Spillman was in Pullman from only 1894 to 1901, he was enormously productive and creative, both in basic science and practical agricultural applications.

Spillman is known for achievements as various as inventing agricultural economics and starting Cooperative Extension after he was recruited by the USDA.

But arguably his biggest idea was rediscovering Mendelian genetics and applying them to wheat.

When Spillman arrived on the Palouse, he found farmers already totally committed to wheat and unwilling to diversify. Wheat was potentially so lucrative on the world market, they were willing to bet everything on a good crop and

completely uninterested in hedging their bets with an alternate crop or livestock.

But they definitely wanted to improve their odds with varieties better adapted to the climate and conditions of the Inland Northwest. So Spillman began experimenting.

Once he had determined the optimum varieties available from elsewhere, he started crossing them.

Although no variations occurred in the first generation,

findings in 1866, no one seemed to grasp their significances.

Spillman’s genius resulted in an initial loss for Washington farmers, for once his ideas spread, the USDA recognized his value and recruited him. But as Laurie Carlson PhD ’04 recounts, “Spillman’s influence continued as other colleagues continued the wheat-breeding program.... By 1907 six varieties were available to growers. Hybrid 128 became the most



This archival photograph, perhaps by A.L. Melander, confirms Spillman’s observation that awnlessness and club type are dominant in wheat.

when the second generation appeared, “a remarkable state of affairs was seen to exist.

“At the first glance,” he wrote, “it appeared that each of the hybrids had split up into all sorts of types. But closer inspection showed that in every case but one...the forms in each plat were simply combinations of the characters of the parent forms.”

He then used his mathematical skills to work out a system for predicting inherited traits. In other words, Spillman had, concurrently with three European scientists who published their work that year, independently rediscovered the laws of inheritance initially recorded by Gregor Mendel 40 years earlier. Although Mendel published his

popular wheat in the Pacific Northwest, and in 1908 it was seeded on over forty thousand acres. By 1911 farmers had planted Spillman’s varieties on half a million acres.”

For more information:

Stephen S. Jones and Molly M. Cadle, “Spillman, Gaines, and Vogel—Building a Foundation,” *Wheat Life*, Feb. 1996.

William Spillman, “The Hybrid Wheats,” Bulletin 89 (State College of Washington Agricultural Experiment Station, 1909).

Laurie Carlson. “Forging His Own Path: William Jasper Spillman and Progressive Era Breeding and Genetics,” *Agricultural History*, Vol. 79, Issue 1, pp. 50-73.

BIGIdeas

3 Insect resistance to pesticides

Axel Leonard Melander

Of his many big ideas, entomologist A.L. Melander's most significant might be his observation that populations of San Jose Scale, a plant-sucking insect, were becoming resistant to the lime-sulfur spray normally used to control it.

Melander joined Washington State College in 1904. Except for

before the subject was more commonly considered following the introduction of organophosphate insecticides after World War II. After realizing that a population in a Clarkston orchard had become resistant to lime-sulfur, he went on to pursue a rigorous series of experiments, which he later documented in a *Washington Agricultural Experiment Station Bulletin*. He even transplanted infected trees between Yakima and Clarkston to determine what effect temperature might have on scale resistance.

Melander had earlier considered—and addressed in his *Bulletin* “The Wormy Apple”—the problem of why codling moth was not more effectively controlled with the very toxic lead arsenate. He determined the spray was not penetrating the calyx cup of the apple blossom and so invented the “Melander Y Nozzle” for more effective application.

Through his methods for controlling flies, he was instrumental in helping curtail typhoid fever in the Yakima Valley. He was, in fact, an expert on *Diptera*, the true

flies, and over his career developed a collection of over 250,000 individuals, 12,000 of which are named specimens. Most of that collection ended up at the Smithsonian, with only a few duplicates and so forth remaining at the James Collection on the Pullman campus.

Finally, with C.T. Brues, Melander first published in 1915 the *Key to Families of North American Insects*, which went through several revisions and is still available.

4 Academic study of Soviet-American relations

Frank Golder

In 1913, his second year at Washington State College, Frank Golder taught the following classes: History of Europe from 1500 to 1815, History of England, Contemporary Politics, English Constitutional and Institutional History, History of Europe since 1815, History of the (American) West, and The Far East and the United States.

In 1914, according to a footnote in Bryan's *Historical Sketch*, Professor Golder completed and published his *Russian Expansion in America* (actually published under the title *Russian Expansion in the Pacific*) and requested a leave of absence to study in archives in St. Petersburg. Bryan was unable to help him financially, but Golder managed to get support from the Carnegie Institute. Golder was in St. Petersburg when Russia joined the war and was only able to return via the Siberian Railway.

After a couple of relatively docile years in Pullman, Golder arrived again in what was now called Petrograd 11 days before the fall of Nicholas II.



Frank Golder (right) with Donald Renshaw in front of St. Isaac's Cathedral, Petrograd, January 1923. Courtesy Hoover Institution

Golder returned once again to Pullman in 1924 to deliver an address to the WSC faculty and students, “The Lessons of the Great War and the Russian Revolution.”

5 Cougar Gold cheese

N.S. Golding

What can we say?

Okay, one more time: Food scientists at Washington State College started research in the 1930s on packing cheese in a can in order to meet the needs for more

canned food for the military during World War II. Problem was, the cheddar culture they were using created a lot of carbon dioxide, which caused the cans to bulge and even burst. Eventually, N.S. Golding, a professor of dairy husbandry, discovered that adding a second “adjunct culture greatly reduced the gas production.

In one of the most fortuitous unintended consequences in our history, the culture, named “WSU 19” also transforms the cheddar into the unique flavor and finish of Cougar Gold. Whereas cheddars generally have some bitter notes



Above: Pest control in the early 20th century was neither subtle nor benign. Courtesy WSU MASC Below: San Jose Scale on a pear. Photo Ted Alway

a brief time at Harvard, where he finished his doctorate, he was at WSC until 1926. His Pullman career was extraordinarily productive, reflecting not only the creative company of the early WSC scientific and agricultural faculty, but also the fact that there was everything to be learned in the region at the time.

Melander is widely credited with being the first to understand the implications of pesticide resistance, which he did long



Again, he returned to teach at Washington State College, but then left “to assist the United States in important war work,” probably, writes Frykman, an assignment in military intelligence.

Golder officially remained, if intermittently, at WSC until 1920, when he went to Stanford, where he became curator for the Hoover Collection. According to the Hoover Institution, his acquisitions in Russia formed the foundation for its holdings on modern Russian and early Soviet history.



and finish on the palate with a sour milk sharpness, Cougar Gold finishes softer and creamier.

Ordinary great ideas may ebb and flow amidst the vicissitudes of time in influence and interest—but Cougar Gold endures.

Read more about Cougar Gold at wsm.wsu.edu/ourstory, and at the creamery's Web site: www.wsu.edu/creamery/history.htm.

Above: Golding checks can pressure. Courtesy WSU Creamery Left: Cougar Gold cheese. Photo Penni Gladstone/San Francisco Chronicle

6 High-yielding dwarf wheat varieties

Orville Vogel

Back in the early 1970s, wheat geneticist Robert Allan was inspecting test plots at the Spillman Agronomy Farm when the skies turned dark and a tremendous wind kicked up. He headed for the gate, only to meet Orville Vogel on his way in.

There's no sense going up to the plants, Allan said. The wheat is whipping around and likely to fall down, or lodge.



Left, top to bottom: Vogel received the National Medal of Science from President Ford in 1975. Courtesy WSU CAHNRS. Orville A. Vogel Courtesy USDA-ARS. Wheat farmer in Afghanistan using US-funded wheat seed and fertilizer. Courtesy USAID/ASAP.



But Vogel persisted. "I want to see what varieties stay up the longest," he said.

"That was Orville," Allan now says, looking back. "He was a great observer."

Vogel's trained eye in the early 1950s spotted a scrawny plant with too many shoots around the main stalk. He thought to use it as an example of what you don't want in a plant, but when he upped its nitrogen the next year, he noticed it was a prolific producer of seed.

It turned out to be the world's first high-yielding dwarf-variety

of wheat. Farmers could give the plant extra nitrogen, doubling the production of a conventional tall wheat variety without being so top-heavy that it fell over. Named after Edward Gaines, Vogel's PhD advisor at WSU, the variety set a world commercial field record of 209 bushels per acre.

Moreover, seed from Vogel's semi-dwarf lines helped Norman Borlaug develop varieties that boosted wheat production around the world in what is now known as the "Green Revolution." After Borlaug won the Nobel Prize for his efforts, he said it was Vogel who "changed our entire concept of wheat yield potentials."

7 Marmes man

Richard Daugherty, Roald Fryxell, Carl Gustafson, Grover Krantz, and others

Toward the end of the 1964 field season, the initial excavation of the Marmes Rock Shelter on the lower Palouse River was nearing a close. Although the site was rich, including human remains more than 7,000 years old, Richard Daugherty, head of the project, had decided that time and money were too short to continue. Construction of the Lower Monumental

Dam on the Snake River would soon cause water to rise and submerge another 80 archaeological sites within the reservoir basin that had not yet been explored.

But project geologist Roald Fryxell wanted to tie the geological deposits within the rock shelter to those of the floodplain, so he had

And so ensued not only an absorbing archaeological drama, but a sociological and political one as well.

In the early spring of 1968, archeology students dug a test pit in the bulldozed trench and found more human bones, as well as tools and animal bones, in place. Dating

indicated they were more than 9,000 years old.

The ensuing excavation provided a rich picture of the culture of the native people of the lower Columbia Plateau, capturing the imagination of the press, the public, and politicians. A multidisciplinary study of the site



Even an improvised dike could not protect the Marmes rock shelter from the rising water of the Lower Monumental Dam.

Roland Marmes, on whose land they worked, dig a deep trench with his bulldozer from the shelter to the floodplain. As he dug 12 feet below the surrounding surface, the crew following the dozer suddenly noticed pieces of human bones.

Unfortunately, they could not be certain that the bones did not fall into the trench from higher up. If they were at their original depth, however, they were very old.



PHOTOS COURTESY WSU MUSEUM OF ANTHROPOLOGY

revealed the changing climate and environment over time. But most dramatically, their work pushed human occupation of western North America back much further than had previously been believed.

The work grew more feverish as the date for filling the reservoir approached. Senator Warren Magnuson, who was chair of the Senate Appropriations Committee, appropriated a million dollars for the Army Corps of Engineers to build a cofferdam to protect the shelter from the rising water.

But tragically, the rock under the excavation was porous, and the water rose inside the cofferdam as quickly as it did throughout the basin. The archaeologists frantically worked to protect the site as well as they could, then watched as one of the most significant archaeological sites in North America sank beneath the water.

8 Integrated mite management

Stan Hoyt

Not only had spider mites become an extremely damaging pest of apples in Washington by the mid-1960s, but the most serious of three different species, the McDaniel spider mite, had developed populations resistant to the pesticides growers had in their arsenal. It was time to consider a different approach to the threat, because the status quo pesticide control wasn't working.

Stan Hoyt, entomologist at the WSU Tree Fruit Research and Extension Center in Wenatchee, had found that a predacious mite, *Typhlodromus occidentalis*, could regulate the density of spider mite populations in unsprayed orchards. "This fact," he reported

in a 1969 paper in *The Journal of Economic Entomology*, "suggested that, if selective insecticides could be found, integrated chemical control of insects and biological control of mites would offer a solution to the problem."

Hoyt's program started from the understanding that the mere presence of pests does not necessarily mean economic loss. As he noted in his paper, one of the most difficult tasks in establishing pest management (in contrast to con-



STAN HOYT COURTESY WSU TREE

trol) was to convince growers that certain levels of pest might actually be desirable—because their limited presence would indicate that their predators were also present.

Integrated Pest Management is a blanket term for a mixed approach to pest management that started coming together in entomologists' minds soon after the general introduction of organophosphate insecticides following World War II. Hoyt's genius was applying the principle to a specific pest of a specific fruit.

An unfortunate frost in 1965 actually opened the way for his method's implementation. Growers, faced with small crops, suddenly were eager to save money in any way possible. Carefully gauging the correct level of pesticide at the beginning of the season to curb populations of the pest but ensure survival of the predators meant



Predator mite attacking a spider mite. Photo courtesy Cornell University.

that the predators could control the pests later on.

By 1966, growers were using Hoyt's system on 9,000 acres of apples. By 1967, the program had grown to 40,000 acres.

Eventually, says Jay Brunner, entomologist and current head of the Tree Fruit Research Station, growers adopting Hoyt's program were able to eliminate sprays for spider mites. He estimates that since its implementation, Washington growers have saved more than \$120 million in pesticides alone.

9 Washington wines

Walt Clore, Chas Nagel, George Carter, Ray Folwell

Walter Clore, a horticulturalist at Washington State University, began testing wine grapes in Washington almost as soon as he started his job at the Irrigated Agriculture Research Station

in Prosser in 1937. But it took another four decades before a wine industry in our state really took root.

In the 1970s, with the help of two WSU colleagues, Clore

convinced the rest of Washington that it could not only grow wine grapes, but it could have a healthy wine industry. "(Ray) Folwell did the economics, Chas (Nagel) headed up the wine-

making, and I grew the grapes," Clore once said.

Clore planted hundreds of American, European, and hybrid grape varieties to see how they would fare in Washington's varied soils and climates. As early as the 1960s, farmers started commercial vineyards, first trying Northern European varieties that Clore had recommended like Riesling and Gewürztraminer, and later branching out into reds like Cabernet and Semillon.

Chas Nagle, a microbiologist with WSU's food science department, turned Clore's yields into wine. His first releases were in 1964 and '65 and after that he advised winemaker George Carter. By setting up tasting panels, Nagel helped many a Washington winemaker learn to taste wine and find and diagnose problems.

In 1969, ag economist Folwell rounded out their effort with the economic view—looking at the costs of establish-

ing vineyards and wineries and projecting consumer behavior and demand.

In 1976 Clore, with the help of Nagel and Folwell, summarized their wine and grape work in the bulletin "Ten Years of Grape Variety Responses and Wine-Making Trials in Central Washington."

At the same time, Washington was in its first wine "boom," with new small wineries sprouting up around Walla Walla, the Tri-Cities, and Red Mountain.

After retiring from WSU in 1976, Clore went to work as a consultant for one of the state's first wineries, Chateau Ste. Michelle, which was established in 1967. Both he and Nagle spent decades consulting with wine grape growers and wine makers, many of whom went on to build what is today a more than \$3 billion industry with more than 650 wineries, 11 appellations, and an annual production of something like 20 million gallons of wine.

COURTESY COLUMBIA CREST WINERY



10 Master Gardeners

Dave Gibby and Bill Scheer

In the early 1970s Washington State University extension agent Dave Gibby was overwhelmed with phone calls and messages from

gardening, good communication skills, and some gardening expertise," says Gibby.

The notion caught such interest that more than 300 people volunteered for the first training course. Gibby and Scheer screened them down to 150 and in the winter of 1973, they started their first Master Gardener classes. By the



A Master Gardener volunteer at a Bellevue nursery plant clinic. Photo Zach Mazur.

home gardeners demanding his help. They wanted his advice on thousands of questions like what to plant, how to combat slugs, and why their trees were dying.

Knowing he couldn't field the hundreds of calls each week, not even with the help of fellow extension agent Bill Scheer, Gibby decided to recruit and train a team of volunteers who could provide research-based information about gardening and the environment for their communities. Together, he and Scheer devised the Master Gardener program and, with the help of a 1972 *Sunset Magazine* article, they put out a call for home gardeners seeking to become experts. "I looked for a passion for

end of their 50 hours of intensive training, they were eager to bank the volunteer hours necessary to achieve full Master Gardener status. "In that first season, we served 5,000 people," says Gibby. It was a success beyond what the two extension agents ever imagined.

Today the Master Gardener model is used nation-wide. Land-grant universities in more than 40 states have programs. And each year within Washington, thousands of Master Gardener volunteers in nearly every county hold plant clinics at nurseries and farmers markets, manage demonstration gardens, and serve their communities with the training they obtained at Washington State University.

11 Killer tomatoes and talking plants

Clarence A. "Bud" Ryan

Starting with a bag of store-bought potatoes, a young chemist named Clarence A. "Bud" Ryan in the early 1960s discovered small proteins now widely known as protease inhibitors. But he did not fully appreciate what they did until the early 1970s, when he found that plants produced them in their leaves as a defense mechanism.

His 1972 paper in *Science* became a landmark on the subject, asserting that the inhibitors make the plant less nutritious and even toxic to attacking insects. It also explained how a wound in one part of a plant—in this case, tomato and potato plants under attack by Colorado potato beetles—stimulates inhibitors elsewhere in the plant as a sort of plant-wide warning system.

The work helped him become the first WSU researcher elected to the exclusive National Academy of Sciences. There was more to come.

Ryan and his colleague Edward Farmer went on to see how methyl jasmonate, a contributor to the smell of jasmine, signals plants to throw up their defenses. In one experiment, he showed how it can spread from a sagebrush to a tomato plant, demonstrating that two plants can communicate with one another.

Soon after, Ryan was back in *Science* with the discovery of systemin, the first polypeptide hormone found in a plant and another plant defense signal. Ryan and his lab also identified where systemin makes contact on cells.

Ryan and his colleagues continued identifying peptide-signaling systems even after his

BIGIdeas

retirement in 1999. Between his arrival at WSU in 1964 and his death in 2007, he published more than 250 articles and papers, making him one of the most cited and prolific WSU faculty members.

And that's before you count the 40,000 points he earned playing noon basketball, an unofficial Bohler Gym record.

12 Phone surveys and modern survey methods

Don Dillman



COURTESY WSU CAHRNS

In the fall of 1970, WSU administrators cancelled two days of classes for a racism workshop brought about by campus unrest the previous spring. To gauge local opinion on the workshops, a newly formed Social Research Center used its Public Opinion Laboratory for a telephone survey of students, faculty, staff and townspeople.

It turns out the students overwhelmingly appreciated the workshops. Perhaps more to the point, the administration knew it.

Such a survey sounds routine now, but it was new terrain at the time. More than 90 percent of Americans had phones by then, but surveyors had yet to establish an effective set of methods and standards for thorough, credible sampling.

That job fell to Don Dillman, a freshly minted Iowa PhD who the year before helped the mayor of Ames figure out why a bond issue for a new city hall failed.

"The reason I became involved was accidental," he says. "I was the only one around here who had previously conducted a telephone survey."

Over the following months and years, Dillman honed the art and science of telephone, mail and then email and web surveys. Three editions of books, starting with *Mail and Telephone Surveys: The Total Design Method*, have been cited more than 13,000 times by fellow researchers.

"It's the first book that laid out step-by-step procedures for doing mail and telephone surveys," says Dillman.

The renamed Social and Economic Sciences Research Center went on to do roughly 1,500 state and national surveys on questions as diverse as political preferences, public inebriation, transportation, health care and whether WSU should have a live cougar mascot.

The surveys tend to have large response rates, owing in part to a "social exchange" philosophy that encourages respondents to take part because they are helping someone answer important questions. The survey may reduce their

thoughts to a number, but it still sees them as a person.

13 Snooze it or lose it

James Krueger

James Krueger built much of his career around challenging the dominant thinking of his field. For years, went this thinking, sleep was a phenomenon involving the entire brain.

That can't be, said Krueger. Stroke victims, who have part of their brain damaged, still sleep, and dolphins have only half their brains asleep at a time.

"So we concluded from such studies that sleep is something less than a whole-brain phenomenon," he says. "It occurs in any functionally connected group of neurons. No one had articulated that conclusion before, including the Russian scientists who had been studying sleep in dolphins."

Krueger and his colleagues also reasoned that sleep tends to affect parts of the brain that have been heavily used. The more one part of the brain is used, the deeper it sleeps. Researchers have since seen this in the brain's blood flow, electrical activity and in encephalograms. If a person holds a vibrator in his right hand for an extended period of time, for example, researchers will

later record heavier sleep activity in the right hand's brain region.

"It started with our theory," says Krueger. "That's what started people looking at local effects and use-dependent effects. Those are the two major things that I think are now relatively widely accepted within the sleep research field."

Krueger's theory is driven by the larger question of why animals would risk being unconscious for long periods of time—to stabilize the brain's intricate circuitry.

"Brain connections obey the use it or lose it rule," says Krueger. "Essential but rarely used connections might be lost without a way to preserve them. Sleep fills that need."

14 Unintended results of killing older male predators

Rob Wielgus

Rob Wielgus, a wildlife ecologist, started monitoring grizzly bears while in graduate school in Idaho in the early 1980s. He determined that when older males were hunted and removed from the ecological system, a social disorder resulted that threatened the survival of the remaining bears.



ROB WIELGUS BY ROBERT HUBNER

It didn't take him long to realize the same notion might apply to other large predators. "It looked like it was any solitary carnivore that had extended parental care," he says. He widened his focus to include cougars, black bear, and lynx.

Studying cougars in a specific area from the late 1990s until the early 2000s, Wielgus and his team of students found that while cougar sightings had steadily increased, the population, in fact, had declined at a rate of more than 10 percent per year. Hunters were going after the senior males and causing social disorder.

Wielgus's findings contradicted the common notion that increased sightings meant an increasing population. In fact, says Wielgus, it's the opposite. An older male will protect his territory, do his best to stay out of view, and preserve a social order that provides his mates the years they need to raise their kittens. If he's gone, juvenile males will move in and kill his kittens, further reducing the population, particularly damaging the female population. Without an older male to keep them in check, in their new territory the juveniles will also chance more human and livestock encounters.

This work has changed hunting and wildlife management policies in the United States and Canada. At one time governments allowed for more hunting when there was an increase in human-cougar or human-bear encounters. Now in Washington, Oregon, and British Columbia the hunting of these large predators has been restricted. Based on Wielgus's findings, British Columbia has created seven grizzly bear preserves.

Wielgus directs the Large Carnivore Conservation Lab at WSU with the mission of helping maintain healthy predator/prey communities in the Pacific Northwest and around the world. He and his students and post-docs have studied cougars in the Washington, grizzlies in British Columbia, and brown bears in Europe. Now his students and other researchers who have studied his work are noting how this same behavior applies to large predators world-wide, including leopards, tigers, and cheetahs.

15 PIM1

Nancy Magnuson

If scientific inquiry could be seen as a detective mystery, Nancy Magnuson would be looking at a powerful character who appears to be an upstanding citizen, but with mob ties.

Her character is called PIM1. It's a protein that ordinarily helps cells stay alive. That's a good thing.

But if those cells happen to be cancer, which is essentially uncontrolled cell growth, it's not good.

"There are times when you really want to have it there," says Magnuson, a molecular bioscientist chosen to give this year's Distinguished Faculty Address. "It was probably meant to be a good thing and only when it abnormally gets over-expressed can it cause problems."

In research on mice carrying the PIM-producing gene, colleagues of Magnuson found that only 10

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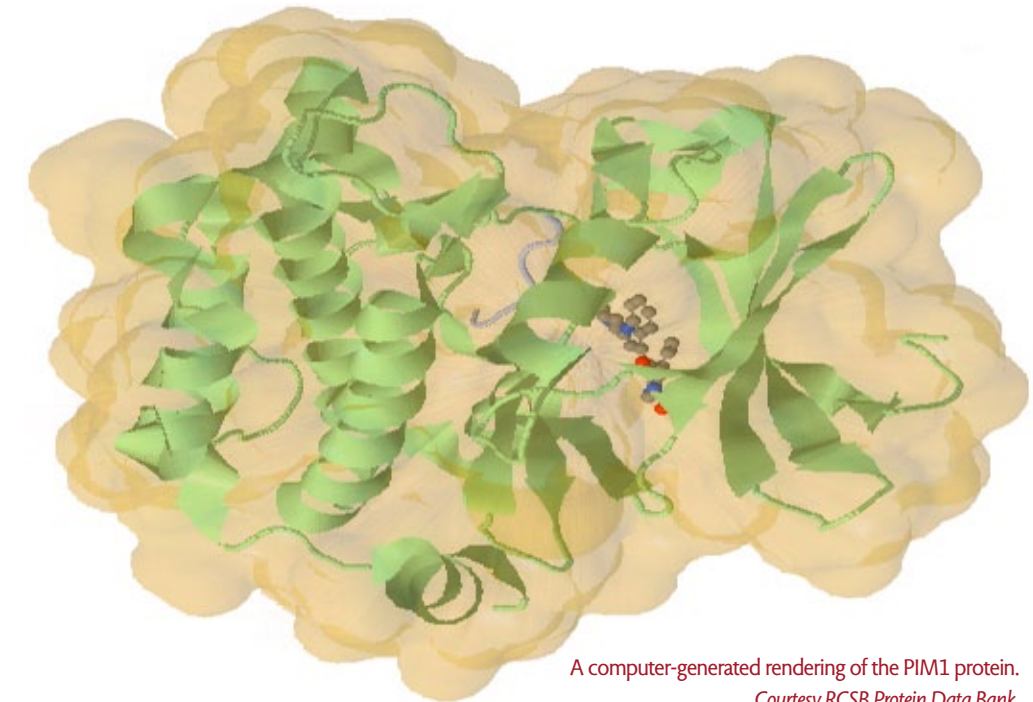
percent of the animals developed tumors. Similarly, mice exposed to a cancer-causing virus also developed tumors only 10 percent of the time.

But when the mice had both the PIM-producing gene and the cancer-causing virus, every last one developed tumors.

"This suggests PIM is helping, but in a detrimental way," says Magnuson. "When something goes wrong, PIM's presence means what went wrong doesn't get repaired, and that also means a tumor can form."

To illustrate, Magnuson compares cancer to a group of bank robbers. Most of the time, they will be stopped by an alarm or police—DNA's self-correcting mechanism or a cell's programmed demise. But with PIM as an accomplice, the heist goes off without a hitch.

Magnuson's discovery of PIM's role now has drug companies working on therapies that can specifically target growing cancer cells without the side effects of treatments that destroy normal, healthy cells. <<



A computer-generated rendering of the PIM1 protein. Courtesy RCSB Protein Data Bank.



WSU SPOKANE SLEEP AND PERFORMANCE RESEARCH CENTER. PHOTO: JUDITH VAN DONGEN

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CLASS NOTES

1940s

Paul Carter ('49 English) recently received a 70-year service award from the Greater Salt Lake Boy Scout Council. After 42 years in newspaper advertising, he continues as an independent contractor with Geiger Bros., a national promotional products company.

1950s

Brothers **Sam** '50 and **Fred Kamaka** '51 are the president and vice president of Kamaka Hawaii, the oldest ukulele factory in the Hawaiian Islands. Their father, Sam Sr., founded the business in 1916. The brothers took over in 1953. Today they share the business with their sons and are starting to include their grandchildren. The company employs about 30 people and produces more than 3,500 instruments a year.

Orville Lee '53 has been retired for 15 years from the practice of architecture. He is enjoying life with his wife LaLoie in Front Royal, Virginia.

Chellis Smith Jensen ('57 Speech) has independently published a children's book *Miss Anathena Gilly Gully from Puddle Rumble Tilly Willy*. The story about a quirky lady and her pet parrot is written primarily for children ages 6 to 9. It's available at bookstores in Pullman, Tacoma, and Bend, Oregon. Jensen lives in Tacoma.

1960s

Carol Lemon Allen '61 and her husband Jim have received the National Water Safety Congress Award of Merit for their publication *Arizona Boating & Watersports/Western Outdoor Times*.

1970s

Jim Moll ('72 Comm.) received the City of Oroville's Samuel J. Norris Award for Excellence in recognition of his outstanding efforts and commitments in improving the quality of life in the City of Oroville, California. Jim is known as the "Voice of Oroville" for his work as a newscaster for 1340 KORV and for his efforts as an emcee at many local events.

Dan Small '72 was recently promoted to vice president for institutional advancement and associate vice president of external relations for Tacoma Community College. He has worked at the college for 31 years.

Jim Holt '74 and his wife Hannah co-coach the Bellevue High School gymnastics team. They also work internationally, coaching in countries that include Zimbabwe, Nigeria, Iran, and Chile.

Larry Tripp ('78 MS Soils) recently retired after serving 32 years with the USDA-Forest Service. He joined the Forest Service after graduating and was first stationed in southeast Alaska, followed by assignments in north central Washington and finally Idaho. He was twice named Federal Land Manager of the Year by a national motorized recreation organization and received a Secretary of Agriculture Honor Award while District Ranger on the Boise National Forest. He and his wife Sandy live in Boise, where she is employed at the National Interagency Fire Center.

» tracking



Dan Nelson and his hiking companion Parka.

MATT HAGEN

Dan Nelson '89

25,000 miles of trails

by Hannelore Sudermann :: Dan Nelson knows his way around Washington's woods. As the author of a dozen books on hikes, snowshoe trips, and trails throughout the Cascades, Eastern Washington, and the Olympic Peninsula, he's logged thousands of miles for research.

"I added it up last year for a biography," says Nelson, as he searches his pantry for a treat for his new Labrador Sophie. "It was something over 25,000 miles of trails since I started my first book."

In 1989, as a reporter for *Pierce County Herald*, and fresh out of Washington State University, Nelson covered general assignment stories, environmental issues, and county government. He enjoyed the demands of the job. He enjoyed even more living in Puyallup and

having Mount Rainier in his back yard. As a kid growing up in Dayton, Washington, Nelson had the Blue Mountains nearby and regular trips into the wilderness were just part of his makeup. "I hiked, rode bikes, and basically spent my childhood just playing outdoors."

Maybe that's why 18 months after starting at the *Herald*, he was happy to leave newspapers for a job editing the Washington Trails Association's magazine. The Trail Association is a non-profit, volunteer-driven organization that promotes hiking and preserves trails in Washington. Besides needing an editor, the association needed a director of communications. Nelson was able to morph his job into that, though with some difficulty since the association's member numbers were declining. "For one month I was the only person working for this non-profit," he says. Fortunately the board and a new director turned things around. Today it has around 2,000 members who log 80,000 hours of volunteer work.

While he was at the association, an editor from Foghorn Press called wanting to expand



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Rich Tomsinski ('78 Bus. Admin) was appointed to a three year term on the State of Washington Productivity Board by Gov. Christine Gregoire. The board promotes improvements in state agency operations. Rich is a deputy project director for Washington's Employment Security Department.

1980s

Lynn Espinoza '83 is president and principal of Speak! Communications, Inc., providing media and presentation training to business executives. Clients include Boeing, Microsoft, Starbucks, and Safeco.

After a long career as a TV news anchor and reporter in California and Seattle, **Margo Myers** '83 has started her own PR/Marketing firm in Seattle: Margo Myers Communications.

David Winters '83 has launched www.letsjustbarter.com. The nation-wide website allows you to trade what you have or can do, for what you want. Winters lives in Central Washington.

Seattle attorney **Steve Edmiston** '84 latest independent feature film (as writer and co-producer), "Crimes of the Past," premiered at the Seattle International Film Festival and has been picked up for global distribution in 2010 by MarVista Entertainment.

Park Howell '84 was named 2010 Advertising Person of the Year by the American Advertising Federation—Metro Phoenix.

In March, **Leon Rice** '86 was hired away from his job as assistant basketball coach at Gonzaga to be head coach at Boise State. Rice and his wife, Robin, have three sons, Brock, 12, Max, 10, and Kade, 6.

1990s

Nelson Holmberg '95 became executive director of the Port of Woodland in April 2010. Prior to that he worked at the Port of Vancouver as communications manager. He has worked in public relations and communications for more than two decades.

Brooke Guthrie '97 just started a business giving foodie walking tours in Olympia. The two and a half-hour tours visit downtown restaurants where guests can sample Northwest fare and visit with the chefs. Guthrie lives in Olympia with her husband and toddler. More information about the tours is available at www.brookesbites.com.

2000s

Erika Towne Schneider '01, her husband Dylan, and daughter Kassidy are excited to announce the birth of Ella Rae born on Jan 12, 2010.

Nichole Schofield ('04 Comm.) is broadcast producer for Magner Sanborn, a Spokane-based advertising, brand design, and marketing communications firm. Schofield oversees television production on the national Qualcomm account. She already has national and international experience producing work for Expedia, Volkswagen, and Direct TV.

Somer Breeze '06 lives in Puyallup. She will marry Trevor Hanson of Graham, Washington, on June 5, 2010.

Hilary Cooley (MS '04, PhD '08) is a wolf biologist for Idaho Fish & Game, working out of the

a hiking series to include the Northwest. "They had good timing," says Nelson. "I was basically living on hiking trails at that point." He split the project with another writer. "We each did 500 routes and within a year, we wrapped it up," he says. It didn't take long to get to the bookstore shelves. "It was pretty incredible to be a book author," he says. At 24 he was travelling on book signing tours.

But it wasn't all that glamorous, he says. "Really, book publishing at this level isn't very lucrative. You have to love trails and love writing."

It was the 1990s, and hiking in the PNW was booming. Nelson's next gig was with The Mountaineers writing for their *100 Hikes* series. He noticed a demand for specialty series like wildflower hikes, loop hikes, and day hikes, so he pitched a book on snowshoe trails. At first his editors were dubious. "A lot of hikers were figuring out that with snowshoes, they didn't have to take the winter off," says Nelson. The first run of the snowshoe book "went instantly," he says. "And the concept quickly spread as a series throughout the country. It was the book I was most proud of at that point."

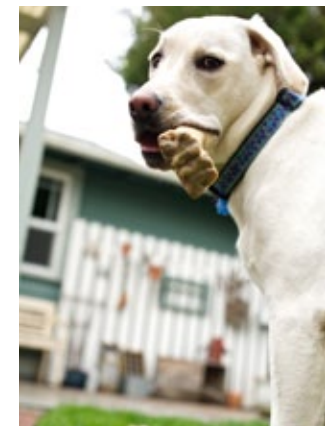
But his favorite success came in 2002 after three years of urging his editors to print a book about hiking with dogs. The Mountaineers discourages hiking with dogs because the canines can damage trails, intimidate other hikers, and threaten wildlife. But Nelson, who had logged thousands of miles with his yellow lab Parka (and almost as many with his partner Donna Meshke) while researching his other Northwest hiking books, knew the joy, as well as the challenges, of being out on a trail with a dog. "My philosophy is that people are going to go out with their dogs, so let's do it responsibly." He urges hikers to keep their pets close by and to practice the basics, which include manners, first aid, a backpack, trail treats, water, dog booties for rough areas, and waste disposal equipment. "And, no matter how well behaved and how friendly your dog is, a leash is essential," he says.

Nelson's instincts were right again. *Best Hikes with Dogs in Western Washington* was wildly popular. It had nine printings and this spring Nelson came out with a second edition. "We had something that people craved," he says. In order to get the book printed, he agreed to write several other books, including *Day Hiking: Mount Rainier*, and *Day Hiking: Snoqualmie Region*.

Though so much hiking information can now be found on-line, Nelson thinks the Internet supplements, rather than replaces, the guide

books. Online, it's hard to peruse a selection of hikes and choose the right one for today, he says. At the same time, the books won't have the latest trail conditions.

Besides writing books, and hiking, Nelson writes columns for *The Seattle Times* and national outdoor magazines reviewing hiking and camp-



MATT HAGEN

ing gear. The up-side is that he gets to try out all kinds of socks, sweaters, backpacks, and boots. There's a down-side, too. "I've had to spend a week of nights in my backyard in ineffective tents and sleeping bags that weren't as warm as they were rated," he says. He doesn't like to mention the leaky coats and painful boots.

He has also found a day job that dovetails with his penchant for the outdoors—that of public information officer for the Olympic Region Clean Air Agency, a governmental agency that enforces clean air standards.

Over the years, Nelson has visited and revisited thousands of Northwest trails and has seen them change. "I've gotten to know the political side of it," he says. When agencies have their budgets slashed, parks close and trails don't get maintained. He's even seen some beautiful hikes disappear into clearcuts. At the same time, he is seeing a lot more urban and suburban trails. While they don't provide the full experience of a wilderness trail, he says, "They are getting people out and walking."

He hopes it will whet their appetites to go further. "Washington is a special state," he says. "We have lowland lakes, saltwater tideflats, alpine, and rain forests... We have a greater variety of terrain and ecosystems than just about every other state."

Nelson has his own web site: adventuresnw.net.



To see one of Nelson's recommended hikes go to wsu.edu.

Annie Thiessen '99

The pacemaker

by Hannelore Sudermann :: "I wasn't always fast," says Annie Thiessen, a Tacoma veterinarian who in the past 10 years has won well over 30 marathons. "I just don't know what happened." But she does know when it happened. It was 2005 and she was competing in a low-key marathon at Birch Bay State Park. The



\$5 entry fee didn't cover aid stations or mile markers, so while she was running, she really had no idea of her pace. She only knew there was someone in front of her. "I kept thinking, I can catch that guy."

She breezed through the finish line at three hours and 14 minutes. She couldn't believe she was nearly a half hour quicker than her previous year's time. And she won the race.

It was so far from her first marathon in 1995, which she barely finished and after which she vowed she would never race again. She had signed up for the Seattle Marathon thinking that since she could run 19 miles with a friend on the Palouse, a few more miles in Seattle wouldn't be that difficult. "Oh, I was wrong," she says. The first 19 miles went OK, but after that the world turned sideways. "I'm not clear about the details," she says. She does know that she staggered through to a finish. She was hurt, sick,

and barely able to move. "I was adamant I would never, ever, ever, ever do that again," she says.

But she did. The very next year. And she did so again the year after. And again. And then two years ago she not only ran the Seattle Marathon, she won it.

In the past 15 years Thiessen has completed more than 100 marathons and ultra races. It's not really a lifelong habit, though. She started running short distances as a child growing up in Minnesota. "I did it to get home from the stables on time so my mother wouldn't think it was too late," she says. She ran some in college, but didn't think about doing it competitively until she was at WSU as a veterinary student and her running friend Lisa Broidy '97 PhD pointed out that her runs were nearing marathon-length.

Recently Thiessen, who was fresh from winning the Yakima Marathon in three hours and 56 seconds, was relaxing with her husband Phil and cat Horton at their Tacoma home. They're in the process of restoring the house, which they know dates to the late 1800s, and love how it just happens to be in a neighborhood popular with runners.

As she sits in the bay window of her dining room, she describes her training schedule, which includes rising at 5 a.m., lacing up her Asics (she has four pairs for training that she rotates and then retires after they've logged more than 400 miles), and dashing out her door to meet up with group of friends who include a pharmaceutical rep, an Army lieutenant, a lawyer, a therapist, and a teacher. They do one of their regular routes, logging seven to nine miles and "talking the whole time." Then she heads home again for shower and a breakfast of eggs and veggies before heading to work at Chambers Creek Veterinary Hospital.

On weekends when she's not competing, Thiessen meets up with another group of runners for distance work. But racing is her best way to get in the speed training she needs to maintain and improve her time. She loves to do it. When the gun goes off, it's "Grrrr, kill, kill," she admits—but is quick to add, "It's the social aspect that I adore." Everyone in the race has run the same hills, stopped at the same aid stations, and gotten lost in the same places. "No matter what your time is, it's like you've all been to war together."

And sometimes she just goes out on her own to look around. "I love to head out my door with nothing but (her running clothes and) a pair of tennis shoes," she says. Her neighborhood,

Nampa Regional Office. She lives in Boise with her hound dog, Emma, and husband Skye.

Amanda Krull '06 married **Todd Wright** '08 in January 2009. They left Pullman in April for a 27-month tour with the Peace Corps in Botswana.

After working as a business reporter in Minnesota for two years, **Amy Trang** ('06 Comm.) has moved to Chicago where she is a writer and editor at Northwestern University's Kellogg School of Management.

Josh Brown '08 and **Leah Stites** '08 both graduated with degrees in elementary education. Josh is currently a helicopter pilot for the U.S. Army and stationed in Alabama. Leah is completing her masters in school psychology. The two, who met in high school, are living in Alabama after a honeymoon in Ocho Rios, Jamaica. The April wedding was in Sequim, Washington, where the couple is originally from.

Richard Evans '08 is getting married on July 24, 2010, to **Jennifer Brown** '09.

IN MEMORIAM

1930s

Mary Thompson Reed ('31 Engl.), 100, February 27, 2010, Seattle.

Alice "Belle" Vawter (x'34), 96, January 5, 2010, Spokane.

Margaret Madsen ('36 Comm.), 97, July, 2009, Seattle.

Nancy S. Nethercutt ('38 Engl.), 93, December 17, 2009, Spokane.

Lloyd E. Stannard ('38 Ed.), 97, November 3, 2009, Spokane.

Madalene (Cavanaugh) Calkins ('39 Engl.), 91, December 22, 2009, Spokane.

1940s

Roy Edwin Anderson ('40 Ed.), 92, January 23, 2010, Gig Harbor.

Kathryn "Kay" Atwood ('40 Pharm.), 91, January 13, 2010, Spokane.

Clara Johnston ('40 Home Ec.), 92, May 15, 2009, Puyallup.

Helen E. Johnson ('41 Phys. Ed.), 94, November 30, 2009, Washougal.

Emma Jane Lovejoy ('41 Ed.), 92, September 8, 2009, Wenatchee.

Michael M. McGarvey ('41 Pharm.), 91, February 24, 2010, Spokane.

Ray A. Skrinde ('41 Civ. Engr.), 80, December 7, 2009, Stanwood.

Milton O. Wolf ('41 Agric., Animal Husbandry), 91, October 25, 2009, Spokane.

Thomas B. Eville ('42 DVM), 90, November 27, 2009, Penn Valley, California.

Helen Vogler Figg ('42 Home Ec.), 82, January 20, 2010, Lacey.

Harold E. Warsinske ('42 DVM), 91, December 25, 2009, Stanwood.

the north end of Tacoma is filled with beautiful old houses. "I love to run at twilight, so I can see inside," she says. "It never gets boring."

All her running and training have allowed her to eat what she wants, and keeps her pretty even-keeled, she says. But it has also taken its toll in stress fractures—her pelvis, her leg, and her foot. Sometimes she has to remind herself to slow down. Where she once ran a marathon (or two) every weekend, she now limits herself to about 10 a year. "I just needed to give my body a break," she says.

But her version of a break is quite different. Now she and some of her training pals are in the habit of running ultramarathons of 50 kilometers to 100 miles. One of her favorite races is the White River 50 Mile Endurance run, which climbs up Crystal Mountain, goes through woods, offers great vistas, and includes only a few hundred of the toughest runners. In this group, Thiessen has managed a third-place win at eight hours and 29 minutes. She's eager to go back and improve her time. "It's all a state of mind," she shrugs and smiles. "It's a warped state of mind." But for her it works.



Annie Thiessen at rest. The marathon runner and veterinarian enjoys a rare quiet afternoon at home with a plate of freshly-baked "healthy" cookies and her cat, Horton. Photo Matt Hagen

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Derren Patterson '07

Dangerous beauty

by *Hannelore Sudermann* :: Derren Patterson went out to see the world and landed in Bolivia leading bicycle tours down the world's most dangerous road.

Patterson is one for adventure. After graduating from WSU with a history degree, he decided to travel, paying for it first by teaching English in Asia. He spent a year at a middle school in Korea and then found a one-year job in China at a university.

Patterson often rode his road bike and a motorcycle when he was back in the States, but in China his bicycle was his main mode of transportation. During a break, he rode from Northern Vietnam to Saigon. He was having adventures, but Patterson was itching to see more. He was interested in South America and had heard about a job leading bicycle tours in Bolivia for Gravity Assisted Mountain Biking.

The gig was guiding tours along a twisting road that stretches from high in the Andes down into La Paz. It had been dubbed the "Most Dangerous" road in the world by the Inter American Development Bank in 1995. At the time an estimated 200-300 people died on the 40 mile stretch each year. With hairpin turns, and narrow lanes, in some places the road is just a tiny ledge on a nearly vertical cliff. At the same time, it offers spectacular vistas from the snowy mountains down to the steaming, verdant Amazon rainforest—"majestic views and tropical spender," is how Patterson describes it.

During Patterson's first week in Bolivia, after adjusting to the high altitude, he had an intestinal infection and was ill for most of his first day at work. After a few miles on a bike, he decided to get back on the bus. "It wasn't one of my proudest moments," he says. But it provided him with a good anecdote for his future tours. "I always tell my clients, especially the nervous ones who haven't ridden bikes in years, that on my first ride down, I was on the bus."

Now he rides the road four or five times a week taking people down 3,600 feet from the high peaks of the Yungas region into the

Mary Dorothy Simmons Powers ('43 MA Sociology), 92, December 31, 2009, Oakland.

Dorothy M. Thill ('43 Mus. Educ.), 88, December 14, 2009, Clarkston.

Faye E. Chapman (x'44), 88, December 11, 2009, Palo Alto, California.

Norma "Jean" Richardson (x'44), 84, February 17, 2010, Port Orchard.

Edward C. Bland ('45 Vet. Sci., '46 DVM), 86, June 15, 2009, Corte Madera, California.

Robert Lee Rennick ('45 DVM), 87, June 29, 2009, Nashville, Tennessee.

Thomas D. Branigan ('46, Phys. Ed. '47 Ed.), 88, November 2, 2009, Torrance, California.

Rollin Charles Miller ('46 Ag. Ed.), 89, June 3, 2009, Ritzville.

Thelma L. Smith ('46 Home Ec.), 85, December 15, 2009, Spokane Valley.

Jean Masterton Carey ('47 Psych., '50 MS Psych.), 87, November 30, 2009, Seattle.

John Forbes Fletcher ('48 Chem. Engr, '51 MS), 86, December 20, 2009, Vancouver.

Norma J. Hamilton ('48 Sociology), 86, July 2009, Sun City West, Arizona.

Alvin Overland ('48 Agro., '51 MS), December 31, 2009, Sumner.

Ella May Zuroske ('48 Hist., '70 MA Educ.), 83, November 3, 2009, Spokane.

James Thomas Slavin Sr. ('49 Ag. Econ.), 86, March 3, 2010, Yakima.

Glen A. Yake ('49 Civ. Engr.), 90, December 12, 2009, Spokane.

1950s

Robert Fredrick Concie ('50 Comm.), 86, November 22, 2009, Bellingham.

Ronald O. Forsell ('50 Comm.), 81, December 24, 2009, Shoreline.

Mary Frances Lamison ('50 MS Home Ec.), 92, January 2, 2009, Roseville, Minnesota.

Arnold D. Neble ('50 Bus. Admin), 82, February 6, 2010, Everett.

Kathryn Hamilton ('51 Sociology), February 20, 2010.

Glenn W. Eaton ('52 Bus. Admin.), 79, February 7, 2010, Edmonds.

Ellis Jones ('52 Hotel and Rest. Admin.), 86, August 15, 2009, Kenmore.

Walter Morgan ('52 Business), 81, January 3, 2010, Glendale, California.

Warren Julius "Doc" Wegert ('52 DVM), 88, January 6, 2010, Portland.

Donald K. Dodge ('53 Hotel and Rest. Admin.), 80, June 21, 2009, Kirkland.

Robert Burks ('54 Polit. Sci.), 79, July 10, 2009, Lynden.

Glenn Hilliard ('54 DVM), 87, January 25, 2010, Aberdeen.

Bjorn F. Hrutford ('54 Chem.), 78, February 16, 2010, Blaine.

Earl L. Muir ('54 Arch. Engr.), 77, November 28, 2009, Pullman.

Edward Gene Aliverti ('55 Music), 77, February 3, 2010, Edmonds.

K. Robert "Bob" Brown ('55 Bus.), 77, January 22, 2010, Rathdrum, Idaho.

William "Bill" H. Harris ('55 DVM), 89, January 25, 2010, Selah.

George I. Prater ('55 Bus.), 75, January 16, 2010, Captain Cook, Hawaii.

Robert R. Dwinell ('56 Sociology), 74, August 3, 2005, California.

Kenneth M. Hall ('56 Physics), 75, November 6, 2010, Fairmount, Georgia.

Marjorie Rowland Coe ('57 Home Ec.), 74, October 22, 2009, Seattle.

Eugene H. "Gene" Semingson ('58 Comm., MA '63), 79, November 19, 2009, Pullman.

John Patton Spear ('58 Pharm.), 77, September 9, 2009, Tucson, Arizona.

1960s

Paul T. "Pete" Holm ('60 Physics), 71, March 8, 2010, Olympic Mountains.

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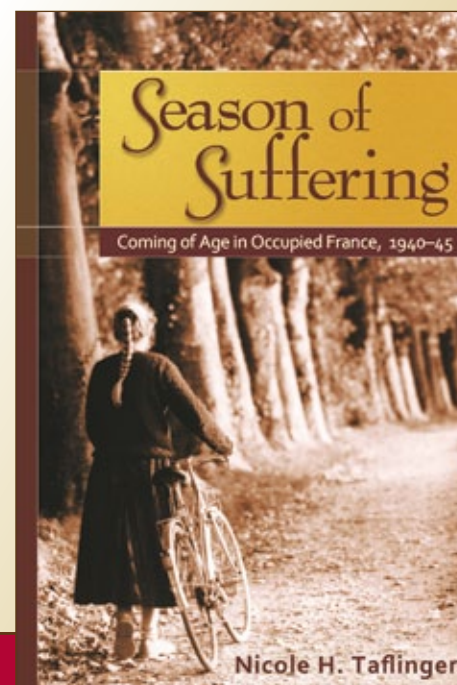
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The "World's Most Dangerous Road," in Bolivia, offers spectacular views and landscapes as well as spectacular weather. Here a group rides down through a rain storm. *Photo courtesy Derren Patterson*

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Amazon. Fortunately, in 2006 much of the car and truck traffic was diverted from the most precarious portions onto modernized bypasses with guardrails and multiple lanes. Patterson starts his days in La Paz at 5:30 a.m. to start loading the bikes and gear on the bus at 6. He usually works with a team of two others—the bus driver and a Bolivian guide.



Water pours off the mountain onto bicyclists.

As the “Anglo” guide, he does most of the talking on the tour, he says.

During the drive up the mountain, he chats up the 14 clients, making sure everyone is awake and sober. They listen to music and hand out gear. At the top, they unload the bikes and Patterson starts the rules and safety speech. “If it’s all Aussie rugby players that day, I tell them all the scary stories I’ve seen and read to make sure they don’t ride like idiots,” he says. If it’s a more nervous, sensible crowd, he tones down the stories and urges them to be confident and comfortable.

The first 24 kilometers are on paved road and pretty easy. As the terrain changes, Patterson stops and talks about what’s coming up next, and offers tips to make the clients safer and more comfortable. At all times either he or the Bolivian guide is in the front and the other brings up the rear. When they get to the “world’s most dangerous,” part, Patterson is on high alert, stopping to offer history lessons, tell a few jokes, and cope with issues like bad weather, landslides, oncoming cars, or injuries.

At the end of the four- to five-hour trip, the group is hot, dusty, and thrilled by the experience. The team takes the riders to an

Irving M. Field (‘42 MBA), 76, February 23, 2010, Pullman.

Gary D. Breaker (‘63 Civ. Engr.), 71, January 10, 2010, Snohomish.

Ron Brady (‘64 Geography), 73, October 23, 2009, Wood River Valley, Idaho.

Helen L. Jensen (‘69), December 8, 2009, Des Moines.

Marilyn N. Stoeser (‘69 Ed.), 62, November 2, 2009, Woodinville.

1970s

Ardith Delores Pettibone (‘72 Comp. Sci., Math.), 76, November 2, 2009, Colfax.

James V. Hogue (‘74 MS Physics), 73, March 9, 2010, Lacrosse.

Alexander Sui-Cheong Wong (‘74 Pharm.), 59, January 19, 2010, Seattle.

Betty Young (‘74 Recreation), 59, February 16, 2010, Bellingham.

Jerry A. Howard (‘75 PhD Econ.), 67, December 18, 2009, McKinney, Texas.

Mary-Carol Goff (x’77), 50, January 24, 2010, Federal Way.

Odie Lee Karsky (‘77, MCE ‘84), 66, July 31, 2009, Pullman.

Laura Jean Higgins (‘79 Nursing), 53, January 17, 2010, Hillsboro, Oregon.

Tamara Jo Stevens (‘79 Fine Arts), 54, February 15, 2010, Arizona.

1980s

Terry Louis Dougherty (‘82 Elect. Engr.), 50, October 14, 2009, Ridgecrest, California.

Brian Lee McMullin (‘88 Phys. Sci.), 45, July 20, 2009, Sequim.

Glenn David Voshell (‘88 Biol., ‘89 TC, ‘97 MS Chem.), 44, December 12, 2009, Pullman.

1990s

Shane Sullivan (‘94 Comm.), 39, March 19, 2010, Morton, Washington.

2000s

Richard Gail Hess (‘06 Cert. Viticulture and Enology), 63, February 8, 2010, Cle Elum.

Faculty & Staff

Dennis J. Bardwell, 83, retired staff, June 4, 2009, Lewiston, Idaho.

William S. Butts, 96, retired staff, February 22, 2010, Pullman.

Ida M. Dietz, former plant pathology staff, November 13, 2009, Pullman.

Donald Drader, retired housing staff, January 18, 2010, Pullman.

Melvin Ingalls, 75, retired staff, March 14, 2010, Palouse.

Florence Jamison, retired staff, February 19, 2010.

Charlene Kibee, 68, retired staff, March 3, 2010, Clarkston.

Bruce C. Harding, 84, retired university records manager, November 10, 2009, Pullman.

Virginia H. Leinweber, 84, retired student services staff, December 3, 2009, Spokane.

Pauline M. Lilje, 80, retired library staff, December 23, 2009, Portland, Oregon.

Arden Earl Literal, 82, former photo services staff, October 24, 2009, Moscow, Idaho.

Hugh Ranald McDonald, 92, retired print staff, November 6, 2009, Newport.

Robert C. McLean, 82, retired English faculty, November 3, 2009, Pullman.

Earl L. Muir, 77, retired facilities planning staff, November 28, 2009, Pullman.

Ardith Delores Pettibone, 76, retired systems analyst, November 2, 2009, Colfax.

Eugene H. “Gene” Semingson, 79, retired staff, November 19, 2009, Pullman.

George Varner, 90, retired Crops and Soils staff, March 5, 2010, Kennewick.

Juanita H. Wagner, 89, retired from Mathematics, December 10, 2009, Camano Island.

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One of the sheer cliffs on the Bolivian road where Derren Patterson ‘07 leads bicycle tours.

animal refuge on the jungle floor, serves them lunch, offers a swim, and heads back to La Paz. While the riders’ day wraps up around 8 p.m. and they are deposited at their hotels, Patterson and his team still have to unload the bikes and gear. Then Patterson pays the

driver, splits the tips, and uploads the videos and pictures from the day’s tour.

The long days can be grueling, but Patterson is still enraptured by the scenery and drama of where he spends them. “I never get tired of the ride itself,” he says. “I never get tired of the beauty.” <<

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Clockwise, from left: Happy Map Guy, 2008, acrylic on board; Anaheim Vacationland, 2007, acrylic on board; What is Stereophonic Sound?, 2006, gouche on vintage record sleeve



World of Mateo

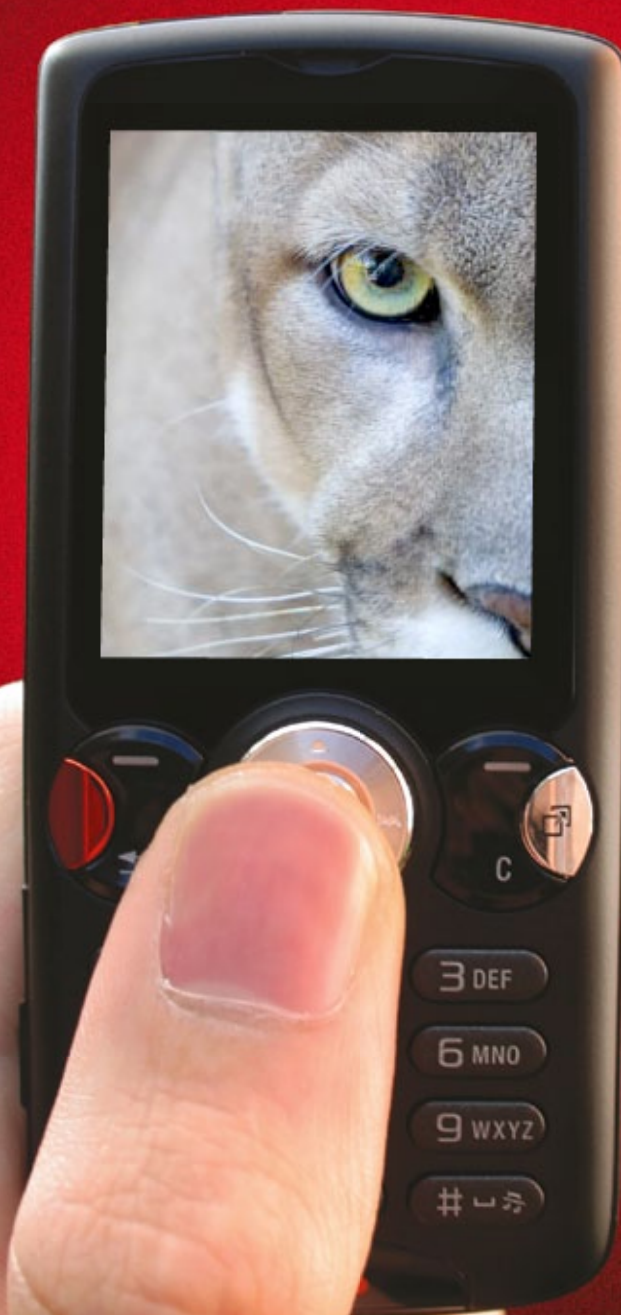
The work of Matthew Leiker

WSU Museum of Art, May 18–July 2

by **Chris Bruce** :: The World of Mateo is filled with images of an American subculture known by no particular name but seemingly related to road culture, California style, album jacket graphics of the 50s and our affinity for Hawaiian island iconography. Mateo celebrates a time of Tiki lounges, drive-in theater refreshment cartoons, and a plethora of music that bubbles vibrantly with the hypnotic tones of the ukulele, inspiring his imagination to create work that is at once nostalgic and oddly futuristic. His whimsical compositions have earned him acclaim and contracts from many prestigious companies including Disney. This exhibit will feature current works by this prolific artist along with a broad selection of record album covers from his vast personal collection.

For more information on other exhibitions and events at the WSU Museum of Art go to museum.wsu.edu.

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