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You, too, can run a nuclear reactor:

Interview with Michael Pollan

WSU myths and legends:

Cougs behind the camera

First Words :: 7 LETTERS :: 23 SPORTS: Bill Moos—Back from the ranch

The last barrier:

Class Notes :: 70 In Memoriam

World of Mateo: The work of Matthew Leiker

Dangerous beauty:

Cover photo: Scott Jones "taking time off." By Rajah Bose
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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**North Cascades**

Loved the article in Washington State this summer, on Cascade Pass archaeology, with Bob Mierendorf. The big mystery at the end, comparing the photos from 1910 and today and showing MIRIE trees NOW? I hope so. I mean, I’m sure there are trees that are still there, 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 Finner**

I really enjoyed the article on Bob Mierendorf’s work in the North Cascades National Park. However, a couple of the photos came 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 the stone become modified? And what do you think its purpose was? There are no hints in the article or captions for these photos.

**My personal guess is the stone was used in on pack trains of mules and horses.**

**Enjoy the whole article as well as the photos on page 31. However, the captions on page 32 of the photos on page 31, was very unprofessional and treats us out of a piece of personal propaganda.**

**Not the quality I would expect of WSM.**

The black-and-white photo from 1910 is looking north, the color photo that is being compared in looking south. One photo is in black and white, one photo is in color. It is not possible to compare how “lush” the gist is, or not, or come to other conclusions when the photos are not of the same subject, and in the same medium.

**Herman R. Geoghegan**

(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 the big mystery. The longer answer is this is one of several “tabular rocks” that we found that have been placed in horizontal position around the edges of tree-burning pits. Possible functions for these tabular rocks might be as cooking surface, furniture, alternatively, as a griddle, and then we will be identifying other possibilities. As for the “reptile’s” 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 see with confidence support one hypothesis over the other. Using current data, but we are still collecting data, sooner or later.)

Regarding the “personal propaganda,” Tim Steury replies: The comment regarding evening work which you raised, offended and unnecessary 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 the WSU logo. Save with the Keep the Change program. For more information about the program, go to the WSU Alumni Association, and is used by the issuer pursuant to MasterCard, the MasterCard Brand Mark is registered trademark of MasterCard International, and is used by the issuer pursuant to Visa. Southwest, the Southwest.com design, and MasterCard are registered trademarks of MasterCard International, Inc. Bank of America and the Bank of America logo are registered trademarks of Bank of America Corporation. All other company and product names and logos are the property of their respective owners. Don’t worry about any confusion with the WorldPoints program. Terms apply to program features and Credit Card account benefits. For more information about the program, including restrictions, go to wsm.wsu.edu/godigital/letter-reply.

**Bob Bell**

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 fall issue was enthralling. The Cascade Pass got me hooked once again on our ancient history in this state.

**Gene Nimetz, Associate Professor**

My son is a senior at WSU. I began my gift to the WSU Alumni Association in the Spring of 2008, and I have been receiving the magazine ever since. The issue was enthralling. The Cascade Pass got me hooked once again on our ancient history in this state.

**H. Melony ‘77**

I am sorry that budget constraints will reduce the paper expense for future years, but please don’t sacrifice the quality. Keep it going!

**Leave it to the beavers**

I recently read an old book called Three Against The Wilderness. The story is of a family in British Columbia in the 20s and how they experienced beavers. My impression was that we had beavers for years but have not had beavers for years. There were still beaver dams left and the new beavers in the few short years changed the whole ecosystem, including food control, on parts of the Fraser drainage system. Anyone against beaver should read that story and what it did to a small part of B.C. If the scientists 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**
Dear Reader

Late in the last century, then-WSU President Sam Smith introduced me to the Internet. I was the Spokesman-Review’s Pullman reporter, and after a press conference in his office, Sam excitedly ushered me over to his computer to show how he could share electronic texts through a system called “Gopher.” I had to get on this thing, he said, and he cleared the way for me to get access through the Information Technology department. It was a first step, followed by a leap and then a plunge, info what is now the End of the World as I Knew It.

You know what happened next: web browsers, email, e-commerce, Craigslist, friending and unfriending, cat videos, 140-character messages, fan pages for bacon, dying newspapers, fading bookstores, furtive searches for high-school sweethearts, business offers from Nigerian princes, more than a billion people looking at more than a trillion web pages.

So while I was thrilled in 1989 to be a newspaper reporter with access to articles on microfiche in the Holland Library, I now find no subject is too obscure for Google, Wikipedia, or an online chat with a faceless reference librarian. I once counted one New York Times arriving sometime around 10 in the morning. Now I read it in bed on a cell phone with more gadgets than one of James Bond’s Aston Martins. I watch movies and TV on a laptop.

If you are reading this, you are witnessing yet another wrinkle in this revolution: an online edition of Washington State Magazine. We’re publishing this issue exclusively on the web for a one-time savings of printing costs, resuming the paper version with the fall issue.

To be sure, it’s not the biggest change in the world, as magazines are old hands at doing much of what the web does best: writing on a variety of topics, marrying the text to images, and delivering the final product to a community of readers. Now we do the same thing electronically, and add a lot of cool bells and whistles.

But the universe has changed around us, with ramifications of concern to not only writers and editors, but people throughout the university community: A printed magazine story sits alone on a page, with relatively little competition for the reader’s attention. An online story sits only a few keystrokes away from a torrent of other stories, tweets, videos, fire classifieds, and emails. The reader arrives in a different frame of mind, and this affects what we talk about, how we talk about it, what we understand of each other.

It has Paul Whitney, cognitive psychologist and senior associate dean in the College of Liberal Arts, wondering if we’re reading in a shallower way that will hinder our ability to make informed opinions on big issues. Bertt Alvord, who teaches online journalism in the Edward R. Murrow College of Communication, worries about web sites pandering for clicks. And Patty Ericsson, director of WSU-Pullman’s Digital Technology and Culture degree program, sees all these changes as part of a continuum going back to the ancient Greeks. In effect, she says, Yeah, things are changing, like always. Welcome to the brave new world.
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.

“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.”

“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 flip 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 flourish of New Journalism. Now halfway a century old, the style brought fiction’s scene-setting, dialog, and character development to non-fiction. Things happen in these stories.

And they were a bit long—3,000 words at a minimum, and often book length. Reading them was an act of concentrated, 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 Pica’s donut machine; the terminal will type out the stories, and the photo-typesetter will click, buzz and release the photographed pages, and printouts will pile high in the recycling centers. If input channels are kept open, advertisers may lose their hold on the magazine, 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 32 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.”

Three stacks and stacks of Business Week,” says John Wolfs, a WSM 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 how we approach those words when they’re on the screen does change, to the point where many fall by the wayside.

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 how we approach those words when they’re on the screen does change, to the point where many fall by the wayside.

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.

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 these 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.”
I need to turn off email and other stuff when I’m trying to focus more on reading a document.”

“...says Chris Hundhausen, an associate professor who specializes in how people use computers.

“...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 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.

“...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 email 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 too many pages.”

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 best-seller 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 practise 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.”

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.”
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’s 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.
You, too, can run 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.

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Washington State Magazine is grateful for the generous support of alumni and friends of WSU, including a major gift from Phillip M. ’40 and June Lighty.

For more information on how to become a supporter please visit WSM Give.
King credits Chemistry 490, his time working at the reactor, and daily contact with reactor supervisor Cory Flues with helping him achieve his goal of becoming a reactor operator. “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 Noah. 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—is not practiced in the United States 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 efficiency and safety 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 foundational power source that can keep the lights on during a still night when solar and wind are not available. It’s clean, cheaper, and safer than coal, which we will 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 waste and, in fact, does the same on a commercial basis for some other nations.

“Any day now,” Wall says. Wall has an open-door policy for groups of visitors to 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 the 80-hour 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 environmental ideals can make a real contribution that will make the world a better place to live.”

**Interview with Michael Pollan**

**Tom Steury:** Michael Pollan has been a leading voice in the re-evaluation of 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. Food was being produced in ways that they hadn’t been told and they were very troubled by the idea we were feeding cows to cows when we produced meat.

- Food safety problems in the early 90’s, lack in the flu, 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. 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 efficiency and safety 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 foundational power source that can keep the lights on during a still night when solar and wind are not available. It’s clean, cheaper, and safer than coal, which we will still lean on heavily in this country for electrical generation.”
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—a coug 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.

by jim moore '78
W.S.M.: A couple of what-if questions. If Barack Obama were to appoint you the head of the FDA, what would be your first move?

POLLAN: (Laugh.) 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. There are opportunities in the feedlot system in this country is a disaster waiting to happen. We have already seen the evolution of some strains of human and livestock operations. If the FDA were to say, look, these antibiotics are too important to squander routinely on animals. I am not talking about treating animals. I am talking about putting them in feed 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 it is, I am saying, worth it for our own good or the planet’s own good. So I think that 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 supermarkets have in market the lowest health claims, there’s something wrong with that picture.

W.S.M.: At the head of the USDA?

POLLAN: Man, I’m getting tired. I’d take a good hard look at all our farm policies. I believe to wrap the commodity subsidy programs, I think we would do things differently. The second thing I would do would be to help solve two of our most important problems. In the public health crisis around food, obesity and diabetes, and climate change. Farmers are very well positioned to help solve these problems. In the same way they answered the challenge of producing much more food as possible that we set them post-World War II. I’d say now the challenge is different, it is 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.

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

W.S.M.: We have 3,000 young readers here on campus discussing Our Own Life and related ideas. What’s the main disputed 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 this slice for too many years. Food was cheap, and nobody had to think about it. And by doing so we allowed too very serious problems to grow. One was a public health problems, and the other is an environment problem. We need to address 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 optimistic. I think farmers hold the key to solving our problems, and just have to give them the right set of incentives. When I mean, we can see changes. And 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.
WSU myths and legends

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

WSU is a Playboy party school

True. For years, freshmen have been driving by the cattle enclosures on the east side of campus and marveling at the enormous bovines that graze by the cattle enclosures on the east side of campus. But there’s nothing aberrant about them.

They’re steers,” says Charlie Powell, spokesperson for the Veterinary Teaching Hospital, who recently fielded a phone call from Egypt about the “giant cows” on Washington State’s campus. But there’s nothing aberrant about them.

Some students have confused 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.

Lately, according to the Playboy web site, they’ve started to pay attention to the “giant cows.” They’ve come up with stories of WSU students being able to drink milk from these animals, says Powell. The simple fact is that these animals are not genetic mutations or steroid cocktails with somehow engineering giant cattle. There are just had a lot of time to eat and grow.

The rumors 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 re-priened the party feature. WSU ranked at number 18, and in 2008 rose to number 16. The dubious achievement is worth blogging about for some, but for recruits and administrators, it’s downright irritating.

WSU 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, spokesperson for the Veterinary Teaching Hospital, who recently fielded a phone call from Egypt about the giant bovines. “Most people have never seen a full grown steer.” Typically cattle raised for meat don’t live past 10 months and when they’re slaughtered they can weigh up to 1,400 pounds. But WSU’s emaciated bulls have had years of good food and easy living. With that they can grow to more than 2,000 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 somehow engineering giant cattle. There are just had a lot of time to eat and grow.

Recently, WSU is breeding giant cows.

That claim started, but it is scattered all over the web in a false. At some point the animal became just had a lot of time to eat and grow.

The animal became just had a lot of time to eat and grow.

There’s a horse buried on campus

True. In fact there are probably all kinds of animals buried on campus. It is common 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 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 Piccolo, the only mustang to beat Seabiscuit twice. Piccolo, a thoroughbred, was born in 1933 and had 15 starts, 15 wins, and 15 places. At some point the animal became just had a lot of time to eat and grow.

Tunnels are so wide and tall. Some are so narrow and pinched, you would have to shine a flashlight over it and 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 1950s 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 excavations. They had some interesting discoveries—a bomb shelter, three dead cats, and a mysterious laboratory.

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.

There are rumors of ghosts of students all around the campus. One story is 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. 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.

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Bryan Hall is haunted

We’re not sure. There are rumors of ghosts of students all around the campus. One story is 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 was a man of such a large 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. 
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 it had its roots in journalism and speech from the early 1920s. KWSU-TV, the on-campus public television station, began operation 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 Cougars behind the camera make the stories on film come together. Baker. “If any of the 85 people don’t do their 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 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 Glass House, 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 Jackson ‘98 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 Stark, 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. “Be honest. Know how much you hate it. But I don’t want them to be surprised.”

Diagram: From left, John Carpenter, alto saxophone in his current release; Jennifer Aniston, John Malkovich, Salma Hayek, and Javier Bardem.

Hyperlink: http://wsm.wsu.edu/coordinates

Some love it, some hate it. But I don’t want them to be surprised.”

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 that 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 in feature films, plus his experience teaching television production at WSU and working at KWSU 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 at shit and thought I’d 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 runningamentos at the set. They worked 18- and 24-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.”

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Opposite: Alan Baker ’94 PhD working the camera on the set of indie film “The Mountain, the River, and the Road.” Above: Baker (seated left) with Ghost Film and special effects makeup artists on “John Carpenter’s The Ward.” Below: Students keep production hands-on at WSU on the Pullman campus.

Bicycle (vicariously) “The World’s Most Dangerous Road.”

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

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,
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 fluorescent 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 Aimé 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
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 Sakuma’s children and grandchildren, including Steve Sakuma ’59, 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 was 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 validate them there are differences between strawberries. I also wanted to learn from 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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timeout
in the world

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

by Hannelore Sudermann
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 woke 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 already are in their ski pants and gulping coffee before heading off for Mount Baker. Another is just waking up on the couch.

Jones, who has tagged a cap over his shaggy hair, is standing in the middle of it all with a bowl of Frosted Mini-Wheats. He and his friends ski. They nosh 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. 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 Rwandan villages. And he's continuously honing a concept to build chimneys for Kenyan children 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 up orphanages and medical clinics. The volunteers job is a good fit for Jones, who in his last year at WSU started looking into designing low-income 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 put 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 thatched-roofed homes. He also learned to use a machete and braid bask, saw a black mamba, came down with malaria, and helped a village make its cook fires healthful.

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 positive difference. Vivvi Pierce ('07) is teaching English in Hungary. Jeremiah Campbell ('05, M Ed '08) is headed this summer to Bologna 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 Malika 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 a 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 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 "click," 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 Suni, a senior majoring in public relations who recently organized a campus American Red Cross club.

Suni got a taste for community service as a high school student in Yulka, Walla. As a freshman, she jumped at the chance for a week 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, Suni researched forming a campus chapter for the American Red Cross. "There are a few hoops to jump through," she says. "The group had to write a constitution, learn the rules of Student government, 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 Suni. "You never know when an emergency is going to present itself."

Just days after the January 12 earthquake in Haiti, Suni led the "Crows for Haiti" campaign to collect donations for Red Cross relief.
Amanda and 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 respectability 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. 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 together,” he says, putting out the small black leather sketchbook where...
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 that serves women from all over Washington state.

"I 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 in 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."
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 then 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 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 12 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.”


CODY MOORE coordinates home improvement and neighborhood revitalization projects in Spokane. Photo Rajah Bose.

Top, left: Cody Moore ’07 volunteering with a volunteer group.

Below: Moore with Kevin Sylvester, a disabled Air Force veteran who had help upgrading his home. Courtesy Cody Moore.

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

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 30,000 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.”

“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.”

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.

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 its implication that it gives us access to everything.

**A BRIEF DIGRESSION**

Many desks are remnants 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 “fertilisation 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 woefully.

“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 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 this one, I really did feel more pleasure and excitement, both into my mind and soul, in Muller’s book than in the first 50 results of my Google search. On the other, know that 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.

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

“Many years ago,” 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, an article, a pamphlet, a map, it existed in a physical form, taking up space. And the reader of that information took up space, too, sitting in reading rooms.

In 1905, William Foote began a 33-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 reformative decades of Washington State, they never became close. But they did share a love of books and a passion for collecting.

On a visit to Europe in 1923–24, Holland discovered the pleasures of buying books. Foote wrote him letters urging him to visit bookstores and look for bargains, government reports, selecting, serials, geological publications. With undiscerning 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 urged Holland on how to bargain as craftily as the booksellers.

For four decades, Foote collected, amassing 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 Bryant Hall library. He stacked the shelves higher. He argued for the expansion of the Young Women’s Christian Association from a basement room. By the 1940s, he had books all across campus, in the Riffe 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 1928, the Regents were practically begging the Governor for anew 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 classes, 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 1956.

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

Fertilisation has an extraordinarily comprehensive index, so the search capability added to the digital version is an unusual instance of not being an advantage. I’m curious as to whether Muller uses 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 Muller’s book on Google Books. But in a split second, up pops on my screen, scanned from a copy in Harvard College Library, its nameplate indicating it originally belonged to Prof. F. W. Tannig.

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But where academia is, is where we need to be. For that reason the librarian will never go away.

Although students these days are extraordinarily savvy when it comes to technology, they are relatively adept 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 terms actually show up. After a quick search of whatever encyclopedia is available, we search the card catalog. The subject version, under “food, local.” Hmm. If we’ve had any instruction in library research, 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 50 out of 120.”

However, she says, “We’re 10th out of 120! 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 electronic.

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**

I try to get things from the Internet like drinking from a fireplug, full-blown,” says Bob Mattiuzzi. “You need to discriminate.

“For that reason the librarian will never go away,” says Cynthia Kaag. “We could see this coming.

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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.”

Resides their collecting predilection, Foote and Holland also shared a vision of a new library. Both dream of building a monumental, cathedral-like library, similar to the Suzzalo Library at the University of Washington. It would be located at the highest point on campus and would be aspirational.

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

Which Holland’s gets versus what it could 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 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 Staartatt, “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 overwhelming and not particularly well-ordered universe of information.

Whereas William Foote spent his acquisition money on printed material, the current WSC libraries spend about 70 percent of their money on digital resources. “And it’s just going to grow,” says Staartatt.

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

But today, since that paper’s due tomorrow, we’ll jet 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 124,387 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 reference books (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 do 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. “Now it’s five months,” says Rhonda Gaylord, who runs the Fisher Agricultural Sciences Library. “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.”

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 at 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 Wiley 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.

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The Academic Library in the Age of Google

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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 80s this really was a social gathering place. This was where students came between their classes. It was kind of like a study hall. I teach English now and existing. Everybody wanted to come down to the library and eat. 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/Terrill Library, due mainly to a tunnel that connects the newly renovated Cub library 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.

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

"We have multiple spaces and places now—analogue/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 reservoir of skeletons, records, and photographs is simply that, a reservoir—quiet and solemn, full of insights on the past to the solitary scholar who might wander in.

"Actually in some ways it’s 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. Not only is much of the collection available online, particularly photographs, MASC participates in joint ventures, such as the Northwest Digital Archives. These archives provide access to archival and manuscript collections in Idaho, Montana, Oregon, Alaska, and Washington.

"Some of this stuff probably goes back to C.V. Piper, an early bacterium here," says Rogers. Piper, who came to Pullman in the late 1890s, was one of those multi-disciplined scientists, like William Wollkind, of whom Piper was a contemporary, who made up the small faculty of the young college. "He was a good botanist, pretty good mycologist, and an exotic 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 Canadian Fungus Collection in Ottawa. You could go to any of the Botanical Gardens in Kew." But here is a rare and valuable collection, available to those who know of its existence and a willingness to come visit in person, an anomaly in this digital world perhaps. But I doubt it. There is still much left to digitise, much to find beyond the reach of Google. 📚

ONE EVENING NOT LONG AGO, a tour group of Cub Scouts and their parents filled 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 the same. I explained to the parents what a library card was, what it meant to have access to the collection is through a card catalog sitting along the north wall. In some ways,” says Bond, “I think the library is a more vibrant place than it used to be. It’s a big production to keep it all organised."

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 iconoclastic 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 concern 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 Savannic Forests" (1933), "An Eulerian Theory 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 bacterium here," says Rogers. Piper, who came to Pullman in the late 1890s, was one of those multi-disciplined scientists, like William Wollkind, of whom Piper was a contemporary, who made up the small faculty of the young college. "He was a good botanist, pretty good mycologist, and an exotic 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 Canadian Fungus Collection in Ottawa. You could go to any of the Botanical Gardens in Kew." But here is a rare and valuable collection, available to those who know of its existence and a willingness to come visit in person, an anomaly in this digital world perhaps. But I doubt it. There is still much left to digitise, much to find beyond the reach of Google. 📚

"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 reunion of sorts.

An important moment, I believed. This boy, obviously touched by a certain genius, was forging a 21st century update of a timeless tale. His questions deserved more than quotidian details. Yet I knew that this was 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 greeneyes, 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 of 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,
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

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, veterinarians, 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 now “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.

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?
BOOKED: The Long Sentence of an Apprentice Reader

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 Cassandra declaring “The end is near,” when trains reached 30 mph.

So the strange thing is: I couldn’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 ratified need, this refuge for a certain kind of book-related thought. It’s a ratified complaint, this skepticism over connectivities. To withdraw from the essential agreement of living is 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 snare. Am I suggesting a Manichean world, where one either surfs the web or bathes in Dostoevsky 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. 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.

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 we come to accept that knowledge matters a great deal is, I suppose, a personal debate.

If we’re harboring the expectation that, given the right conditions or the right encouragements, people might still discover Trollope, or Lucrèce, 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 spite of the dust, in spite of the foolishness, we’re still perishing.

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 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.

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.

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 the un illumined manuscript unnecessary.

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.

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.
IN SPITE OF THE FINE CENTENNIAL HISTORIES by George Hykman, 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.

Washington State College would stand today as it did in 1913, a College that offered all the 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 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 joy, 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 permanent 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.

Incomparably the years of his effort, President Bryan wrote that the original name was "misleading and a hindrance to the fulfillment of the functions of the College prescribed by both state and national law. People would insist 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 involved "an ag school," and a hindrance to the fulfillment of the functions of the college prescribed by both state and national law. People would insist 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, it would be a fully developed college that offered all the distributions 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." Rej ecting 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 1889, "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 in and through the open windows of all the senses, that the blue-bird’s wing and the silver stream of the speckled trout meet with a corresponding somewhat subtle human mind just as surely as does the epigram of Plato; that truth and beauty lie no more deeply concealed in every fostled shell and crawling worm of this great country than in the mysteries of this microscope 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 College’s first faculty members. Although Spillman was in Pullman from only 1894 to 1901, he was immensely productive and creative, both in basic science and practical agricultural applications.

Spillman is known for his 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. 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, he had found a way to make the world a better place.

Spillman’s genius resulted in a revolution among 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
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 lime-sulfur spray normally used to control it. Melander joined Washington State College in 1904. Except for 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 fact that there was scientific and agricultural faculty, but also the fact that there was a need to be learned in the region at the time.

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’s 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 1885 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 Classics in the 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 Postog at 31 days before the fall of Nicholas II.

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. Many cheddars generally have some bitter notes 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.
BIG Ideas

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.

“Tornadoes don’t fall down, or lodge. He was whipping around and likely to fall over. I thought for sure his car would tip over,” says Allan, looking back. “He was a great observer.”

Vogel’s trained eye in the early 1950s spotted a swaying 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 new record for wheat production of a conventional tall wheat.

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.”

In 1965 actually opened the way for his method’s implementation — STAN HOYT — 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.

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Borlaug won the Nobel Prize for his efforts, but it was Vogel who “changed our entire concept of wheat yield potentials.”

7 Marmes man
Richard Daugherty, Ross 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 Ross Fryxell wanted to leave the geological deposits within the rock shelter to those of the floodplain, so he had

And so ensured 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 multi-disciplinary study of the site 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 Magnusson, 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 did spider mites become an extremely damaging pest of apples in Washington by the mid-1960s, but the most serious of three different species, the McKean Daniel 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 predatory mites, specifically Phytoseiulus macleayi, could regulate the density of spider mite populations in unprayed 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

Left, top to bottom: Vogel received the National Medal of Science from President Ford in 1975. Courtesy WSU C&EN; Orville & Vogel Courtesy USDA ARS. Wheat farmer in Afghanistan using US-funded wheat seed and fertilizer. Courtesy USAID/ASAP.
that the predators could control the pests later on.
By 1966, growers were using Hoyt's system on 5,000 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 system were in Prosser in 1937. But it took another four decades before a wine industry in one 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," Clore (Nagle) 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 leases were in 1964 and '65 and after that he advised winemaker George Carter. By setting up tasting panels, Nagle helped many a Washington winemaker learn to taste wine and find and diagnose problems.
In 1969, ag economist Michelle was established. Both he and Nagle spent decades consulting with wine growers, helping produce more than 650 wineries, 11 appellations, and an annual production of something like 20 million gallons of wine.

9 Washington wines
Walt Clore, Chas Nagle, 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 one state really took root.
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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 home gardeners demanding his help. They wanted his advice on thousands of questions like what to plant, how to combat bugs, and why their trees were dying.
Knowing how 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 Scientiﬁc American article, they put out a call for home gardeners seeking to become experts. "I looked for a passion for gardening, good communication skills, and some gardening expertise," says Gibby.
The notion caught such interest that more than 100 people volunteered for the first training course. Gibby and Scheer scoured them down to 150 and in the winter of 1973, they started their first Master Gardener classes. By the end of their 50 hours of intensive training, they were eager to hand in 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 nationwide. Land-grant universities in more than 40 states have programs. And each year within Washington, thousands of Master Gardener volunteers staff 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—could trigger plant defense systems in other parts of 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 Parme went on to show how methyl jasmonate, a compound to the smell of jasmine, signals plants to throw up their defenses. In one experiment, he showed how it can spread from a single bulb 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 colleagues also identified where systemin makes contact on cells.
Ryan and his colleagues continued identifying peptide-signaling systems even after his
BIG Ideas

12 Phone surveys and modern survey unifying theories

Don Dillman

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 townpeople. 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 territory 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's why it's so 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, with Mail and Telephone Surveys: The Total Design Method, have been cited more than 1,000 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 Research Center went on to do roughly 1,500 state and national surveys on topics as diverse as political preferences, public 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 reveal their thoughts to a number, but it still sees them as a person.

13 Snooze or lose it

James Krueger

James Krueger built much of his career around challenging the dominant notion of his field. For years, while 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 adapted 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 affects part of the brain that has been heavily used. The more one part of the brain is used, the deeper one 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, it probably won't feel like one in 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 in British Columbia, 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 females working on therapies that can specifically target growing cancer. But with PIM as an accomplice, the heist was 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 has now drug companies working on therapies that can specifically target growing cancer cells without the side effects of treatments that destroy normal, healthy cells.

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.

"It didn't take him long to realize that same notion might apply to other large predators," Wielgus says. "It looked like it was a really carnivorous 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 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.
Frustrated by trying to tell your story in 25 words or less? Looking for a chance to really let your classmates know what you’ve been up to? Well, here you go. Not only do you give you the words you need, you can also include those baby pictures. Or that wedding video. Or sing your friends a song.

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Write a note

Enthusiastic and philanthropic Nidala Atwood ’61 was honored with the Alumni Achievement Award – 50th reunion – in 1998.


Larry Tripp, a longtime advocate for diverse cultural programming, is the president of the Blue Mountains Community Foundation. He is also the president of Kamaka Hawaii, the oldest ukulele factory in the Hawaiian Islands. Tripp has been president of Kamaka since 1979. Kamaka is independently owned and operated by the Tripp family. Kamaka Hawaii, based in Seattle, Washington, is the oldest ukulele factory in the Hawaiian Islands. Kamaka is independently owned and operated by the Tripp family.

The U.S. Department of Agriculture’s Natural Resource Conservation Service (NRCS) has announced its 2010 National Water Safety Congress Award recipient. For the second year in a row, NRCS has been named as the winner of the National Water Safety Congress Award. The award recognizes the NRCS for its leadership in water conservation efforts. The NRCS was named the winner of the 2010 National Water Safety Congress Award for its leadership in water conservation efforts.

In 1989, as a reporter for the Seattle Post-Intelligencer, Dan Nelson ’89 covered general assignment stories, environmental issues, and county government. He enjoyed the demands of the job. For his new Labrador Sophie, “It was something over 25,000 miles of trails since I started my first book.”

“Adding it up last year for a biography,” says Nelson, “I added it up last year for a biography, but I think his work as a businessman for the USDA-Forest Service was another key factor in his work as an editor. Nelson was able to morph his job into that of 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 of a non-profit, volunteer-driven organization that promotes hiking and preserves trails in Washington.

While he was at the association, an editor, the association needed a director of communications. Nelson was able to morph his job into that of a non-profit, volunteer-driven organization that promotes hiking and preserves trails in Washington.

Dan Nelson and his hiking companion Parka.
Explore Your Globe, Expand Your Horizons, Elevate Your Learning, and Travel with Fellow Cougars

The WSUAA Alumni Travel program offers a wide variety of exciting and diverse travel tours for all alumni and friends. Travel to regional, national, or world-wide destinations in first-class accommodations or on a cruise. The WSUAA Alumni Travel program offers a wide variety of exciting and diverse travel tours for all alumni and friends. Travel to regional, national, or world-wide destinations in first-class accommodations or on a

a) Cruising the Mediterranean and Greek Isles: Explore the rich history and culture of the Mediterranean and Greek Isles, from the ancient ruins of Athens to the charming ports of Italy. This cruise offers a unique opportunity to visit key sites such as the Colosseum in Rome, the Acropolis in Athens, and the colorful ports of Italy

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c) Alaska Adventures: A land of rugged, unspoiled beauty and an abundance of amazing wildlife, this northern voyage sails through the Seymour Narrows and on to Ketchikan, Skagway, the Tracy Arm Fjord, Juneau, Sitka, and the Hubbard Glacier.

d) Caribbean Discovery: Follow the sounds of waterfalls, steel drums, and exotic birds as you cruise the Caribbean, a world filled with cultural and natural marvels.

For more information and to receive a detailed brochure visit: www.alumni.wsu.edu/travel or call 1-800-258-9798.

Rich Tominski ('78 Bus, Adms) was appointed to achieve a term on the State of Washington's Employment Security Department. The board promotes improvements in state agency operations. Rich is a deputy project director for Washington's Employment Security Department.

1990s
- Lynn Steedman ('90) is president and principal of Steedman Strategies, Inc., providing media and presentation training to business executives. Clients include Boeing, AT&T, Microsoft, and Safeco.

- After a long career as a TV news anchor and reporter in California and Seattle, Maggie-Myers ('90) has started her own PR/Marketing firm in Seattle. Maggie-Myers Communications.

- David Winter ('91) has launched www.cruises总裁.com. The native website allows cruise enthusiasts to order tickets and cruise around the world.

- Seattle attorney Steve Edstrom's blog offers insights into the world of entrepreneurship.

2000s
- Nelson Holmburg ('95) became executive director of the Port of Woodland in April 2010. Prior to that he worked at the Port of Vancouver as a communications manager. He has worked in public relations and communications for more than two decades.

- Brooke Guthrie ('00) started a business giving people a head start in the world of advertising.

- Erika Towsen (Weller) ('01), her husband Dylan, and daughter Kassidy are excited to announce the launch of their new blog, BrookeBites.com.

- Park Howell ('94) was named 2010 Advertising Person of the Year by the American Advertising Federation—Albany Phony.

- In March, Lauren Rice ('96) was hired away from her job as an assistant basketball coach at Gonzaga to become an assistant coach at Boise State. Rice and her husband, Robin, have two sons, Brock, 12, Max, 10, and Kade, 4.

- Steve Edmiston ('97) was named Margo Myers Communications.

- Nelson has his own website: adventuresnw.net.
Annie Thiessen '99

**The pacemaker**

by Hannelore Sudermann

“Toward the end of 1998, I was in a pretty good place. I had just finished a 220-mile ultramarathon, and I had signed up for the Seattle Marathon thinking that I might not make it. But I did. It was a day of 102 degrees Fahrenheit, and I finished in three hours and 55 minutes. I thought I was going to die, but I didn’t. I finished, and I felt great. I decided to do it again, and I’ve been running ever since.”

Annie Thiessen is a tapered runner who has been training for the last 15 years. She has completed more than 100 marathons, and she’s never missed a race. Her training schedule is rigorous, but it works for her. She runs between 50 and 100 miles a day, and she also does strength training and yoga to keep her body in shape.

Thiessen is a member of the running club at the University of Washington and she likes to run with her friends. They are always looking for new places to run, and they enjoy exploring the trails in the Pacific Northwest. They have run in the Yakima Marathon in more than 10 years, and they’ve been to the Seattle Marathon three times.

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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 snow-covered mountains down to the streaming, verdant Amazon rainforest—"majestic views and tropical splendor," in 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 five days. After a few miles on a bike, he decided to go back to 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 the first ride 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 snow-covered mountains down to the streaming, verdant Amazon rainforest—"majestic views and tropical splendor," in how Patterson describes it.

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Patterson starts his days in La Paz at 5:30 a.m. to start loading the bikes and gear on the bus. 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 unlock the bikes and Patterson starts the rules and safety speech. “If it’s all Aussie rugby players that day, tell them all the scary stories I’ve seen and 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 bypass with guardrails and multiple lanes. At the top, they unload the bikes and Patterson starts the rules and safety speech. “If it’s all Aussie rugby players that day, tell them all the scary stories I’ve seen and 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 long days can be grueling, but Patterson is still enraptured by the scenery and drama of the tour, he says. “I never get tired of the beauty.” He urges them to be confident and comfortable. At all times either he or the Bolivian guide is in the front and the group is hot, dusty, and thrilled by the weather, landslides, oncoming cars, or injuries. Patterson stops and talks about what’s coming up next, and offers tips to make the clients 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.

At the end of the four- to five-hour trip, they unload the bikes and Patterson pays the 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.

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One of the sheer cliffs on the Bolivian road where Derren Patterson ’07 leads bicycle tours.
World of Mateo
The work of Matthew Leiker

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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