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## FEATURES

### 26 :: What Is Art For?

Art, says independent scholar Ellen Dissanayake '57, is "making special." It is an act that gives us a sense of belonging and meaning. It is passed from mother to child. Its origins lie deep in our evolutionary past. It makes us human. *by Tim Steury*

### 33 :: The Love Letters

In 1907, Othello had no high school, so Xerpha Mae McCulloch '30 traveled 50 miles to Ritzville to finish school. There she met, and fell in love with, Edward Gaines, a few years her senior. The recent gift to Washington State University of her steamer trunk reveals the life of a woman whose story is not only threaded through the University's, but also through the story of agriculture in Washington State. *by Hannelore Sudermann*

### 40 :: You Must Remember This

Having reached a certain age, our correspondent sets out to learn the latest from Washington State University researchers about memory. She learns that memory comes in different forms, that the human brain is made for problem-solving, and that the key to much of brain health is the "dendritic arbor." And then she sets out to create an action plan. *by Cherie Winner*

## ESSAY

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Do we violate the privacy of the dead when we read what they wrote for themselves? Maybe it depends on our purposes. *by Will Hamlin*

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*Cover photo:* Bryan Hall clock tower reflected in the Abelson-Heald skybridge windows on the Pullman campus.  
*By Zach Mazur.*





# Because Everyone Needs Safe, Reliable Electric Power

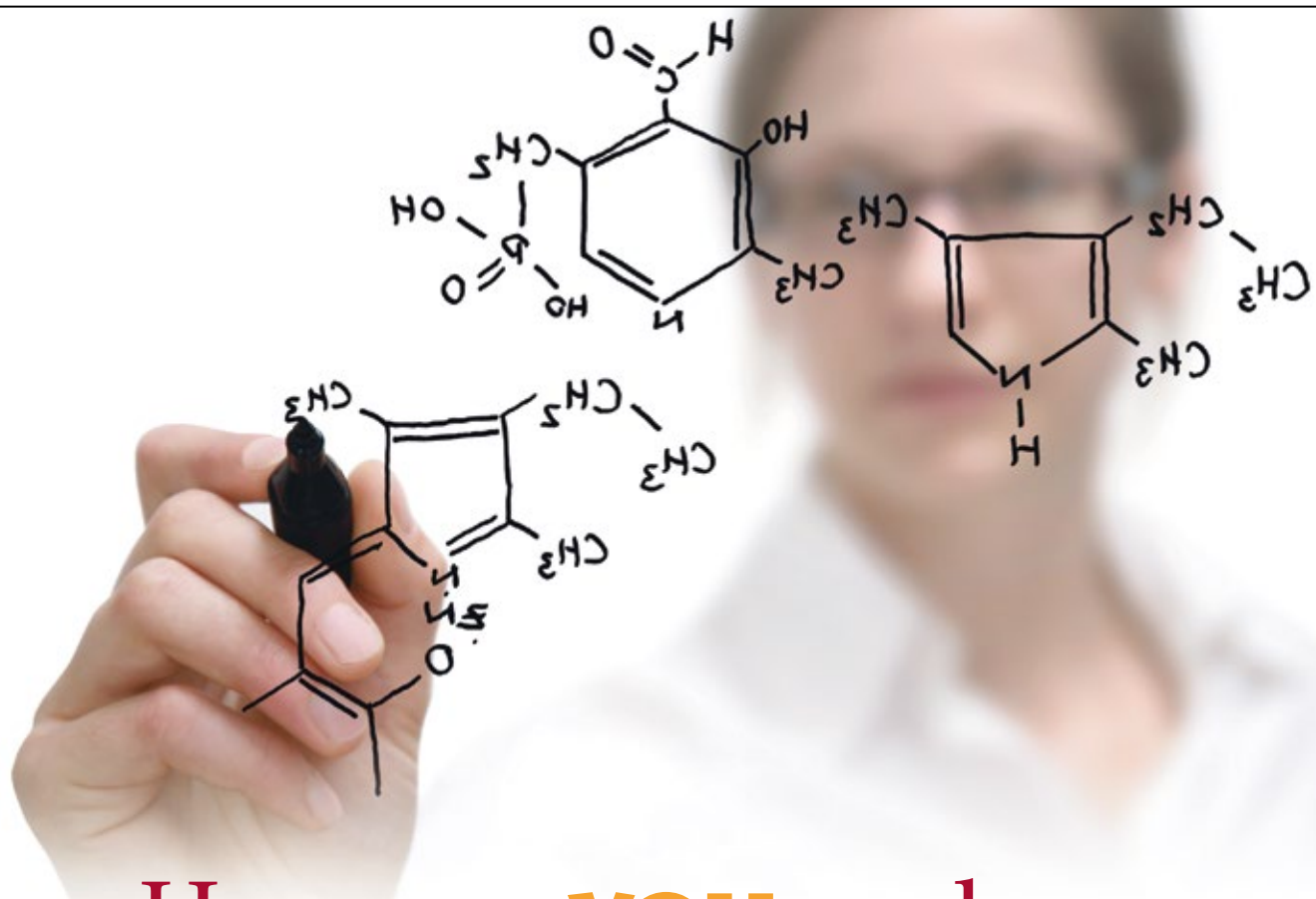
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## first words

**Cougar Memory ::** An essential part of being a Cougar (as well as being human) seems to be the need to tell one's story of one's youth and experiences here at Washington State University.

To make it easier to do so and to share it with your fellow Cougs, we have introduced a new feature on our website called *Our Story*.

Together, the 140,000 or so living alumni of WSU have an extraordinary collective story to tell, not necessarily of the comings and goings of presidents and professors, of scientific breakthroughs and other major news, but of the day-to-day life on campus, of one's fellow students, of classes and football games and parties.

We offer this opportunity with some urgency, of which we were reminded by the passing of two of our oldest alums, Edythe Boucher '34 and Avis Brown x'29. One can now only imagine the stories they might have been able to contribute to *Our Story*, had they had the opportunity.

Or consider the story of a young undergrad in the 1930s, told to me last year by his son. The said undergrad hitchhiked to Pullman from the West side, catching a ride with a regent. The regent, learning about the student's lack of funds, told him to check in with President Holland. Being an entrepreneurial Coug, upon reaching campus he marched right up to the president's office. And President Holland promptly hired him as his chauffeur! He also occasionally loaned his Cadillac to his young chauffeur for dates. Imagine.

Stories like this add depth and color to the history of Washington State University. *Our Story* is not meant to supplant the scholarly histories, such as the *History of Washington State College* by Enoch Bryan, our first lasting president, or the recent official histories, published in 1989: *Going to Washington State* by William Stimson; *The Crimson and the Gray* by Richard Fry; and *Creating the People's University* by George Frykman. Rather, we see it as an informal, participatory history that will inscribe our collective meaning and memory.

And even though I'm reaching back in time, I do not mean these stories must be old. We're interested in the stories of alums who graduated last year as well as those who did in the 1930s.



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*Washington State Magazine*  
PO Box 641227  
Pullman, WA 99164-1227  
e-mail: [wsm@wsu.edu](mailto:wsm@wsu.edu) fax: 509-335-8734

*Washington State Magazine* is published quarterly by Washington State University, PO Box 641227, Pullman, Washington 99164-1227. Editorial offices are located at Washington State University, Information Technology Building, Room 2013, Pullman, Washington 99164-1227.

Views expressed in *Washington State Magazine* are those of the authors and do not necessarily reflect official policy of Washington State University. Alternate formats will be made available upon request for persons with disabilities.

*Washington State Magazine* is pleased to acknowledge the generous support of alumni and friends of WSU, including a major gift from Phillip M. '40 and June Lighty.

**SUBSCRIPTIONS:** *Washington State Magazine* is distributed free of charge to graduates, donors, faculty, and staff of Washington State University. With a gift of \$25 or more, you can have WSM sent to someone who is not on our mailing list. For details, go to [wsm.wsu.edu/send.html](http://wsm.wsu.edu/send.html) or contact Sherri Peters at 509-335-1686, [coug4ever@gocougs.wsu.edu](mailto:coug4ever@gocougs.wsu.edu).

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All you need to do is go to our website, [wsm.wsu.edu](http://wsm.wsu.edu), identify yourself, and then tell your story. If you don't have a computer or simply are not comfortable submitting your story over the Internet, we will gladly take your contribution via letter. You may also submit photographs as did Ken Wise '42 (see page 13).

*Our Story* is a collaborative effort with the public history program of the History Department, the Alumni Association, and Manuscripts and Archives. Advice and accuracy checking is provided by our most esteemed institutional memories: Gen DeVleming '48, executive secretary to presidents French, Beasley (interim), Terrell, and Smith; Dick Fry, above-mentioned sports historian and former head of the news bureau; Al Ruddy, also a former head of the news bureau; Pat Caraher '62, founding editor of *Hilltopics* and *Washington State Magazine*; and Bob Smawley '52, slideshow producer extraordinaire and employee in many capacities over many decades. Many of you know these good people, and indeed they will be encouraging you personally to contribute to this effort.

When you go to the *Our Story* site, you'll find a good amount of material already there, providing a beginning structure and inspiration for your elaboration. Each issue of *Washington State Magazine* will offer a reference to the site, including historical photographs of campus life, to which we hope you will respond. Do you know any of the people in the photos? Can you add to stories that the photos depict? You will also be able to add to, or correct, existing accounts.

Telling our story has always been a part of the Cougar experience. But now, not only can we tell it more readily, for sharing with current and future Cougars, but we can build a permanent record and a collective memory of the Cougar experience. We look forward to your stories.

*Tim Steury*, Editor





## So Many Benefits. So Little Time.

By taking advantage of the multitude of benefits our members receive, you can cover the cost of membership and save money on many other purchases.

There has been a ten-fold increase in the number of benefits offered to members of the Washington State University Alumni Association (just one of the reasons so many thousands of Cougars have joined). Discounts are available at local, national, and online retailers, and members enjoy special Cougar rates on hotels, cell phones, and computer gear. Members may also apply for the first-of-its-kind Alaska Airlines Cougar Visa Signature Card. Learn more about these and the many other remarkable discounts, services, and programs made available to WSUAA members by visiting our benefits Web site at [www.alumni.wsu.edu/benefits](http://www.alumni.wsu.edu/benefits).

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# letters

## A time machine

My hat is off to your staff for what should be an award-winning issue. It was like a time machine for me. I spent many hours in the Conner Museum as an undergrad, marveling at the enormous moose and large black wolf. My high school friends and I explored Point Defiance Park in Tacoma every time our basketball team made it to the state tournament. Your article, "Rethinking the fundamentals," is a classic. I can't agree more that we need to rethink the way we farm. I'm glad you had as much fun with Shepherd's Grains' co-owner Fred Fleming as I used to. We were both Agronomy majors back in the early 1970s. Fred's "loud infectious laugh" almost got me and Kit Coleman ['73] kicked out of the office we shared as seniors with then ARS wheat breeder Don George. It seems Don objected to our boisterous lunch gatherings, and we had to promise to keep (Fred) quiet or find another place to study and store our textbooks.

**Brian Cieslar** '73 B.S.  
Lynden

I read with great interest and recollection the article about the Conner Museum titled "Fine Specimens," Winter 2008–09.

My father, F.H. (Spike) Armstrong, collected specimens with and for Dr. Hudson, museum curator during the 1950s and '60s, including the black bear from the Blue Mountains, a porcupine family group, bobcat, blue grouse, woodpeckers, purple finches, and many species of squirrels, rats, mice, and bats. I also collected some rubber boas and mice for

Dr. Hudson during the summers I worked in the Blue Mountains while attending Washington State College, 1954–1958. I have some knowledge as to how Conner Museum has the finest collection of purple finches in the world. Father shot at some purple finches with a 20 gauge shotgun loaded with dust shot, intending to collect a pair for Dr. Hudson, and when the smoke had cleared the one shot had killed 42 purple finches that all had to be made into study specimens and shared and/or traded with other natural history museums in the Northwest.

Another bit of trivia concerning the Conner Museum is the outdoor writer, Patrick McManus ['56, M.S. '62] who wrote a short story about the museum at night with its live snakes, mounted specimens, and the black bear being prepared for taxidermy.

This was a very fine article about a great scientific museum.

**Herbert A. Armstrong** '58  
Poulsbo

## Kudos

*To Hannelore Sudermann:*

I have just spent several hours with the most recent issue of Washington State Magazine. Each issue seems even better than the one before!

If my count is accurate, credit goes to you as the author of five articles in the current issue. I'm sure you also contributed to others. Your writing style is so precise and versatile to adapt to the various topics. Yours is a fantastic skill and I commend you for making the publication meaningful and enjoyable for many people with an

interest in WSU. Special recognition is certainly deserving for your contribution to the magazine.

In the Fall 2008 issue, your article on the high cost of a college education and how students cope with the challenge was outstanding. Our oldest granddaughter is anticipating her first year away at college next September—not in Washington, I regret—and I have made your article a must read to help prepare her for the experience.

And finally, an update on Bill Keithan, whom you featured in an article about the Westin Hotels Archive Collection at WSU in the Summer 2008 issue. I'm pleased he was given that recognition.

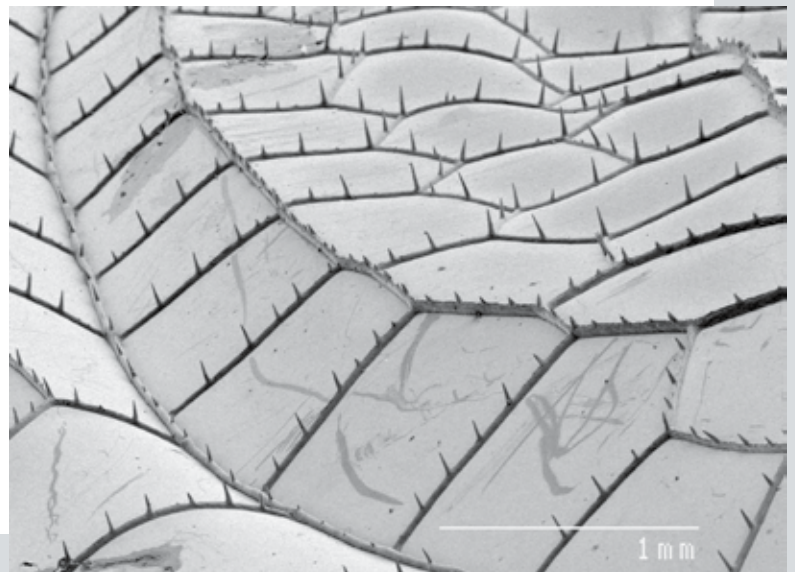
**Charles D. Comstock** '52  
Bellevue

When the winter *Washington State Magazine* came in the midst of Christmas mail I sort of looked it

over with dazed eyes and got ready to pass it along to others who are not so fortunate. Now that things have slowed down and I'm not so word weary I made the mistake of picking it up and still haven't been able to get it out the door because of the interesting, well written articles that I keep finding. I don't know if it is you or me that has changed but the format is wonderful and easy to follow and the topics are fascinating. I was also wondering if the "Job Carr" who built the first structure in Tacoma, mentioned in "On The Waterfront," was any relation to John and Virginia Carr who graduated from WSC in the late 1940s, early '50s. Their father was also the principal of Stadium High at that time. We all three were born there long ago and have gone far and wide since.

**Janice Dorman** '53  
Mesa

This photomicrograph of a dragonfly wing by Gregory Paulson ('90 Ph.D. Entomology) was a finalist in National Geographic's Energizer Ultimate Photo Contest. Paulson is a professor and chair of the Department of Biology at Shippensburg University in Pennsylvania. View it online at [www.nationalgeographic.com/energizer/winners\\_6.html](http://www.nationalgeographic.com/energizer/winners_6.html).



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# Creating a Clean Technology Future

**imagine** a future in which most agricultural waste products can be converted efficiently into fuel sources. Or a day when biomass can be sustainably transformed into consumer products and specialty chemicals.

Turning those dreams into reality is one of the big ideas occupying Washington State University researchers. It's also the purpose of the Center for Bioproducts and Bioenergy, housed in a new laboratory on the WSU Tri-Cities campus, that is jointly operated with the Pacific Northwest National Laboratory.

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## Space chronicles

by *Hannelore Sudermann* :: Working on her doctorate at Washington State University, Jennifer Ross-Nazzal '04 was drawn to public history—a field that combines academic history with non-traditional methods of collecting and presenting historical information. The program has been in effect at WSU since 1979 and has produced historians who now work for public archives, historical sites, and museums around the country.

Ross-Nazzal's studies at WSU led to a focus on women's history and an internship at a museum. "Though that was a good experience, I wanted to do another internship," she says. Craving a very different experience, she found an offer at Johnson Space Center of the National Aeronautics and Space Administration in Houston and, "though I knew nothing about NASA, I applied."

She was put to work assisting with the center's oral history project and liked the work so much she went back to the space center the next

summer. Her internship turned into a job, and in 2004 she became chief historian for the JSC and just one of a handful of NASA historians around the country.

As a NASA history expert, Ross-Nazzal fields a variety of public requests, particularly last year during NASA's 50th anniversary. The Discovery Channel called for some help with the *When We Left the Earth* series, and this summer a researcher from Martha Stewart wanted to know if it was true that the first astronauts on the moon had Thanksgiving dinner with all the fixings. It took a little research to find the answer. "Yes, they had turkey, but not all the fixings," says Ross-Nazzal. "They had turkey and cranberry sauce."

Ross-Nazzal hears regularly from scholars and writers who are checking facts and looking for stories. She also handles the occasional information request from individuals who want to know "whether we really made it to the moon or not," she says.

Still one of her favorite parts of the job is to continue developing the oral history collection, interviewing the astronauts and NASA workers. Back in 1979, the same year the University started its public history program, WSU alum John Fabian '62 became an astronaut. As Ross-Nazzal started working with NASA she became aware of the stellar alumnus. Still a student, she visited Fabian's plaque in downtown Pullman's Walk of Fame. "I was hoping that one day I'd be able to interview him."

Her wish came true in February 2006 when Fabian visited the Johnson Space Center. He sat down with Ross-Nazzal in the building where he and his fellow astronauts had been quarantined prior to missions. He talked about his interests in engineering and aviation that developed at WSU and of his memories of watching the launch of earth's first orbiting satellite in 1957.

As Fabian was in the first class of astronauts that included women, with his interview

Ross-Nazzal was able to build on the story of women at NASA. “There’s not a lot out there in terms of NASA and women’s history,” she says. Fabian’s perspective was invaluable. “Everyone has a different take on women in that class and what men thought of these women coming in. I was able to use his interviews to build on my interviews with others.”



COURTESY / JENNIFER ROSS-NAZZAL

*Above:* Jennifer Ross-Nazzal '04 *Below:* Inflight view of the crew on the flight deck of STS-7. Left to right are Norman E. Thagard, mission specialist; Robert L. Crippen, crew commander; Frederick H. Hauck, pilot; Sally K. Ride, mission specialist; and John M. Fabian '62, mission specialist. *Courtesy NASA.*



## Come MapWith.Us

*by Eric Apalategui ::* Orest Piskalns had electronic mapping on his mind long before coming to Washington State University, but it wasn't until he was teaching a senior-level software engineering class the spring of 2006 that he knew he could realize his vision.

The assistant professor knew his students at WSU Vancouver had the skills and interest to tap into publically-available map technology and adapt it for a wide variety of public uses.

“This is where you take the knowledge you’ve gained in other classes and apply it to a real-world problem,” says Piskalns, who earned his doctorate in computer science at WSU in 2004. “We had a really talented group.”

Piskalns started imagining commercial uses for emerging mapping technology a decade ago, after working on classified projects for Lockheed Martin Astronautics. At the time, obtaining commercial use of map databases was too expensive for a small startup. But then Internet search giants Google and Yahoo! opened up their mapping technology to users. The time was ripe for Piskalns to offer his idea to his students.

“I think we saw potential in a lot of different areas right off the bat,” says former student Kevin



Orest Piskalns (*above*) uses his BlackBerry (*opposite page*) to photograph co-worker Kevin Karpenske '08 and show how MapWith.Us technology works. He uploads an image and then, using the phone's Global Positioning System coordinates, pinpoints Karpenske's location. *Photos by Bill Wagner.*

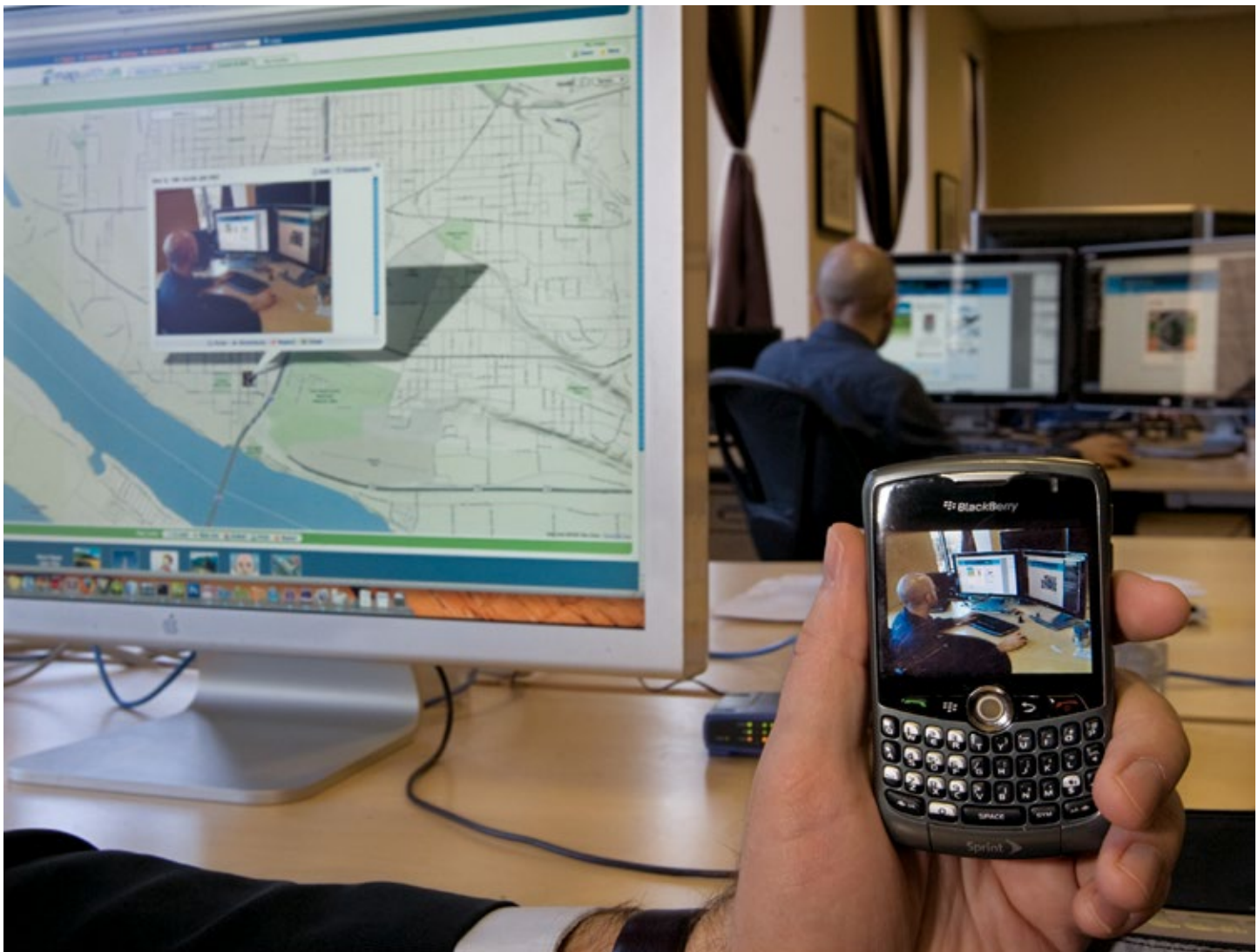
Karpenske ('08 Comp. Sci.). What they came up with is a technology that allows everyday people to create their own unique maps overlaid with their words, pictures, and audio and video clips in a way that is more useful and personalized than a map has ever been before. The ability to store, share, and collaborate in online mapmaking, at a time when Myspace and Facebook had become Internet fixtures, suggested a potential for social networking.

By fall 2006, the classroom exercise had morphed into a private company called GeoMonkey, Inc., a name combining the “geolocation” function of their technology with slang from the term “code monkey” (computer programmer). While the students could see the potential, they didn't know whether the business would get the funding to stay afloat. For a time Karpenske and fellow founders Adam McDonald and Jacob Moore, both 2007 computer science graduates, worked without pay.

The WSU Research Foundation provided more than \$20,000 in “gap” funding to pay several class members to continue developing the product through that first summer, and it also helped navigate through patents, legal issues, and networking with private investors, who have bankrolled the company with \$1.3 million in “angel funding.”

In exchange for its help, the foundation owns a small stake in GeoMonkey. If the company one day returns large profits, other researchers and the university would benefit. “It’s a success already, even without bringing in any money for the university,” says Keith Jones, executive director of the foundation. “It has a lot going for it. It was very well-developed.”





Last year the company changed its public face to MapWith.Us to better reflect its products and changing strategy, says Pilskalns, who serves as part-time CEO.

Besides investors, other shareholders include Pilskalns, the original 10 class members, and several other full-time employees at their downtown Vancouver headquarters. The company also employs WSU interns.

Today travelers, hikers, disc golf enthusiasts, and others are discovering the wonders of MapWith.Us. So are professionals in fields such as tourism, real estate, and engineering. Pilskalns says users are just discovering the technology's abilities, from short-term personal diaries to long-term repositories of historical information.

The Southwest Washington Convention and Visitors Bureau saw the MapWith.Us potential early on. "By combining our content and this new mapping technology, we are able to give our visitors a great tool to search out and locate specific

area restaurants, hotels, attractions, and more," says Jennifer Kirby, the association's marketing and communications manager.

*The Columbian*, Vancouver's daily newspaper, agreed to be the MapWith.Us media test site. Last fall they launched a newsmap with journalists' stories and photos linked to current events, giving readers immediate access to news when they need it. So far, the social networking and service fees alone haven't generated a profit, but MapWith.Us has grander plans: licensing the technology to media companies that have traditionally paid their bills with advertising and subscriptions but now are watching revenues drain toward the Internet.

Among its mapping functions, MapWith.Us patented technology allows users of "smart" telephones—BlackBerrys, iPhones, and their kin—to download information through the phones' Internet connections to a website. The technology automatically "geolocates" postings of text, photos, and other information to the right

spot on the electronic map using the phone's built-in GPS, and is even sophisticated enough to tie multiple postings to a single event based on time and location.

The newspaper plans to add the world's first real-time map allowing readers to instantly post content from their own phones to a separate map on *The Columbian's* forums page, once management is comfortable that a "report abuse" function will allow users to delete offensive content, says Jeff Bunch, the newspaper's Web editor.

MapWith.Us may push the growing trend toward "citizen journalism" with a mapping twist that Pilskalns expects news and sports media—and their users—to find irresistible.

What started as a classroom exercise has turned into an exciting venture for a teacher and his students who see a bright future for their business. Mapping technology "is a huge area in the industry right now," says Karpenske. "It seems like we got in here just at the right time."

{ *New online!* }

# Coordinates

Lauren Lund '82 kicks off our new Coordinates Web feature with a report about her recent trip to Ethiopia to help immunize children against polio. Coordinates will document the experiences and contributions of WSU faculty members, students, and alumni around Washington and the world.

A dispatch from the correspondent is the core of each Coordinates, backed by MapWith.Us, an innovative mapping system developed at WSU Vancouver. Readers will be able to explore maps, background information, even satellite photos of the place that the Coordinates covers. And since we're web-based, we have lots of room for photos.

If you have an idea for *Coordinates*, please contact [wsm@wsu.edu](mailto:wsm@wsu.edu).



Check it out at *Washington State Magazine Online*, [wsm.wsu.edu](http://wsm.wsu.edu).



COURTESY LAUREN LUND

## The webs we weave

*by Cherie Winner* :: Every time you board a plane, turn on a light, or chat with a neighbor, you become part of a network: the air traffic system, the power grid, the pool of possible victims of a virus.

To Sandip Roy, an assistant professor of electrical engineering and computer science at Washington State University, and his graduate student, Yan Wan ('08 Ph.D.), such networks have a lot in common. They're all composed of distinct points, with every point connected,

directly or indirectly, to every other point. Like a spider web, if you pluck one strand of the network, the whole web jiggles.

By devising mathematical equations that describe the points and routes in a network, Roy, Wan and senior faculty member Ali Saberi aim to predict the "jiggles"—how a network will behave under certain conditions, and how those who manage it might change that behavior. Can we reduce flight delays throughout the air traffic system if we hold planes on route A rather than route B? What's the most efficient way to distribute power during peak-use times? Is vaccination or quarantine more likely to prevent an epidemic?

"From our perspective, there's no difference between working on virus spread and control

versus working on computer networks," says Roy. "We're achieving the same thing [in both cases]. We're giving engineering insights, system insights, into these domains."

In the case of the power grid or air traffic system, Roy and Wan look for ways to ease the flow (of electricity or planes) through the network. In the case of a disease spreading, they look for ways to shut down flow, to prevent a virus from, well, "going viral."



SANDIP ROY BY ROBERT HUBNER

Wan's model of the 2003 SARS epidemic in Hong Kong found that traffic among the region's 18 political districts varied widely. So did infection rate. Within each district, people mingled a lot, allowing the virus to spread quickly once it gained a foothold in the population. Between districts there was much less contact. Two districts were of special concern because the high rate of travel between them and other districts gave them enormous influence on the spread of the disease. Wan's model showed that if public health officials had stopped the disease in those two districts, they probably would have stopped it from becoming a region-wide epidemic.

Wan says her model let her compare control efforts that focused on the points, such as vaccinating everyone in the key districts, with those focusing on the connecting routes, such as quarantining the hotbed districts. Either way, says Roy, a targeted approach would be at least as effective as a blanket approach that doesn't take the network structure into account—and it costs 20 percent less.

Roy says professionals in public health and in air traffic control have been receptive to his and Wan's findings. Still, getting established control systems to change is a slow process. Many existing networks include features that cannot be changed, for financial or political reasons as often as for engineering reasons.



"You don't really want to be modifying [air traffic systems] very quickly," he says. "It may be 20 years before something like this is fully used, but the concepts are slowly being put forth."

Roy has only been working on network control and design for a few years.

"My work as a Ph.D. student was modeling networks, just understanding how they behave and the uncertainties in them," he recalls. Soon after he arrived at WSU in 2003, Saberi offered him some gentle but firm advice.

"He was nice about it. He just said, 'you're not really attacking the important problems. You've got to look at control.'"

At about the same time, Roy began sparring with Wan, who was a student in several of his classes. "I could not get her to miss an exam problem," he says. After several tries he finally came up with a problem she couldn't solve—and she was hooked.

When Wan joined his lab, her interest in biological systems opened a whole new range of projects to Roy. "I feel more comfortable working in that direction with her expertise," he says. The two have already co-authored more than a dozen journal articles.

Roy says the image of electrical engineering held by the public (and even by some of his collaborators) hasn't caught up with how the field has changed in the past 20 years or so.



COURTESY YAN WAN

"Some [people] have the perspective, 'an electrical engineer is someone who builds circuits and [who] solders,'" he says. "I can solder. I have that background. But the heart of electrical engineering nowadays is *systems* engineering, the idea that we develop methods that work for a range of systems."

"We build toaster ovens, we do things like that, but we also hope that our way of building toaster ovens helps in other types of systems. Networks are one critical family of systems that badly needs new modeling and control techniques."

## Hunger for justice

ON NOVEMBER 5, an overflow crowd in the CUB Senior Ballroom heard some hard truths about the global food crisis. Dr. Vandana Shiva, founder of several organizations that promote agricultural diversification in India, described how corporate/government practices that are billed as beneficial to farmers, such as patenting seed and outlawing local varieties of crops, have driven rural people off the land and caused massive food shortages in more than 40 countries.

Shiva laid out her case in warm, often humorous, tones that didn't entirely mask her anger at what she has witnessed.

"If you want to get me really engaged," she said, "tell me a lie."



Vandana Shiva with Aika Nagamine '08 who was a peer mentor and events planner for the WSU International Center. Photo WSU International Programs.

{ *New online!* }

## Our Story

The photos below from Ken Wise '42 of Washington State College will help kick off *Our Story*. (See "First Words," page 3.)

Visit *Our Story* to view more photographs from Wise, an account of the 1942 WSC national archery championships, and his reminiscence of his time at WSU from 1937 to 1942.

If you have anything to add to his reminiscence or memories regarding his photographs, please do. Instructions for contributing to *Our Story* are included at the site. If you still have questions, contact WSM at [wsm@wsu.edu](mailto:wsm@wsu.edu) or 509-335-1378.



Check it out at [Washington State Magazine Online, wsm.wsu.edu](http://Washington State Magazine Online, wsm.wsu.edu).









## Coaching with Heart

June Daugherty, the WSU women's basketball coach, has turned the experience of a sudden cardiac arrest into an opportunity to educate Americans about the prevalence of SCA, especially among people who appear healthy and have no history of heart disease.

*Photo by Robert Hubner.*

*by Jason Krump* :: In May of 2007, former college basketball player Kayla Burt received word that her friend and college coach June Daugherty was in the hospital in critical condition.

Upon hearing the news, she thought of nothing but getting from her home in Oregon to Everett, Washington, to see Daugherty.

"I packed my bag in five minutes," recalls Burt, who played for Daugherty from 2001 to 2006 on the University of Washington's women's team. "I thought June had had a heart attack. I didn't know if she had passed away because I didn't have a lot of information. Immediately my adrenaline started going and I just left."

As she drove north, Burt received more information that allayed her worst fears. "I realized she was alive and in the hospital in Everett. I drove straight to the hospital."

Once she arrived, things crystallized into what was becoming an all-too familiar scenario.

Burt, who had survived a cardiac emergency on New Year's Eve 2002, learned that Daugherty had suffered a cardiac arrest.

At the time of her own attack, Burt was a player for the University of Washington and

had been celebrating the holiday with her teammates. Only the quick actions of her friends, who performed CPR, saved the 23-year-old's life. "On any other night I would not have eight of my teammates at my house," Burt says. "I feel like there's a reason for it. It was almost like God was saying it wasn't your time to go."

Fast-forward five years and it wasn't Daugherty's time either.

It was May of 2007, and Daugherty, having left UW, was the new head coach at Washington State. Her 13-year-old daughter was home from school sick and riding along to a medical clinic where Daugherty had an appointment to discuss the results of a recent stress test with her cardiologist.

Daugherty had just parked the car when she slumped over, suffering sudden cardiac arrest. Her daughter rushed for help, saving Daugherty's life by summoning a number of doctors to attend to her mother.

Daugherty was rushed to the Providence Regional Medical Center Everett where she was listed initially in critical condition and upgraded to serious the following day. Through-



## » sports

out Daugherty's eight-day stay at Providence, Burt remained nearby.

"I did have short-term memory loss so I don't have a lot of recall from those days, but I do remember Kayla being there," says Daugherty. "I was told later by my family that Kayla wouldn't leave the hospital."

Drawing from her own experience and knowledge, Burt realized that her coach was not only going to make it through the cardiac arrest, but beyond. "I knew that everything was going to be okay and that she was going to come out of this. She was going to be a stronger person because of it and she was going to live a normal life."

While both Daugherty and Burt are living normal lives today, they're different people because of the experience. Daugherty is still the head coach of the women's basketball team at Washington State University. And Burt, after spending a season coaching at Portland, decided to move from sports to medicine, to work as an EMT.

"It definitely was a life-changing experience, there's no doubt about it," says Daugherty. "I never thought this would happen to me in a million years."

Both discovered that it is not so rare for a woman to suffer cardiac arrest, and now share the common purpose of promoting cardiac disease awareness and prevention.

"I'm still in the process of sometimes not believing [that it happened]," says Daugherty. "At the same time I've seen that so much good has come out of it. It's helped me really appreciate having a second opportunity in life with my family and my friends."

"It's also given me a chance to continue to do something I enjoy and that is coaching basketball."

"Somewhere in the middle of it all, I found an avenue to support a need in the country and the world for information about cardiac arrest," says Daugherty. "The numbers are mind-boggling as far as the deaths and heart attacks and sudden cardiac arrests going on."

According to the American Heart Association, cardiovascular disease is the leading cause of death in the United States; one in three female adults has some form of cardiovascular disease, and, since 1984, the number of cardiovascular

disease deaths for females has exceeded those for males.

Citing this type of data, Daugherty stresses that more research funding is needed. She was ultimately diagnosed as suffering sudden cardiac arrest and has a pacemaker and defibrillator placed in her chest. However, the diagnosis for her former player was not as conclusive.

"The doctors need more research, more funding, and more time for someone like Kayla, who's so young and so athletic and has got such a great life in front of her, so they can give her answers as to why this is happening and hope they can fix it," says Daugherty.

"It's still kind of a mystery," adds Burt, who also has a defibrillator. "They thought they had a diagnosis right away and then later realized it was probably a misdiagnosis. [Now] I have been diagnosed with idiopathic ventricular fibrillation, which basically means I had a cardiac arrest and they don't know why. To this day, they can't pinpoint why."

Daugherty takes advantage of the limelight coaching provides her to promote cardiac disease awareness. She serves as a spokesperson for the Sudden Cardiac Arrest Association and recently accepted the organization's Public Spirit Award, which will now permanently bear her name.

"June's willingness to help the Sudden Cardiac Arrest Association as a spokesperson is helping educate thousands of Americans about heart disease and the risk of sudden cardiac arrest,"

says SCAA Executive Director Chris Chiames. "We need more public figures like June to step up to this challenge, and naming the SCAA Public Spirit Award after June is in recognition that she is a role model for others."

Daugherty has taken on other public awareness initiatives including the annual "Cougs Have Heart" game co-sponsored by the Seattle-based Hope Heart Institute and Spokane's Sacred Heart Medical Center. Daugherty has teamed up with Hope Heart to conduct youth basketball clinics in the Seattle area, something that Burt has participated in.

"When people say you're crazy to be coaching I use that as an opportunity to explain to them what sudden cardiac arrest is, how prevalent heart disease is, and how we all need to get behind it and help raise more awareness and more funds for education for the doctors and also to take care of ourselves," Daugherty says. "Like with Kayla, you just never know when even one of your own student-athletes is going to be affected, or maybe someone on your staff, or yourself."

Rather than be limited by their heart conditions, both Daugherty and Burt have found new ways of reaching out to others.

"For me, I just really believe, things happen for a reason," says the coach. "You don't always know the reason but take advantage of it, see the positive, and hopefully I can help somebody else who is going through this." <<



ROBERT HUBNER

Coach June Daugherty is taking advantage of the limelight coaching provides to promote cardiac disease awareness and research, especially for women.



# Great promise in a nitrogen conundrum

by *Tim Steury* :: Mike Kahn and Svetlana Yurgel, molecular biologists in Washington State University's Institute of Biological Chemistry, have a challenge on their hands that involves one of the most abundant, but also difficult to obtain, substances on earth.

Nearly 80 percent of the atmosphere is nitrogen, and even that is only 7 percent of the total nitrogen on earth. However, most of it is locked up in rock. Only a tiny fraction of 1 percent of the total nitrogen is accessible to plants in the soil and in a form that can be used by living things.

And living things need nitrogen in a big way. Nitrogen is a key component of nucleic acids (a major component of DNA) and proteins, so it is about as essential as things get.

We get most of our nitrogen from plants or from animals that eat plants. But before plants can use nitrogen, the atmospheric gas must be "fixed," changed to a more reactive form, and there are only a few ways that it can be fixed.

Lightning can fix atmospheric nitrogen. Volcanoes can release it from rock. But most nitrogen is fixed either through symbiosis between bacteria and legumes or through synthetic production.

By themselves, rhizobia bacteria search for nutrients and grow slowly. However, if legume plants, such as peas, lentils, and alfalfa, are growing in the vicinity, the rhizobia invade their roots. The infected roots develop growths called nodules that house the bacteria. In exchange for food and energy, the bacteria start fixing nitrogen for the plant.

Nitrogen produced synthetically through industrial chemistry called the Haber-Bosch process is the nitrogen that supplies the majority of modern agriculture. But like most good things, it also has a downside. Prime among these is the growing cost. Not only does the process rely on natural gas for hydrogen, but the high pressure and temperature of the process require enormous amounts of energy. Then of course is the transportation cost. Eighty percent of the nitrogen fertilizer used in the U.S. is imported. Add the cost of applying it at current fuel prices and it becomes expensive. Still, growing crops at current production levels without synthetic N can be, while not impossible, difficult.

With the help of their symbiotic bacteria, legumes do a fine job not only of fixing nitrogen for themselves but for subsequent plants, also. But only up to a point. For example, says Kahn, in the Midwest, a crop of lentils one year can produce enough extra nitrogen for a crop of wheat that follows, producing 40–50 bushels per acre. But lentils, which are grown as a rotational crop on the Palouse, cannot produce enough nitrogen to support a typical wheat yield in this area of 100 bushels or more.

What Kahn would like to do is fool the legume into thinking it needs more nitrogen than it has, so it would produce more nitrogen than it is actually able to use.

This is no easy task. Kahn has been working on similar strategies for the past couple decades. In spite of his work and that of others, much remains to be learned. For example, the signaling mechanism the plant uses to tell the bacteria how much N it needs is not well understood at all.

Also, persuading a legume and its bacteria to produce more N is not a simple matter of adjusting a metabolic governor so it produces nitrogen faster. Nitrogen fixation is a very energy-expensive reaction, perhaps the most expensive in nature. Producing more N would likely mean the plant would yield less seed.

Kahn does now have an advantage that was lacking in his earlier work. His colleague, Yurgel, recently discovered a mutant rhizobium that they hope will provide the key. For some reason, the bacteria produce nitrogen just fine. But the plant doesn't turn green.

"We think what's probably happening is the bacteria is making something with the N that the plant doesn't know how to use," says Kahn. "Our notion is that it [the mutant bacterium] is a little bit broken."

Another piece to the puzzle is the mutant gene in the bacteria. It happens to be the gene that is involved in sensing the bacteria's nitrogen status.

A clue! you say, with good reason. But just a clue.

Let's back up a little. Kahn says the common, happy-family version of nitrogen-fixing symbiosis is probably not true. Plant and bacteria work together in symbiotic harmony, bacteria making nitrogen, plant getting green, and everybody's happy, happy, happy.

Well, says Kahn, "Natural systems tend not to work strictly by altruism." If this were the case, organisms would be much more vul-

nerable to parasitism. "Cheaters do prosper." Organisms have ways, he says, of sanctioning non-cooperating cooperators.

So this leads us to Kahn's wildest hypothesis:

Let's say the bacterium wants to sanction the plant, for whatever reason. The most obvious way is to stop fixing nitrogen. But if they do that, they may have a problem. Nitrogen fixation is inactivated by oxygen. The bacteria deal with this by burning all the oxygen in the system in the process of fixing the nitrogen. (Remember the high energy.) So by fixing nitrogen, they're



BOTANIK.DE

creating the conditions that allow them to fix nitrogen. And what happens if they stop fixing nitrogen? They destroy the conditions they need to fix nitrogen.

So how can the bacteria not give nitrogen to the plant and still fix nitrogen?

One possibility is that they put the nitrogen in chemicals the plant can't use. So the plant continues to tell the bacteria it needs nitrogen, because it does, even while the bacteria are pumping nitrogen to the plant in a form the plant can't use. The plant is trying to cooperate. It's doing everything it can to support bacterial nitrogen fixation. And nitrogen is getting fixed.

But because the bacteria's sensor is broken, the system has a serious case of miscommunication. The plant is telling the bacteria to make nitrogen, but the bacteria can't understand the signal and do something with the nitrogen besides feeding the plant. The plant is getting plenty of nitrogen, but it can't use it in the form the bacteria supplies. It is like having canned soup and no can opener.

There must, thinks Kahn, be some way to exploit this communication breakdown. If the plant can glean some nitrogen, but tell the bacteria to keep pumping out more than the system needs, voila! More nitrogen for next year's crop. <<



COURTESY THE SCHUSTER GROUP



## Building green

**Jeff Feinstein '85 finds green investment a hedge against a down economy**

*by Bryan Corliss '86* :: Our gas-guzzling, carbon-spewing automobiles draw a lot of the blame for the build-up of greenhouse gases most scientists say is making the world warmer. That's led to a worldwide flurry of investment in biofuels research and more fuel-efficient vehicles—even

hybrid diesel Kenworth semis, built by Paccar in Kirkland.

But amid all that traffic, a quiet community of builders and designers is starting to speak up, saying that if we want to make real reductions in energy use, we just have to look closer to home—to our houses, offices, and high-rise condos.

"The emissions of CO<sub>2</sub> from buildings have a greater impact on the environment than cars do," says Jeff Feinstein ('85 Bus. Admin., cum laude), a principal with The Schuster Group, a Seattle real estate investment and development firm.

The Schuster Group developed the Mosler Lofts high rise condominiums in Belltown near Seattle Center. The building was designed by Mithun architects and built in 2007. The project, using local and sustainable materials, has won acclaim for green design and sustainability.

Recognizing that, more and more Northwest builders are incorporating environmentally friendly touches into their projects, says Michael Wolcott, the director of the newly formed Institute for Sustainable Design at Washington State University, which aims to provide industry with architects, engineers, and construction managers used to working collaboratively on buildings that take advantage of their natural surroundings to cut energy and water use.

"This is a strong trend going on," Wolcott says. "It's a trend that's outlasting some of our financial woes right now, especially in the Northwest."

It turns out that saving the planet, one construction project at a time, can be quite lucrative for investors. A recent report in McGraw Hill Construction called green building "the bright spot in an otherwise tough economy." The industry journal reported that green buildings are less affected by the down market compared to non-green building, and homebuyers are willing to pay more for a green home.

Feinstein agrees. "We believe that we have proven in our own developments that green buildings are more attractive for tenants, more attractive for homeowners," he says. "Tenants are willing to pay more to be in a green building, they have higher rates of occupancy."





*Running the Numbers: An American Self-Portrait*  
photography by Chris Jordan  
WSU Museum of Art, January 14–April 4

By using large, intricately detailed prints assembled from thousands of smaller photographs, and employing such themes as the near versus the far, this project attempts to raise questions about the roles and responsibilities of the individual in a society that is increasingly enormous, incomprehensible, and overwhelming.

Feinstein didn't set out to be a tree-hugging do-gooder. He got his start as an entrepreneur in Pullman, running a screening-printing business in his spare time that made shirts for fraternities and sororities on Greek Row. If you've still got your souvenir sweatshirt from an early '80s Lake Coeur d'Alene cruise buried in some remote corner of your closet, chances are it came from Feinstein.

After graduation, he went into the technology business, and as that boomed in the '90s, he started investing his extra cash into a Seattle real estate business run by his childhood friend, Mark Schuster, who had developed an eye for picking buildings that could be bought, upgraded, and flipped.

"He was my real estate proxy and I just kept giving him money," Feinstein says. "He kept giving me good returns."

Finally, Feinstein decided to join Schuster's company, becoming its president and chief fundraiser. One of the first big projects he worked on was raising cash for Schuster's first high-profile green project, Mosler Lofts.

Mosler Lofts was Seattle's first high-rise condo to be granted silver certification under the U.S. Green Building Council's Leadership in Energy and Environmental Design program—LEED. It's won a slew of architectural awards for Schuster and its designers at Mithun from the National Association of Homebuilders, the American Institute of Architects, and *Seattle Home Magazine*.

It was a little ahead of its time, Feinstein says, and it was Schuster's idea. "He wanted to build this all-green condominium in 2003. This is before 'An Inconvenient Truth' and the movement behind it. He thought it was the right thing to do."

As it happens, they timed it just right. When the building came on the market in 2007, they found buyers liked the wide range of environmentally minded features, like the Energy Star-rated appliances, water-conserving plumbing fixtures, certified sustainable bamboo floors and a hybrid vehicle recharging station in the underground parking garage. The condos also have a modish industrial vibe, quartz countertops and an open floor plan. The fact that it overlooks the Seattle Center from the trendy Belltown neighborhood also helps.

Best of all, from an investor's perspective, is the fact that within a year of its completion, 149 of the 150 units in the building have sold, at prices ranging from \$449,000 to nearly \$1.4 million. This, even though existing home sales in King County have fallen more than 30 percent in the past year, according to the Washington Center for Real Estate Research at WSU, while median sale prices slid nearly 10 percent.

At the same time, they've also found tenants for all of the building's ground-floor retail space.

"We offered a differentiated product in a crowded market. There are many [not-green] projects with 30, 40 units still on the market," Feinstein says. "We think we're right on with the green building movement."

Schuster Group is not alone, says WSU's Wolcott.

For a variety of reasons—some cultural, some driven by government regulation—Washington is emerging as a leader in the green building movement. Washington was the first state to adopt a Built Green standard (originally developed in Boulder, Colorado). Today, fully a quarter of all homes built in King County earn Built Green certification.

"Seattle, Portland, Vancouver—this area is real active," Wolcott says. "You talk to the major architectural firms and they say they hardly do a project any more that isn't LEED-accredited."

"There's something like 22 LEED-certified buildings going up between Bellevue and Seattle," Feinstein adds.

For a time, there was debate over Built Green, with some builders complaining that its features raised the cost of new homes. But while it may raise construction costs, green-built buildings are cheaper to operate. "When you look at operating costs on top of that and depreciate it over the life of the building, there's no question about that," Wolcott says. "It is just good business."

WSU's new Institute for Sustainable Design aims to train workers in the techniques of designing and building these new green structures. The program was launched this past fall, after a \$500,000 donation from Weyerhaeuser and input from a half-dozen or more of the state's leading architecture and construction firms.

A generation ago, architects and engineers began designing climate-controlled buildings. They'd essentially seal off the interior of the building from the outside world, and use machines to control the temperature and humidity.

But today, Wolcott says, designers think differently. If you're smart, you can situate your building so as to take advantage of sunshine to heat and light the building and natural breezes to cool it. If you plan ahead, you can position



JEFF FEINSTEIN, COURTESY THE SCHUSTER GROUP

trees close to the building or hang plants on the ledges to provide shade in summer. You can build roof-top cisterns to capture rain water to flush toilets and irrigate the landscaping.

All of those things cut energy use and utility bills—and a building's carbon footprint—but pulling them off means careful planning and the ability to work together, Wolcott says.

"Architects will come up with concepts, they'll hand off pieces to the landscape architects, they'll hand off pieces to a civil engineer, then everyone turns the whole thing over to the construction manager," says Wolcott. That's old school, and not in a good way. "Getting real gains across the system takes all groups working together."

"The biggest difference that we see is how we look at these designs," he says. "The design is looked at really for a more integrated basis."

So WSU's new Institute will take a multi-disciplinary approach to teaching building design.

“Right now, civil engineering, architecture, and construction management is all separate with little communication between them,” Wolcott says. “Now, we’re trying to integrate approaches, teach the same language.”

The effort started this year by incorporating sustainability concepts into the curriculum for freshman students in the construction engineering courses. Eventually, the goal is to assign capstone projects for seniors in all the building design majors that will “integrate, right off the bat, architecture, civil engineering, landscape architecture, and interior designers” to work on group projects.

Wolcott says he hopes to eventually include mechanical and electrical engineers and construction management majors in the courses to help them all learn how to speak a common language of green.



The U.S. Green Building Council is a national non-profit organization of building industry leaders promoting environmentally responsible construction. The Schuster Group has been a member since 2006.

The exercise is far from academic. McGraw-Hill Construction says that the annual value of green construction projects in the United States has shot up over the past three years from \$10 billion in 2005 to as much as \$49 billion this year. It’s likely to triple between now and 2013, the journal says. Even with the economy in recession, builders are likely to put up \$41 billion worth of green apartments and condos in 2009, and 16 percent of all new U.S. construction will be green within five years, McGraw-Hill Construction reported after surveying its readers.

The change in political climate could accelerate that. President Obama, in his 30-minute infomercial during the election campaign, made particular mention of McKinstry, a Seattle engineering company that’s a leader in green construction. Obama called McKinstry “a model for the nation.”

“They’re retrofitting schools and office buildings to make them energy efficient, creating jobs, saving their customers money, reducing carbon emissions, and helping to end our dependence on Middle Eastern oil,” Obama said, promising public support for more such companies nationwide.

And on a regional level, new pollution control requirements aimed at protecting Puget Sound could force more builders to adopt green building measures, Wolcott says.

“This isn’t just sort of a fad, but it’s a lasting trend,” Wolcott says.

It’s a trend that Feinstein at The Schuster Group plans to cash in on. Even as the credit markets collapsed last fall, he was busy raising money for a new investment fund. His goal: raise \$100 million to buy real estate and build green projects. He’s got \$35 million so far, he says, and they’ve bought their first parcel, another lot in Seattle’s Belltown.

“It’s a two-story building and we have a permit to go 13 stories tall,” Feinstein says.

The problems in Seattle’s commercial real estate market—the knock-on effect from Washington Mutual’s collapse, which emptied out vast amounts of prime office space—were actually good, he says, because before you can sell high, you’ve got to buy low.

“Valuations are coming down,” Feinstein says. “That’s good for us on the buy side. What are we seeing here? We’re seeing office soften because of the obvious effects of WaMu and others, we’re seeing residential soften—high-rise condominiums specifically. We want to come in and buy and add value to the property by greening it up and then re-tenanting.”

Unlike electric cars or biofuels, green buildings are an environmentally friendly business whose time is now. “There are components available, materials usable now. It’s not futuristic. The technology is here and available,” he says. “Even hybrids have a very high cost to purchase. The return on investment isn’t there. You see people doing it because it’s the right thing to do.”

And if the rest of America wants to see how it’s done, the Northwest is ready, Feinstein says. “We’re creating an economic profit, supporting the environment, and supporting the communities that we participate in.

“Culturally, we’re an entrepreneurial kind of first mover. Given our tree-hugging ethos, we really grabbed onto this.”

*Bryan Corliss ('86 Comm., cum laude) is a Marysville-based freelance writer.*

## A long-term biofuels strategy for Washington

*by Tim Steury ::* In 2007, the Washington State Legislature passed legislation “relating to providing for the means to encourage the use of cleaner energy.” The final of four chapters of the renewable energy act directed Washington State University to explore the development of biofuels in Washington. The final result, *Biofuel Economics and Policy for Washington State*, released in late 2008, does not quite match what some state policy makers had expected, notes lead author Jon Yoder, a natural resource economist at WSU.

In short, the report recommends that Washington not try to force itself into the current biofuel market. With what are considered “first-generation” biofuels, such as ethanol, the state simply cannot compete with midwestern corn-growing states. As much as anything, this is due to Washington’s agricultural strengths.

“The interesting thing about Washington,” says Yoder, “is it’s very good at growing high-value agricultural crops.” In fact, it does have a high-value ethanol product, wine grapes. As ridiculous as turning cabernet grapes into biofuel sounds, it reflects a broader reality, says Yoder. In the current market, energy crops in Washington would simply be losers.

If there’s one important take-home message of the report, it’s that it’s important not to think about biofuels in isolation, a prevailing problem in earlier analysis and policy, says Yoder. “I think we’ve done something with this report that hasn’t been done yet, anywhere,” he says. “It puts a broad perspective on biofuel policy from the ground up.”

Nothing in the report, which involved the analysis of 15 authors and economists, is new, says Yoder. But the combination is.

The economists were asked by the legislature to do three basic things. First was to assess the availability of biofuel feedstock in the state. Second was to develop recommendations for market incentives. Finally, they were to provide recommendations for research and development.

The legislature had three fundamental goals: promote state production of biofuels, reduce petroleum dependence, and reduce greenhouse gas emissions.



In response, says Yoder, the group recommended the following: Policy should revolve around a carbon-based fuel tax (on carbon emission, not fuel volume), based on life-cycle carbon emissions of fuel. Also, incentives should be provided that promote low carbon renewable fuels, something that is missing today in policy.

The result, say the economists, is we now have corn-based ethanol that provides little benefit in terms of greenhouse gas emissions.

“What we concluded,” says Yoder, is that “in order to meet the goals laid out in the legislation, a focus on greenhouse emissions reduction would be the umbrella under which we could approach all of the goals laid out in the legislation.

“Until now, including now, biofuel policy has been developed in a great deal of isolation from a lot of other policies. It’s time to start integrating biofuels policy into broader climate and energy policies.”

The report makes specific recommendations that run counter to prevailing policy sentiment including a recommendation against straight cap and trade in carbon.

The WSU report also recommends that the state instead institute a carbon-based tax on fuels. Revenues could be used in several ways. First, to provide tax credits. Revenues would also be used to provide research and development funds for promising technologies for developing the next generation of biofuels, as well as geographically appropriate technologies.

“The reason why it’s important to tax first and use revenues,” says Yoder, “... suppose we take revenues from the general fund to offset tax credits for subsidies. What you do is make blended fuel cheaper and increase consumption, and petroleum dependence remains the same.”

Even though Yoder believes such an approach could be revenue neutral, in the short run, he admits, it would be a tough call.

The economists acknowledge that the state will probably adopt a cap and trade policy in spite of their recommendations. In deference to this momentum, they suggest the state should be aggressive toward auctioning the initial credits, instead of just giving them away.

Pending legislation is calling for 10 percent of credits to be auctioned. “In my book, that’s not enough,” says Yoder.

Perhaps more significant is the report’s recommendation that the state plan for the long run, investing in research, development, and infrastructure, with particular attention paid to rail infrastructure for transporting the feedstock.

*Biofuel Economics and Policy for Washington State will be published as an agricultural research center bulletin. Meanwhile, you can read the executive summary at: [www.ses.wsu.edu/research/EnergyEcon.htm](http://www.ses.wsu.edu/research/EnergyEcon.htm).*

## A gift toward fuel research

*by Tina Hilding ::* Oil industry executive Gene Voiland ‘69 and his wife Linda have promised \$17.5 million to Washington State University’s School of Chemical Engineering and Bioengineering, contributing to the school’s focus on energy research.

An immediate \$2.5 million gift will allow the school to hire faculty who will focus on transforming agricultural and municipal waste into useful fuels and chemicals.

In the pressing challenge to develop clean and sustainable energy sources, researchers are looking for alternative energy solutions that can employ the existing petroleum-based infrastructure. Municipal and agricultural waste can be converted to fuels that look and perform just like gasoline or fuel oil. But, because they contain higher concentrations of elements such as oxygen and sulfur than fossil-based fuels, these materials have a greater tendency to poison the catalysts used in the traditional production process. Faculty to be hired will work with industry leaders to develop better catalysts to help in the production process.

“As a society, we face two major issues—developing clean and sustainable energy and creating technological solutions for health,” says Jim Petersen, director of the school. “The Voilands’ support advances our vision, strengthens our existing research, creates opportunity for collaboration and leveraging, and develops a niche area for WSU that will make us among the strongest in the nation in this research area.”

Many of the school’s graduates, including Voiland, have had successful careers in petroleum production and refining. The Voiland commitment will allow for expansion of the school’s research into sustainable fuels, but the school will remain focused on producing industry-ready engineers with practical skills, says Petersen.

The remaining \$15 million from the Voiland estate will become available in the future, ensuring the program will remain strong. The future director will have the discretion to use the

money to advance the educational and scholarly programs within the school.

Gene Voiland received a degree in chemical engineering from WSU in 1969. He worked for Shell Oil Company for nearly 30 years. There, he met his wife, Linda, a graduate of the University of Houston. He later became President and CEO of CalResources LLC and Aera Energy LLC, a subsidiary of Royal Dutch Shell and ExxonMobil. He retired in 2007. The couple lives in California.

The Voilands have long been involved with WSU. Gene led the investment committee for the WSU Foundation and serves on the Foundation’s board of governors. He is also on the advisory boards for the College of Engineering and Architecture and the School of Chemical Engineering and Bioengineering.

“We greatly value the education I received at WSU and believe it laid the foundation for our success,” says Voiland. “We hope this gift will continue the long history of success in the chemical engineering program and build a strong future for the school.”

“We are so thankful to Gene and Linda Voiland for their generous gift,” says President Elson S. Floyd. “It demonstrates their deep commitment to the success of Washington State University.”

The school has been named the Gene and Linda Voiland School of Chemical Engineering and Bioengineering in their honor, Floyd notes. “They are truly making a difference in the lives of many future students and helping us achieve our goal to become an outstanding land-grant research university.” <<



Gene Voiland ‘69 retired as the CEO of Aera Energy LLC in 2007.

**Local. Delicious.  
Neglected.**



Our first night in the Yucatan this past December, my wife ordered lentil soup. Flavored with bacon and garnished with plantain and lime, it was delicious. Odds are that it was made with Pardina lentils grown here on the Palouse. In fact, you may be more likely to eat Palouse lentils in Latin America, India, or Turkey than in Washington.

I may be exaggerating a little, but seriously, when is the last time you ate lentils? Given that Washington is one of the largest producers of lentils in the world, we are curiously unacquainted with this versatile and tasty legume. Lentils should be our regional culinary specialty. Instead, they are relegated primarily to serving as a rotation crop for wheat, the vast majority of which is also exported.

This rotation role is not a bad thing, of course. Like other legumes, such as peas and garbanzos, lentils are able to “fix” nitrogen with the cooperation of rhizobia bacteria, providing much of the essential nutrient for the following wheat crop, thus alleviating the need for other nitrogen sources, mostly synthetic, which are

becoming more and more expensive. (See the story on page 17 about a recent breakthrough in the attempt to enhance lentils’ nitrogen fixing ability.)

The relative absence of lentils from not only Northwest, but also U.S. cuisine is all the more curious given that it is such an ancient crop and an integral part of many ethnic cuisines.

The earliest evidence of lentils as part of human cuisine is the charred remains of wild lentils, found in a Greek cave, dating back to about 13,000 years ago. The importance of lentils in the Middle East is illustrated by the ancient biblical story of Esau, who sold his birthright to his brother Jacob for a bowl of lentil soup.

Although they complement other protein sources, such as pork and duck, lentils are delicious on their own, as evidenced by the largely vegetarian Indian cuisine. Dal, for the unaware, is lentils. Diana Roberts, an agronomist and head of Spokane County Extension, can attest to their versatility. Roberts, a vegetarian, eats a lot of lentils. She gets a little irritated with recipe approaches to lentils that treat them merely as a medium for bulking up meat. As testament to lentils’ versatility, she gives me a container of curried lentils she’d prepared earlier. Sweet and spicy, they also were full of the basic earthy savory flavor of the lentil itself. Delicious.

Lentils do lack the amino acid methionine, which means they are not a complete protein. However, serving them with grains, eggs, or dairy products completes the protein requirement.

In spite of their long agricultural history, growing lentils is not without its challenges. Cultivated lentils are not very competitive, says Roberts. Insects, disease, and weeds can require a substantial application of chemicals. Some major competitors, such as dog fennel (stinkweed), are even developing resistance to herbicide. Organic farming of lentils is a particular challenge, relying on cultivation and rotation with more competitive crops such as alfalfa.

Legume breeders such as USDA geneticist George Vandemark, who recently took over WSU’s lentil breeding program from Fred Muehlbauer, search for disease resistance genes and other favorable traits in the large collection of both wild and domestic lentils maintained by the Western Regional Plant Introduction Station at WSU. Curator Clarice Coyner is in charge of over 2,000 accessions of wild and domesticated lentils gathered from around the world.

Coyner is working with Vandemark on screening the core collection of lentils, made up of 287 accessions. They managed to ascribe a market class to about 150 of them, from which they extracted DNA, assessing how much diversity is available in each market class.

Market classes are essentially broad classifications, mainly Turkish red, Eston, and Pardina.

Curiously (and this may be open to debate) the least-flavorful lentil, the large-seeded green, is the most commonly available in our domestic market, which may have something to do with their level of familiarity.

Some specialty grocery stores and large food co-ops carry several varieties of lentils, such as the Pardinas. Pardinas are closest to the gastronomically famous Le Puy green lentil of France. Le Puy lentils have their own *appellation d’origine*, a strict quality standard awarded by the French government. Pardinas are close, but not the same, says Vandemark. For some reason their DNA fingerprint differs considerably. He hasn’t figured it out yet. Your taste buds, however, will find them much the same.

About 70,000 acres in Washington were dedicated to lentils in 2007, equal to about 43 percent of U.S. production, according to the USA Dry Pea and Lentil Council. Total crop value in Washington the year before was \$11,932,000. However, that equals not even 2 percent of the crop value of wheat.



Lately, Palouse dominance of the market has been threatened by production in the Dakotas and Saskatchewan.

So here's where you can do your part. Eat more lentils. First of all, just to get this out of the way, they're very good for you. They're a great protein and fiber source, with high values of phosphorous, iron, thiamin, and folate.

Most important, though, is they taste great. They pair wonderfully with a number of my other favorite ingredients, particularly

## LENTILS

:: by Tim Steury ::



garlic and pork. Or as a salad, with chopped onion and a vinaigrette.

Lentils cook in less than half an hour and lend themselves to interpretation. The only things to avoid are acids and salt until they are completely cooked, as either will slow the cooking.

For more detailed recipes, check the USA Dry Pea and Lentil website, or order their excellent cookbook. (Full disclosure, my wife helped produce it.) For a couple of my favorite recipes, including our interpretation of that Mexican lentil soup, go to our web version of this article, at [wsm.wsu.edu](http://wsm.wsu.edu). <<

**From left to right:** Mediterranean lentil soup, grape leaves stuffed with lentils and dried fruits, Palouse pizza, braised winter lentils with chicken from *The Pea & Lentil Cookbook: From Everyday to Gourmet* published by the USA Dry Pea & Lentil Council, Randall Duckworth, editor. Photos from the book, by Mark LaMoreaux.

*Memory*





Early spring kite flying on a hill on the edge of  
the Pullman campus. *Photo by Zach Mazur.*





Photograph of a Native American petroglyph in central Arizona, approximately 1000–1200 CE. By Ekkehart Malotki, Professor Emeritus of Languages at Northern Arizona University. Ellen Dissanayake is currently collaborating with Malotki and others to investigate the oldest rock art paintings and engravings in the American West.





# What is Art for?

ART, ARGUES ELLEN DISSANAYAKE '57,  
.....  
IS BIOLOGICAL. IT IS AN EVOLUTIONARY  
.....  
ADAPTATION THAT HELPED US BECOME  
.....  
HUMAN.

**IN THE MID-1950s**, young Ellen Franzen got a taste of intellectual adventure at Washington State College and set out to pursue it, the hard way.

But it could well be there was no other way. She could, she muses, have married her high school sweetheart, whom she'd followed to Pullman, and gone back to Walla Walla. Who knows?

Instead she found herself in Sri Lanka. And Papua New Guinea. And Nigeria. She was amazed at the world she saw, but understanding it required that she take an unorthodox route. "What is art for?" is not a question that bothers very many people," the by-then Ellen Dissanayake confided in the first sentence of her first book published in 1988 (University of Washington Press), its title repeating that very question. But it bothered her. Obsessed her. And even before she'd formulated the question, she was on her way to finding the answer.

She had no idea that one day her intellectual endeavor would be discussed seriously by thinkers and scholars as diverse as child psychologists, neuroscientists, evolutionary biologists, and music theoreticians. Art is not, she argues, a set of objects or compositions or paintings. Art, rather, is the behavior that leads to those things. Neither is art handed down only to a select few sensitive souls. Art, she says, is "making special," an act that gives us belonging and meaning. It is passed from mother to child. Its origins lie deep in the human past. It makes us human.

Ellen Franzen arrived in Pullman in 1953 as a music major. WSC suited her, because it was closer to her Walla Walla home than the University of Washington, but farther than Whitman. She wasn't clear what she wanted to do. She was a pianist. But she didn't plan to be a professional pianist, nor a music teacher. Then, unexpectedly, a door opened.

Washington State students at the time were required to take four science classes. She'd avoided science in high school and dreaded the requirement. But she heard that geology was easy. So she tried that.

# What is Art for?

## ELLEN DISSANAYAKE: ART IS BIOLOGICAL

She got a B. The next semester she took biological science, and it changed her life.

The teacher, Winslow Hatch, turned many people on to biology as a process, she says. She remembers his teaching the life history of an apple tree. She loved the class and got an A. She signed up for human physiology, with Donald Farner. And astronomy, with Sidney Hacker.

She stopped taking piano and became a general studies major. Besides science, she took literature and philosophy. Her first aesthetics class was at WSC. And then she found herself in the Potter House.

Philosophy professor Frank Potter and his wife Irene opened their house to students and faculty, for music and conversation. The house was the epitome of a scholar's house, she says, fabric wallpaper and books all around. She remembers Potter and mathematician Don Bushaw, who would later become vice provost for instruction, playing chess. By the time Franzen wandered into the Potters' living room, it had become a serious training ground for Rhodes Scholars.



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Male Rhodes Scholars, that is. Women scholars were rare in the mid-50s. Mrs. Potter took Franzen under her wing. Not only did she learn how to make bread, but her mind was nourished as well. The intellectual excitement in the house was infectious and intoxicating—"the kind of life I wanted to have."

At the end of her junior year, Franzen was tapped for Phi Beta Kappa and also received the J. Horace Nunemaker Fellowship, awarded to the student who had the promise of making a contribution to the humanities. It was for \$150.

Her senior year, Franzen met a fellow Phi Beta Kappan, John Eisenberg '57, a zoology major, and they started dating. They married right after graduation and left for Berkeley, where he had a fellowship to pursue ethology, the study of animal behavior.

**SO ELLEN FOUND HERSELF** an aspiring good wife to an aspiring great man.

It wasn't a bad life. She typed his papers, read journal articles for him and made notes, entertained his friends. They went to Europe together, visited zoos, studied animal behavior.

And she started putting some ideas together, making connections. Using her one year of German and a dictionary, she translated a paper for Eisenberg by a German ethologist on animal play. It struck a nerve. "I thought that sounds a lot like art."

Meanwhile, they moved to the Washington D.C. area, where Eisenberg took the newly created position of resident scientist at the National Zoo. In Washington, she started looking at paintings, of which there were few in Pullman and Walla Walla. To occupy herself during Eisenberg's frequent travels, she studied toward a master's degree in art history.

Along the way, she says, amidst the zoos and art museums and animal behavior, "I learned to think like a Darwinist. I realized that humans are animals and that we have behaviors that evolved."

The Eisenbergs went together to Madagascar for a Smithsonian-sponsored project and then Ceylon, which is now Sri Lanka, where Eisenberg and a team studied elephant ecology and behavior.

Back in D.C., for one of her graduate classes, she wrote a paper on the psychobiology of art and play. Through Eisenberg, science writer John Pfeiffer learned of it, leading to the first mention in print of Dissanayake's thinking, in his book *The Emergence of Man*, published in 1969.

Dissanayake headed back to Sri Lanka and eventually married S.B. Dissanayake, a professor of dentistry with an interest in public health, whom she'd met while living there earlier. With her husband, Dissanayake started learning about traditional society. He was sophisticated and western-trained, but came from a village. So with him, she attended traditional weddings, funerals, exorcism ceremonies, and other Sri Lankan cultural activities.

In her third book, *Art and Intimacy*, she describes watching Sri Lankan fishermen pull in their nets: "In Sri Lanka, on seaside holidays, we always stopped to watch fishermen on the beach pulling in their long, strong, handmade nets that twice daily were laid several hundred yards out to sea. In two widely spaced rows of perhaps twenty persons each, boys and men would spend an hour or more chanting and rhythmically pulling while moving backward in heavily accented steps, the rows gradually coming together, leaving loops of rope behind them on the sand. Periodically, the person at the end of a row would go to the front, and everyone else would move back to accommodate him. As the net was drawn nearer the shore and the two rows came closer together, the chanting increased in speed and amplitude along with the men's movements, growing to a climax as the catch—a tight bag of glittering living fish that seemed to pulse like a heart—was dragged onto the sand."

That rhythm and collaboration, the communal effort and the beauty of the effect are at the heart of Dissanayake's ideas. It is a rhythm that began in the distant past, with our Pleistocene ancestors. It is a communicative rhythm, ancient and fundamental. It began, she proposes, with the intimate communication between mother and child, the baby talk, the singsong. It is expressed through dancing and lovemaking, through military drill, through ritual, through "making special," through art.

Her thinking shifted into higher gear. Encouraged that her paper on play and art was favorably reviewed by anthropologist Desmond Morris, author of *The Naked Ape* (1967), and published by *Leonardo*, a journal of art, science, and technology, she wrote to Morris about her developing ideas about ritual, play, and art and their evolutionary origins.

And she asked him a favor. She would come to England and be his secretary in exchange for having access to Oxford's Bodleian Library, one of the largest and oldest libraries in Europe.

Morris did her one better. He referred her situation to anthropologists Lionel Tiger and Robin Fox at Rutgers, who were directors of the recently formed Harry Frank Guggenheim Foundation and could give her a grant to study at the Bodleian.

From her study there came her first book, *What Is Art For?*, which laid out her general hypothesis of how art emerged.

But she had only started. Her husband's public health work took them to Nigeria and Papua New Guinea, where she found much more ethnographic evidence for her ideas. And then another door opened.

An article she published in the *Journal of Aesthetics and Art Criticism* caught the attention of David Mandel, a retired lawyer with an interest in human evolution and art. He offered to endow a lectureship for her at the New School in New York City.





WALL PAINTING OF AIROCHS, HORSES, AND RHINOCEROSES, CHAUVET CAVE, VALLON-PONT-D'ARC, ARDÈCHE, FRANCE/BRADSHAW FOUNDATION

The lectureship gave Dissanayake enough money to fly from Sri Lanka to New York and to sublet an apartment for four months. She taught two hours a week and spent the rest of her time preparing for the next class. Much of this material went into her new book, *Homo Aestheticus*.

When her lectureship ended and she returned to Sri Lanka, she realized that she had much yet to do in the U.S. She was excited about academic life and sharing her ideas. She had found she loved teaching. And so she left her adopted country and her husband and returned to the New School.

But the school could not afford to pay her what her patron had. So, while still teaching at the low adjunct salary, she took a job as a transcription typist. She was a pianist, with good hand-eye coordination. She could earn enough money in three days to support herself while she did her research. Also, everyone else in her office was a writer, a dancer, a musician, a Broadway aspirant. She was with kindred spirits, and it beat waiting tables.

One day she transcribed an interview with neuropsychologist Colwyn Trevarthen about his work with mothers and babies. She wrote to him and

said she was working on a PBS television series called *The Mind*. "I didn't tell him I was typing it." She sent him a copy of *What Is Art For?*

He wrote back and said yes, they were on the same wavelength. She went to Scotland to study with him for 14 months, gathering much of the material for her third book, *Art and Intimacy*.

The precursors to the sorts of abilities and sensitivities that became art, Dissanayake reasoned, are in mother-infant interactions. Two million years ago on the African savannah, she says, early humans showed two major trends—enlarging brains and an upright stature. As human ancestors began to walk upright, a number of physiological and anatomical changes were required in neck, spine, hips, legs, and feet. And, significantly, the pelvis. As female pelvises became narrower and babies' heads became bigger, childbirth became a problem.

Various adaptations, including the soft spot, which allows the baby's head to compress, addressed the problem. Also, significant brain growth takes place after birth. Finally, the gestation period in relation to fetus maturity shrunk. It has been estimated that if human babies were as



REACH OUT AND YOU WILL REACH ME, KRISTINA TONG/MOXEMOJO



# What is Art for?

## ELLEN DISSANAYAKE: ART IS BIOLOGICAL

mature at birth as baby chimps, we would have a 25-pound baby following a 21-month gestation period.

Because this is not the case, the result is a very helpless baby that needs a lot of care for a long time. All primates are good mothers and very close to their children. So human mothers would have been predisposed to take care of their babies.

But for two or more years? says Dissanayake. Especially this completely helpless demanding being that can't cling and needs to be carried everywhere or watched constantly.

"So I suggest that the mother-infant interaction that we now call baby talk, a kind of performance that mothers and infants create together, is a way of creating and reinforcing emotional bonds.

"When you talk to babies, you look straight into their eyes, which is a very unusual thing. "You make these strange faces, you open your eyes really wide [raises voice], 'hi, ooh, look at you, are you hungry?' You lean forward like this. You nod your head or bob it back like that. Your

These interactive rhythms of mother and child, argues Dissanayake, translate to the rhythms and modes of communal ritual. In the introduction to *Art and Intimacy*, she writes, "I explore the bodily origins and interconnections of the felt rhythms of art and love, tracing them to what may appear to be inconsequential or even unlikely psychobiological beginnings in the earliest months of individual infancy."

Just as the survival of the human infant during the long evolution of humans depended on the relationship it inspired in the mother, so the survival of early hunter-foragers depended on the cohesion of the group. It required "not only resourceful, competitive individuals but also strongly bonded social groups that could work together with confidence and loyalty, convinced of the efficacy of their joint actions.

"In ritual ceremonies, people use alterations to the voice, face, and body in 'ritualized' ways—they formalize, regularize, repeat, exaggerate, and elaborate—creating costume, ornament, song, dance, literary language, enhanced surroundings. These attract attention, maintain interest, and create emotion. As people focus, respond, and participate together, they feel bound together. And such collaboration helps to relieve stress and anxiety about the subjects of the ceremonies—finding food, assuring



eyebrows are lifted. Your smile is wide. You pat rhythmically and reach out to and touch and, of course, hold and rock.

"All of these are exaggerations of what are called affiliative, or affiliative, behavior. Open mouth, smiles, eyebrow flash, nodding, touching—these are all things that we do with each other to show that we're relaxed and in synch, that we're friendly.

"So I consider this to be what biologists call a 'ritualized behavior' that insured that mothers liked their babies because it reinforced brain circuits for affiliation in their own brains. Babies call that forth from their mothers—they like the exaggerations and repetitions much better than normal conversation and reward such antics with their kicks and coos and smiles. It's an evolved behavior between the two of them.

"Babies that made their mothers act in that sort of way were taken care of better, and mothers who acted in that sort of way felt more like taking care of their babies. So it evolved over many, many generations.

"The raw material was there, in the affiliative signals. It gradually became this universal behavior. All over the world it's been shown that mothers and adults talk to infants with a higher pitched voice, and I've got photographs of these ritualized facial expressions in adults from Papua New Guinea, Africa, the South American rainforest—all over the world. And you can see babies attracting such behavior from complete strangers in the departure areas of any airport."

fertility and prosperity, healing, being safe in battle or the hunt."

Dissanayake draws on work by anthropologists who have pointed out that rituals are always times of transition between one state and another—between childhood and puberty, between unmarried and married, between death and the afterlife, between nonexistence and birth, between want and plenty, between illness and health. People seek good outcomes, to their battles, their hunts, their children's lives. Rituals, which may or may not make the game come or make the rain fall or make the baby get well "turned out to be adaptive in human societies because they gave people something to do in times of anxiety rather than everyone independently trying to figure out what to do."

**SUDDENLY IT WAS 1995.** Dissanayake had been in New York for eight years. But she could no longer afford to live there. Gentrification was rampant, and her \$600 a month apartment was now \$1,200. She simply couldn't spend that many days typing and be able to do anything else.

Her parents invited her to come out to Port Townsend and live with them while she wrote her next book. So she did. "It was a good place to write a book," she says. "In fact it was like receiving a writer's grant to a beautiful place with delicious home-cooked meals and a view of mountains and bay."





INGRID BARENTINE

# What is Art for?

ELLEN DISSANAYAKE: ART IS BIOLOGICAL



**Above:** Assemblage by Anchorage artist Don Mohr constructed from an old Dictaphone, from an exhibition, *What Is Art For?* **Below:** Carving of a “yam goddess” from Papua New Guinea. Photos by Ingrid Barrentine.

She spent three years writing *Art and Intimacy* and finished it in 1998. She decided to move to Seattle and as far as possible recreate her New York life, which meant no car, and walking or taking the bus wherever she needed to go. There’s a grocery on the corner, and she exercises at the hospital down the street.

By this time she was becoming better known in a number of disciplines and was receiving invitations to talk about her ideas. She got a distinguished professorship for a semester at Ball State in Indiana, which paid well, giving her enough money to make a large down payment on the co-op apartment she lives in on Capitol Hill.

She recently acquired an affiliate professor title with the University of Washington, where she’d earlier been a visiting scholar. It’s a distinction without a difference, she says. No office, no money. But she has faculty privileges at the library (“the crucial thing”) and a business card. She can attach the university’s name to hers whenever she attends a conference or publishes a paper.

But she’s still basically on her own, a scholar outside the walls of academe.

It could be argued that what she has done would not be possible within a university. Her interests are simply too broad to fit neatly in a conventional academic department. So what is she? What does she call herself? “I used to say, as a joke, paleo-anthro-psycho biologist of art. But it sounded like I was showing off. People didn’t get the joke.”

So how is she introduced? “Maybe best is ethologist, or evolutionary psychologist of the arts.”

Regardless of what title applies, her journey from Pullman to the present has been, to say the least, unique. “When I look back it’s hard to believe it turned out so successfully,” she says.

Indeed, a quick survey of her publications and speaking engagements over the past year indicate a scholar who has firmly established her ideas

and made an impressive impact on a number of fields. Still, depending on Social Security checks augmented with lecture fees and book sales, Dissanayake says she lives modestly.

But her apartment, in a lovely brick building on a quiet street on Capitol Hill, is rich in the art that reflects her career and travel. In the corner leans a four-foot high wooden carving, a “yam goddess” from Papua New Guinea. It is roughly hewn, but beautiful. It was rescued from a refuse pile after being used in a ceremony. For its maker and the ceremony’s participants, its importance was in the making and using.

In the epilogue to *Art and Intimacy*, Dissanayake proposes an aesthetic hierarchy based on her work. The most elemental and primary response she calls “accessibility coupled with strikingness.” Within the field of evolutionary psychology, this first level reflects the sorts of features that most people commonly consider “beautiful” because of their association with biologically valuable things. Bright colors and smoothness remind us of fresh fruit and youth and health. Park-like landscapes tend to be people’s favorite, an evolutionary memory of the savannah where humans first became human.

The fourth and highest level of aesthetic response in her naturalistic aesthetics is what she calls “satisfying fullness,” that rare, transcendent response to art in which one feels as if “something has been accomplished by the work or activity, and a sense of completeness or sufficiency is felt—rightness and even perfection.”

And can she offer an example?

“Yes,” she says. “My first experience was in Pullman, Washington, in Bryan Hall, when I was about seventeen years old, listening to the Boccherini Quintet. They played a slow movement that as it unfolded affected me so strongly. It was a complete surprise. I found myself crying, as if I had entered a transcendent realm. This experience is probably the source of my desire to understand the arts and their power. Since that time I’ve been able to understand a lot, but experiences like this cannot be ‘explained’ or ‘analyzed’ in any way that is commensurate with the transformation that I felt.” ☒



Read a transcript of an interview with Ellen Dissanayake at [wsm.wsu.edu/stories/2007/February/dissanayake.html](http://wsm.wsu.edu/stories/2007/February/dissanayake.html).



INGRID BARRENTINE



# The Flowers

by Hannelore Sudermann



Xerpha Gaines visits her husband Edward's variety test plots on Washington State College's campus in 1912.

In 1891, the year John and Fanny McCulloch's second child Xerpha Mae was born in Wisconsin, the *New York Times* ran a story extolling the "Fertile Lands of the North Pacific Coast," promising high yields, good weather, and plenty of property yet to be homesteaded.

Nine years later, the McCullochs packed up Xerpha and her two sisters and headed west to find their fortune in the fields of Washington. They traveled by covered wagon to South Dakota and from there by train to the Big Bend area on the east side of the state. They finally arrived at their homestead in 1903. In a 1970 letter to her granddaughter, Janice Gaines Walker, Xerpha describes riding the last 35 miles to the property on an old "flea bitten" gray named Mike.

Despite the glowing news articles, the McCullochs discovered that the place they chose really wasn't ideal for farming. It was dry and windy, and the scant rain prevented them from growing a decent crop of wheat. They had to abandon their homestead and move to the small central Washington town of Othello to carve out a living.

Since Othello had only a grade school, Xerpha had to leave her family to finish high school. She moved 50 miles away to Ritzville, where she lived with an older German woman and studied with just eight other students. Bright and hardworking, Xerpha was the valedictorian.

During her time in Ritzville, Xerpha befriended a handsome young man a few years her senior, Edward Gaines. They had many things in common. Edward, too, had been born back east and had migrated with his family to Washington. He was raised on a farm in Chewelah, working a thresher and manning a sawmill as a teen. He had attended Cheney State Normal School (now Eastern Washington University), where he trained to be a teacher. He was a clever student, graduating a year early and going to Ritzville to fill a post as teacher and principal.

The pair met 1907, shortly after Edward arrived for the job teaching sixth and seventh graders. The 16-year-old girl was a beauty, with dark, curly hair, a trim figure, and a sharp intellect. While there was nothing improper in their friendship, they had to keep it a secret. People would talk; she was a student and he the principal of Lincoln School.

The secret didn't last long. Summer 2008 the grandchildren and great-grandchildren of Edward and Xerpha Gaines returned to eastern Washington. They talked and laughed, piecing together their own memories of Edward and Xerpha, and mentioning the bundle of letters that gave them the details of their grandparent's romance.

At the end of the reunion, they delivered to Washington State University an astonishing gift—Xerpha's steamer trunk which holds nearly a century of private papers detailing the life of a woman whose story is not only threaded through the University's, but also through the story of agriculture in Washington State.

Worn and heavy, with a torn label bearing Xerpha's name on the side, the trunk contains a variety of treasures: a prayer book, a tiny box full of beads, a wedding dress, an envelope of pictures of Xerpha as a girl, Edward Gaines's correspondence as a scientist, and a water-stained box bearing the label "Old Hampshire Bond: The Stationery of a Gentleman."

The stationery box invites more scrutiny: Inside is a stack of letters wrapped with a white silk ribbon, now yellowed and frayed. The first, dated May 29, 1910, is addressed to Miss Xerpha McCulloch, Othello, Wash. It starts with "Dear—Sister?—Xerpha?—Friend? Which shall it be?" Edward describes their parting at the Ritzville station as he watched Xerpha board the train for home. A few hours later, the letter notes, Edward got on another train bound for Spokane, as he made his way to Pullman where he was a student at Washington State College.

The content is hardly the hot words of young lovers, though. Throughout the dozens of letters covering two full years, they discuss teaching Sunday school, Edward's agronomy studies, Xerpha's work at the Othello post office, her mother's health, and his visits home to his family's farm.

Among them are notes he jotted off to her before class in Pullman, meandering letters written late at night, and postcards from his travels around the state. "Why did fate decree that the girl of my choice should live too far away to visit when the spring days are loveliest?" he asked on April 23, 1911, though in the same letter he teased her with the story of taking another young lady to a lecture. Into one, he tucked a small flower. In another he encouraged her to study photography and learn to use a microscope, skills that might someday help him in his work.

Among the last of the letters from 1911 is the sign off, "Enough for one time, sincerely, I am in love with you, Edd."

Though the letters show they spent more time apart than together, Xerpha and Edward were married in June of 1912. The couple returned to Pullman where, after graduating, Edward had a post as assistant cerealist and instructor in agronomy for \$900 a year. They settled into a farmhouse close to campus and downtown (on what is now College Hill) and started life together. In a few short years their family had grown to include Edward M., Mae, John, and little Grant.

During the early days of their marriage, another batch of postcards and letters on hotel stationery reveal that Edward traveled around the West attending agriculture shows and visiting universities and research stations. He was gathering ideas to bring back to the program at Washington State. By 1917, he was the chief cerealist and an assistant professor.

While building the cereal program at Washington State, Edward realized he needed to develop professionally. That meant leaving Pullman, and Xerpha, for a time in the early 1920s to attend Harvard and earn a doctorate in genetics.

Edward urged Xerpha to go to school as soon as the children were old enough to take on some of the household tasks. "He was that rare creature—a thoroughly masculine man who was totally in sympathy with feminist ideals," wrote his daughter Mae Gaines Kent in her memoir.

Pursuing her own interests as well as an area of study that would complement Edward's, Xerpha dove into botany, graduating in 1930.

But her education didn't end there. Edward was the first member of Washington State's faculty to be granted a paid sabbatical, and with it he provided his family the rare opportunity of living abroad. The summer after Xerpha completed her degree, the Gaineses, including all four children, sailed to Europe. They found a home base in England and Edward traveled into the U.S.S.R. and Sweden to meet with soil scientists and geneticists. The family toured historical sites, soaked up the culture, and lived in Germany for a time.

The two oldest children, Edward M. and Mae, returned home to Pullman that fall because Edward was in college as a botany major and Mae was finishing high school. In a letter Xerpha sent to her son from

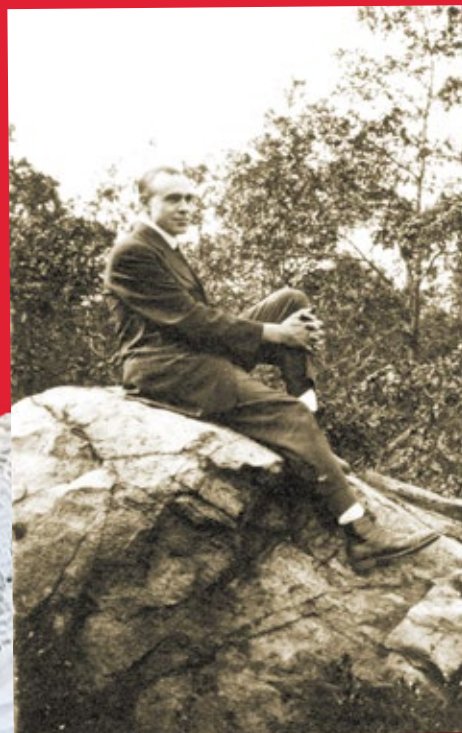
The first letter, May 29, 1910, is addressed to Miss Xerpha McCulloch, Othello, Wash. It starts: "Dear—Sister?—Xerpha?— Friend? Which shall it be?"

Germany she jokes that she hopes Dr. Clements finds "the son a better botany student than the mother was."

While Edward senior was off working, Xerpha was occupied with the two youngest children. Still she found time to continue her interest in botany, particularly weeds. In one postcard home to his daughter, Edward notes he bought Xerpha three reference books on weed identification. "They are a great help—though in German."

After Europe, the Gaines family returned to Pullman and welcomed and supported many a student and young scientist at their home. They also saw their two older children through college and watched them





The treasures in Xerpha's trunk include photographs, letters, notebooks, costume jewelry, and Xerpha's wedding dress (*left*). *Above, from top:* Edward Gaines '11. Xerpha and Mrs. Trantum, a friend. Xerpha's self-portrait.

find partners and marry. Then their son John enrolled at WSC, followed eventually by their youngest, Grant '43.

The summer of 1939 was eventful for Xerpha. Just when things at home seemed to quiet down, her daughter gave birth to twin boys. Xerpha traveled to Mae's bedside in Oregon and stayed several weeks to help her daughter through a difficult recuperation.

Though the tone of correspondence between Xerpha and Edward during this trip was happy, she came home at the end of July to find her husband in a sorry state. He was fatigued, he couldn't lift his feet, and his hands trembled. After visiting a doctor in Spokane, they learned he had Parkinson's disease.

He was just 53 and very active in his faculty position. The diagnoses prompted them to move to a house closer to campus, which they adapted for his comfort. For a time he continued working, even walking to work. By 1942, though, Edward was unable to get out of bed. Xerpha became his full-time nurse, caring for Edward on her own. Just before his death, she had to surrender him to the hospital in Colfax. According to her daughter's memoir, Xerpha went along, signing on as a volunteer nurse's aide so she could help as much as possible.

Edward died in August 1944. All of Xerpha's children came home for the funeral. They didn't know it, but it would be the last time they would all be together. A few years later John would die in a plane crash, and Grant would succumb to a brain tumor.

After Edward's death and her children grown, Xerpha found herself at loose ends. She set out to find new meaning for her life in Pullman. With the help of her botany degree and her solid knowledge of local plants, she found a position as assistant curator with the University's herbarium, a library of dried plants collected and identified to aid students and scientists in their research.

"I am practically settled for the next school year in the botany department," Xerpha wrote to her children not long after Edward's funeral. "I was amazed at the things I might do besides this job and the position of house mother." She lists library acquisitions, teaching English, a job at the student store, and assisting in the education department as possibilities. "Times are not what they used to be when a woman of fifty-three can have these opportunities."

Among those opportunities was the chance to assist with WSC President Enoch Bryan's history of WSU. Xerpha, with her meticulous attention to detail and deep knowledge of the University, was an ideal assistant for compiling the index for the book. She also served on the board of her church, was a house mother for the Farm House, and took part in the Pullman chapter of the American Association of University Women.

"She was a very nice lady," says Betty Lee '54, who was a student working a summer job at the herbarium when she met Xerpha. "And she was smart," says Lee, noting how skilled the older woman was at identifying new plants. Mrs. Gaines would often go out—around Pullman and Moscow—and collect for the herbarium, says Lee. "She was very well known in the community for her work as well as for her community service."

Xerpha wasn't one to be idle. She never watched television. She always had tenants living in her house, often visiting scholars and new

faculty. She also found time to follow her curiosity—to some of the remotest parts of the state.

Xerpha struck up a professional friendship with Theo H. Sheffer, a retired U.S. Department of Agriculture employee who was working for the U.S. Biological Survey in connection with the construction of the Columbia Basin Project. Here a new type of correspondence in Xerpha's life emerges, one that blends business with friendship. These letters are already housed in WSU's archives.

Every year Sheffer would head into the Grand Coulee to collect botanical specimens, creating a record before the area was inundated upon the completion of the dams. In spring of 1950, Xerpha, then 59, went along. The first year was such a success, Sheffer invited her again to collect "along the slopes and benches that will be flooded when the Chief Joseph Dam will back the waters of the Columbia perhaps nearly to the Coulee Dam." He noted that it was only February, and "days of radiant sunshine and nights filled with stars will wait around the corner for a while. All of which does not imply that there will not also be rough [terrain], cheat grass stickers, and maybe an occasional rattlesnake."

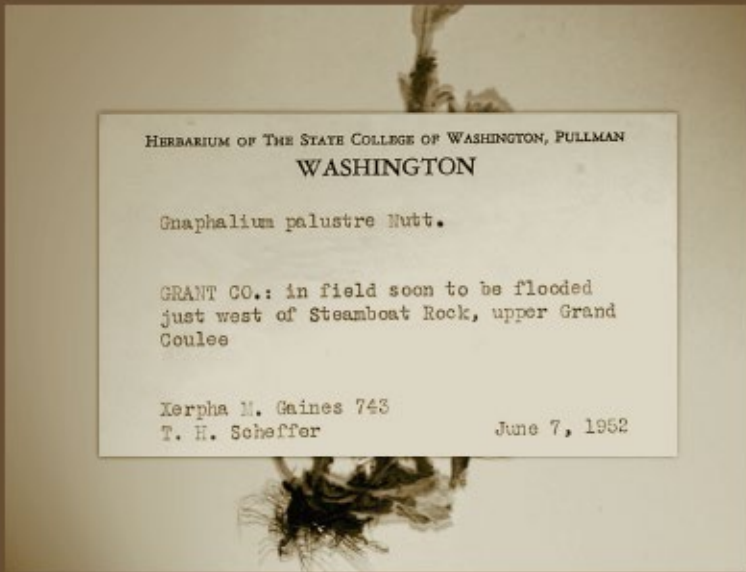
For seven years the two met each spring and summer for a several-day collecting expedition. They carried presses, did some hiking and climbing, but shied away from work requiring "cliff scramblers and perhaps a row boat in some places," notes one of Sheffer's letters. They also befriended the "old-timers," longtime residents who had been living along the areas to be flooded and who would give them permission to hunt on their land and could guide them to new plants. All her work was done independently of Washington State University and the botany department, a fact that Xerpha was adamant be noted.

After Edward's death and her children grown, Xerpha found herself at loose ends. She set out to find new meaning for her life in Pullman. With the help of her botany degree and her solid knowledge of local plants, she found a position as assistant curator with the University's herbarium.



**Opposite page, clockwise from top:** Xerpha looks over the Palouse from Moscow Mountain, 1940; a vintage field press and collector's canister for collecting specimens for the University; Xerpha with her daughter Mae; an accession from the upper Grand Coulee that Xerpha collected in 1952.





"The department has never been asked, nor has it offered to stand any expense of our collecting trips, but it has been the recipient of our collections," she wrote to Sheffer.

Though her supervisor wasn't much interested in the project, in the latter years, Xerpha found a kindred spirit in Betty Higinbotham, the wife of the botany chair, who eagerly joined Xerpha's plant expeditions.

Out of these trips along the Columbia came one of Xerpha's first academic publications, a "Botanical Survey of the Grand Coulee." She also occasionally co-authored papers with graduate students on things like a treatise on poisonous plants. But the "Botanical Survey" was important to her. She spent several years compiling the information from Sheffer's and her own collecting trips. "You seem to have the harder part of our collaboration," Sheffer wrote, noting that she had to be both collector and botanist.

Meanwhile, Xerpha had her work life at WSU. She urged young Betty Lee to apply for a job at the Seed Lab after graduation, around the time she was to go there herself. Perhaps she saw in Betty someone she would enjoy working with and training. Betty performed the secretarial work and, under Xerpha's tutelage, assisted in checking the quality of the seed that came through.

At Betty's apartment in Pullman this fall, we sit on the couch in her small living room and peek into a photo album. The last picture is an 8x10 black and white of Xerpha and Betty at a party in the seed house. They're smiling and standing next to a cake. The department always held parties there because they had such a large table, says Betty. It was a lively place to work. She and Xerpha spent their mornings at the table examining seeds with a magnifying lamp, scrutinizing the sample for weed seeds and other problems. Then they sprouted the seeds to determine their germination rates. Occasionally people would wander in with a plant they needed help identifying. They almost always went to Xerpha.

While at work, Xerpha would sometimes talk about her family, especially her daughter Mae. Sometimes she would wonder where she'd be if Edward hadn't died at such an early age, says Betty. She also talked about how the University was just waiting to buy her house, a structure near Waller Hall that stood in the way of campus expansion.

And then there was her near encyclopedic knowledge of plants, says Betty. "She could have very well headed the seed lab," she says.

Others agree. USDA agronomist Bob Allen remembers meeting Xerpha when he was hired as a scientist in 1957, and then coming to rely on her. "She was an outstanding botanist/plant taxonomist. You

couldn't stump her," he says. He brought her many plants, even some from Kansas, where he had attended graduate school. "I'd say, 'What is this weed?,' and she'd say, 'Didn't they teach you plant taxonomy in Kansas?'"

"She was a gifted scientist, and in total command of what she was doing," says Allen. "She was underemployed, that's for sure."

Xerpha kept seeking adventure. In the late 1950s she expanded her collecting trips to include Glen Canyon, Arizona. There she joined a team of archeologists in an expedition organized by the Museum of Northern Arizona. They explored along the Colorado River canyon and its glens before the area was flooded by the dam. The four-week trip resulted in a carefully indexed collection and list of plants including mosses, ferns, and gymnosperms.

According to Gaines family lore, Xerpha was required to be the cook on that trip. It didn't quite work out to the benefit of the expedition. "We say it was a good thing she was a good botanist, because she was a horrible cook," says her great-granddaughter Jocelyn Liu.

Whether Xerpha was a threat to her supervisors, as some have suggested, or just part of an older WSU, she was urged to retire. It took three years of pressure before she finally agreed to go. And by then, she already had another big project in mind.

**SHE MAY HAVE LEFT** her job in the Seed Lab, but people still brought her plants. She worked out of her house, doing taxonomy at her kitchen table. "We teased her about the buckets of weeds often left on her doorstep by her county agent friends around the state, or by farmers whose fields were being invaded by unidentified species of plant enemies," her daughter Mae writes in her memoir.

She had an astonishing talent for finding and identifying the weeds of the Northwest, says Rich Old, author and weed scientist. He points to the *Ventenata dubia*, a slender weed that most farmers and experts hadn't yet recognized in the fields when he was in graduate school in the 1980s. But Xerpha had already spotted and identified it back in the 1960s, he says.

She was constantly collecting, says Janice Gaines Walker, Xerpha's granddaughter through her son Grant. Janice remembers sitting on Xerpha's lap and learning to look at seeds through a microscope. She also recalls her grandmother taking off on long walks to collect specimens. "She always seemed busy with a project." By the time of her granddaughter's remembrance, Xerpha was deep into what is her greatest contribution to botany in the Pacific Northwest—a book titled *Weeds of Eastern Washington*.

Collaborating with Dean Swan, WSU extension specialist, and an illustrator named H.C. Keller, Xerpha compiled a comprehensive list of the region's weed species, double checking everything with local research scientists and extension agents, like Roland Shirman. "I don't think I ever met anyone who was more meticulous in detail," he says. She asked for his help in reviewing the illustrations for her book. "She'd come wafting into the office and say, 'Oh, do you have a minute?' Of course, I always did."

In 1969, after exploratory surgery in Spokane, Xerpha was diagnosed with liver cancer. She preferred to call it by its Latin name, *hepatocellular carcinoma*, joking to her children that she thought it sounded more impressive. She returned home to tidy up her life, resign from community work, and finish her book. But by this time the original publishers had backed out of the project. Xerpha finished the book that summer. It was the culmination of her life's work collecting and identifying and recording.

She took a turn for the worse in September and moved to a convalescent home where she would be closer to her daughter Mae and her family. She died in Spokane on October 31, at age 79, not knowing if her book would ever be published.

Two years later her book *was* published, to this day a definitive text for the region.

**BESIDES THE NOTES** in the archives, and samples in the herbarium, traces of Xerpha Gaines can still be found throughout Pullman. Fourteen years after her death, yet another of her descendants enrolled at Washington State. This time, it was her daughter Mae's granddaughter, Jocelyn Mae Kent (Liu). Jocelyn's father, Jay Kent '61 PhD '66, was one of the twin boys born to Mae in 1939. Jocelyn was drawn to WSU because of the family legacy as well as the opportunity to study biology and eventually become a veterinarian.

Xerpha's steamer trunk which holds nearly a century of private papers detailing the life of a woman whose story is not only threaded through the University's, but also through the story of agriculture in Washington State.

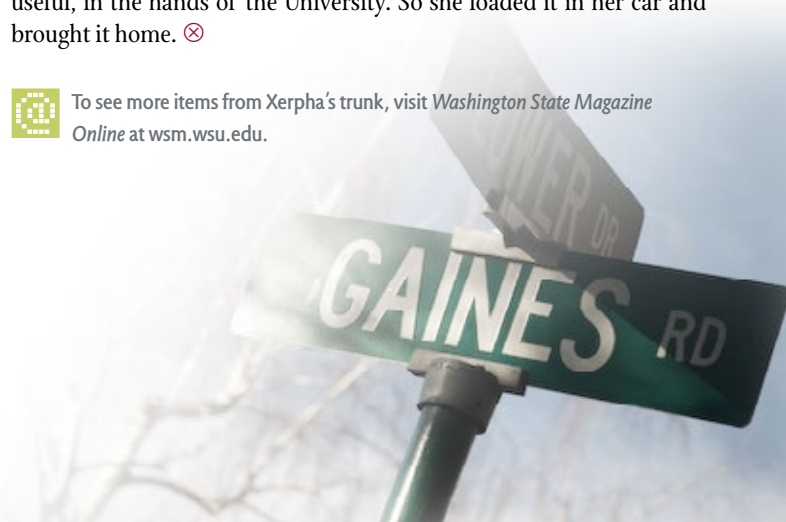
She was aware of the Gaines's long presence in Pullman, and of their ties to the WSU. "I knew my great grandmother had lived there on campus. I knew that she had been a respected botanist. And I knew that she had done a ton of work to put together plant samples for the herbarium." She even knew that a small street near campus bore the Gaines name.

But fate had a final gift for Jocelyn. As a vet student, she found herself house sitting in an old farmhouse near campus. Not until the owner handed her the keys did she learn that the house on Gaines Road was the one where more than a half-century earlier Xerpha had raised her family.

This year, when she was preparing for the Gaines family reunion, Jocelyn thought about the trunk, which was being stored in Western Washington at a relative's house. She was the last one to really look through it, and she realized it might be well protected, and maybe even useful, in the hands of the University. So she loaded it in her car and brought it home. ☒



To see more items from Xerpha's trunk, visit [Washington State Magazine](http://Washington State Magazine)  
Online at [wsm.wsu.edu](http://wsm.wsu.edu).











*Copyright*

{ YOU MUST REMEMBER THIS }

*Memory*



At the heart of the self lies memory, and at the heart of memory lies learning.

It's been decades since I was asked, "What do you want to be when you grow up?," but now I'm facing a mid-life version of the question, this one tinged more with fear than with hope. I just turned 53 and my current answer to the question of what I want to be in 20 or 30 years boils down to three things: healthy, solvent, and of sound mind.

Of the three, the one I worry about most is the last. I'll have support networks to help me work around the others, if need be, but if my mind goes—

The fear, of course, is of the big A: Alzheimer's disease. The most common cause of dementia, Alzheimer's already afflicts more than four million Americans. By 2050, with the aging of my fellow boomers, that number is expected to triple. And there's not much we can do about it. A few drugs are available that help in the early stages of the disease; but for the foreseeable future, to come down with Alzheimer's is to step into an abyss.

Several scientists at Washington State University are exploring how memory works and what's gone wrong when it doesn't. I set out to talk with them about their research and, I hope, pick up tips about what I can do now to improve the odds that when I'm 80 my brain will still be healthy enough to let me cook my own meals, pay my own bills, enjoy my friends and family, and understand what's going on in the world.

My first visit is with psychologist Maureen Schmitter-Edgecombe, who explores the borderland between normal functioning and the beginnings of dementia. Doctors call it MCI, for Mild Cognitive Impairment. She says MCI is not the same thing as early-stage Alzheimer's, although the term is sometimes used that way. It's just a label assigned to people who do poorly on certain tests of memory and routine thinking.

"Some would argue that people in this category really are early stage dementia," she says, "but depending on how you get your sample, some of the people that fall into this stage actually revert back to looking like normal older adults the next time you test them a couple of years later."

In her lab, simply failing a word-recall test doesn't land you in the MCI category. Schmitter-Edgecombe is working to develop better ways to assess memory problems. Are a client's memory lapses normal age-related glitches, or signs of an irrevocable slide into neverland?

"[People] can't get in that category just because they had one poor test," she says. "They have to be reporting a history of difficulties, the significant other has to be reporting a history of difficulties, and then all that information has to make sense with what we're seeing in the testing data."

In one test, she asks each client to do eight memory-related tasks over the course of an hour. The client is also asked to remember that after each task, he should remind a third person to take

medication. At the end of the hour, Schmitter-Edgecombe asks the client to describe the eight tasks (not in detail, just well enough for her to recognize each one)—and to tell what order they came in.

I can imagine getting the first one and maybe the last two in the right order (assuming I could even recall all eight), but the ones in the middle? That sounds *hard*.

She says it's not hard at all for young adults, "but as we get older, we do start to see changes." Recalling the order in which events happened, or *temporal order memory*, is distinct from recalling the events themselves, which is called *content memory*. It's possible to remember an event clearly but forget when it occurred, says Schmitter-Edgecombe. So far, most tests for Alzheimer's focus on content memory: You're asked to recall a list of words, who's President, or what you ate for breakfast. But such tests miss non-content aspects of memory that may be even more important to everyday functioning than content memory.

"We've got a group [of clients] who are *not* having content memory problems, yet they're reporting, or their significant others are reporting, just as many difficulties in their everyday lives," says Schmitter-Edgecombe. "These other aspects of memory may actually have greater contributions to what people are reporting as causing problems."

In addition to temporal order memory, there's *source memory*, which records where you got the information. When you tell a story to the person you first heard it from, that's a failure of source memory. Your content memory is fine—you remember the story perfectly—but you've forgotten who told it to you.

Finally, there's *prospective memory*, the ability to remember to do things in the future. Prospective memory involves long-term goals, like vacation plans, and daily details, like remembering to take medications at specific times.

It makes perfect sense, but I've never thought about memory like this before. Schmitter-Edgecombe says I'm not alone; there's been very little research on non-content memory, especially in the context of dementia. That's beginning to change. She and other researchers have found that serious

problems often show up first with non-content processes. Temporal-order memory, especially, starts declining years before significant losses of content memory.

Schmitter-Edgecombe says that while the various forms of memory interact with each other, they largely reside in different regions of the brain. Content memory relies most heavily on the hippocampus, which lies fairly deep in the brain. Temporal ordering, source, and prospective memory involve higher circuits in the frontal lobes (behind your forehead), the parts of the brain responsible for decision-making or "executive ability." She thinks that if we can understand how the different aspects of memory are related and how they affect people's ability to get along in everyday life, we'll have a better shot at developing strategies to compensate for memory deficits, and perhaps even delay the onset of memory-related problems.

She's especially intrigued by "cognitive reserve," the notion that staying mentally active gives us some degree of protection against dementia. People with lots of cognitive reserve still get Alzheimer's, but they have excess capacity, a cushion, so they can still function well even with moderate deterioration in the brain. Eventually, the disease progresses so far that the reserve can't help, and then the person declines with stunning speed. Still, delaying the onset of symptoms by a couple of years sounds good.

## So, how can we tell if we have a sizeable reserve? Can we do anything to boost it?

To some extent, the die is already cast, she says. How much education you had, your language skills in early adulthood, and your genetic history all contribute. But there are some things we can do to improve it. Being socially active helps. So does aerobic exercise, keeping a healthy flow of oxygen to the brain. Mainly, we need to keep learning. More and more evidence suggests that we can pad our cognitive cushion through mental activity.

That's what I was hoping to hear. My job requires plenty of mental heavy lifting, and at home I read challenging books, recently took up a musical instrument, and enjoy doing word and number puzzles. Is there merit in the suggestion I've read that working crosswords or Sudoku keeps the brain cells in shape?

Schmitter-Edgecombe thinks puzzles may help, as long as they require you to actively search for and integrate new information. Her colleague, biochemical psychologist Jay Wright, agrees, "but only if you're really interested in doing it. Pick something that's stimulating mentally, that you *want* to do. It could be reading, it could be solving things, it could be learning anything new that keeps you processing. You really need new experiences in order to keep things rolling."

The human brain is made for problem-solving, says Wright. "We've got this cortex that requires us to use it. I think that's the key to aging. I think it's anything that continues your problem-solving and trying to make sense out of something that challenges you."

He says mental activity strengthens the brain's ability to work around damaged areas and keeps brain cells alive longer, enhancing cognitive reserve. In Alzheimer's disease, wads of protein gum up the neural connections and lots of brain cells simply die. We all lose brain cells as we age; people with Alzheimer's lose more.

In particular, they lose cholinergic neurons, those that communicate via a neurotransmitter called acetylcholine. The drugs now used to treat early-stage Alzheimer's all boost the amount or longevity of acetylcholine, which enables the neurons to keep talking to each other longer.

That's OK as far as it goes, says Wright, but it ignores other chemical pathways that play a role in memory formation. Several years ago he and biochemist Joe Harding discovered one such pathway while researching how the body regulates its blood pressure. They were testing potential drugs that targeted molecules called angiotensin receptors and came across a receptor (AT4) that just wouldn't cooperate. Turns out it's absent from parts of the brain that control blood pressure but is abundant in parts that deal with memory.

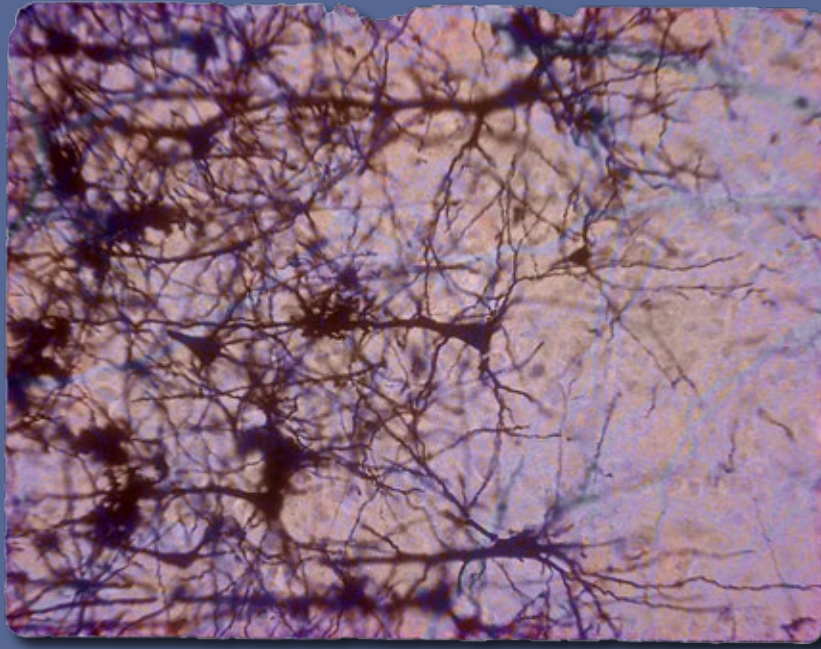
Wright and Harding took a closer look at AT4 and found that it is, in fact, involved in memory formation. Their discovery helped explain a reported side-effect of certain blood-pressure medications. People who had taken the meds for several months had told their doctors, 'oh, by the way, I feel a bit sharper mentally than I was before.' That made sense, since maintaining a healthy blood pressure was known to be good for brain health. However, not all blood pressure medications had the same effect—only those that worked via the brain's angiotensin receptors and activated AT4.

Wright and Harding ended up switching their research program from blood pressure to memory, which meant learning an entirely new literature and new experimental approaches. They found that the AT4 pathway works independently of the cholinergic system, and while its exact role isn't yet known, they think it offers another possible target for drug therapy to reduce the symptoms of Alzheimer's.



MAUREEN SCHMITTER-EDGECOMBE BY ROBERT HUBNER





Micrograph of degenerating brain neurons by Lester V. Bergman/CORBIS



Illustration of neurons by Benedict Campbell/Wellcome Images



## { YOU MUST REMEMBER THIS }

In one series of experiments, they are working to develop drugs that aid memory by “revving up” the AT4 pathway. To test their potential drugs, they have developed an animal model of dementia. (No naturally-occurring model exists.) They treat rats with a drug called scopolamine, which interferes with neurons that use acetylcholine. For the next few hours the treated rats behave in ways that look familiar to anyone who deals with dementia patients. In particular, they have trouble retaining new information. It’s not a permanent, progressive disease state, but a short-term, drug-induced inability to make new memories.

Wright and Harding test each rat by putting it into a round horse trough filled with water. There’s a small platform the rat can rest on, but it’s slightly submerged and not visible from the surface. Until the rat finds it, he has to keep swimming. Wright and Harding time how long it takes the rat to find the platform on successive days. Each rat gets one try a day, for eight days. “Demented” rats get scopolamine before each trial.

On the first day, not knowing the platform is there, the rats swim around for 90 to 100 seconds before finding it. Rats whose brains are functioning normally quickly learn where the platform is. Within a few days they swim more-or-less straight to it, reaching it in 15 to 20 seconds. A rat with drug-induced dementia, on the other hand, takes up to 75 seconds even after eight days of learning, and some never find it.

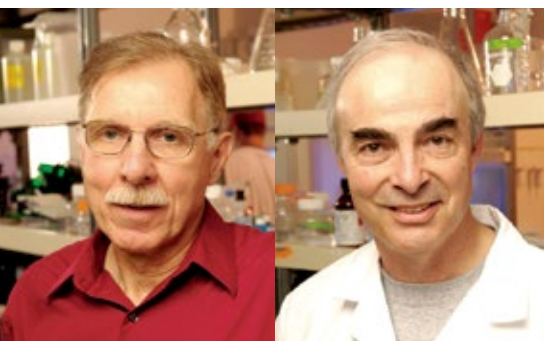
“That’s kind of what you see with people [who have dementia],” says Wright. “They *can* learn things, but they’ve got to rehearse it and you’ve got to go over it and over it with them, and even then the progress is really slow.”

In the key test of their potential drug, Wright and Harding gave the rats scopolamine to create dementia, and a new compound that enhances the AT4 system. After eight days of training, those rats found the platform in about 25 seconds—almost as fast as the untreated controls. It was a major finding: boosting AT4 largely compensated for the problems in the cholinergic pathway.

“Our hope is that maybe the drugs we’re developing would keep people alert and mentally active for another year, another two years, when they normally would be sliding,” says Wright. With one hand he sketches a sloping line in the air, indicating the decline in mental sharpness over time in dementia patients. “We’re not asking to stop the thing. I don’t think that’s possible. But to make the slope a little less [steep], so that they can still store new memories, retrieve those and old memories a little bit better.”

For some reason I’ve always thought of Alzheimer’s in terms of losing existing memories. Yet people with the disease generally retain their oldest memories the longest. Like Wright’s and Harding’s rats, it’s new memories they have the most trouble with, or integrating new ones with the old. And that means *learning*.

Wright says long-term memories are permanent in the sense that they last a long time, but they are not permanent in the sense of never changing. When you learn something new—create a new memory—you don’t simply add new information to old, like stacking books on a shelf. The brain actually remodels itself, its internal wiring, all the time. If



In experiments by Jay Wright and Joe Harding, rats were placed into a 6-foot diameter water tank and allowed to swim in search of a submerged platform where they could rest. Geometric symbols on the walls provided orientation clues.

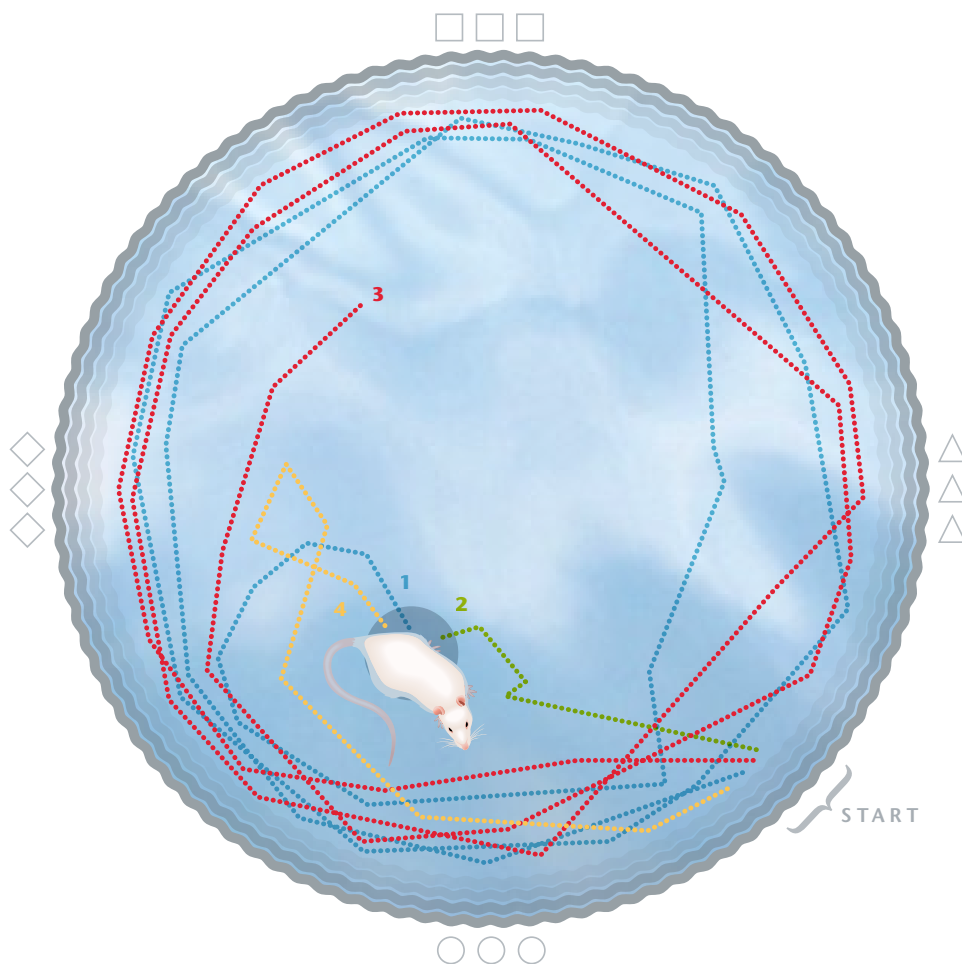
**1.** On their first try, rats tended to stay near the tank wall but found the platform within 90 seconds.

**2.** After eight tries on eight successive days, the rats reached the platform in 15 to 20 seconds.

**3.** Rats treated with a drug that blocks the cholinergic memory system, mimicking Alzheimer’s disease, had trouble finding the platform even after eight days of training.

**4.** Rats treated with the blocking drug and a drug being tested for its ability to overcome memory deficits found the platform almost as fast as rats that had no drug treatment.

STAFF ILLUSTRATION







A single neuron from a rat's hippocampus, an area of the brain essential for learning and memory. The bulbous part is the cell body. Fluorescent color markers have been attached to specific proteins to allow researchers to assess the length and complexity of dendrites (green) and the number and size of dendritic spines (red). Each spine is part of a synapse, where this neuron receives incoming signals from other neurons.

*Photomicrograph courtesy Gary Wayman.*



GARY WAYMAN BY ROBERT HUBNER

new information contradicts an existing circuit, for instance, your brain must weaken those previous connections to accommodate the new stuff.

The mysterious part is that the remodeling happens right where you need it, right in the brain cells involved with that prior memory. If you've just learned a new route to the ballpark, you don't want your brain changing the circuits that store the knowledge of how to cook spaghetti. How does your brain 'know' which connections to alter, which ones to strengthen, and which to do away with altogether?

Gary Wayman is working on those questions. He gets into the nitty-gritty biochemical details of how a signal from one nerve cell affects the growth and function of other nerve cells. "I'm a signal transductionist," he says, using a term his mama surely never imagined for him. "I absolutely love dissecting these puzzles out."

He also loves looking at nerve cells, or neurons, through the microscope. Healthy neurons are graceful things, with a roundish cell body that houses the nucleus, a long, sturdy axon that carries impulses toward other neurons, and an array of delicate branches called the dendritic arbor. Each dendrite, or branch, of the arbor has tiny hair-like spines that can meet up with an axon from another neuron to form a synapse. The synapse is the center of action in neural communication. A nerve impulse from one neuron travels down its axon to a synapse, where it crosses to a dendritic spine on another neuron. From there the impulse travels to the cell body, which determines whether to send the signal out through its own axon, or dampen the signal by not responding.

Wayman says the arbor is the key to much of brain health, including a robust memory. During infancy and childhood, as a child explores her environment, a flood of new information stimulates her neurons and the

dendritic arbors grow. Dendrites that are used a lot branch more; dendrites that don't carry many signals get pruned back, as the neuron focuses its effort on the connections that are used most often.

Wayman starts with an experimental setup that shows clear links between how active neurons are and how connected and healthy they are. He puts neurons from a young rat brain into a culture dish and lets them grow a while to establish connections with each other. Then he adds the drug bicuculline, which prompts the neurons to transmit signals to each other as they would normally do in response to touch, sight, or whatever else the rat was experiencing.

The arbors of neurons that receive signals from other neurons grow. Some dendrites get longer; others branch more. They also establish more synapses with neighboring neurons. It's exactly what you see in a young brain as the animal it belongs to learns about the world around it.

That much has been known for years, but the molecular mechanism for it has been a mystery.

"They knew that if you increase synaptic activity, you modulate the dendritic arbor, you affect the formation of synapses," says Wayman, "but nobody knows what's going on inside the cell. That's where we came in."

He and his colleagues at the Oregon Health and Science University have traced much of what happens inside a neuron as a result of incoming signals. A welter of chemical details boils down to this: Dendrites contain a protein that inhibits their further growth. Synaptic activity blocks the protein and moves it away from the active site. Synaptic activity also prompts the neuron to make a tiny RNA molecule called micro RNA 132 (miR132), which suppresses the production of more inhibitor. When miR132 production





goes up, there's less inhibitor and the dendrites grow more in areas with active synapses. When Wayman blocks miR132, more inhibitor protein is made and dendrite growth stops or slows down (*see illustration at right*).

My head is spinning. Boosting growth by inhibiting an inhibitor seems overly complicated, I say.

"Is it complicated?" asks Wayman. "Or is it giving the cell a means of fine tuning?" He reminds me that the conventional view of how cells work holds that a signal turns on genes in the nucleus, which leads to the production of messenger RNA and, eventually, of protein. That works for many cellular functions, but for the delicate job of making highly specific connections with other cells, it won't do. If a neuron's nucleus pumped out RNAs that directly promoted growth, *all* of its dendrites would grow, not just the ones at the site where the synaptic activity occurred.

And that's the key part of the system. When we learn something new, we *don't* get a wholesale activation of neurons throughout the brain. Or we shouldn't, at any rate. The last thing we want is general sprouting throughout the brain, says Wayman; that way lies madness, almost literally. Indiscriminate nerve firing causes seizures and has been linked to some forms of retardation and to *loss* of memory.

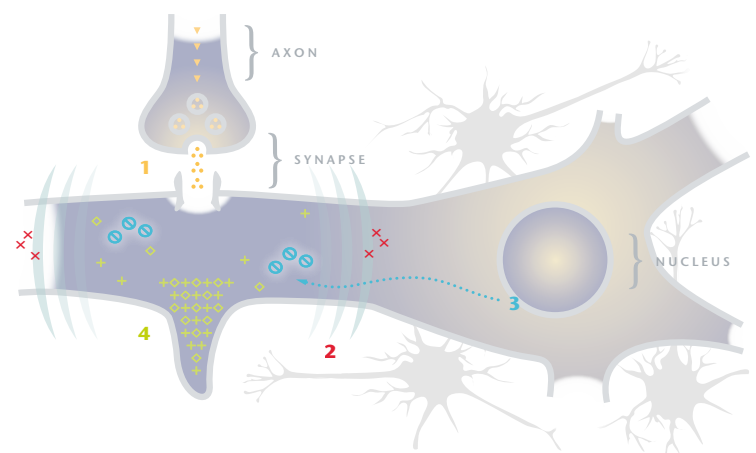
By having the molecular machinery for dendrite growth already in the dendrites, but in an idle form, a signal at that site can activate the machinery in that locale alone, not throughout the neuron or brain as a whole.

The final piece clicks into place. It fits what Wright told me about remodeling, it fits what he and Schmitter-Edgecombe said about giving our brain cells new problems to chew on, it fits what's known about more active brains suffering less neuron loss. Doing a hard mental task stimulates neural activity, which encourages neuron growth and con-

nection. As Wayman says, "an active nerve cell is a cell that's going to live another day."

So I'm all set with an action plan for brain health. After work today I'll practice a new song, call my best friend, and go for a brisk walk with the dogs.

Oh, and where did I leave that new Sudoku book? ☒



Activity stimulates localized dendrite growth: (1) A neuron receives a nerve impulse at a synapse. (2) That causes a growth inhibitor (X) to move away from the area and (3) turns on a gene for miR132 (O), which moves into the dendrite and blocks production of more growth inhibitor. (4) With the inhibitor gone, stored proteins (+, <math>\diamond</math>) assemble to form a new dendritic spine. Staff illustration



A web exclusive on Maureen Schmitter-Edgecombe's work helping people with memory loss improve their ability to do everyday activities is at [wsm.wsu.edu](http://wsm.wsu.edu).



## { PRIVACY *and the* WORDS of the DEAD }



STAFF ILLUSTRATION

### *Memory*

**OCTOBER IN PARIS.** It's damp and unseasonably cold. I'm wandering back toward my hotel from the Bibliothèque Nationale, where I've spent the past few hours working in the Rare Books Room. Perhaps I'll stop at the next brasserie for a glass of Côtes du Rhone. Life could be worse.

I'm here because I'm studying the French essayist Montaigne—especially the ways he was understood by his earliest English readers. Shakespeare was one of those readers; others included Ben Jonson, Elizabeth Cary, and Sir Francis Bacon. But beyond those who were prominent authors, there were hundreds of ordinary men and women who took a distinct interest in Montaigne and who left traces of that interest in diaries, letters, marginalia, and commonplace books. These are the texts I'm investigating. I've read them in libraries all over England and Scotland. Now I'm reading them in France. In essence, I'm rummaging through the private words of the dead.

For it's very unlikely that these long-forgotten readers expected anyone to scrutinize their thoughts—anyone, that is, beyond their own immediate audience, which was often an audience of one. Yes, it's true that the social construction of privacy varies tremendously from one culture to another, and it may be the case that seventeenth-century English readers felt that they were improving Montaigne when they filled his book with questions, clarifications, and anecdotes drawn from their lives. They may have felt that they were perfecting the *Essays* for future readers—accepting the author's implicit challenge to move beyond social convention and explore what lies beneath. Perhaps. Or perhaps they were writing exclusively for themselves, never imagining that four centuries later someone might pore over their words, never condoning such a possibility because never dreaming it might happen.

## { PRIVACY and the WORDS of the DEAD }

Should the words of the dead be protected? Do we violate a standard of privacy when we read and publish what was unintended for dissemination? I wonder. Nowadays, of course, such writing reverts to the public domain after a certain period of time—fifty years here, a century there. After all, the dead can't prevent it. The living always prevail. But the mere existence of public-domain legislation doesn't answer my question. This is a moral issue, and one that probably doesn't vex scholars as much as it should.

In her suicide note, Virginia Woolf asked her husband to destroy all her papers. He didn't. Indeed, many of the letters she wrote to Vita Sackville-West, her long-time lover, were subsequently published in a multi-volume edition of her correspondence. Would Woolf have approved? I have no idea. Perhaps, upon reflection, she would have claimed indifference on the grounds that nothing could affect her once she was gone. Yet what we know is this: that she requested, unambiguously if desperately, that her papers be destroyed.

Still, hers is an extreme case. In my own research on Montaigne I've come across a few readers' comments that made me feel uneasy. In one instance, a copy of the *Essays* displays a conspicuous ownership signature: "Edward Worseley, his booke, 1646." In itself, this is unremarkable. What perplexes me is that only two passages in the volume have been underlined, and both deal with the death of a brother. The second is particularly poignant. Montaigne, reminiscing about his deceased friend Étienne de la Boétie, quotes a fragment from the Roman poet Catullus:

O brother, reft from miserable me,  
Never more shall I heare thee speake, or speak with thee;  
Yet shalt thou ever be belov'd of me.

These lines are scored in the margin, and the name "Jane Worseley" has been inscribed in faint brown ink. Was Jane Edward's sister? I suspect she was. Did she read these pages in her brother's book and grieve anew for his death? I think she did. Would she have desired that someone in the distant future might discover and recount her sorrow? I doubt it.

In another copy of the *Essays*, a man has written a note to a friend. The date is Christmas, 1925. "Dear Charles—Ever since you & I attended the Bierstadt Sale years ago & coveted an early Montaigne we were too poor to buy, I have wanted to give you one—and here it is, with my love.—Neil." The Bierstadt Sale took place in 1897. Thus, for almost thirty years, Neil cherished the memory of his time there with Charles, ultimately giving him the book they couldn't afford when they were young. His note, of course, is not a reader's annotation, but it's no less private for that. The love of Charles and Neil was never my business.

People will object that the two men may not have cared who knew of their love. And maybe this is true. People will say that the vast majority of what humans write is hopelessly banal—that protecting such writing serves no purpose. There's much sense in this; I'd rather lose a cargo ship full of diaries than a single poem by George Herbert or W. H. Auden. People will argue that Virginia Woolf's papers were far too valuable to destroy. If Shakespeare, for instance, had kept a private journal, and if this journal had been discovered yesterday, you can be certain that its words would

be in print tomorrow—on paper and throughout all cyberspace. The dead can't enforce wishes they once held, whatever those wishes were.

A more fundamental objection, however, is that we simply can't say with confidence how privacy was construed by men and women at different earlier times. Montaigne himself was acutely aware of this. He observed that communal living was valued by some cultures, abhorred by others. He noted that marriage was frequently seen as a strictly public affair; deep emotional intimacy was sought outside its boundaries. Occasionally, though, the two were merged. As for verbal privacy, perhaps the ideal outlook would be that which Montaigne described: we're hypocrites if we're not willing to write for others what we're willing to think for ourselves. But I'm not aware of any society that's prepared for this. And even if such a place existed, few people would have the independence of mind to live there happily.

So: do we violate the privacy of the dead when we read what they wrote for themselves? Maybe it depends on our purposes. Maybe such writing should be fair game for scholars who wish to preserve the voices of the past, but off-limits to those who merely exploit such voices—or who seek the subtle thrill of exposure to long-dormant interiorities. But how will we tell the difference? And do we want to?

Ultimately, I don't know the answer to my question. I know that I myself have a legal right to study the words of the dead, and I've done so for much of my life. In most cases I don't think the dead would mind. But now and then, when I stumble upon words that are unmistakably private—inchoate, impassioned, thoughts-in-the-making rather than public prose—am I transgressing? I think I am. I think I'm intruding into a realm where I was never invited, never imagined. I'm an interloper. And it's not because I'm discovering lurid opinions or fiercely-guarded secrets. It's because individual human intention takes precedence over fluctuating social practice. It's because someone always understood this particular act of composition as barred from public scrutiny, and therefore inviolable. Forever. It doesn't matter how we construe death: as the entry to an eternal afterlife, as a transition to radically-altered consciousness, as the onset of oblivion. What matters is solely that a certain person had a certain understanding, and that if we fail to honor that understanding, we fail to respect ourselves and our own forms of inwardness. We diminish the concept of an enduring selfhood—an amalgam of will and spirit that outlives the body's demise.

It's impossible, broadly speaking, to retrieve the desires of the dead. But when we contemplate historical writing that entails a verbal resuscitation of their lives, should we err on the side of their privacy? That would seem the most honorable choice. Will we do so? Not a chance. The desires of the living always prevail.

*Will Hamlin teaches English at WSU. His work on Montaigne is supported by a research fellowship from the John Simon Guggenheim Foundation.*



To see a slide show of the marginalia in Montaigne's *Essays* visit *Washington State Magazine Online* at [wsm.wsu.edu](http://wsm.wsu.edu).



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# Sarah Lewis Scholes '99, '03

Bachelor's of Science in Biological Systems  
Engineering and Master of Science in Engineering.

Civil engineer for the U.S. Forest Service  
Rocky Mountain Research Station;  
conducts post-wildfire erosion and  
vegetation response research to help  
forests recover to pre-fire conditions.

Honored by WSU's College of Agricultural,  
Human, and Natural Resource Sciences  
with the *Rising Star Award* during the  
2008 Women's History Month.

Loves ski trips to Schweitzer and  
vacations to Hawaii with her  
husband, Bob '00.

Life Member of the WSU Alumni  
Association.

*"Bob and I joined because membership  
in the WSUAA is one way alumni and  
friends can enjoy tremendous money-  
saving discounts and support the  
university we love at the same time.  
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## CLASS NOTES

### 1950s

**Donald B. King** ('54 Psych.) recently gave the main banquet address at a castle in Bamberg, Germany, on the history of the International Academy of Commercial and Consumer Law which he founded in the early 1980s. King is currently a professor of law emeritus at Saint Louis University in Missouri.

**Eugene Curnow** ('55 D.V.M.) recently published *Life, the Hard Way: Up From Poverty Flat*, a memoir covering a childhood during the Great Depression, his time as a medic during the invasion of Iwo Jima, coping with post-traumatic stress disorder, and helping others with the affliction. After graduating from WSU, Curnow went on to practice veterinary medicine in Portland, Oregon, pioneering a mobile veterinary clinic. The book has been published by Bennett & Hastings Publishing of Seattle.

**Mario Ascarrunz** ('56 Arch. Eng.) since retiring from his job as a project architect in 1996 has been painting water colors and modeling for portrait classes.

### 1960s

**Gary Schwendiman** ('62 Sci.) co-founded Ethanol Capital Management LLC (ECM) in 2003. ECM is the largest alternative energy private equity fund in the United States for ethanol investments. Before co-founding ECM, Schwendiman served as a professor and Dean of the College of Business Administration at the University of Nebraska for 17 years.

**Dawes Eddy** ('65 Gen. Studies) of Spokane is planning on climbing Mount Everest this spring. If he succeeds, he will be, at 66, the oldest U.S. citizen to summit the mountain. To follow news of his preparation and climb, visit <http://eddyoneverest.com>.

### 1970s

**Janel (Shroy) Johnson** '70 was named the 2008 Idaho Foreign Language Teacher of the Year for the Idaho Association of Teachers of Languages and Cultures.

**Gary Schulz** ('76 Tech. Ed.) was recently named executive vice president of both the California Raisin Administrative Committee and the California Raisin Marketing Board. A fifth generation farmer, Schulz managed Tulare's International Agriculture Center for fifteen years, and, most recently, served as program director for the Central Valley Business Incubator.

**Shauna C. Pierson** ('78 Phys. Ed.) recently finished a master's program in guidance and counseling through City University. In 2008, she received National Board Certification from the National Board for Professional Teaching Standards. She works in the Highline School District in Sea Tac as a counselor at the Academy of Citizenship and Empowerment.

**Lowell Kenney** ('79 Ind. Tech., Ed.) was awarded a contract to his company, Eagle View Research Center, to supply advanced tactical sighting systems sight and illumination mounts for the M2HB .50-caliber machine gun by the U.S. Special Operations Command. These mounts allow modern sights and illumination lights and lasers to be attached to the oldest machine gun in the US arsenal.

## » tracking



Jason Ambrose '99 slides under a locked fence to get a look at a coffee farm in Costa Rica.

INGRID BARRENTINE

### Jason Ambrose '99

## Counting beans in Costa Rica

by *Hannelore Sudermann* :: Jason Ambrose learned to drink coffee as a college freshman. "Then it was more about function than flavor," he admits.

These days, Ambrose starts his morning with a French press. He heats milk for his son Jackson, who is not yet two, and water enough to make two big mugs of Ethiopian-grown coffee for himself and his wife Julie (Dertinger, '94).

It's a far cry from the cafeteria cups he first sampled back at WSU, he says.

Moving to Seattle after graduating from Washington State University in 1999, Ambrose couldn't help but get caught up in the coffee culture. Today the 33-year-old Starbucks employee has a vast knowledge of coffee. He can tell you about the earliest plants grown in Ethiopia. He can tell if the cup in front of him is an Arabica or a Robusta. He lists the attributes coffees from

different regions offer. Sipping a cup, he may even be able to identify the region where it was grown.

Last year his coffee knowledge won him a place on an expedition to visit coffee plantations in Costa Rica. Through a program co-sponsored by Starbucks and Earthwatch, a non-profit environmental organization, Ambrose and ten other travelers took a two-week tour of the farms of the Coope Tarrazú coffee cooperative.

"I love to travel," says Ambrose. He had never been to Costa Rica and was eager to visit.

This was no vacation, though. The group was there to work with scientists collecting data from nearly 40 different coffee farms within about a 30-mile radius. The coffee produced in this interior region is called Terrazu.

Each day, they rose early and drove up roads carved out of the region's steep hillsides. The elevation is ideal for good coffee beans, says Ambrose, but not great for roads.

Coffee has been grown in Costa Rica since the end of the 18th century. It quickly surpassed cocoa and tobacco as a major commodity. For a time the country was led and influenced by coffee barons.

Most of the contemporary farms Ambrose and his new friends visited were often only a few



acres in size and the oldest was 60 years old. “Still, we met some third- and fourth-generation farmers,” he says.

The Earthwatch team worked on the slopes of the plantations, taking leaf and soil samples and counting coffee berries on the trees. “The hope is that the work will provide some good field-level information to the cooperative and help the farmers continue practices of growing sustainable coffee and reducing the impact the production has on the land,” says Ambrose.

In the past, for example, the coffee bean hulls were simply dumped, causing pollution downstream, says Ambrose. “It didn’t make sense to do that,” he says. Now, instead, the hulls are used as organic matter for fertilizer, “a solution that benefits the members of the cooperative and does some great things for the coffee and the soil as well.”

Back at the cooperative, the group sampled some of the coffee that had been fresh-roasted from beans harvested from the plantations.

While he filled his head with coffee knowledge, Ambrose deepened his awareness of how the behaviors of his employer and coffee consumers can affect the health and economics of the communities where the coffee is grown. “I’ve always considered myself a bit of an environmentalist. How can you live in this state and not be aware of the environment around you?” he says. “But now I’m more aware of all the pieces that are put into play to have coffee in your cup.”

Ambrose valued his time in the landscape, and even more so his exposure to the farmers and their families. Every day, the team had lunch provided in the field. One of Ambrose’s favorite meals was delivered wrapped in banana leaves. “So much care went into preparing it,” he says. In the evenings the team often went to farmers’ homes for supper. “Not only did the people of the area really take pride in their coffee, they took pride in hosting us there.”

Ambrose has come a long way from the money guy he thought he’d be when he graduated with a degree in finance and a minor in economics.



A hillside coffee plantation that Ambrose visited in the Tarrazu region of Costa Rica. Photo by Ingrid Barrentine.

Coffee from one farm in particular was phenomenal. “It was lively. It sort of danced in your mouth,” says Ambrose. “And it had intriguing characteristics—nut, fruit, floral, earthy pieces. It made you re-evaluate all the other coffees you had ever tasted.”

After leaving Pullman, he went to work at a boutique financial services firm in Seattle, then moved on to Microsoft. He landed at Starbucks in 2002, but left the financial division for a new challenge in the marketing department where his focus is experiential marketing. Coffee now is his thing.

## 1980s

**Charlena Holl Grimes** ('84, B.F.A. '87) recently retired from nearly 38 years in the College of Engineering and Architecture at WSU. She has received numerous university awards for her work at WSU including her time as director of the women engineering and minority engineering programs. In April she was inducted into the hall of fame at her alma mater, Unity High School in Tolona, Illinois.

**Kelly Jones** '84 was recently elected associate technical fellow, Flight Controls, at The Boeing Company in Everett, Washington. His current assignment is airframe systems integration for the 787.

**Jon Piper** '84 was named Katherine Esau Distinguished Chair in Plant Science in November 2008. Piper is professor of biology at Bethel College, North Newton, Kansas.

**Brian Setzler** '85 received an M.B.A. in sustainable business from the Bainbridge Graduate Institute in June 2008. Brian works as a CPA/business consultant in Portland, Oregon.

**Paul Morley** '89 was promoted to professor at Colorado State University in July, where he works as an epidemiologist and as the Director of Biosecurity for the Veterinary Teaching Hospital.

## 1990s

**Jacqueline van Wormer** '90 of Richland, Washington, was named a Champion for Change in juvenile justice reform for her work to improve the lives of court-involved kids, their families, and communities. As Models for Change Washington site coordinator in Benton and Franklin counties, van Wormer bridges the gap between school administrators and the juvenile justice system to create more effective responses to truancy. Models for Change is a John D. and Catherine T. McArthur Foundation national initiative to reform juvenile justice. Van Wormer works at the Benton Franklin County Juvenile Justice Center in Kennewick. She is a PhD candidate in the criminal justice program at WSU, where she received her M.A. in criminal justice with emphasis in public administration in 1992.

**Alva R. George** ('91 Arch. Studies, Ed.) has recently joined Davis Architects as an intern architect in Birmingham, Alabama.

**Jeff Nottingham** ('91 Econ.) is the new director of large commercial and industrial sales at Current Energy in Dallas, Texas. He has worked the last 18 years in energy and power conglomerates.

**Kurt Dolan** '92 has joined the law firm of Kramer & Frank, P.C. in Missouri where he is specializing in subrogation litigation.

**Patrick Kramer** '92 and his family are relocating to Colorado after 21 years in Pullman. He will be vice president of development at the University of Colorado Foundation.

**David Haldi** '96 has joined the Commercial Insurance Division of Kibble & Prentice, a USI Company, as a sales executive. David works with Northwest businesses to develop commercial insurance and risk management programs. Kibble & Prentice is a financial services firm located in Seattle, Washington.



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## 2000s

**Althea (Schelvan) Bjune** '00 and her husband Geir '01 moved back to Norway in the fall of 2008. He is working as a software engineer and she is a pre-school teacher.

**Heather Mickelson** '01 launched a new company: GoMobile Commerce. It is the first in the nation to offer wireless credit card machine rentals. [www.GoMobileCommerce.com](http://www.GoMobileCommerce.com)

**Carol Lyn Vanevenhoven** ('00 Pharm.) has been named the 2008 Distinguished Young Pharmacist of the Year for the state of Washington. She lives and works in Yakima.

**Dawn Davidson Gardner** '01 recently earned the certified meeting professional designation from the convention industry council. Dawn is the group sales manager at Marriott Residence Inn-Portland RiverPlace.

**James Guzman** '01 was promoted from lead recruiter to Giant Campus summer programs recruiting manager. Giant Campus is the leader in youth technology camps, with more than 46 camps at prestigious academic institutions across the country.

**Bryan Long** '01 and his wife Autumn welcomed their second child, Danica Jade, on September 26, 2008.

**Ronald J. Shurer II**, '01, a U.S. Army staff sergeant, was awarded a Silver Star for rendering aid to four critically wounded U.S. soldiers and 10 injured Afghan commandos under intense fire in a battle in northeast Afghanistan in April 2008. The special forces medic ran through heavy fire to help his fellow Green Berets, and despite being hit in the helmet and wounded in the arm, saved the lives of four critically wounded casualties over more than five and a half hours. He received the Silver Star, the U.S. military's third-highest combat award, in December at a ceremony at Fort Bragg, North Carolina, with his parents, his wife Miranda, and son Cameron watching.

**Joelle Wasson** ('01) and **Matthew Thomas** ('98) will marry on June 27, 2009 in Camas, Washington. The couple resides in Seattle.

**Dawn Wirz** '01 Bio. Engr., '05 M.S. Engr.) recently joined Murray, Smith & Associates, Inc., a consulting engineering firm located in Everett, Washington. Wirz will be involved with a wide range of MSA water, wastewater, and stormwater planning and design projects.

**Gretchen (Herndobler) McFadden** ('02 Ed.) married **Kevin McFadden** ('03 Comm.) on April 5, 2008 in Coeur D'Alene, Idaho. They recently purchased their first house in Kennewick.

**Peter Barnhart** '03 and his wife Angela celebrated the birth of their daughter Emily Grace on September 5, 2008. Peter works as a project manager/estimator for Pacific Glass and Door, Inc. in Mukilteo, Washington.

**Bernadette Flynn** '03 gave birth to Nora Anne Flynn on September 12, 2008. They live in Kennewick.

## Roger McClellan

## A suitable combination

by *Hannelore Sudermann* :: As a teen, Roger McClellan '60 D.V.M. went to work at his high school farm. By helping manage a flock of sheep that were a control group in a Hanford nuclear facility study, he became part of a major research project on radioactivity in animals. The work put him in touch with Leo Bustad, at the time the research veterinarian at Hanford and later the dean of the College of Veterinary Medicine at Washington State University.

Bustad's study focused on ungulates consuming the radioiodine that had been deposited on pasture land on the Hanford site, which was then run by General Electric. Bustad would often stop by the high school farm to check on the control flock.

McClellan's first encounter with WSU was about that same time. "I came to Pullman in the spring of '53, one of eight hundred Future Farmers of America here for a convention," he says. "Most of us left saying we were going to return as students. Many of us did."

This fall, after a career in inhalation toxicology, science, and public policy, McClellan returned to Pullman with his wife Kathleen '62 to be honored as Washington State's Regents' Distinguished Alumnus.

He is the archetype of a WSU veterinary alumnus, says Acting Provost and Dean of Veterinary Medicine Warwick Bayley, citing McClellan's long and successful career and his dedication to the University.

"My career has really been intertwined in terms of science and policy," says McClellan. He learned at Hanford about issue-resolving science and public policy, which set the path for the rest of his career.

As an undergraduate McClellan tackled three majors: engineering, economics, and pre-veterinary medicine. His obvious path seemed to lead to vet school. But once he had second thoughts. He recalls his anatomy class, "Two students to a dog, four students to a cow, eight

to a horse," he says. "You kind of wondered at that time, 'Is this really for me?'"

He was a good student, though maybe not always the ideal student—at least from an administrator's perspective. "At the end of every semester I'd write a letter to the dean critiquing the program," says McClellan. "He didn't seem to appreciate it."

Throughout college McClellan found sum-



ROBERT HUBNER

mer jobs back at Hanford working first in an engineering internship and then helping Bustad. The work gave him opportunities to work all over the plant, seeing sides of it he didn't see growing up. The next two summers his work with Bustad focused on animal exposures to toxins. He was able to take the research he did at Hanford on Cesium 137 metabolism and turn it into an honors thesis.

The spring of his graduation, Hanford called again. "The next thing you know I'm signed on at Hanford as a biological scientist," says McClellan. He took that job for \$8,700 a year. "I thought it was good when I started," he says. "But later, I decided a little more would be better."

Combining his veterinary work with science research suited him. "I wouldn't have fit in with the little old ladies and their pussy cats," he says. While he was doing research at Hanford, he also enrolled in management training. "It turned out

to be extraordinarily valuable,” says McClellan.

A few years into his time at Hanford, the U.S. Atomic Energy Commission invited Bustad to serve as a scientist in Washington, D.C. Bustad sent McClellan instead. The post with the AEC Division of Biology and Medicine offered the young veterinarian insight into national research projects, government funding, and human health concerns. It also led to an appointment at the Lovelace Biomedical and Environmental Research Institute in Albuquerque, New Mexico. He was hired in 1966 to start a lab there. He was just 29.

One of the things the Lovelace program looked at was what happens with a Chernobyl-type accident resulting in radioactivity in the air. What are the risks? “That led to developing a very strong aerosol science program,” he says. The group studied a suite of aerosol fission products, with the help of a good team of physicists, chemists, statisticians, and veterinarians. “We became a leading lab in inhalation toxicology,” says McClellan. “I’m a very strong advocate of team research. Most of the problems in the real world require a multidisciplinary team.”

After leaving Lovelace, he served as president of the Chemical Industry Institute of Toxicology until 1999. Throughout his career, he has advised both public and private research efforts. He served on the original science advisory board for the EPA and was elected to the Institute of Medicine of the National Academy of Sciences.

## Robert Helm, 65

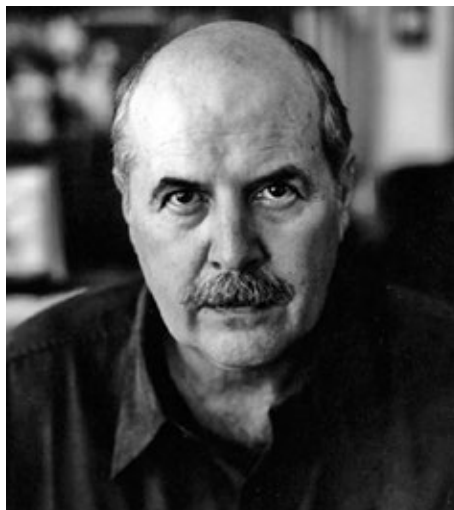
# Acclaimed Northwest artist, teacher

*by Chris Bruce* :: Robert Helm, an acclaimed Northwest artist known for surreal imagery and exquisite craftsmanship, died October 21, 2008. He was 65.

Helm was born in Wallace, Idaho, and attended North Central High School in Spokane, where he met Tamara Kimpel. They married in 1966 and had a daughter, Brenna, and a son, Boone. He earned his M.F.A. degree at WSU in 1969 and taught at the University of Colorado before returning to teach at WSU from 1971-84.

After leaving WSU, Helm and Tamara continued to live and work in their studios in their beloved wheat fields between

Pullman and Moscow. From there, his art went to museums and galleries all over the world. His work is in the collections of some of the most distinguished institutions in America: the Whitney and the Metropolitan Museums in New York, the Hirshhorn in Washington, D.C., and others. But in true fashion, Helm did not seek out acclaim. More likely, he’d rail against it. He just naturally figured it should



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come to him.

Helm seemed to live in some other time of his own devising. He lived in a time when people read books, rang up their neighbor and just chatted about stuff, and wrote journals in a small neat hand. In his world, people tried to make it on their own and they had strong opinions. In his world, the car could still break down in a snowdrift and you’d have to high step your way in a white-out to some forlorn farm house two miles out. In his world, an outing was when he went to the grocery store and then came home and played with his granddaughter, Rowan.

We traded books throughout the time we knew each other. In Helm’s books, he would write on the title page the date when he began to read the book, and the date when he finished it. “Bob Helm started reading August 12, 2001, finished reading September 3, 2001.” It was a message from a specific time.

That’s how he made his art. His art took a long time and tapped into some deep mythical place that had to do with silence. Even the birds and dogs in his paintings were silent. No wonder: they inhabited fully resonant, atmospheric dream spaces.

Helm made art like a 19th century cabinet maker, through a meticulous process that accounted for every brushstroke, every hair of

**Jeffrey Moller** ’03 and **Jillian Arme**y ’04 were married May 17, 2008. They reside in Spokane.

**Justin Steiner** ’05 graduated from Vanderbilt University Law School in Nashville, Tennessee, and is now an attorney at Givens Pursley in Boise, Idaho.

**Kimberly Adams** ’06 is public relations manager for the Washington State History Museum and Washington State Historical Society.

**Theo M. Leonard** ’06 recently saw his master’s thesis on the behaviors of metals in sediment and their effect on water quality published in *Water Research*. He is co-author of the piece along with Marc Beutel, an assistant professor at WSU. Leonard now works at an engineering firm Seattle.

## IN MEMORIAM

### 1920s

**Avis Louise (Atkins) Brown** x’29, 101, October 11, 2008, Spokane.

### 1930s

**Glenn Karl Hall** (’31 Ed.) 98, February 2008, Sedro Wooley.

**Lawrence M. Lowell** (’33 Zool./Pre Med.) 97, November 26, 2008, Clackamas County, Oregon.

**Marcella Smith** (’33 Ed.) 100, December 6, 2008, Spokane.

**Edward D. Lynch** (’34 Sci.) 95, October 2, 2007, Federal Way.

**June W. Swannack** (’35 Ed.) 94, October 29, 2008, Bainbridge Island.

**Marguerite Belle Snavelly** (’36 Music, ’44 Ed.) 93, October 10, 2008, Snohomish.

**Viola Clara Forrest** (’38 Speech) 91, October 2008, Olympia.

**Robert H. Quiggle** (’38 Ed. ’50 M.A. Ed.) 94, August 26, 2008, Depoe Bay, Oregon.

**Kenneth L. Peterson** (’39 Animal Sci.) August 21, 2008, Sequim.

### 1940s

**Bernard J. Gill** x’40, 91, November 23, 2008, Spokane.

**Hazel Eileen Phillips Kagy** (’40 Music) 88, November 11, 2008, Lacey.

**Robert H. Coonrad**t x’41, 89, October 11, 2008, Bloomington, Indiana.

**Dorothy Jane Jarvis Ebner** (’41 Home Ec.) 88, August 2008, Eugene, Oregon.

**James Paul O’Connell** (’41 D.V.M.) 92, December 13, 2008, Coeur d’Alene, Idaho.

**Eva Pettichord** x’41, 90, November 7, 2008, Battle Ground.

**Harold E. Silvernail** (’41 Ag.) 89, June 12, 2008, Mount Vernon.

**Robert H. Spencer** (’41 Ag. Econ.) 91, November 22, 2008, Ritzville.



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Robert Helm, *Iron Ground*, 1991, Collection of Washington State University Museum of Art.

the brush, and every piece of laminate.

He felt materials contained magic within them. In those rare times when he ventured beyond the Palouse, he'd visit a famous author's or artist's house, and he'd take a pen knife and slice off a sliver of wood from the bottom of a desk or chair and stash it away, then grind it up and use it in a painting, thereby preserving some essence of that person.

Through his art he was able to take us to a special place where the familiar became strange, the never known turned into the forgotten, and the forgotten turned to a collective memory that teased the eye and stilled the conscious mind.

## Wallis Beasley, 92

# Sociologist, administrator, interim WSU president

by Gen DeVleming :: From young faculty member to acting president, Wallis Beasley had a profound influence on the direction of Washington State University. Beasley died at age 92 of age-related causes at Bishop Place in Pullman

on May 20, 2008.

He was born in Red Bay, Alabama, on October 8, 1915, the youngest of seven children born to J. T. and Emma Shamblyn Beasley. He attended Harding University in Searcy, Arkansas, where he met Totsie Smith, whom he married. They had more than 40 years together.

After serving for a brief time as a minister of the Church of Christ, he enrolled at Peabody University in Nashville, Tennessee, earning a Ph.D. in sociology. He taught briefly at Pepperdine University before moving to The State College of Washington (now Washington State University) in Pullman. Beasley rose quickly through the ranks at WSU. While serving as chair of the Department of Sociology and Anthropology, his department received national recognition for its recruitment of African-American graduate students. The University established a national reputation for producing outstanding sociologists of color, and WSU and the Department of Sociology were awarded the Dubois/Johnson/Frazier Award, the first department or institution to be so honored.

Over his WSU career, Beasley chaired many university committees and served as the faculty athletic representative to the Pacific Athletic Conference (now the Pac-10). President C. Clement French appointed him academic vice president, and upon French's retirement, the WSU Board of Regents appointed him interim president of the University, a post he served with distinction for nearly a year, until the arrival of Glenn Terrell as president in July of 1967. Gen DeVleming,

**Roberta Harrison Beadle** x'42, 87, October 13, 2008, Spokane.

**Donald Buckley** ('42 Ag.) 90, October 13, 2008, Walla Walla.

**Jean (Funkhouser) Crouse** ('42 Sci.) 88, September 24, 2008, Sandpoint, Idaho.

**Clifford E. Rowan** ('42 Bus. Admin.) 87, February 21, 2008, Tucson, Arizona.

**Monroe Frank Smith** ('42 Chem.) 85, March 2008, Walnut Creek, California.

**Leo Richard Pierce** ('42 Elec. Engr.) 88, December 26, 2008, Richland.

**Owen T. "Mike" Hunt** x'43, 87, September 13, 2008, Camano Island.

**James Gordon Johnson** x'43, 86, November 20, 2008, North Bend.

**Shirley B. Gordon** ('44 Chem.) 86, September 26, 2008, Burién.

**Shirley Claire (Olin) Allen** x'45, 85, October 31, 2008, Seattle.

**Marjorie Anne Burns** ('45 Music Ed.) 85, November 6, 2008, Pullman.

**Eunice Munstedt** x'45, 82, October 18, 2008, Spokane.

**Barbara Ray "Bobbie" Alberts** ('46 Arch. Eng.) 84, September 28, 2008, Seattle.

**Eva C. Hollingbery** ('46 Sci.) 85, December 9, 2008, Yakima.

**Betty Louise Lashua** ('46 Gen. Studies) 84, October 13, 2008, Marysville.

**Dolores Owen** ('47 Music) August 28, 2008, Vancouver.

**Mary Marjorie "Marge" Newport** x'48, October 6, 2008, Spokane.

**Daniel W. Nordhill** ('48 Civ. Engr.) 81, September 29, 2008, Sisters, Oregon.

**Marie Busick** ('49 Home Ec.) 80, April 27, 2008, El Segundo, California.

**Mayrelee (Fallquist) Newman** ('49 Engl.) 82, October 22, 2008, Boone, North Carolina.

## 1950s

**Mary Lou Enberg** ('50 Phys. Ed. M.S. '59) 81, November 2, 2008, Pullman. She was also on the faculty at WSU.

**Charlotte Azalia Tochtermán** ('50 Comm.) 79, February 7, 2008, Bellevue.

**Lester B. Bishop** ('51 Hist., Ed.) 88, November 12, 2008, Pullman. He was also retired WSU staff.

**Helen Finney** ('51 Comm.) 79, February 2008, Ketchikan, Alaska.

**Barbara Jean Martin** ('51 Hort.) 85, October 1, 2008, Kent.

**Norman McClure** ('51 Biology) 79, October 25, 2008, Coulee Dam.

**David Harold Woodside** ('51 Wildlife Bio.) 84, June 24, 2008, Kaneohe Oahu, Hawaii.





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**Webster Anderson** ('52 Mining Engr.) 91, October 2008, Spokane Valley.

**Keith Kirkbride** ('52 Ag.) 89, September 11, 2008, Kent.

**Benjamin J. Ruehl** ('52 Bus.) 79, September 28, 2008, Spokane.

**Henry "Hank" Swoboda** ('52 Arch.) 80, October 3, 2008, Spokane.

**Donald Louis Thomsen** ('52 Pharm.) 77, September 29, 2008, Tacoma.

**Norman C. Olmstead** ('53 Elec. Engr.) December 28, 2007, Metamora, Illinois.

**Walter H. Tefry** ('53 Ag.) 77, October 25, 2008, Spokane.

**Robert Dale Fondahn** ('54 Comm.) 77, September 13, 2008, Liberty Lake.

**Joanne K. Irish** ('54 Phys. Ed.) 76, November 9, 2008, Spokane.

**James A. Zumbrunnen** ('54 Econ.) 78, August 14, 2008, Bakersfield, California.

**Harry Arthur Kittams** ('55 Agronomy) 79, 2008, Sioux Falls, South Dakota.

**George H. Livie** ('56 Ind. Mgmt.) 76, October 22, 2008, Spokane.

**Warner E. Childress** ('59 Bus. Admin.) May 8, 2008, Lakewood.

**Paul Glynn Pickette** ('59 Pharm.) 83, December 28, 2008, Spokane.

**Dale Amar Tibbitts** ('59 D.V.M.) 73, October 30, 2008, Rosebud County, Montana.

#### 1960s

**David T. Briggs** ('61 Ag. Ed.) 80, November 7, 2008, Byron, Wyoming.

**Marlene M. Dreger** ('63 Ed.) 67, December 7, 2008, Davenport.

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

**Rudy H. Slupsky** ('64 M.A. Educ. Psych.) 75, September 3, 2008, Yakima.

**Charles Franklin Cline** ('65 Speech, M.A. '67) September 6, 2008, Gig Harbor.

**Chris "Scotty" Coelho** ('66 Elec. Engr.) 70, December 10, 2008, Mica.

**Robert R. Helm** ('66 B.F.A.) 65, October 21, 2008, Pullman.

**Betty Scott** ('66 Child and Fam. Studies) 85, December 12, 2008, Friday Harbor.

**G. Bruce Eickhoff** ('67 Political Sci.) 63, October 22, 2008, Spokane.

**Charles Robert Wilson** ('69 Ph.D. Chem.) 65, November 5, 2008, Palouse.

#### 1970s

**Gerald L. Saling** ('70 Ph.D. Educ.) 80, June 2008, Spokane.

**Larry Mellroth** ('71 Animal Sci.) 62, June 12, 2008, Cheney.



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**Charles Alan Curtis** ('74 Civ. Engr.) 57, October 12, 2008, Liberty Lake.

**Stephen James Latenser** ('74 Mech. Eng.) 56, September 24, 2008, Spokane.

**Edward Kipman** ('74 Police Sci.) 61, December 6, 2008, Geneva, Illinois.

**Roy Ellis Hood** ('77 Mech. Engr.) 55, December 2006, Longmont, Colorado.

**Mitchell Charles Aho** ('79 Bus. Admin.) 52, October 27, 2008, Kirkland.

## 1980s

**Thomas Michael Rassley** x'80, 50, October 27, 2008, Spokane.

**Katharine Haugan** ('82 M.A. Music) 75, November 24, 2008, Spokane.

**John T. Regan** ('86 Psych.) 49, October 20, 2008, Seattle.

**Dana Lou (Henson) Mullan** x'87, 43, October 12, 2008, Orcas Island.

## 2000s

**Sarah Fielding** ('05 Biotech.) 25, December 22, 2006, Yakima.

**Cheryl Lynn Harper** x '08, 36, September 27, 2008, Moscow, Idaho.

## Faculty & Staff

**Helen Austin**, 93, retired research chemist, October 10, 2008, Renton.

**Jeff Blankenship**, 49, Facilities Operations staff, October 23, 2008, Pullman.

**Mildred Farrell**, 86, worked front desk at Kruegel-McAllister, November 29, 2008, Pullman.

**Donald Fealy**, 73, retired farm staff, November 22, 2008, Palouse.

**Mary E. Green**, 85, retired staff, 2008, Saint Maries, Idaho.

**Laneva Harris**, 74, retired staff, December 21, 2008, Richland.

**Dorothy G. Jones**, 101, retired Veterinary Medicine staff, October 11, 2008, Pullman.

**Grace Ketchie**, 71, worked in University Publishing, November 19, 2008, Pullman.

**Phyllis M. McIvor**, 81, retired dining services staff, October 16, 2008, Pullman.

**Everett W. Metcalf**, 84, retired extension publications editor, November 30, 2008, Monroe.

**Don H. Pearson**, 74, retired associate registrar, December 14, 2008, Moscow, Idaho.

**Ed Proebsting**, 82, retired scientist at the Prosser Research Station, November 8, 2008, Prosser.



Wallis Beasley worked at WSU for 33 years, serving as professor, department chair, and interim president. Photo WSU News Service.

long-time assistant to presidents French, Beasley, Terrell, and Samuel Smith, noted, "Beasley's appointment as president was well received. He kept WSU moving; he understood WSU very well and he was respected by his faculty colleagues.

"He always said that making no decision was

the worst way for an administrator to manage—a decision at least moved the institution in one direction and did not permit chaos to fill the void, and a direction could be altered by a later decision if it were deemed necessary."

As his retirement neared, the WSU Board of Regents approved naming the largest building on campus The Wallis Beasley Performing Arts Coliseum "in recognition of 33 years of distinguished leadership to the University Community as a teacher, administrator, and civic leader, 1949-1981."

Following retirement, the Beasleys moved to Port Ludlow, hoping to enjoy some fishing. Totsie died in 1986, and Wallis later married Constance Robertson, a Port Ludlow neighbor who was also widowed. There, with Art and Helen Brunstad and other Cougar alumni, they hosted reunions for alumni and other friends of the University.

Beasley is survived by four nieces and six nephews, some still living in Red Bay, Alabama, where he is honored in the local museum for his WSU achievements. <<

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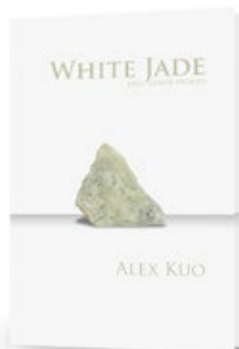
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### White Jade and Other Stories

by Alex Kuo WORDCRAFT OF OREGON, LLC, 2008 :: Review by Robert H. Abel

:: The seven stories in this collection are delightful. Sometimes funny and even perverse, they show an extravagant imagination and a very sharp political perspective deepened by a concern for how wars and historical dislocations jam people into corners from which it sometimes takes generations to escape. The novella which follows them, *White Jade*, has a distinctly different tone and is a marvelous adventure in autobiography. It is more like a channeling or act of loving reconstitution of a deceased mother's voice than anything like a memoir or confession or any of those other autobiographical modes which flaunt the author's ego.

Two of the stories, "Chink Food and The Rockets' Red Glare" feature a pair of very likable young semi-rogues trying to reinvent themselves in the western United States. One is Wing Moon, grandson of the owner of the Golden Dragon Chinese Restaurant in Pendleton, Oregon; the other is Junior, an Umatilla Indian and veteran of Afghanistan military duties, now working as a sous-chef for Wing Fee, Moon's grandfather. Moon, a communications major, finds he is unable to take on jobs in advertising or public relations because they require him to "tell the best lies." Junior, though contented as a cook, is tired of playing the servant to

the hunters and townsfolk who come into the Golden Dragon, mainly men who were once his teammates and classmates, but who now insult him with superior airs. This sets the pair to scheming, and without spoiling the stories, I will only say that old Wing Fee's family connections lead Moon and Junior into the fireworks business.

The most impressive story, in my view, is "Regrets Only." In this tale, we find ourselves with Seymour inside the surveillance aircraft which, as news junkies will recall, was knocked out of the sky and onto China's Hainan Island in March 2001. The details of this encounter are scintillating, vivid, frightening. After an emergency landing, Seymour and his crew mates are incarcerated, interviewed, and basically left to stew and ponder their futures. The irony of Seymour's being of Chinese heritage in an American plane whose mission is to spy on the Chinese is not lost on his captors, but that doesn't cut Seymour any slack, either. As the incarceration wears on, Seymour and an ally, Ford, find themselves alienated from the "displays of religious fervor" which "infect" the rest of their fellow captives. The end of the story, when the airmen-spies return to the United States, is rich with the absurdities and ironies of world politics.

*White Jade*, the novella which rounds out this collection, is worthy of a separate review. All of Kuo's themes come together here—the necessity and trickiness of language, the importance of managing or repossessing one's own stories, the difficulty of finding a self in a world of possibilities and dislocations of all kinds, the struggle to make sense of history, to name a few. This novella adds an important dimension: the idea that "it takes more than one person to write an

autobiography, that for an autobiography to have any authenticity and hence value, it must extend beyond just one generation."

*Alex Kuo is a professor of English at Washington State University. He received the American Book Award in 2002 for Lipstick and Other Stories and is currently the spring 2009 distinguished writer in residence at Knox College in Galesburg, Illinois.* ☞

*Robert Abel is a fiction and freelance writer living in Hadley, Massachusetts. He is the winner of the Flannery O'Connor Award for Short Fiction and holds an M.F.A. in English from the University of Massachusetts.*



### Brewing Justice: Fair Trade Coffee, Sustainability, and Survival

by Daniel Jaffee UNIVERSITY OF CALIFORNIA PRESS,

BERKELEY, CALIFORNIA, 2007 ::

Review by Larry Clark '94 ::

About twelve years ago, I drank my first cup of fair trade coffee. I didn't spend

much time thinking about the implications—it just seemed like a decent idea to pay farmers a good price for their product. But even the simple assumption that a fair trade or organic label guarantees farmers a better income or life can be questioned. Do farmers actually receive extra profit? Are they more successful than conventional producers? Do the labels mean anything to them? In *Brewing Justice*, Washington State University sociologist Daniel Jaffee explores those questions, and other complications of fair trade and organic coffee production, through the experiences of Mexican coffee producers and a detailed look at the global coffee market.

Comparing the income and quality of life between Michiza members (a fair trade and organic grower cooperative) and conventional farmers in southern Mexico's Rincón region, Jaffee shows that the fair trade farmers usually do earn slightly more than their counterparts despite higher labor and inspection costs. Michiza members also benefit the community through local spending, wages for extra work, environmental protection, and less





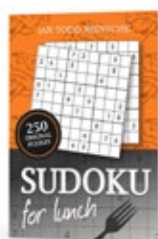
reliance on coyote middlemen to sell coffee.

So why don't all coffee farmers grow fair trade or organic coffee? In the roller-coaster realm of coffee costs, conventional coffee prices sometimes reach or exceed the base fair trade price of \$1.26 per pound. With fair trade's much higher standards for coffee quality and wages for workers, conventional producers don't necessarily see the benefit of switching.

*Brewing Justice* also takes an overview of fair trade certifiers and their relationship with coffee giants like Starbucks and Folgers. As fair trade goes mainstream and rules are bent for major companies, Jaffee argues that policies need to be applied equally and presents recommendations to retain the integrity of fair trade labels.

Jaffee won a prestigious C. Wright Mills award (for social science scholarship that gives a fresh perspective on a contemporary problem, contains theoretical and empirical evidence, and lists specific actions) for *Brewing Justice*. Indeed, the book provokes questions about the fair trade movement through clear writing and real world

examples, making it both accessible and well-researched. ❖



**Sudoku for Lunch** by **Ian Todd Riensche, '93, '04**

TATE PUBLISHING & ENTERPRISES, MUSTANG, OKLAHOMA, 2008 ❖  
Review by Cherie Winner ❖

How does one review a book of Sudoku puzzles? There's no plot, no metaphor, no elegant or awkward use of language. There are just the puzzles, which themselves are pure pattern.

But the puzzle-making process clearly involves skill and attention, because Sudoku books, like novels and collections of poetry, vary widely in quality. *Sudoku For Lunch* is a lively, fun, and well-designed example of the genre. (And it has the added benefit of being printed on high-quality paper that stands up well to erasure.)

Riensche presents 250 puzzles in groups based on how long he thinks it will take a reader to solve them. Group headings include

"Coffee Break," "Quick Lunch," and the ultra-challenging "Afternoon Off."

The labels generally fit my experience; most of the Coffee Break puzzles took me fewer than 10 minutes and those in the harder groups took longer. They topped out at 15 to 20 minutes, though; in the two hardest categories, I either solved the puzzle quickly (about a third of the time) or got stuck.

As any dedicated Sudoku puzzler knows, getting stuck merely strengthens the determination to solve the darn things. At the front of his book, Riensche gives a quick overview of some tricks of the Sudoku-solving trade. All but one were familiar to me. The one that wasn't, I am hoping will help me figure out how to get un-stuck.

If you're a beginner, this book gives you plenty of room to grow. If you're a fair-to-middling puzzler like me, it offers a range of challenges to suit your mood and your willingness to be frustrated.

And if you're a Sudoku whiz, please give me a call with some hints on how to solve those stubborn "Afternoon Off" puzzles. ❖

**One More Mile** by **Brent Jensen '89** ORIGIN

RECORDS, SEATTLE, WASHINGTON, 2007 ❖ Review by David Hoyt '84 ❖ What caught my attention from the first time I heard this album was that the instruments are balanced in such a way that one initially forgets there are four individual voices. Yet the skillfulness of each member of this jazz quartet is always quite apparent.

The opening track, "Sweet and Lovely," hints at modal journeys, while other selections such as "Birks Works" have what might be described as smoky and sultry tones. The more up-tempo "Punt," and to a lesser degree "E.J.," contain more driven tempos that allow the group to really demonstrate their ensemble skills. "Alone Together" maintains a counterpoint structure of sorts that at once seems freeform but skillfully maintains momentum, showcasing the piano and soprano sax voicing over bass and drums.

Jensen, director of jazz studies at the College of Southern Idaho, mentions in his liner notes that "every performance is another step ... one more mile of the journey." *One More Mile* is a journey I can recommend to any avid jazz listener. ❖

**Spy Candy** by **Gina Robinson '83** KENSINGTON

PUBLISHING CORP., NEW YORK, 2008 ❖ A debut novel featuring 30-year-old bank officer Jenna Jarvis, who checks into a fantasy spy camp in Arizona. The adventure, a study in romance and suspense, proves much more than just a schooling in spycraft, as it seems someone is out to get Jarvis and her fellow "spies." ☒

**College Days: Tales from the Life of a Professor Errant** by **Arthur Cridland** TRAFFORD

PUBLISHING, VICTORIA, BRITISH COLUMBIA, 2006 ❖ A collection of stories about life in Pullman and at Washington State University in the 1960s and 70s as recounted by a scientist who worked in the botany department. ☒

**Greg Duncan Quintet Unveiled** by **Greg Duncan '98,**

**Dan Nicholson, Marcin Fahmy, Jon Deitemeyer, Jeff Greene** OA2 RECORDS, SEATTLE, 2007 ❖ This debut CD holds a collection of contemporary jazz pieces performed by trumpet player Duncan and his Chicago-based quintet. It includes a bluesy tribute to Jimi Hendrix written by Duncan as well as songs that reflect the influences of other jazz greats. ☒



## Hotel at the top



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*by Hannelore Sudermann ::* Pioneer James “Cashup” Davis dreamed big. At a time when most Washington settlers were carving farms out of the Palouse, he was so awed with the panoramic views of the Palouse from Steptoe Butte, he decided to build a hotel at the top.

Davis’s first career was as a well-to-do stonemason in England, but he left that life in search of adventure. In 1872, at the age of 57, he settled in Washington and built a bustling farm as well as a stage coach stop and dance hall.

While most Washington State University students only know of the butte as a landmark east of Highway 195, the story of Davis and his hotel has captured the interest of a few. Randall Johnson ’37 was so impressed

with the story, he undertook to write a small book about it. The result is a 20-page typed account of Davis’s life from his birth in England in 1815 through his days as a Washington settler. Johnson’s account was refreshed in 2003 when student Marc Howard ’03 wrote his own history of Davis for the Whitman County Historical Society.

According to Johnson’s account, Davis set his sights on Steptoe Butte, which stood 3,610 feet above sea level and about 1,200 feet above the Palouse, as an ideal location for a mountaintop resort.

He bought 880 acres, which included the butte and the surrounding land. According to Howard’s account, Davis spent the remainder of his estate, about \$10,000, to build the most luxurious hotel ever seen in Whitman County. It had a grand main floor hall and 20 guest rooms on the second level. The very top was an observatory where visitors could look through a telescope and see all the way to Walla Walla.

At first hundreds came to the sky-high oasis, but the allure didn’t last and the crowds dwindled. At times Davis waited up there alone, ready to welcome the rare guest, according to Johnson. Though he realized his venture had failed, he so loved the hotel, Davis continued to live there until he died in 1896. With him, the dream of maintaining a resort atop the butte died too. It sat empty for years. In 1911 a fire, purportedly an accident caused by two young boys, turned the dry timbers into a bonfire “seen for miles in every direction,” according to Johnson’s account.

The McCroskey family, contemporaries of Davis, eventually purchased the butte and then gave it to the people of Washington as a public park.

“Enjoy the view,” Johnson wrote, “and think a kind thought about the little white-haired Englishman with the stovepipe hat. He dreamed dreams beyond his reach, but he wove some bright threads into the generally drab fabric of the pioneers’ lives.”



For a few more photos of Cashup Davis and Steptoe Butte, or to share your own memories of the landmark, visit *Washington State Magazine Online* at [wsm.wsu.edu](http://wsm.wsu.edu)





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