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WSM Summer 2009

Interesting times :: We were having a long midweek dinner at Le Pichet in Seattle, a sort of anticipatory wake for the Seattle P-I, where my friend Tom had worked as a reporter for 20-some years. Tom’s pretty crusty and tends to brush even the most irksome things off with a joke. But being a fiftysomething journalist facing a post-newspaper era in a town awash in laid-off reporters, reality had started to sink in. Even so, referring to the demise of his employer and the economic times in general, at one point Tom gestured outside to First Avenue and said, “But this is no crisis, Somalia has a crisis. We don’t.”

With sufficient perspective, of course, that’s true. Relatively speaking, Seattle has no crisis in spite of losing a daily newspaper. Washington has no crisis in spite of a $9 billion shortfall, and Washington State University has no crisis in spite of facing its worst budget cuts since the Depression. But that kind of perspective can admittedly be difficult to maintain in such times as these.

In the 1933–35 biennium, the state legislature hit Washington State College with a 35.5-percent budget cut. But that was following earlier cuts. Reading through the early 1930s minutes of the WSC regents meetings, it’s tough to follow and tabulate the continuous economic blows not just to WSC, but to the University of Washington and the “normal schools,” also. It’s actually a fascinating, if depressing, narrative. Unfortunately, it does not offer the balm of historical perspective that one might hope for. For we live in different times.

In 1932, a meeting of higher education representatives decided to meet legislative cuts with salary cuts, applied as equitably as possible. Those making $3,000 and up would take a 10-percent cut. Those making $2,600 and up would take a seven-percent cut. Those making $2,100 to $2,500 would take a five-percent cut. And those making less than $2,100 would suffer no cut.

President Holland, who earned $12,000 a year, had his salary reduced to $10,800. Ida Lou Anderson, mentor of Edward R. Murrow, continued to earn $1,600 for her nine-month appointment. (Only two people at WSC making more than $2,100 did not take a salary cut: football coach O.E. “Babe” Hollingbery, who made $8,000 a year, and assistant football coach and baseball coach A.B. “Buck” Bailey, who made $1,750 a year.)

By the fall of 1932, Holland and the Regents realized they would have to make further, more drastic, cuts. Those making $1,200–2,100 would take five-percent cuts. Campus janitors, who made $97.50 a month, took a $5 cut.

The following spring, 1933, everyone was hit with additional salary cuts with totals ranging from 15 to 25 percent. (Hollingbery and Bailey had mysteriously disappeared from the roster, if not from campus.)

What might we learn from our history? Maybe nothing. But it might be fruitful to ask how Holland managed to hold the campus together in spite of such hardship. How did he retain such eminent faculty members as Claudius Johnson, Hannah Aase, Herbert Kimbrough, and Edward Gaines in spite of slashing their salaries by 25 percent? Actually, the relevant question is more likely, “how did he maintain any morale whatsoever?”

For the Depression offered the retention solution. They had nowhere better to go.

Tim Steury, Editor
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Join today and connect with thousands of Cougars, advance your career, prepare to achieve your professional goals, and enhance the success of Cougar-owned or managed businesses.
Bonhams are so delighted to see your article in the most recent issue, titled "Local, Delicious, Neglected," about our lovable legume: the lentil. We sincerely hope that lentils are local and delicious and having worked at the USA Dry Pea & Lentil Council before starting at the Chamber, I can indeed verify that all the information you printed about the agronomic qualities is accurate and the recipes you printed are indeed delicious.

However, as the National Lentil Festival Director, I was disappointed to see the word "neglected" applied to lentils which have an entire festival devoted to them. This festival, of which WSU is a major sponsor, consumes two days and is free to anyone who wishes to participate, which last year included nearly 25,000 lentil fans. At the 2008 Festival, 209 pounds of lentil chili were consumed in just under 45 minutes. One hundred fifty recipes for the Legendary Lentil Cook-off were received from 37 states. We hope you will join us at this year’s event August 21-22 in downtown Pullman to enjoy lentils “Local, Delicious. Celebrated.”

Mary Barsew

Xerpha Gaines

I thoroughly enjoyed your article “Love Letters” in the Spring issue of Washington State Magazine as well as all the other information you folks provide. I had the pleasure of meeting and using the expertise of Xerpha Gaines when in graduate school (Agronomy) 1955-1958, and in my faculty research position at the Western Washington Experiment Station, 1958-1988. She was all that you presented in the article and more.

You mentioned her association with Theo Sheffer. He was at our station at Puyallup for some time around 1950. He was still driving at 93 years of age, very optically impaired, right down the middle of the road. He spoke well of Xerpha Gaines. Her work is enduring and will live on.

Ray L. Goss
Agronomist, WSU, retired

A tribute to Bill

I’d like to thank all of you for the opportunity to present this tribute to Dr. Bill McDougall. At the time I asked him to serve on my dissertation committee, another professor suggested I call him. Bill said on the phone, “I like some of your research ideas, Larry…”—my name is Terry—“…right, Terry, I like the ideas but let’s meet for coffee because I need to know whether you give a damn about your work.”

For two years, Dr. McDougall helped guide me through the interdisciplinary PhD program and, of course, we became good friends. A decade later, I remain thankful for Bill and his advice. His enthusiasm for developing students ought not to be forgotten.

As I write daily in Colorado higher education, I strive to emulate professionals like Dr. Bill McDougall. Long live his academic legacy!

And, for all of us, keep up the exemplary work with Washington State.

Respectfully,

Terry Schnerr
WSU M.A., ‘98 PhD Professor of Communication, Western State College of Colorado

And to Bob

I just received my Spring 2009 issue of Washington State Magazine. What an outstanding publication. I was particularly impressed by the article “You Must Remember This,” and perhaps so considering my age! In looking at “In Memorium” for the 1940s, I didn’t find Robert S. Dalrymple ‘45, Camano Island. He passed away on August 28, 2008. I imagine his daughter Sharon Ward has been so busy settling the estate that she had not notified WSU. Perhaps some other WSU friend of Bob has done so.

Bob and I were roommates in 1942-43, and I was best man at his wedding to Dorothy Fisher in June 1943. We had kept in touch ever since. During the 1950s we were neighbors in Richland. During the past few summers I drove to visit them. Dorothy passed away December 1, 2005. They had two children, Sharon and Bill.

Ray W. Wirta
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He’s building understanding of another culture.
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Mixing it up

by Tim Steury
Not since white settlers surged west, overwhelming the native population, has Washington been at all diverse in its population, at least if one defines “diverse” by ethnicity rather than European country of origin. By 1890, whites represented 97 percent of Washington’s recorded populace, and that number remained static for decades. Now that mix has started to change. Just recently, the white (not Hispanic) portion of Washington’s population dropped below 80 percent, for the first time in the mid-19th century.


The idea of the series, says Kirschner, is to give county administrators, social service personnel, small business owners, and others a clearer view of what U.S. Census and other demographic information means for their county.

Washington’s geographic diversity lends itself to great economic and social diversity, if not necessarily to ethnic diversity. Lewis is not Adams is not Grays Harbor County. And none resembles King County. It’s rare, says Kirschner, that county trends mimic those of the state. King County, the big gorilla in the game, skews all information for the state because of its disproportionate population and economic activity.

In 1980, non-Hispanic whites represented 90.2 percent of Washington’s population. By 2008, that percentage had dropped to 76.2. Actually, white population over that period increased by better than 25 percent. However, over that same period, Washington’s Hispanic population grew by nearly 200 percent. Immigration, of course, was a major factor in the growing diversity. In 1980, 5.8 percent of Washingtonians were foreign-born. By 2007, that number was 12.3 percent. However, says Kirschner, better counting of people who have always been there also contributed.

The immigration growth number is from the American Community Survey, an ongoing survey by the U.S. Census Bureau of a small sample of the population. It is a conservative estimate, as undocumented immigrants are probably undercounted. The Census Bureau targets households, says Kirschner, not people.

According to Washington’s Office of Financial Management, immigration contributes most to the growth of Asian and Pacific Islander and Hispanic groups. In 2000, 47.2 of Washington’s Asian and 45.6 of its Hispanics were foreign-born.

An important factor leading to diversity, notes Kirschner in her report, is the age structure of different groups. The median age of whites in Washington in 2000 was 37.9, of blacks 29.7.
In from the fields
by Richard H. Miller  -- A dream preschool
er puffs into plastic wrapping, shrinking as soap
bubbles kite across the classroom. Sylvia Guzman, 22, sits cross-legged on the floor, next to a poster
showing ways to stay cool (put hand under tennis ball, take deep breaths). She reads aloud in Spanish: “There are amigas.” She points to the book. “These are the kids,” she says. “Now they go to school so they can go on to realize their talents.” She says. Otherwise, she continues, the children of this growing population will not be paying taxes on high-level professions. “There is a difference in tax between a McDonalds and a doctor,” she says. “We need to integrate these kids into our society, into the children of this growing population.”

Sylvia was accepted in WSU’s online program. She enrolled at Skagit Valley College, and graduated two years later with an associate’s degree. She is working toward a degree in bilingual education through the Oaxacan Degree Program.

Conexión rises to a burgeoning market
by Tim Storey  -- Where demographics change, so do opportunities. Jordana is the founder of Conexión Marketing in Seattle, which is dedicated to marketing companies to the rapidly growing Hispanic/Latino market.

When Jordana graduated from Washington State University in foreign language and literature, she immediately left for Spain, where she’d worked the previous year. “I got paid to play all day,” she says. “I need to spend the rest of my life there. But my life plans were pre-empted when she got homesick and returned to Washington after a year. Back home, with her Spanish, she networked on a series of positions with various companies, helping them reach Hispanic consumers. She helped create the Hispanic marketing division for both AT&T Wireless and Cingular.

Four years ago, she started her own company, Conexión. “There was an awareness,” she says, “and money to be made from a rapidly growing Hispanic/Latino market. There is a difference in tax between a McDonalds and a doctor,” she says. “We need to integrate these kids into our society, into the children of this growing population.”

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“Diversity is what we are now,” says Jordana. “It’s not just this thing to pande,” she says. “We need to improve our diversity.”

Conexión estimates Hispanic buying power in Washington state is $37 billion in 2015 and $65 billion by 2025. “Diversity is what we are now,” says Jordana. “It’s not just this thing to pande,” she says. “We need to improve our diversity.”

Marketers who aren’t paying attention to Latinos are going to feel it in the bottom line.”

Borax is not what you’d call a high-profile element. It’s rare on earth, but not rare enough to be considered a mineral. But it’s a strong cell wall. Humans might need it, but we can’t afford to lose it. “We’d ask what she was doing here,” why not in Yakima? For four years ago, she says, contrary to prevailing assumptions, there were more Latinos on the west side of the state than in the east.

What makes West different from East in Washington is that there are fewer congregated pockets of Hispanics in the Puget Sound area. From Mount Vernon and the Skagit Valley to Tacoma, communities include a higher number of Hispanics, but not at the same density as in Sunnyvale or Yakima.

Hispanics are great customers, says Jordana. “We need to integrate these kids into our society, into the children of this growing population.”
graphite (the "lead" inside a pencil) are made entirely of carbon atoms. In diamond, the hardest naturally-occurring material on earth, they are in a rigid crystal arrangement. In graphite the carbon atoms are arranged in a hexagonal pattern, like chicken wire, with many flat layers of the hexagons piled up in a stack.

"That makes graphite so unique," says Wang. "It's a very hard material in one direction, but very slippery in the other direction. That's why you can write with your pencil, scratching off the graphite in these layers."

In other words, form is crucial; and form is what Wang creates and studies. His lab is crowded with wires, and throbbing machines. To make boron clusters, a small sample of natural boron is placed in a vacuum chamber and bombarded with a laser beam, which jolts groups of boron atoms free from the sample's surface. A jet of helium carries the fragments down a 12-foot-long vacuum tube with a chamber at the end, where another laser knocks an electron out of each cluster. A spectrophotometer then measures the speed of the departing electron. Wang often has some idea what to expect because he works closely with theoretical physicists whose mathematical calculations suggest what the most stable form of a certain-sized cluster will be.

"A given number of atoms in one cluster can combine in many different ways. Usually, only one form will be energetically stable enough to survive in the lab. The others are too unstable they degrade almost as soon as they form. "Experimentally you just don't see them. At the end of the experiment, you just see the most stable one," says Wang. Sometimes the theoretical prediction fails. The most stable form of boron 9 was predicted to be a ring of eight boron atoms radiating out from a ninth in the middle. Wang calls the structure a "molecular wheel." When his group analyzed the electron spectrum of boron 9, they found peaks that corresponded to a molecular wheel—and several that didn't. Another PNW scientists said, "We think the molecule is a single layer of boron atoms, which looks much like naturally-occurring graphite, but a single layer of graphite into a tube and you get a nanotube, the microscopic structure that has become a pillar of the nanotechnology industry."

Our research is very much in that spirit," says Wang. "We'd like to discover something, which can survive in the real world, like buckyball. Buckyball was discovered in exactly the same way. It's a ring of carbon atoms that was discovered in the 1980s."

"Our progress has been slow because we are dealing with bigger and bigger systems, and the calculation becomes more and more difficult," says Wang. "In large clusters the electrons get crowded, their spectra are harder to decipher, and the number of possible arrangements of the atoms increases exponentially.

The effort is worthwhile both for the basic knowledge of quantum chemistry it will provide and for the potential payoff. Because of their chemistry, boron structures could be good at safely storing hydrogen fuel.

So far, none of Wang's boron clusters can survive outside of the vacuum tube. He hopes one of the larger clusters will turn out to be as sturdy and stable as buckyball, the soccer ball-like cluster of 60 carbon atoms that was discovered in the 1980s.

"Our research is very much in that spirit," says Wang. "We'd like to discover something, which can survive in the real world, like buckyball. Buckyball was discovered in exactly the same way. It's a ring of carbon atoms that was discovered in the 1980s."

"I don't think we have discovered such a thing yet. But that remains one of our dreams."
mid-30s, so my only sacrifice, I figured, was a delay in my morning coffee intake. I entered the weight room ready to go, and at the top of the house strength coach Michael McDonald said, “Okay, two warm-up laps.” With that, the team began its warm-up jog. Trying to keep pace, unsuccessfully, was I.

After the warm-up, the team started a circuit rotation through six stations with each station consisting of two exercises lasting 20 seconds each. One time through equaled one round. There would be six rounds total, and, as I quickly realized, no rest in between. I became a wind-up toy — starting at a decent tempo, but gradually slowing down with each passing round. In the first round I was already longing for water. By the fifth, I questioned if sitting breakfast beforehand was such a good idea. Finally, after 45 minutes, it was over. I survived.

But that was only half of it. While the team gathered their belongings and headed outside, strength coach Mario Candelo said, I could have a Gatorade if I liked. I quickly took him up on his offer — multiple times.

With my legs not quite under me, as I’d just gone several rounds with Ali, I followed the student-athletes out to the track, where assistant coach Tara Mollison told them to jog three miles. After some brief deliberation, I decided my time could be better served for the story by having a discussion of rowing with Tara.

Two days after my workout adventure with the team for a practice at the Snake. There is not a breath of wind and the surface of the river is as smooth as glass. It reminded me of the conditions when the Titanic struck the iceberg.

I assist my crew carrying the boat, or shell, from the boat house to the dock. Reaching the dock, I gently set it in the water, praying the $30,000 shell doesn‘t slip out of my hands and crash against the water, or worse, the dock.

The time has arrived. I slip off my tennis shoes, because there are already shoes fitted in the boat. And I manage to get in without getting wet.

I take the steels seat, or position, in the boat’s center. As we prepare to depart, my fellow crew members give me advice, which I immediately ignore.

A runner’s worlds

by Marisa Sandford

On a summer morning, the sun’s first rays peer through my bedroom window, warning the day my heavyweight teammate and I have a tentative knock on my door.

“Marisa,” my dad whispers. “5:45 a.m. at the Snakehead house in Los Alamons, New Mexico. The pink morning glow and the patter of running shoes mean only one thing: It’s time to run.

For me, every summer day begins with a family run on picturesque trails carved into the high desert canyons and mesas of northern New Mexico’s Jemez Mountains. With my dad, Anthony Sandford, leading the way, I run with my brothers and sisters. On a good day, we number eight athletes (including one golden retriever).

We traverse the same trails my dad trained on two decades ago for the Olympic Marathon Trials. From Bayo Canyon to Bandelier National Monument, these paths offer the rough landscape necessary for me to build my mental and physical strength throughout the summer days. In August, as the morning air smells cold and pearly asters bloom along the trail edges, the purpose behind my summer running suddenly shifts. I am training for the Washington State University cross-country and track and field teams.

Four years ago, my love of running with my family gave me a new family and a new landscape: the Cougars on eastern Washington’s panoramic Palouse.

A different, cool yellow sun creeps over the eastern hills, rays filtering through dried wheat stalks, illuminating the frontal edges of a quaint bridge on Johnson Road. Chad in running tights, our group of young men and women gather jovially, starting under the watchful eye of our coach Jason Drake.

“Stretch, young Padawans!” he calls out as we shake out our morning stiffness.

It’s 8 a.m. on the Palouse. Every Sunday our cross-country team escapes the confines of campus to explore the unspoiled roads that carve through the surrounding hills. The moment my feet crunch the gravel, time slows.

Lost amid towering hills and swaying wheat, a runner is threatened only by low-flying crop dusters and impatient pickups. Unlike New Mexico, where the mountains crash into the pure blue sky, the beauty around Pullman is subtle and pervasive. The hills provide a deep rhythm while I run, a harmony through constant repetition, color, and the cadence of silence.

Following the training routes of legendary runners Cory Lindgren ‘08 and Bernard Lagat ’01, I trust the landscape to form my body as it did for those before me, one stride at a time.

From Johnson Road to Snake Hill, Union Flat Road to Moscow Mountain, Hide run challenging and beautiful. Extreme cold in the winter, the brutal heat of summer, the Palouse

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From Johnson Road to Snake Hill, Union Flat Road to Moscow Mountain, Hide run challenging and beautiful. Extreme cold in the winter, the brutal heat of summer, the Palouse
always keeps me interested. Every day, despite the challenges—and because of them—I learn more intimately to the landscape of the Palouse.

Running with my Cougar family for years reinforced in me persistence, courage, and heart, first introduced to me by my family. These traits are fostered by my coaches and teammates. By running on the Palouse, I’ve developed a relationship with the community and a family-like bond among the athletes.

In June, the NCAA track and field season will end. My coaches will hang up their stopwatch, and I will hang up my racing spikes and return to my family in New Mexico. But next August, just in time for harvest, my Cougar family will re-unite in Pullman. I can guarantee that solitary running will raise a wave as I run again through the Palouse.

Picture this

by Cherie Winner

Doerte Blume is good at explaining difficult concepts. She draws as she talks, putting into pictures what she knows at explaining difficult concepts. She draws as the theoretical physicist, she relies on her, before the math come the images.

Blume is trying to understand the behavior of fermions (if-EHR-mions) and bosons (BO-zons), which is to say, the behavior of almost everything. Every particle in existence, from quarks and electrons up through atoms, is either a fermion or a boson. What makes a particle either one or the other is a property called “spin,” which needs not concern us here. What sends Blume’s imagination into high gear is what fermionic and bosonic atoms do when they get really, really cold.

Bosons lose energy as the temperature drops. If they get cold enough, they condense into a blob of matter called Bose-Einstein Condonate, or BEC, in which they all crowd into the lowest possible energy state. “That’s really, very, very, characteristic of bosons,” says Blume. “They all want to do the same thing. It’s like bosons are social, they want to be together. Imagine a party, and you are in a conversation with a bunch of other people. The bosons, they would be that cluster.”

Fermions, on the other hand, want nothing to do with each other. “No fermion can be where another fermion is,” says Blume. “If one fermion occupies one energy state, then it means the fermions have to go to a different energy state.”

Even at temperatures near absolute zero (273 degrees F.), fermions won’t bunch up in the lowest energy state. Instead of clinging like bosons, they form what’s called a de-couple Fermi gas. Since its fermions remain at fairly high energy levels, a Fermi gas has some unusual properties. Most notably, it may act like a superconductor.

Superconductivity is the transmission of electricity with no resistance. It’s like skiing downhill on ice. The current just goes. Superconducting crystals can be made in the lab, but so far the highest temperature at which they work is around 334 degrees F. Figuring out how to make superconductors that work at room temperature is one of the holy grails of modern physics and materials science.

The problem is, we don’t yet have a solid theoretical understanding of superconductivity, and without that, efforts to create superconductors tend to include a lot of trial and error. “The theory of superconductivity is so hard,” says Blume. “Even if we can write down an equation, we might not be able to solve it, even with all the computer power there is.”

Blume’s papers on fermions are referred to by so many other researchers that although she has been at WSU for only eight years, she is already among the University’s most-cited scientists.

Bosons are really interesting, fermions are really interesting—now what’s going to happen if you mix them?” says Blume. “The fermions don’t want to be on top of each other, but the bosons want to occupy the same space. But now the bosons can interact with the fermions, so does that make the fermions want to come closer?”

For Blume and her cold-matter colleagues, the party is just getting started.

Being the magazine for a research university, of course we don’t believe in ghosts. Of course not… But what a great story Dick Ulmstrom has sort as.

Bryan Rocks

From the fall of 1957, I was stage manager of Bryan Hall for the music and drama departments, since both departments shared the stage. The auditorium was very heavily used for music rehearsals, drama productions, music lectures, organ practice, etc. Usually realized that the best time to aim and focus the stage lights was after the building was locked at night. As manager I had a master key to the building.

The big stage lights were located in the ceiling of the auditorium and accessed by going up the bell tower to the third floor and through a heavy steel door to the loft over the auditorium. Both levels of the bell tower were used for stage property storage, as was the area under the stairwell. One of the first times I went up was with an instructor, and I noticed sticking chair sitting in the middle of the floor, so I picked it up and was going to stack it with the rest of the chairs. The instructor told me to leave it there, it belonged to E.A. Bryan (who died in 1952), and he liked to have it there.

“Right,” I thought, but left it there.

That’s where the ultra-cold fermion atoms come in. Experimental physicists have found that they can make a Fermi gas look and act like any other fermion or boson—and in optical lattices—to slice and dice the gas so each atom ends up in its own little space. “If you cut it open, it’s like an egg carton,” says Blume of an optical lattice. “You can put one atom per site in this egg carton. This is essentially a model for a typical crystal.”

In a crystal, electrons flow through the spaces between atomic nuclei that are rigidly bound to each other. In an optical lattice, while fermionic atoms flow around the barriers created by the light, it’s a great model experimentally, because atoms are much easier to work with than electrons. It’s also a great model theoretically, because the equations describing its behavior can actually be solved.

Once Blume devises equations that describe a particular lattice, she uses them to do a theoretical experiment. But now the bosons can interact with each other, or how much they attract or repel each other, or the size of the space they’re confined in?

Sometimes an experimentalist asks her to try a situation on paper before tackling it in the lab. Other times, she suggests the experimentalist do an experiment and see if it works.

“We can go ahead and do an experiment—get ahead of the theory, and we can compare them pretty much without fudging,” she says. “If the results agree, it suggests we understand the physics. And if the results don’t agree, then we don’t understand the physics entirely. It would make me think and go back. Did I include all the right things? But I would also ask the experimentalist, ‘Are you sure your jet-pot was like this and not like that?’”

At WSU she shares ideas with fellow theorist Chuanwei Zhang and experimentalist Peter Engels, who was the first person in the Pacific Northwest to make an atomic BEC (see The Science Shop, wsm.wsu.edu/stories/2006/ November/scientishop.html). Engels recently began working with Fermi gases and will soon launch a new series of experiments. He’s going to put fermions and bosons into an ultra-cold chamber at the same time.

Blume is sharpening her pencils in anticipation.

Our Story

The next time I went up into the left alone, the chair was out in the open, so I put it over with the other chair and went on to fix the lights. It was late at night and I was sure no one else was in the building since the janitor had left when I came and reminded me to lock the door when I left. As I worked on the lights (they were carbon arc and very hot) I heard the fire door open and close, but saw no one there. I figured it was just the janitor checking on me and ignored it. A moment later I got really cold, even shivering, even though I was standing right over the hot light. Then the cold sensation passed, and I finished the rest of the lights quickly. When I went back through the fire door, the chair was sitting in the middle of the floor, rocking. I watched for a minute, but it didn’t stop. The air around it was cold, but I wasn’t brave enough to touch the chair.

“I’m not sure I believe in ghosts, but I never moved that chair again unless it was necessary to move props, and then it went right back to the right spot. Many times when I went up there, no matter if it was night or day, the chair was moving slightly, but I never told the cold something. You just don’t mess with me.

Dick Ulmstrom ’60 BA, ’71 MA

Longview

Post your WSU ghost story at Our Story: wsm.wsu.edu/ourstory

Bosons are really interesting, fermions are really interesting—now what’s going to happen if you mix them?” says Blume. “The fermions don’t want to be on top of each other, but the bosons want to occupy the same space. But now the bosons can interact with the fermions, so does that make the fermions want to come closer?”

For Blume and her cold-matter colleagues, the party is just getting started.

Depiction of individual atoms enclosed by an optical lattice.

Philip D. Johnson—Kashman University
Ramping up in rural Washington

by Bryan Corliss :: If you drive for 45 minutes up the back road from Goldendale toward Trout Lake in Klickitat County, you'll pass through Greenwood, set in its scenic valley at the base of Mount Adams, where the pastures begin to give way to pine trees, some 35 miles north of the Columbia River.

If you pass through in June, you might catch the local radio station celebrating its 75th anniversary this year over Father's Day. Maybe you'll stop at The Shade Tree for gas, that being the name of a combination hotel/casino/general store/convenience store. There's a former office and a son of the family there used to be a tavern, but that's gone now.

There might be more elk than school kids in the Greenwood Valley—one recent count put the school's enrollment, K-12, at 62 children. Somewhere between 500 and 700 people live in the area, ranchers and loggers mostly, people trying to make a living amid beautiful, peaceful countryside, with the high-speed data links mean local people in how to use the hardware, once it was installed.

Since then, Forks has seen a steady trickle of small start-up businesses: A software entrepreneur and local health-care specialists banded together to provide services to a group of hospitals too small to hire them individually. One Spanish-speaking woman was able to keep her job as a California legal translator when she moved to Forks, because the high-speed Internet service was in place; she was so successful that community leaders started recruiting Spanish speakers from the growing Latino population; WSU Extension service helped Peninsula College in Port Angeles set up a training program for the interpreters at a Forks branch campus.

The list of projects goes on, says Bob Fleck, the Forks city attorney and planner: A custom pilot program to show how rural schools could use and benefit from having broadband access. A Gates Foundation grant helped pay for training local people in how to use the hardware, once it was installed.

But when you bring in a small, family-owned business that can fill up a vacant storefront, buy goods and services from existing business, and hire a handful of local residents, that's a good fit for just about any small town between Ilwaco and Austin. "That's perfect," he says.

The Rural Bridges program has helped out with those small projects as well, in places like Forks, a town of 3000 isolated on the Olympic Peninsula. Forks has a fully capable broadband telecom center in town, thanks to a grant from Congress in 2000 that created a hotel on the Washington, it offers a chance for online reservation services, just like in the big cities.

"What broadband provides to rural residents is, it allows them to keep an eye on the market beyond what they can do in their local communities," says Babine. "They have great ideas, they want to get those products and services, but they don't have a local customer base. [Broadband] allows them new opportunities to do business in the communities they want to live in.

Rural counties clearly need some kind of help. In February, Washington's jobless rate spiked up to 8.4 percent, the highest rate the state had seen since the recession of the mid-’80s. At the time, 21 of Washington's 39 counties reported unemployment greater than 14 percent; one of them outside the state's urban centers. Rural joblessness was high on both sides of the Cascades. On the eastside, Klickitat and Stevens reported double-digit unemployment rates, all but one of them outside the state's urban centers. Rural joblessness was high on both sides of the Cascades. The communities like Forks and Glennwood that so many small towns, which don't have the manpower or resources to support them, they have the first thing they'll say is 'where's the workforce?'"

"We wanted to have our big catcher's mitt ready", she says. "States that have an entity in place working on broadband are going to be shooed-ready, if you will.

In rural Washington, communities like Forks and Glennwood could end up being models for how the nation moves forward, she adds. In each case, the communities came together under local leadership to figure out what they could do with broadband service once it got there. That kind of local planning should pay off now. The plan is to place all the need in the money.

Not everyone's convinced this should be a national priority. On a national level, some economists argue that those billions of dollars would be better spent on projects that could benefit greater numbers of people, instead of a few hundred here and a couple thousand there in rural pockets scattered across America's hinterlands.

But Washington rural advocates say their citizens have every right to the same basic services that city-dwellers have. "One of the things that's happening that would be better-spent on projects that would benefit greater numbers of people, instead of a few hundred here and a couple thousand there in rural pockets scattered across America's hinterlands.

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**Spring is the Season for Chèvre**

by Hannelore Sudermann  
photos Ingrid Barrentine

**After a Winter’s Break**, the goats at Rhonda Gothberg’s farm have kidded and their milk is rich and sweet. The soft French-style cheese she makes is delicious with just a nuance of that goat tang. Maybe it’s because the animals have added tender green grass to their diet, maybe it’s because it has been a long winter without fresh goat cheese, but “hame chèvre is my favorite,” says Gothberg.

With a few acres in Skagit Valley, Gothberg is raising 29 milk goats for her farmstead cheese business. Early each morning, just as the sun illuminates the shape of Chuckanut Mountain in the near distance to the north, she heads out her back door to her flock.

But before she gets to the goats, she dons a clean white lab coat, shoe covers, and a cap and makes a right into the cheese room where fresh mounds of white, smooth chèvre wait to be turned.

Making cheese is a most satisfying process, says Gothberg. Collecting and cooling the milk and then letting it sit another night. Within three days, it’s ready. She calls it “go out fast” cheese.

Gothberg’s La Mancha goats wait in three small pens in the barn, knowing it will just be a few minutes before she leads them up the metal ramp to the milking station. Brown and black and grey, with sleek heads and small ears, these goats are a variety bred in the 1930s in California and known for their steady constitutions and flavorful milk.

Gothberg doesn’t have to prod her goats, she just talks to them gently and the first five — Ditto, Alice, Wintona, Hanna, and Liza — willingly move up the ramp. “As soon as they see me, they’re ready to go,” she says. She particularly likes this breed’s affable nature. “They’re smart, inquisitive, tuned to you,” she says. “It’s like having 29 kindergarteners.”

AFTER A WINTER’S BREAK, the goats at Rhonda Gothberg’s farm have kidded and their milk is rich and sweet. The soft French-style cheese she makes is delicious with just a nuance of that goat tang. Maybe it’s because the animals have added tender green grass to their diet, maybe it’s because it has been a long winter without fresh goat cheese, but “hame chèvre is my favorite,” says Gothberg.

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Though she had never milked an animal in her life, Gothberg first purchased a doe and a kid seven years ago with the intention of making cheese as a hobby. The goats suited her schedule as a real estate agent, and cheese making proved a great creative outlet. The next year she added two more females, and more the year after. She honed her cheese-making skills in her farmhouse kitchen, then enrolled in Washington State University’s cheese-making clinic. As soon as she realized she could turn the hobby into a business, she built a new barn with a milk storage room and a cheese room.

Gothberg is also a registered nurse. That background came in handy when it came to building her cheese facility. She works religiously to meet — and exceed — health department requirements. The milk goes straight from the goat through a sanitized hose into the clean milk room, where it is quickly cooled and pasteurized. Then it’s moved one door further to the cheese room, where it is poured into the molds and later salted and turned.

But because she was one of the first small operations to pop up in several years, Gothberg struggled to find equipment to suit her size. “I had to figure out how to cool milk without using a bulk tank,” she says. A bucket in a bath of ice water worked nicely.

Now other small-scale dairies are following Gothberg’s model. Washington is seeing a boom in artisan cheese-making operations, says Rann Salvadalena, manager of WSU’s creamery. “There is now great a demand for the University’s annual cheese class that the school has had to add another in four courses each year. ‘It got to be that the farmstead cheese makers took up half the class,’” says Salvadalena. “We had to turn people away.”

Marc Bates, ’70, who was the University’s creamery manager before Salvadalena, teaches basic cheese-making courses in Western Washington, Idaho, and Oregon. He has seen an exponential rise in artisan cheese makers. “We’re seeing cow dairies trying to add value and get more income from their milk, and we’re seeing goats be the most popular next animal.” Thoep are joining the scene as well, he says.

California may have led the cheese revolution, particularly with goat cheese when in the 1980s farmer/cheese maker Laura Chenel made it part of the American palate. Since then the trend of handcrafting cheese has crapped up the coast from Sonoma to British Columbia. “We’ve gone from less than 10 licensed facilities in Washington back around 2000 to over 30 that are now licensed and making cheese,” says Bates. “It’s a good time to be a cheese eater.”

“Cheese is doing just what the beer industry did,” says Bates. “It had consolidated to the point where there were only a few choices and — void, opportunity.” Because beer was so standardized, there was room for a microbrewing rage. “Now we see the farmstead cheese movement taking off,” he says. Why did it take cheese longer to do this than beer? “Maybe cheese making is harder than beer making,” he says. “But they do go well together.”
LIVING LARGE

in SEARCH of the elusive large animal veterinarian

by Hannelore Sudermann :: photos by Chris Anderson
There’s definitely a trend, and it’s getting scary,” says Randy McGraw, a large animal veterinarian who practices out of Colfax. When McGraw opened his clinic about 25 years ago, he treated nothing but large animals. Today three-quarters of his practice is small animal because the large animals are gone. “I tell people I’ve been driving the herd out of the country since I started,” he says. Doing a quick count in his head, he says he believes between 21 and 24 breeds have gone from the Palouse in three years. “There still are cows out there,” he says, but not enough to keep him in business. In fact, Whitman is one of those counties where the cattle left before the veterinarians did. McGraw is one of eight in the county to treat about 3,500 large, or agriculture, animals. 

Early one Monday this winter, a couple waits in McGraw’s coffee with a crate full of cats. Carefully noting their names and histories, McGraw takes them one at a time back to the kennels. He returns and tells the owners that their animals will be neutered and ready to go home in the afternoon.

“I had to go see,” says Sam, who is hoping to someday work with large animals. McGraw operates a mobile clinic. Mixing an anesthetics clinic for a C-section delivery. Sam stood outside the stall and watched the team move quickly to lift the tiny black calves from the cow and then break rub them into breathing on their own. As the students atured the cow, Sam headed off to his next class, his head full of drama.

Having grown up in rural Utah the son of a veterinarian, Sam has seen many deliveries. From an early age, he loved to ride along to work with his father. “I’d hide behind a shrub when the bull came and then tell the old man it left without me.” For the country veterinarian, it was often easier to take Sam along to a farm than drive him to school. “I had a weird childhood,” says Sam. “I once brought horse teeth for show and tell.” Later, during high school and college, Sam would help his father with nearly every aspect of his veterinary work including euthanizing sick calf and assisting with neoplasms to diagnose the source of illness. Even though he’s seen his father head off to work on all hours, suffer injuries from the livestock, and grouse about the weather—that’s the life that Sam wants.

Sam is the exception among veterinary students. The majority of his classmates come from urban and suburban homes, most are women, and most are headed for companion animal practices. According to the Association of American Veterinary Medical Colleges, only about 20 percent of all veterinarians will work with food animals, some in private practice and some for government or industry. And there’s concern about that percentage trending down. To fill future need, says a recent report from the AVMA, about one in five new graduates each year will need to go into the large animal field. “The colleges and the veterinary profession have now reached a critical decision point, which may determine the overall contribution of the veterinary profession to the nation’s future,” states the report.

Food animal experts are often the first to identify emerging diseases in livestock. Because veterinarians are on the front lines identifying sick animals, preventing viruses, and improving livestock conditions, a shortage of large animal veterinarians could compromise the country’s food supply and public health. Why a shortage? Perhaps because now there are more women than men in veterinary school, and women are less interested in large animal work. Perhaps it’s the preponderance of students who have no interest in a rural lifestyle. It may be money—a small animal focus is just more lucrative. These ideas are probably oversimplified, caution the faculty at WSU. But one thing is certain. Veterinary practices are changing.

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McGraw doesn’t make much money on the procedure, basically charging the costs of the tools and drugs. He keeps the price low because he wants to sterilize as many of the community’s pets as possible. Not only do we need to keep the populations in check, he says, but statistics show that 75 percent of those that get hit by cars haven’t been spayed or neutered.

Before the couple pulls away, his assistant Jenny has the first cat anesthetized and is putting him to sleep. The heart monitor beeps and a sanitizer, ear tags, and several syringes. As he and the farmer put each animal into the chute so he can administer the shots, he handles them gently. “In some way I have to be loving every animal,” he says. “Like to minimize that.”

With Kolberg’s help he loads them by one into the chute and they’re out the door in about 15 minutes. Most vests “Most things I can do myself,” says Kolberg. But when he runs into something he can’t handle, like a difficult birth or a sick animal, he turns to McGraw. “There are no midnight phone calls, but I have called him 5:30, 6:00 on a Sunday evening,” says the farmer. He knows he’s lucky to have a veterinarian nearby, as well as the WSU animal hospital just 20 minutes away. There are farmers around the state who have nearly no resources. “I have friends ranching in the Yakima Valley and the upper Okanogan,” he says. “If they have a big problem, I don’t know what they do.”

According to the American Veterinary Medical Association, 494 counties in the country have large herds of livestock and no veterinarians to care for them. In Washington that includes Garfield County, which has 10,000 head of cattle, and Grays Harbor County, which has 11,000. “As farming operations become more consolidated, the links in the family farming chain—and the important exposure to the veterinarians who help these families care for their animals—are weakening, leading to fewer food supply veterinarians,” Ron Dellafave, CEO of the AVMA, recently testified during a U.S. Senate hearing. The same applies to federal inspection agencies, he said. “Unfortunately, the number of veterinarians available to work in key public health roles does not meet current demand, and the situation will only get worse without aggressive intervention now.”
**THE WHOLE NOTION** of veterinary medicine is only a few hundred years old. At its inception the focus was on large animals, particularly those used in agriculture. The world’s first college of veterinary medicine was founded in the 1760s in Lyon, France, in response to an epidemic afflicting horses.

When Washington’s land-grant school (now WSU) was established, one of its core missions was the instruction of veterinary arts—specifically to train veterinarians to treat ailing livestock. The college opened its School of Veterinary Science in 1899, with three students and a shed. The program quickly expanded and included a weekly free clinic for local animals. Today WSU’s College of Veterinary Medicine is the fifth-oldest veterinary school still in operation in the country.

One of the key dates in the history of the college as well as that of veterinary medicine in Washington was November 13, 1914, when two cattle cars on a train from the Midwest arrived in Spokane carrying animals that had been exposed to foot-and-mouth disease. The animals were quarantined and the disease was kept from spreading, emphasizing to the people of Washington how vital it was to have experts who specialized in animal medicine and how they served the public good.

For decades most of the training at the veterinary hospital focused on large animals. In 1922, for example, the case load was 80 percent horses and 20 percent cattle. When John Gorham started his veterinary course in the 1940s, he and his classmates were trained to care for 85 percent horses and 15 percent cattle. When John Gorham started his veterinary career, the focus was on large animals. In 1922, for example, the case load was 80 percent horses and 20 percent cattle. When John Gorham started his veterinary course in the 1940s, he and his classmates were trained to care for 85 percent horses and 15 percent cattle. When John Gorham started his veterinary career, the focus was on large animals.

Gorham, who has worked at WSU as a veterinary research scientist for more than a half-century noticed a change away from large animals back in the 1960s. “Maybe before that even,” he says. “It was a slow thing.”

As farming changed, as well as the types of students attracted to veterinary medicine and an increase in public interest in small animal welfare, the school built up its small animal instruction.

Whether a student wants to work with large animals cannot be a criterion when admitting students to the highly competitive veterinary program at WSU. Still, it is a question in the back of many minds. One professor, for example, has been thinking about it a lot and wondering if more could be done to recruit students to work in the food animal realm.

Gay grew up on a ranch in Montana and after receiving his doctorate of veterinary medicine from WSU worked with cattle for five years. He went on to earn a doctorate in epidemiology and specializes in diseases that affect cattle.

This concern prompted Washington’s state legislature to pass a law creating scholarships for two students each year who go on to work as an agriculture animal veterinarian in the state.

**ALEXIS CAMPBELL** is a fourth-year veterinary student who has hung on to her dream of working with dairy animals. “I grew up on a dairy in southern Idaho, and I really enjoy the cattle and horse work,” she says.

This year she has traveled the region visiting rural practices seeking advice and maybe even a job. During her breaks, she has sought out internships with rural veterinarians and is currently working at a dairy-focused practice in Sunnydale, Washington. “Some people have tried to steer me to a small animal practice,” she says. “But the real veterinarians, most of them older gentlemen, haven’t been discouraging at all.”

According to the American Veterinary Medical Association, earnings may be a factor in deciding what type of practice to have. Large animal veterinarians often work out of a truck and have to drive many miles at all hours to treat a patient or herd. And where a small animal veterinarian has fixed office hours and may charge several hundred dollars for something like a C-section for a cat, you can’t do that for a cow, says Alexis. If the procedure is too costly, a rancher will just put his livestock down.

Alexis isn’t too worried about finances, yet. “I haven’t done the math to find a bottom line of where I could survive, but a friend who graduated last year owing $120,000 in student loans figured she would need at least $45,000 a year to get by,” she says. Since the national average for a large animal practitioner is over $60,000, Alexis believes she’ll be able to make a living.

“You can go into a small practice and make more and work less and not have to go out at 2 a.m. to pull a calf,” she says. “But I want to follow through with why I went to veterinary school in the first place.”

**AFTER CLASSES**. Sam starts a project with some classmates and about nine cows from the WSU dairy herd. Over about an hour, they tag and give shots to the animals. Then, still feeling the chill of the winter afternoon, Sam wanders back to the warm large animal barn. “You mind if I check in on the cow that had the C-section?” he asks me. We round a corner to find a group of people milling around the pen. The black animal lies on the floor, dazed and immobile.

The owner had been agonizing over this cow for a week, says George Barrington, one of the veterinarian/instructors working on the case. She couldn’t walk, or even stand, and there was a crunching sound of bone-on-bone in her right leg. The farmer called the veterinary teaching hospital wondering whether he should put an end to her suffering.

“I said, ‘Bring her in, maybe we can make some lemonade out of this,’” says Barrington. Sam, nodding toward the room across from the pen, says, “We’ve got two little lemonades in there.” Inside the room in a tangle of towels and blankets are the baby, week and a day. Sam peers through the slit of a window. Satisfied, he turns back to the cow and the conversation about what happens next.

There isn’t much more to do for the mother, says Barrington. His colleague Steven Parish returns holding a captive bolt gun. Parish looks at Sam. “Do you want to do this?” Sam pauses just for a second and then holds his hand out. Everyone starts moving, gathering in the pen around the cow. Sam steps into the middle and pounces while his professor talks him through the next steps, where to place the gun on the animal’s forehead, and what should happen next.
Sam is one of those students who has the capacity to work on any kind of animal, says Ahmed Tibary, an expert on large animal reproduction. “He fits well into our community of comparative veterinarians.” Some students come to WSU wanting to work on exotic animals with the goal of being something like a zoo veterinarian. “But before you work on a zebra, you have to work on a horse,” says Tibary. Sam goes the other way. He knows about horses and cows, and can extrapolate that to other animals.

Under Tibary’s guidance Sam is writing a paper about a rare ovarian cyst found in a cow on the WSU herd. An abstract for the academic paper had already been accepted. Now Sam has bred the cow and is following the behavior and health of the animal for his project. While Sam may be intent on pursuing a large animal practice, his advisors are pushing him to try out an academic perspective.

Working in the cold, choosing a life with large and sometimes dangerous animals—it isn’t going to be easy, Sam admits. People, including his own father, have tried to urge him away from a strictly large animal practice. Sam has been mulling over a few ideas, including heading toward the Midwest to work with large herds of cattle or settling into a mixed animal practice, as long as it’s rural. “I know it’s hard,” says Sam. “I’ve seen it first-hand growing up.”

As farming changes, there may be more jobs for students like Sam, who can work with both cattle and other livestock. According to the 2007 U.S. Census of Agriculture, which was released last February, the number of small farms on the rise. And many of these small farms are diverse operations with multiple crops and a variety of livestock. While the number of large cattle farms has diminished, small farms and farms in areas that border urban communities are springing up.

“We used to say that mixed animal practice is dead,” says Dale Moore, WSU’s Extension veterinary outreach specialist. “That’s not true anymore.” Moore has noted a new demand in Washington for mixed practice veterinarians. In many parts of the state, people have moved out of the city and settled on small properties with a few fruit trees, some cattle, maybe ducks or geese, or goats or sheep, she says. “They need information to raise these animals, and they need veterinary care.”

“That’s not to say we don’t still need people in food supply veterinary medicine,” says Moore. There are jobs out there for veterinarians to work with cattle and dairy herds, to work with the U.S. Department of Agriculture, and the Food Safety and Inspection Service. “For someone who wants to work with ag animals, there’s lots of opportunities,” she says.

Whether in Washington or somewhere else in the country, Sam and his family are willing to settle wherever there’s work. “As long as it’s rural and I can work with cattle,” says Sam. “I’m not in it for the money. It’s the life I want.”

As evening reaches campus, Sam is in his last year of veterinary school. He spends his days in a lab, studying disease pathogens, and his nights on a horse trail in the nearby Blue Mountains. Sam’s training is paying off. He has been accepted to a large animal residency at a clinic in the Midwest. It’s a big step forward, but Sam is not one to rest on his laurels. He continues to work with his father on the family farm, and is always looking for new challenges. 

LIVING LARGE

in search of the elusive large animal veterinarian

He positions himself and pulls the trigger. Pop. The cow’s head drops, the body slumps. Her eyes go filmy. A rattle of breath and it’s over.

“All day long we’ve been thinking what’s fair to this cow,” says Barrington. “The best thing to do was to end her suffering.”

“I know,” Sam says after Barrington moves away. “That’s a big part of this job.”

“I’ve done this before with my old man,” Sam says later. “But it was different with so many people around. You just don’t want anything to go wrong.”

It’s past 5 p.m., and most of the workers and students have headed home from the animal hospital. Sam, instead, is slipping on sanitary blue booties on the other side of the compound. The cow he euthanized had been carried over on a fork lift and now the fourth-year students are going to perform a gross necropsy. Sam enters a large open room where the animal had been deposited on the floor. Four women in blue coveralls gather around the large animal, each wielding a seven-inch carving knife. They start to take tissue samples from the cow as well as remove its legs to determine the cause and extent of its injuries.

“Well, I thought it was going to be a quiet day,” says Sam. “What’s so great about being here at school is how much you can see and do first-hand. If I were watching this necropsy on a Power Point, I wouldn’t get nearly as much out of it.” He heads to a dissecting table where a student has taken the problem leg and is clearing away the tissue around the knee joint. “I have to see what was happening,” says Sam.

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One morning this spring, Patty Murray’s suite in the marble and limestone Russell Senate Office Building is bustling. A group from a garden club in Tacoma chats sociably with a team from the Washington Grain Alliance while a few other people in suits and military uniforms fill the couch and chairs.

Murray ’72 and her staff will make time for all of them, though this morning the senator has had to rearrange her schedule to include a visit to the White House. President Obama is a day away from releasing his budget, and has asked to meet with Senate leadership.

But first Murray must head to a press conference over at the Capitol with colleagues Senate Majority Leader Harry Reid (Nevada) and Chuck Schumer (New York). Powerhouses like Reid and Schumer like to have Murray in their mix, say Washington insiders. Being from the West Coast and having a plain-folks way, she adds something to the tableau. That’s a woman adds diversity as well.

Murray is the first woman senator from Washington, the first woman to serve on the Senate Committee on Veteran’s Affairs, a senior member of the appropriations committee, and the fourth-ranking member of the Senate leadership.

Still, she continues to nurture the image, from her early days running for Washington State’s Senate seat, of the ordinary “mom in tennis shoes” who wants to serve the folk of Washington State.

Reid speaks first, discussing Obama’s “stunning speech” the night before. Schumer steps forward with similar comments. Then it’s Murray’s turn. The men spoke in concepts. She says it plain: All through the president’s speech she was thinking of the concerns back in Washington State where the citizens are “really struggling.” She lists layoffs at Washington Mutual, Microsoft, Boeing, Starbucks. Even her brother, a sports reporter at the Seattle Post-Intelligencer, is about to lose his job, she says.

“How the hard work begins,” says Murray. “This country needs us all to work together.”

PATRICIA LYNN JOHNIS and her twin sister Peggy were born in Bothell in 1950. Her parents Beverly, a homemaker, and David Johns, a decorated World War II veteran who worked as manager of a small store, stretched their income to care for their seven children. But then challenges struck. When Patty was 16, multiple sclerosis disabled her father. The family turned to welfare until Beverly was able to get government-funded training and find work as a bookkeeper and support the family.

In 1987, Patty chose Washington State University for college. At that time the student and faculty activism in Pullman was as much an education as the classes, says Murray. “I saw you had a choice to sit at home and gripe or go out to be involved.”

To fulfill the requirements of her physical education degree, Murray left WSU for a semester and volunteered at the Seattle Veterans Hospital.

“I worked with men and women who were coming home from Vietnam who were my age,” she says. “I really saw what the reality was of people who went to war and came home. I have taken that experience with me ever since.”

While studying in Pullman, she met Rob Murray. They were married in 1972, the year she graduated, and she found work as a secretary while he finished his degree.

After college they moved back to western Washington and settled in Shoreline. Rob signed on with the Coast Guard, and they started their family. For the first few years, Patty was a homemaker focused on raising Randy and Sara, but the closure of a state-funded cooperative preschool program turned her into an activist.

The time in the 1980s was much like today when the state budget was especially tight, says Murray. She drove to Olympia to argue for the program and was told by one legislator that she was telling “a nice story, but I couldn’t make a difference,” she says. “He said I was just a mom in tennis shoes.” Instead of being disheartened, she was inspired. She led the charge to get the funding reinstated.

After that first taste of success Murray decided to run for the Shoreline School Board. She lost by a narrow margin, but was later appointed to the position after a vacancy. From there she honed her skills working locally, and helped a friend run for state senate. Though the friend lost, Murray was left thinking that she herself could run for the seat in 1988.

She was very effective as a state senator, says lobbyist Lonnie Johns-Brown (no relation to Senator Murray), who worked with Murray on women’s and children’s issues. Murray’s greatest success was helping to pass the state’s family leave act, says the lobbyist.

Murray went on a full-term before she set her sights on the U.S. Senate. Watching the Senate confirmation hearings for Supreme Court Justice Clarence Thomas in 1991 and seeing how the senators treated and reacted to Anita Hill, Murray could see that no one there represented her—a woman, a mother, someone from the middle class.
Nearly everyone around her discouraged her bid for national office. Some even laughed at the idea, she says. “But that wasn’t important to me. I wanted a name on the ballot. It didn’t have to be mine. But I wanted a name on the ballot of someone who understood the things important to families like mine.”

She brought it up during a meeting at her Shoreline office with Norleen Koponen, then Washington State’s president for the National Organization for Women and Johns-Brown. “At first we were like, ‘Oh, really?’” says Koponen. But women realized it was a long shot. “It was pretty much a white male club for the national offices,” says Koponen. “People were looking at her bid unbelieving that she would even have the acumen to try.”

Murray, then 41, ran on a platform of representing the working middle class, ordinary families who cared about education, access to health care, and tax relief. Then things started falling into place. Incumbent Democratic Senator Brock Adams withdrew in the wake of a sex scandal. Momentum built when the National Organization for Women turned its attention to Murray. “We felt betrayed [by Adams], of course. And we felt an urgency to support her,” says Koponen. The NOW endorsement brought Murray other local and national support in its wake.

While Murray nurtured her plain-spoken, down-to-earth image, glimpses of a more savvy opponent showed through. In a debate for the Democratic ticket against Don Bonker (a D.C. lobbyist), she noticed for the audience that his watch was set to D.C. time. “She has that instinct, that indefinable thing—knowing when to play her weakness as a strength,” says Johns-Brown.

Ultimately, she faced polarized Republican Rod Chandler, a U.S. Congressman from Bellevue. She played her ordinariness against his smooth political image. Though his campaign largely outspent hers, she won by a close margin. Murray wasn’t in Washington long before she became involved in a major sexual misconduct investigation. A fellow West-Coast senator, Bob Packwood from Oregon had been accused of sexual harassment and the Senate Ethics Committee was slow to bring charges against him. Murray publicly sided with her male colleagues, “You still don’t get it.” She was one of five female senators who successfully argued for public hearings on Packwood’s behavior—which resulted in his expulsion from the Senate.

The people of Washington weren’t the only ones she had to convince. She was suited to be a senator. At first her Senate colleagues questioned her behaviors. “She was criticized because she didn’t show up for these after-hours cocktail parties,” says Koponen. “Instead she was going home to spend time with her kids.”

Today, Murray still doesn’t partake of the Washington social scene. She works late most days, then walks home to her apartment with her briefing papers in hand. “She doesn’t have a lot of attention to herself. She’s not as outgoing as some people think a senator should be,” says Koponen. “But she’s schmoozing, sticks to her beliefs, and works hard on the issues that affect women, children, minorities, and the underprivileged.”

Every weekend, with few exceptions, Murray goes home to be with her family. After her son Randy finished high school in Virginia, Murray’s husband and daughter Sara moved back to Washington State where Rob has a job with ESA Marine. They have a home on Whidbey Island. And they spend time with their children and their families. That time back home, “It’s the best thing I do,” says Murray.

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Murray tours flood-damaged Washington in January with Governor Chris Gregoire and Senator Maria Cantwell. Washington became the first state in the union to deviate from the high political posts. Murray was appointed to the committee. Years after-hours cocktail parties,” says Koponen. “Instead she was going home to spend time with her kids.”

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The key events along Patty Murray’s journey from a small town in Washington State to power in the Senate, the Locke confirmation, the appointment of Seattle Police Chief Gil Kerlikowske as the White House drug czar, running for the U.S. Senate in Washington State, and serving terms as president and legislative director.

1950: Patricia Lynn Johns is born to Beverly and David Johns. She and her twin sister are the second and third of seven children in the Johns family.

1952: Patty earns a BBA degree in business administration at Washington State University.

1956: Marries Rob Murray ’75.

1965: Patty becomes a citizen lobbyist, sparked by a desire to save a state-funded co-op preschool program in her community. It was while she was campaigning to save the preschool that a legislator tells her she is just “a mom in tennis shoes”.

1972: Interns at Seattle’s Veterans Affairs hospital working with injured soldiers who returned from Vietnam.

1975: Patty attends Senate confirmation hearings for Gary Locke to become U.S. Commerce Secretary. Along with her rise to power in the Senate, the Locke confirmation, the appointment of Seattle Police Chief Gil Kerlikowske as the White House drug czar, running for the U.S. Senate in Washington State, and serving terms as president and legislative director.

1979: Daughter Sara is born.


1984: Becomes the state Democratic whip.


1990: Becomes the first woman senator. Joins the Senate Appropriations Committee.

1991: Becomes the first woman to join the Senate Committee on Veterans’ Affairs.

1992: Patty earns NOW’s endorsement, which leads to other local and national support. Patty is elected. The number of women in the U.S. Senate climbs from two to six.

1993: Joins the Shoreline School District Board of Directors.

1995: Son Randy is born.

1998: Exposes a greater-than $1 billion shortfall in VA funding. Publically rebukes Senate colleagues and VA administrators for under-serving war veterans.

2001: Becomes the chair of the Senate Transportation Appropriations Subcommittee.

2005: Joins the Senate Finance Committee, fourth most powerful position in Senate. Recognized by colleague and friend Jim Webb for being “a mother hen”.

2006: Joins the Senate Committee on Appropriations.

2007: Named Democratic Conference Secretary, the fourth most powerful position among Senate Democrats.

2008: Patty attends Senate confirmation hearings for Gary Locke to become U.S. Commerce Secretary. Along with her rise to power in the Senate, the Locke confirmation, the appointment of Seattle Police Chief Gil Kerlikowske as the White House drug czar, and the nomination of King County Executive Ron Sims to be deputy secretary of Housing and Urban Development are providing Washington State a growing presence in the Capitol.

Later, when Congress voted to go to war in Iraq, and though Murray opposed the war, she redoubled her efforts with the committee on Veterans Affairs. “We ask people to serve, and we’ve got to be there for them,” she says. “I remember what happened during the Vietnam War. We have an obligation to take care of them when they come home.”

“Senator Murray along with Senator Patty Murray (D-Washington) and Representative Bob Filner have been carrying the battle for our veterans and military for quite some time,” says Bill Schiefer, of the Washington State American Legion. In 2005, Murray fought to get the federal government to spend more on emergency funding for health care for veterans, drawing attention to the depleted states of VA hospitals around the country. It was an uphill battle. From the Veterans Affairs secretary said the organization had all the money it needed, says Schiefer. But Murray knew better. Just a few months later, the $1 billion shortfall was made evident. Murray came to the rescue. She “was able to immediately move forward with a spending bill,” says Schiefer. “Normally that flow of money doesn’t happen that fast.”

She also fought to keep three of Washington’s VA hospitals open. “She’s a key player along with Veterans Services,” says Schiefer. “She has fought some bloody battles for us, and it’s good to have her in your corner when times get tough.”

It’s also good to have her around when you’re trying to break in. Murray has helped many fellow Washington delegates get up and running when they get to D.C. “She loaned me her scheduler. She helped me set up my office and get started. And she offered me advice on committees and things of that nature,” says Maria Cantwell, Washington State’s other senator. Today the two senators work together on Washington’s issues, as well as share the load by dividing up responsibilities, says Cantwell.

Washington State has a real involvement with the federal government, with Hanford, the Bureau of Reclamation, dams, parks, and the defense posts, he says. With a strong senior delegation and a Democrat in the White House, more good things should happen for Washington State, says Dick.

Washington State is the key state along the major corridors of power in the federal government. Even so, Murray still clings to that tennis shoe image. “I’m still the same person who comes in here every day and goes to work and fights for the people of Washington State and looks at the priorities that are important to our country,” she says. “I don’t think I’ve changed at all.”

And the fever seems to be heating up. With Murray a member of a leadership, and with a Democrat in the White House, “since November, it’s whole new world,” says Shimek. Issues the senator has been working on for more than a decade seeming to be coming through. “It’s not glamorous, but it’s important work,” she says. “And I love working for the people of the state I’m from.”

Through the office walks another WSU alum, legislative assistant Travis Sampson ’02, whose focus is trade and transportation. Even with the recession and budget constraints, there is a lot of potential for Washington State’s priorities—including transportation investment, agricultural research, and Hanford cleanup, he says. Murray’s team is known as a loyal, organized, and effective group. “Her staff is one of the best on Capitol Hill,” says Dick. That’s in part why the Senate leadership has come to rely on Murray; she can get things done.

Looking back on her years in Washington, D.C., Murray sees that times have changed since she first ran for office. Women are now a force in the Senate, and the country has its first African-American president. But “the challenges in front of our country right now are greater than I can remember,” she says, listing economics, security, health care, and jobs. “It’s a very difficult time for families.”

She’ll be in the thick of trying to address all these things. “I’m at an amazing seat at the table with leadership and with a president and vice president that I know,” she says. “The decisions we are making are extremely important, both about today and about how we want our country to be in the future.”

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The conventional view that scientific progress follows a straight path from basic research to applied research to practical invention doesn’t fit the experience of many scientists today. It’s time to take a fresh look at where the big breakthroughs come from.
A FIGHT TO THE DEATH is playing out in Beetle-size cages straddling rows of radish plants in fields near Othello, Washington. Orchestrated by WSU entomologist William Snyder and post-doctoral researcher Deborah Finke, the opponents are aphids, which munch the radish leaves, and parasitic wasps, each about the size of the period at the end of this sentence, that kill the aphids in gruesomely spectacular fashion.

The wasps reproduce by laying their eggs in the body of an aphid. When the larvae hatch out of the eggs, they eat the aphid from the inside, eventually emerging into the air as adults. Under magnification, it looks like something out of a horror show. (Actually, it’s something that went into a horror show; the gut-busting parasites of the Alien movies were based on these wasps.)

The outcome is clear. In one set of cages, the wasps decimate the aphids; in another, they leave many aphids untouched. The experiment provides solid evidence for one of the main claims of organic agriculture and offers farmers guidance in the choice of pesticides. It also answers one of the oldest and most stubborn questions in ecology.

DUAL RESULTS LIKE THESE are not rare in today’s research world. It used to be that basic research done by one kind of scientist produced fundamental information about nature, which was then used by another kind of scientist in applied research that led, in a reasonably short time, to useful product, process, or service. These days are gone.

It’s not that there’s no longer a distinction between basic and applied research. There is. It’s just that much research today fuses the two, providing fundamental insights about the natural world and contributing to the development of practical applications.

Furthermore, even the most basic research is rarely driven by curiosity alone. The scientists who do it may be immersed in the esoteric details of their field, but they have an overarching interest in a real-world problem: energy independence, food security, economic growth, or environmental health. Today’s “basic” scientists may not have practical applications in sight, but they certainly have them in mind.

“Two are better than one,” says Snyder of his research team. “We work in these biocontrol systems, so it obviously has some applied value to agriculture, but we’re also interested in basic questions in ecology.”

In the Othello experiment, the basic question was one that has puzzled biologists ever since Darwin: Why are there so many species? A given forest won’t have one kind of seed-eating bird or one kind of early-spring flower; it will have dozens of species that do approximately the same thing. Why so many?

The key is in the word “approximately.” The explanation Darwin came up with is that no two species use exactly the same resources in exactly the same way.

If there was just one resource that all the species were using, there would be one species that was best at getting at that resource, and that species would outcompete all the others,” says Snyder. “So the idea has been that they want to use different resources.” This is the idea of the niche, the ecological niche, that people are familiar with.

The idea makes intuitive sense and is supported by mathematical models, but it had never been conclusively shown in real-life experiments. In fact, says Snyder, “It’s been thought to be impossible to test” because there was no way to change the use of resources by different species while holding everything else constant. We could find out that two kinds of squirrels eat different kinds of nuts, for instance; but how could we know that the difference is due to their species, rather than to their body size or reproductive rate or any number of other differences?

To really test the niche idea, researchers needed a way to have different numbers of one species do different things (such as eat different prey), and members of different species do the same thing (such as eat the same prey).

Finke and Snyder realized the parasitic wasps are ideal candidates for such an experiment because they can be “trained” to attack just a single species of aphid. An adult wasp will strongly prefer to lay her eggs in the same kind of aphid in which she herself grew up. After allowing generations on one kind of host, the preference is so strong that a wasp may forego the chance to reproduce if her favored prey is not available.

So Finke and Snyder produced colonies of wasps that honed in on a single kind of aphid. They used three species of wasp, raising some individuals of each species to parasitize one species of aphid. Then they placed aphids and wasps in various combinations into the cages enclosing the radish plants.

All the cages held three kinds of aphids. By changing the number of wasp species and whether each wasp species attacked just one kind of aphid or all three, Snyder and Finke were able to separately test the effects of species number and resource use.

They found that more species of wasps killed more aphids than just one kind of wasp only when each wasp species targeted a different species of aphid. If the wasps overlapped in their use of the aphids, they competed with each other and left some aphids un molested.

“Species diversity in and of itself doesn’t seem to do anything,” says Snyder. “It’s only when you have species diversity and they’re partitioning the resource that you see this improvement.”

For farmers and gardeners, the study shows that selective insecticides that kill just one or a few kinds of insects are a far better choice than broad-spectrum insecticides that kill many kinds, including those that could help battle the pests. Likewise, for organic farmers and others trying to manage pests with biocontrol, the diversity of the biocontrol agents is important—but not just any diversity. You need to use species that play different roles in the ecosystem, for instance, by attacking different pests.

“ ‘That’s sort of a basic mantra in organic agriculture, that you need more diversity,’” says Snyder. “ ‘But it’s been hard to pin down, what

In the conventional view, the path from basic research to applied research to new technologies is direct and one-way, and greater knowledge emerged only from basic research. In an alternate and more accurate view, the path between basic and applied research runs both directions, and new technologies and deeper understanding can emerge from either end.

It’s not that there’s no longer a distinction between basic and applied research. There is. It’s just that much research today fuses the two.

WSU Summer 2009
If you work in an agricultural system, says Snyder, "you're pretty much guaranteed to get your idea out there. You can learn anything about anything that's going on in an agricultural system. That is the most likely going to stick the grant." Police Diversity at journals and agencies may simply be trying to maintain programs where scientists don't have to claim their work will reach a specific practical goal within a short time, and Snyder doesn't begrudge them that. "Actually, I feel that purely basic research has a place; but I don't feel that doing research in an agricultural system 'dirties' it to such an extent that you can no longer learn fundamental things."

**The notion that a concern with practical matters is impure or improper is false.** The research can be done in labs, in fields, in the lab, in the field. The practical concern of how we can deal with the practical problem of how disease spreads can be done in a lab, getting results in a few months. And that's just fine. The practical concern of how diseases spread is just not going to wait for results in a lab. The practical concern of how diseases spread will feature his work in the Highlights section of its web page, which is designed to show taxpayers that their research dollars are being well spent. It's a lovely bit of recognition for more than three decades of effort that started out as a tough sell. When Poovaiah started his career, he knew there was something else. Bill Snyder's interest in pest control led to the answer to a fundamental question in ecology. Plant scientists Joe Poovaiah's interest in calcium led to the discovery that calcium is part of an internal signaling system that affects a range of necessary functions including the transmission of nerve impulses and the contraction of muscles.
in the study of calmodulin, the key calcium-binding protein in animal cells. The calmodulin he worked with had come from chickens.

Poovaiah realized that calmodulin, on a protein like it, could help explain how calcium had the effects he’d traced in plants. But nobody knew if plants even made calmodulin. After the seminar he asked if Means would send him some of the chicken calmodulin gene.

“And that’s how we got into this calmodulin work. Using this animal gene we fished out the plant version. Now it’s no big deal to do, but at the time...”

At the time, trying to isolate a protein or gene from scrab could have taken years. Having an exemplar of the thing he was looking for was like taking the express train. Plants and animals are far apart on the evolutionary tree, but genes with essential functions tend to be similar even in such distantly-related species. Poovaiah thought the calmodulin gene qualified. He was right.

With the chicken calmodulin gene in hand, his lab cracked open the calcium/calmodulin system in plants. When new molecular techniques of cloning came into use a few years later, progress in his lab took off. They found that pulses of calcium are involved in the interaction between root hairs and nitrogen-fixing bacteria, which could lead to the development of crops that, in effect, produce their own fertilizer. They discovered one calcium-related gene that controls the size of the plant and another that helps the plant make salicylic acid, a form of aspirin, in response to attack by bacterial pathogens.

The work clearly has implications for the development of new strains of crops, an application Poovaiah had in mind from the beginning. But along the way, another possibility has emerged. It turns out that calmodulin helps the plant make salicylic acid, a form of aspirin, in response to attack by bacterial pathogens.

Poovaiah used the chicken calmodulin gene to find the calmodulin gene in plants, then identified and characterized other plant genes involved in calcium regulation of growth, defense, and other critical functions.

Now Poovaiah, whose lab discovered these proteins and genes in plants, is providing expertise and material to scientists working in animal systems.

The grad student who studied CCaM kinase was recruited by three of the top neuroscience labs in the nation, and Poovaiah is developing a collaboration with one of the leading scientists working on the heart growth protein. Plants with mutant forms of the protein are much easier and quicker to produce than comparable animals. Just as chicken calmodulin gave his research a kick-start 10 years ago, the plant protein ASRI might now provide valuable clues about how the corresponding protein works in mammals.

It’s not something he aimed at, or even thought about, when he started following the calcium trail, but Poovaiah is now on the verge of using plants as “experimental animals” to explore processes that are important in human health.

“Plants don’t have heart, but at the same time, there are some pathways that we understand in plants that could apply in humans,” he says.

“Now, there’s more molecular evidence, more biochemical evidence, enough knowledge in general, that scientists know how this signaling works in plants. As a result, this is a fantastic model to understand how the calcium system works in humans.”

Reflecting on the path that brought him to his unexpected destination, Poovaiah says the way ahead was never clear more than a step or two at a time. “We spent the last 25 years learning to do this signaling research,” he says. “My concept is, today’s basis is tomorrow’s applied. You never know how quickly things go.

“We are a research institution. Our job is to open new doors, and this is what we have done.”

Lately, you may have considered tightening your home budget. Planting a vegetable garden in your yard, eating at home, making food from scratch instead of out of the box, teaching your kids instead of hiring a tutor, mending your sweater instead of buying a new one, or updating your home to be more energy efficient. Poised by the recession, you have been thinking about home economics.

In fact, economics starts in the home. The word economy comes from ancient Greek oikonomos, one who manages a household. While we try to put our national household in order, Americans of late are paying more attention to their home economics.

Over the past seven decades of us have lost touch with those basic skills and principles that were once taught in high school home economics programs around the country, says Karen Leonas, an expert in textile chemistry and chair of Washington State University’s Department of Apparel, Merchandising, Design and Textiles.

Lomax has seen students who don’t know the essentials—like balancing a check book or sewing on a button. Recovering home economics skills may be valuable in surviving the current economic situation, says Leonas.

The Department of Domestic Economy at Washington State was established 1903. It emphasized the basic sciences as well as classes in sewing and millinery, cooking, and household economy and management. In order to graduate with an economics degree, students studied fine arts, chemistry, and bacteriology. They learned human nutrition, accounting, teaching, food preparation, culture, and early childhood development.

In 1913 the university’s extension program hired its first home economist, whose job it was to teach the expertise of home economics to the rural residents of the state. One of the earliest interior design projects at WSU—hiring people to work in the homes of women in the region—and had to do with keeping their homes bright in a working farm kitchen.

Stretching the dollar was also an early consideration. In 1918 one student wrote her master’s thesis on furnishing a home for a family of five on an income of $3,500 a year. During the Depression, Washington State’s students focused on projects like turning flour sacks into clothes and making their own mattresses.

At the same time women nation-wide were making up for lost income by increasing their productivity at home. According to historian Alice Kessler-Harris, they did more sewing, preserving fruits, and canning vegetables. Domestic labor became more valued by society as a whole.

By 1928 the home economics department at WSU had its own building. It was later named White Hall, which in the 1990s became Honors Hall. There were home-management houses nearby where students could live for a semester and run a household—from budgeting and cleaning to meal planning and preparation.

Home economics was about taking the latest in science and research and applying it to home use, says Leonas. It was also a conduit for women who were looking for professional avenues beyond teaching school—design, and nutrition, for example.

But then something changed. During World War II, many women had to set aside work at home and clock in at factories and businesses. On campus, they were going into male-dominated fields, including pharmacy and journalism. Then the war ended and the men came home. In the years that followed, there was an effort to get women back into homes and focus on a domestic life instead of a professional one.

Unfortunately, home economics became a part of that effort. Across the country, university and college administration was trying to limit the number of students who were attending college to go into Home Ec, focusing them on becoming good homemakers. This pressure also kept the women out of other fields of study. Home Ec’s image became more about keeping women in the home than about teaching students the latest science and technology as it applied to their near environments, says Leonas.

Everyone was harmed. Home economics, and all the good it did us, was cast in an unflattering light, says Leonas. By the time of the women’s
liberation movement in the 1960s and 1970s, those home ec basics were widely rejected. Rather than being a source of opportunity for women, it was stigmatized as a limitation.

Beginning in the 1980s, WSU’s College of Home Economics was broken up and blended in with other programs, including the College of Agriculture. Foods and Human Nutrition were moved into Food Science. Child, Consumer and Family Studies became Human Development. Apparel, Merchandising, Design was the last to change when Interior Design moved up to Spokane and the rest of the program moved to an empty dormitory across campus.

“Energetic, productive, dedicated faculty and students are still here, and they are in three former Home Economics departments, as well as in others. But the soul of the Home Economics profession is not here,” wrote Dorothy Price, a professor emeritus from the College of Home Economics, in her 2003 History of Home Economics at Washington State University: Year 75 to Year 100.

“We have been so concerned with the other things, I think we’ve lost something,” Price says when asked about the situation now. “Many of the areas of study once offered in home economics are still on campus. But the holistic approach that home economics provided is gone,” she says. “And that’s probably something we need right now.”

But again, things are changing. There is a growing interest in the home or near environment. Martha Stewart in the 1990s may have led the revival of the domestic arts, but the do-it-yourself shows, the Food Network, and programs like Project Runway and Top Chef are showing that people are willing to bypass convenience and learn again how to do things for themselves.

The downturn in the economy is going to push it further, say the experts. “I think the dollar is going to be more of a priority than convenience is,” says WSU nutritionist Shelly McGuire, who believes the economic downturn will push families to test well at home on a budget. It may even improve their nutrition, she says.

“At this point we’re all just guessing what’s going to happen,” she says, but as middle income families stretch their dollars a little further, they will probably be more careful about planning and executing meals. “They may take more personal responsibility and plan ahead.”

Americans are in a great position to economize on their eating. “We have the cheapest, most accessible food supply of anyone,” says McGuire. But first, we have to learn how to do it. “I think we’ve forgotten these simple, sort of inexpensive ways to eat,” she says. She has friends, for example, who don’t know how to cook legumes. Simple, economical, and healthy dishes like rice and beans just aren’t in their repertoire. There are also people who have never popped popcorn. “They rely on the microwave popcorn,” she says. “It’s amazing. Do you want to spend two cents or two dollars?”

“Education is a de rigueur. A version of economizing for her there would be making protein a component of a meal rather than the center piece. “We’ve been joking that maybe this is the year of the casserole,” she says.

“Eating healthfully and cheaply is completely within people’s control,” she says. “And in times like this, knowing what you do have control over is important.”

Home gardening is also something people turn to during tough times, says Toni Fitzgerald, program leader of WSU’s Master Gardener’s program. “There were three times when home, community, and school gardens were at a peak,” she says. “World War I, World War II, and now.”

People gardened during the wars so that the commercially produced food could be sent to soldiers and starving people in war-ravaged Europe, says Fitzgerald. Back then we promoted some of the same concepts we have now including getting youth involved and cutting down on the number of miles your food has to travel. The effort “tied people back to their land and community,” she says.

The National Gardening Association is predicting a 19-percent increase in home gardening in 2009. Even the Obamas have planned a vegetable garden for the White House.

Roses and dahlias are coming out and fruits and vegetables are going in, says Linda Kirk Fox, head of WSU Extension and a family economist. “It’s all coming back—budgeting, growing and preserving food, fabricating apparel, and improving the home environment. Fox notes that Extension is reaching out to families to help with financial literacy with a web-based effort to spread general information about consumer credit and financial planning.

While most people probably won’t be making their own clothes, they would do well to understand construction and textiles. They should be concerned that the pieces they’re purchasing are ones that will fit well and wear well, says Leonas.

And now, there’s a national push toward living sustainably. It could be a very home economical idea, says Price. The notion embodies all that was first promised and promoted by this discipline—using the latest in science and technology to improve our home environments. And as resources become less affordable, simple changes that reduce the inputs required to operate a home could help households and communities. It could be a very good thing, says Price. “As long as we don’t get too caught up in the technology.”

In the end, we may end up valuing this time, says McGuire, as it causes us to do more with less and pay closer attention to our home environments. It may even improve our quality of life.
Nadia Daud

No place like home

by Hope Terwex

Nadia Daud spends nearly 80 percent of her time living abroad, traveling to some of the most troubled regions of the world. When she’s not overseas, she has an apartment in Washington, D.C. But ask her where her home is, and she’ll tell you—Pullman, Washington.

The 31-year-old refugee officer with the U.S. Department of Homeland Security grew up south of Pioneer Hill in Pullman, graduated from local schools, and then matriculated to Washington State University. It was a remarkably stable childhood for someone who now lives out of a suitcase and spends her days interviewing refugees.

“In the last year and a half, I have gone to places and seen things I could only dream about when I was a child,” she wrote in one e-mail from Beirut in March. “I was a strange little girl in that instead of having posters of movie stars or music idols or sports stars decorating my room, I had flags of other countries and maps decorating my room.”

And now these countries are much more than names on a map. In just the last year she has been on a Kenya safari in the shadow of Kilimanjaro, worked at a refugee camp in Tanzania where white people were still a rarity, rode an elephant through the jungles of Thailand, went snow shoeing in the mountains of Lebanon, and visited holy sites throughout the Middle East.

The sightseeing is a welcome and necessary respite from what can be emotionally grueling work.

As a refugee officer—recently promoted to supervisor—Daud interviews people who have left their homelands because they have been persecuted or have a well-founded fear of persecution because of their race, religion, nationality, political opinions, or membership in a particular social group.

“We have to interview each applicant and decide if their testimony is credible,” Daud wrote. “If it is, we issue a refugee card and move them to the United States, but if they cannot prove their story, we have to return them to their country. If he or she has persecuted someone else.”

CLASS NOTES

1950s

Edward Lee Lamoureux (’80 MA Speech Comm.) recently published a book titled Property of Language: The Social, Cognitive and Evolutionary Dimensions of Language. Lamoureux has provided a tool for students of media communication regarding the intellectual property law in a new medium. More information and a preview of writing can be found at this supplementary website: www.propertyoflanguage.com

Warren P. Bong (’73 Mech. Eng.) is facility manager for the Northern Arizona Health Care System in Prescott, Arizona. Bong has over 35 years of experience with the Department of Indian Affairs, which included engineering positions in Phoenix, Hawaii, and Seattle, Washington.

Colleen Nolan (’78, ’82 Arch.) has been named director of the school’s newly created Facility Management Program at WSU. She previously served as interim director of facilities worldwide that are in support of Bible Society of Association Executives.

1960s

Wayne Foster, ’65, is a former All-American guard for the WSU basketball team. In 2010, Foster was inducted to the Hall of Fame for the Crimson and White. He now teaches college English.

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Many of the people I interview have been forced to flee their homes but are still living within their country’s borders. That is why she was profoundly affected by a recent visit to Rwanda. 

“Somewhere in the world there is no place like home,” she wrote. “What happened there will always be part of the fabric of my country. The silence of the tombs, with the tragedies that have occurred, is something that will always stay in my memory.”

Daud graduated from WSU in 2000 with a bachelor’s degree in political science with a global politics emphasis and minors in Spanish and Asian studies. Her first job was with the Washington State Human Rights Commission in Seattle. While in Seattle she also worked for the Northwest Immigration Rights Project. Then, in 2002, she joined the Department of Homeland Security in San Francisco and worked as a district adjudicator officer, interviewing immigrants whom the government suspected of faking marriage to gain a green card. Daud became a refugee officer in 2007 and transferred to Washington, D.C.

To hear Daud describe it, her main complaint is that she’s based in D.C. She can only make it back to Pullman twice a year. “I wish I could return more often,” she writes.

Her parents, Minn ‘07, and Janet ‘07, met at WSU in the 1980s, still live in town, and two of her three siblings are working in Washington—Lalia Daud works in Kent with Child Protective Services, and John Daud designs video games with a company in Bellevue. They younger sister, Banna Daud ’04, does marketing for an events company in Las Vegas.

Even though I’ve seen all these rare and exotic places in the world, there is no place like home,” she wrote. “I’m very thankful Pullman is my hometown because it is a great reminder of how precious our own life can actually be.”
to gain access to the flock and their gorgeous bronze-brown eggs.

The “coop de grace,” as a family-scale food production, listed the Cowans as on their tour de coops event last summer, people flocked into the backyard by the hundreds. They line up for the tour again by July 25.

The Cowans are recent converts to backyard chicken raising, waiting until son Henry was a toddler before bringing three Buff Orpingtons into the fold two years ago. They chose Orpingtons because they are docile, good layers, and attractive. “That was my idea of what a chicken should look like,” Carrie Cowan says.

They dubbed the hens Dorothy, Blanch, and Rose, after characters from The Golden Girls television show. After a dog killed Dorothy, they acquired Sophia and Bea (after actress Bea Arthur). Their egg cartons, often given away, because the birds outpace the family’s egg needs, are stamped “Carrie’s Golden Girls.”

“For me, the coop project was just a fun thing,” he says. “In this profession, we talk a lot about how design doesn’t necessarily have to do with budget or scale. It can happen anywhere.”

Paul Smith, a professor of the American Institute of Architects, said Cowan designed his Chicken Sedan to fit ex-

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Advocacy for juveniles

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In many fields you run into naysayers who see the research and then focus on how things can’t be changed, says Faith Liatz, an associate professor in WSU’s criminal justice program and Van Wormer’s adviser. “Jackie’s first question is, ‘How can we fix it?’ and then she moves on it.” The WSU graduate student has an ability to bring people together and take what she has learned in terms of social science and “take it to the street and make it effective,” says Liatz.

Van Wormer first started thinking about youth and crime while completing an internship at the state penitentiary in Walla Walla. Reviewing the files, she realized that most had committed their first offenses as minors. The system didn’t help them move away from criminal activity. “There were potential points of intervention that were never offered to them,” she says. “It was one of those pivotal moments for me. I realized work at the juvenile level was a chance for more change.”

In our country the peak crime ages are 14 to 24, says Van Wormer. “But the majority of the public resources go to the adult system. If more resources were spent on juveniles, crime would go down. It frustrates me so much that juveniles are the fourth priority,” says Van Wormer.

After completing her master’s degree in criminal justice at WSU in 1992, Van Wormer worked for the youth court in Missoula, Montana supervising juveniles on home arrest. She later served through several legislative sessions in Olympia as a fiscal analyst reviewing the costs and benefits of criminal justice efforts in Washington’s counties. In 1999 she moved to the Tri-Cities and found a job with Benton and Franklin counties as a manager of intervention services for the juvenile court. Her job was working with young people who had committed the more serious offenses. She also did a lot of grant writing garnering money to establish juvenile, adult, and family drug courts in the Tri-Cities.

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IN MONTANA, SOME MEMORIES JUST AREN'T FOR SALE.


Faculty & Staff

Ronald J. Atkins, 76, retired zoology faculty, January 31, 2009, Port Orchard.


Donald Fadly, 71, retired agricultural staff, November 23, 2008, Spokane.

Donald Fisher, 72, retired biology faculty, January 27, 2009, Kamloops.

Change project, van Wormer, who had learned from the MacArthur grant. “It’s a fantastic project,” says van Wormer, who was happy to take on the job, “though it has slowed down my Ph.D. work quite a bit.”

Now just a year in, the four-member team has already streamlined the way the court works with high school administrators. Though the first two years were supposed to be for assessment, the team has already found areas for action and is moving ahead, says van Wormer. The group is also working with social scientists at WSU who have their own $300,000 MacArthur grants for Change grant to study the issue of truancy. University of Washington researchers have a similar MacArthur grant to study behavioral health and the needs of the Latino community in the Tri-Cities.

The Tri-Cities team is taking on the challenge of connecting therapists, parole officers, teachers, and families, says Van Wormer. “We want to wrap these kids in more holistic services,” she says. “They didn’t wake up one day and say ‘I’m going to commit a crime.’” Their criminal activity may be the result of problems at school, abuse, addiction, neglect, and negative peer groups.

For Change, van Wormer found a job with Benton and Franklin counties as a manager of intervention services for the juvenile court. Her job was working with young people who had committed the more serious offenses. She also did a lot of grant writing garnering money to establish juvenile, adult, and family drug courts in the Tri-Cities.

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Van Wormer left her job with the court in 2005 to focus on completing her doctorate and spending time with her family—she has three children with her husband, Roy ‘80. But when the juvenile court administrator Sharon Parsons asked her to write a proposal for the Tri-Cities to participate in the MacArthur Models for Change project, van Wormer, who had learned to write grants as a master’s grant, dove into the opportunity.

The two counties were awarded $425,000 for the first two years of a five-year program. Van Wormer was asked to stay on and administer the MacArthur grant. “It’s a fantastic project,” says van Wormer, who was happy to take on the job, “though it has slowed down my Ph.D. work quite a bit.”

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One major effort in van Wormer’s office is to address truancy. The team recently learned that about 3,000 children in the community are not getting to school. Part of the challenge is that the area’s schools all use Washington state truancy laws differently, says van Wormer. Some aggressively pursue truancy petitions and some don’t. Others don’t report truancy at all. She’s hoping to get all the districts to work the same way and to look at absences in elementary and junior high, not just high school. “If the children are not in school, they’re more likely to get into trouble,” she says.

These days van Wormer doesn’t work directly with the young offenders. Instead, she’s trying to reach those around them—their families, their probation officers, their schools, and their counselors. “It’s about getting a system in place to catch them before they fall into crime,” she says. “Our kids who are going to stay in our communities,” she says. “The more we can help them out before they get into the court system, the better.”
In a sense, the precursor of Plowed Under was a series of lectures by William Spillman in 1934. Spillman, a versatile and prescient scientist, was one of Washington State Agricultural College’s first faculty members, hired by President Bryan in 1904. Hard by the U.S. Department of Agriculture, he returned to the Palouse to deliver a series of lectures, in which he criticized what he considered the egregious excess of planting everything to wheat. He urged the return to “balanced farming,” in which animals would graze the stubble and reclaim the proteins of the previous crops, while the flatter areas would be planted to crops.

Spillman was not the first to warn of the hazards of soil erosion on the Palouse. Unfortunately, he was one of many local residents who did not heed his warnings. Duffin’s book is basically the story of many such warnings and of the continued lack of response to them. It is also the story of a few actions that did prove to be effective in keeping the Palouse in business.

The book is told in two parts. In the first, Duffin explains his decision to write the book and takes the reader back to the Palouse and the University of Washington in 1976, when he first met Philip Abelson. In 1978, Duffin was startled to realize he had never written a full-length book and went on a five-week tour of the Palouse. He met Spillman’s parents and realized he had been born into the region’s agricultural legacy. He believed he could do much to raise awareness not only of our rich history and contribution to the world food supply, but also of the marvelous resource that we continue to squander.

Duffin’s book is basically the story of cyclical warning and denial. Some soil scientist or government agency will make some modest impact on farming practices, convincing a modest number of farmers to at least reconsider their ways. Then along comes one of those overwhelming events. First it was World War II and its need for wheat to feed European farmers who had become battlefied. Profit and production rose, and the 100 years of soil stewardship was lost. Food conservation, and farmers increased their production dramatically. At the end of the war, the world was hungry and the soil was hungry. Duffin’s book is basically the story of how after the war. The Wilson administration encouraged farmers to “raise such big crops.” That hunger created by the Great War would never occur again. The Fordor magazine urged farmers to seek old family records and plant trees from them for land not planted was profit lost.

In spite of notable accomplishments over the decades, such as the founding of the Soil Conservation Service in 1933, contour tillage, the very effective conservation tillage, the Conservation Reserve Program, and other soil conserving programs and practices, the majority of farmers continued to till short-term gain but lose the loess soil. World War II again added profit to farming every inch. The advent of herbicides and anabolic amonium fertilizer increased productivity with no apparent need to stum soil runoff. Finally, today, price support subsidies provide great incentive for planting and little for conservation or alternative crops.

At the root of the problem was that there was no clear-cut proof that soil erosion led to reduced productivity. For one thing, even though the hillsides and knobs had lost much of their topsoil by the early 20th century, overall, the loess was plentiful and deep enough to be worked by a plow. The greatest single loss of what farmers believed an endless supply of topsoil had little effect compared to the slogan of wheat “Will steal the war.”

That enthusiastic production was channeled on after the war. The Wilson administration encouraged farmers to “raise such big crops.” That hunger created by the Great War would never occur again. The Fordor magazine urged farmers to seek old family records and plant trees from them for land not planted was profit lost.

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A rare early painting by Clyfford Still, '35 of the Grand Coulee Dam under construction surfaced this winter on an episode of Antiques Road Show.

By Hannelore Sudermann

An episode of the Antiques Roadshow television program last winter stirred some memories across the Palouse and brought to mind one of the most influential alumni to graduate from Washington State University’s fine arts program.

“A resident from California brought in a painting of the Grand Coulee Dam under construction dated 1937. It was by Clyfford Still, an artist who taught at Washington State College from 1933 to 1941, and who earned his master’s of fine arts here in 1935. Still was a product of the West, having spent his childhood in Spokane and on his family’s farm in southern Alberta, Canada. While studying and teaching at WSC, he co-founded the summer Neoplastic Art Colony near the Grand Coulee Dam in 1937. Less than a decade later he had become a leader in Abstract Expressionism, working and living in the company of Jackson Pollock, Mark Rothko, and Willem de Kooning.

When he departed Pullman for San Francisco, Still didn’t leave much behind. An exception was this work that surfaced on the public television program. According to the writing on the back of the canvas, the artist gave the painting to a professor in another department. Years later that faculty member passed it on to a colleague as a housewarming gift. That man, who as a student had taken a class from Still, and his wife have cherished the work ever since, hanging it prominently in their homes in Pullman and later in California.

Washington State Magazine contacted the family for this story, but because of concerns about publicity surrounding the valuable painting, they asked that their name not be published.

That this family has one of Still’s paintings is rare, indeed. The artist gave away very few of his works. He only sold about 180 pieces. Just a few museums, including the Smithsonian, the Metropolitan Museum of Art, the Guggenheim, and the Art Institute of Chicago, have Still’s in their collections. Still disliked the commercialization of art, shunned galleries, and after spending part of the 1940s and 1950s in the New York art scene, grew increasingly reclusive. In 1951 he moved to a farm in Maryland. He cached away his completed works, leaving more than 800 paintings and 1,500 drawings in his estate when he died in 1980.

In 2004, Still’s widow, Patricia, opened the collection to be viewed by a select few to ensure that none of his pieces would be sold, and that no other artist’s works would be exhibited alongside his. Architectural plans for the museum have been completed and fundraising is underway.

Because of Still’s stringent rules about the art in his estate and because there are so few out there in the general public, it is unlikely any of his pieces, even those he made while at Washington State, will ever come back to Pullman, says Chris Bruce.

But some folks here in Pullman can’t help but wonder if there may be one more Clyfford Still painting hanging on a wall or tucked away in an attic somewhere around town.

A woman from California brought in a painting of Clyfford Still ‘35 of the Grand Coulee Dam under construction on the winter episode of Antiques Road Show.

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