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and someday I will be a pilot in the Air Force.

What inspires me:

My dad retired from the Air Force and always stressed the importance of education. I plan to serve once I finish school.

On scholarships:

I wanted to attend WSU ever since junior high. Scholarships are helping me and my family afford my education.

Read Ben’s full interview: campaign.wsu.edu/impact/benj

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Cover: Photo/Artwork by Diana Whaley—photo courtesy WSU Manuscripts, Archives, and Special Collections.
The Community of the Oyster : On a Saturday night in late August, the oyster community of Willapa Bay has gathered in the Raymond Theater to watch themselves on the screen. Local boy Keith Cox had gone off to Hollywood, but then returned to document his home and the life of Willapa Bay and its oystering.

Cox is premiering the eighth in a series of documentaries on the bay, on oyster farming, on the oystermen themselves. What started out as an innocent project intended to summarize the industry has led to over 130 interviews, over 350 hours of new footage, and seven hours of documentary.

Sitting next to me is Dorwin Fosse, a retired boat builder. In addition to running the South Bend Boat Shop, which started in 1926, his family has owned an oyster bed for over a hundred years.

"I see three and four generations here," he says. "It’s a pretty close-knit community."

The final installment of the documentary runs for two hours, but the audience is rapt as they take turns on screen talking about the oyster life.

With half its volume changing with every tide, the 260-square-mile Willapa Bay is one of the most pristine estuaries in the United States. It is hard to find a better place to grow a healthy and luscious oyster. Nearly 10 percent of the oysters produced in the United States come from Willapa Bay.

The morning after the premiere, Cox and I visit in the closed-in porch of his father’s house overlooking Long Beach.

"I grew up seeing the tide come in and out and all the boats out on the water," says Cox. "People comment, 'I never realized what all took place out there.' That was me. Before I started the project four years ago, I would have said that."

Cox’s father Dave ’71 bought him his first camera when he was 10 years old. With it began an obsession with visual imagery and storytelling.

When Cox and his wife Rachel graduated from WSU in 1998, they loaded up their jeep and headed straight for Los Angeles. He put in a stint as a seating host in a restaurant in order to pay the bills, but by 2001, he had produced the documentary that comes as an “additional feature” on the second DVD for The Pianist.

Since then, he has worked on 150 movies. But he wanted to do something of his own. So he started visiting his hometown and talking with his neighbors. One interview led to the next, to several more, as he sought stories and understanding. Over the next four years, he got “a college education in the oyster process.”

“I have to understand it in order to tell it,” he says.

In spite of the apparently exhaustive coverage in his documentary, Cox is acutely aware of how much did not make it into the final product.

“What I did is like that one little stake out in the estuary,” he says, pointing to a marker, a half-mile out, indicating an oyster bed.

“We’re not only talking about 160 years,” he says, referring to the commercial history of the bay. The Chinook people had lived on the bay for centuries and undoubtedly enjoyed its native Olympia oysters.

Beyond the history are the ecology of the bay, the effects of tides on its topography, and effects such as the “fattening line,” the imaginary line marking the more nutrient rich part of the bay that is steadily moving northward.

Obviously, Cox did not produce a seven-hour documentary for the money.

"My goal was to do something for the community," he says.

Indeed, the story of his storytelling is one of continuity, of community, of family, of the value of embracing history.

The audience at the Raymond theater understood that as they gave him a standing ovation for telling their stories.

Tim Steury, Editor
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Glenn Terrell served as Washington State University’s seventh president, from 1967 to 1985. He passed away in August at his home in Sequim. He was 93.

Terrell earned his bachelor’s degree in political science from Davidson College in North Carolina, his master’s degree in psychology from Florida State University, and his doctoral degree from the University of Iowa. He served in the U.S. Army during World War II and was one of the American soldiers who marched down the Champs-Elysees with Charles de Gaulle.

He began his academic career as an instructor in psychology at Florida State, later moving to the University of Colorado where he headed the Department of Psychology. In 1963, he became dean of the College of Liberal Arts and Sciences at the University of Illinois, Chicago Circle campus. Two years later, he became dean of faculties there. In 1967, he became president of WSU.

His presidency saw increased growth in international programs, instructional innovations, research, and outstanding teachers. The WSU Foundation was started under his tenure, in 1979.

Glenn Terrell almost did not become the seventh president of Washington State University. When first asked, he said he didn’t feel ready to leave his current position, but about a year later, the regents called again and he accepted immediately.

Just thinking about Dr. T., as I called him, makes me smile. There was a sense of peace in the soft accent of that Florida-born gentleman with the tall stature but approachable manner.

His first years at WSU were filled with historic issues: civil rights, the Vietnam War, Cambodia, and student unrest. There also were the Martin Stadium fire, lettuce boycotts, and financial worries. Later, Mount St. Helens and a growing student body.

Dr. T. listened to all our concerns.

“I told everyone to treat the students kindly,” he reminisced by phone just a few months ago with retired University Relations director Bob Smawley ’52. “I know what the students were feeling; I believed in many of the same things they did.”

Students recall meeting the president everywhere.

“I was on a Cascade flight from Pullman to Seattle when I was a freshman,” Dave Pridemore ’86 says. “The tall guy in front of me turned around and said, ‘Hi, I’m Dr. Terrell.’”

“His first years at WSU were filled with historic issues: civil rights, the Vietnam War, Cambodia, and student unrest. There also were the Martin Stadium fire, lettuce boycotts, and financial worries. Later, Mount St. Helens and a growing student body.

The student leader had many meetings with the president as the years passed.

“My diploma has the signature of two presidents,” says Dave. “After commencement, I went to Dr. Terrell’s home and asked him to sign the diploma.”

Dr. T. would disappear from an event and many times from the president’s box at a Cougar football game. You would look for the nearest group of students to find him. He finished many games on the sidelines of Martin Stadium.

“My priority was WSU in Pullman,” he stressed. “We worked hard to build the campus and lose nothing.”

President Terrell believed in cooperative efforts. One time a state council recommended dropping WSU’s pharmacy school. After all, the state had another at the University of Washington.
Dr. T. was the right president at the right time.

I learned how to deal with people in general,” says Gen, who man-
aged the fledging foundation. “He had a remarkable capacity to make you feel valued, and not just by remembering your name but things that were most important to you,” says Connie. “He was curious about you, wanted to know what you were thinking, what was going on at you, what made you laugh. There wasn’t a pretense in his body.”

Gen says. And many times Dr. T. would walk the student to financial aid.

The president paid a good deal of attention to a private group, the
Association of Research Professors, Jack says. The ARP and Dr. Terrell spent time correcting injustices in the way that research funding, among other issues.

Hiring Dr. John Slaughter and Albert Yates, both men of color, was
the most important to him and to the university,” says Felicia Gaskins ’73, who spent time correcting an injustice of budget allocations to research faculty and students.

It gave him a chance to meet casually with the students.”

Dr. T. was a leader first, "but he was the people’s president," says Felicia Gaskins ’73.

The president made friends wherever he was. He had few enemies.

The president could make everyone feel like he or she was the only
friend in the world. (even though a very busy day was ahead of him.) He’d give us a big
smile and say “Hi” and then stroll into his office,” she says.

Invariably, he would run into a few students on his route and spend
an extra 5-10 minutes chatting with whomsoever he came across, Sonia says.

He would come strolling in the office like he didn’t have a care in the
world (even though a very busy day was ahead of him.) He’d give us a big
smile and say “Hi” and then stroll into his office,” she says.

Gen would go in and try to rework the schedule given that Dr. T. was
half hour late getting into the office. “She was used to that happening
when the president was home or away.

There is an informal, uncomplicated, yet very sophisticated straight-for-
wardness about the people associated with Washington State University—its
regents, student, administrators, and alumni. It is this character which has contributed so substantially in the past to its success, the
president said.

And President Terrell answered the door,” Boone says. “and he was
hosting a quiet little party.

“Dr. Slaughter and Albert were both men of color, but the president was supposed to be out of town so I hung on the front door...

And President Terrell answered the door,” Boone says. “and he was
hosting a quiet little party.

“That’s okay, Gar,” the president said. “Go on up. Glenn is upstairs.”

“Meanwhile, Terrell was working on getting the fledging foundation
into the right place.”

Boone and the group of Pullman teens thought they always knew
what you were thinking, what was going on at you, what made you laugh. There wasn’t a pretense in his body.”

Wendy Peterson ‘82, WSU director of admissions, was a student
when the new addition to the library became the centerpiece of the
university’s scholarship program. Since then 834 student scholars have
received the prestigious award.

Then suddenly, in a soft, but firm voice, Dr. Terrell said, “But
you must have a plan.”

“Dr. T. was the right president at the right time.”

It was a thrilling time,” says Lola. “His effectiveness was heightened
during those years.”

The president reminded that Dr. T. was a leader first, “but he was the
students’ president.”

He was very open with administrators,” she says. “We were encour-
aged to walk right into his office anytime with an issue worthy of his
immediate attention.”

How exciting it was to watch WSU pharmacy alumni blow open
that door. Who were operating pharmacies across the state? Cougar pharmacy alumni WSU administrators, college leaders, alumni, and students, of course.

I cannot exaggerate Dr. Terrell’s experiences with students.

saying: “long time assistant Gen DeVrooming. “He would always take care of students first.”

The president left many meetings, saying: “Let’s go home” or “Please excuse me. I have a student to talk to.”

Gen remembers. “Dr. Terrell asked us to get him when a student was really upset,” Gen says. “and many times Dr. T. would walk the student to financial aid.

Dr. T. was on his calendar,” says Sonia.

visiting with the students was almost always a higher priority than what
was on his calendar,” says Sonia.

He listened.”

“He walked in all sorts of weather,” says Sonia. “He used to tell us
that he had left quite some time ago.

He would always take care of students first.”

Dr. Terrell empowered people long before the term was so popular,”
Dr. Terrell’s for a quick visit. I looked and smelled like a guy who had just
loaded a horse into the back of a truck. But the president was supposed to be out of town so I hung on the front door...

“Dr. Slaughter and Albert were both men of color, but the president was supposed to be out of town so I hung on the front door...

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“Dr. Slaughter and Albert were both men of color, but the president was supposed to be out of town so I hung on the front door...
Tiny seed, big prospects

by Eric Sorensen

As small, relatively obscure seeds go, quinoa has a lot riding on it. It measures about 3 millimeters across, and its worldwide production is about 1,200,000 metric tons. Its popularity continues growing, with the price rising five-fold since 2005. The market for quinoa is already eager and growing, setting up some sort of processing system. The challenge is to improve farmers’ incomes while feeding a growing planet with impoverished soils and warming temperatures. The United Nations General Assembly has even given it its own year, 2013, the “International Year of Quinoa.” UN Secretary-General Ban Ki-moon last February said it is “truly a food for the Millennium Development Goals,” which in turn is a key part of the “Year of Quinoa.”

But the world interest in quinoa brings up an additional challenge: how to satisfy international markets without dominating and driving poor Andean growers deeper into poverty. In the Andean highlands to North America and the rest of the world. Andean highlands to North America and the rest of the world.

Research and Extension Initiative, the project is sponsored by the National Institute of Food and Agriculture’s Organic Agriculture Research and Education Initiative, the project is one of the largest yet to bring quinoa from the Andean highlands to North America and the rest of the world. Andean highlands to North America and the rest of the world.

Back in the states, he grew it on an organic vegetable farm in Port Townsend, where he did well and sold to Community Supported Agriculture (CSA) in 2007. “The idea was to make enough money to write books,” says Soren-Ek-Johansen. “They always wanted to pick the quinoa because it was so beautiful,” he says. “We had to fight them off.”
Watching the sea

by Hanenlore Suderman

The paint has hardly dried at the new Salish Sea Research Center near Bellingham, but the $2.2 million facility is already in use. Student scientists dip into a freezer full of recently collected shellfish, a Zodiac boat and a collection of waders are drying in the back mud room, and several projects to study acidity in the water and the health of the aquatic organisms are already underway.

The Northwest Indian College was established in 1973 to train technicians who would work in Indian-run fish and shellfish hatcheries throughout the region. More recently it has expanded to include two- and four-year college degrees. And today it is the only accredited tribal college in the Pacific Northwest, serving Indian students from around the country.

The one-story research center right in the path of the NWCC, a marketing firm with an eye on quinoa growers’ and price for quinoa was reducing poverty and luring young people back to the countryside.

While the center’s focus is in the environment and natural resources, it’s also more personal, says Urbanse: “We get so much food from our plants.”

When to plant, how dense to plant, those are all questions we really don’t know the answers to yet,” Murphy says. “So we want to make as many mistakes as we can before farmers start trying and making mistakes.”

That said, Murphy says there’s a strong likelihood the project will quickly develop good varieties that could find homes on both the Palouse and among west-side vegetable growers eager to diversify their rotations.

The long-term prospects of quinoa and its South American growers are harder to gauge and was a lively topic during the three-day international symposium.

Sergio Nunez de Arco, of Andean Naturals, a marketing firm with an eye on quinoa growers viability, says it’s likely that the rest of the world will eclipse South America’s quinoa output and sell it for less. But Andean farmers can get a premium price by marketing “a face and a place,” tying the product to the people growing it and how it improves their lives.

“We have to de-commoditize quinoa,” says Nunez de Arco, a Bolivian native educated at the University of California, Berkeley.

“Quinoa is coming,” he says. “We’ve figured that out. It’s not going to go away. But we have to figure out how to grow it responsibly and on a scale that will let Andean farmers continue to grow it and sell it profitably. And we also need to help figure out ways that Andean farmers can label and market their quinoa so that, like the Walla Walla onions, there’s name recognition and added value to traditionally grown Andean quinoa.”

Gabriel Fielding

by Tim Straty

A night at the Barnsey house on Monroe Street guaranteed that the guest would be entertained, enlightened, and well fed. For the couple of decades following his joining the English faculty at WSU in 1986 Alan and Edwina Barnsley hosted the liveliest soirees in Pullman. Both were erudite and funny, full of wit and counsel. Dina died just last year and Alan in 1996. But Alan lives on as Gabriel Fielding, the pen name under which he wrote many marvelous novels. Three of those novels—Pretty Odd Noves, The Birthday King, and In the Time of Greenrooms—were released in digital form this August by Bloomsbury Publishing. Of his work, Dorothy Parker once wrote: “It is a matter for grave doubt that Mr. Fielding could write anything from a postcard to a lexicon without perception and grace and brilliance.”

Shortly after the Barnsleys came to Pullman, they met close neighbors Flo and Robert Frasy, and Robert, a member of the fine arts faculty, painted Alan’s portrait. The Barnsley family recently donated the portrait to the Bundy Reading Room, which is part of the English department. Robert Frasy died last spring. Flo Frasyly recalls meeting first Alan, aka Gabriel Fielding.

She had recently read The Birthday King, which describes Hitler’s Germany from the perspective of a wealthy Catholic and Jewish industrialist family, and was very impressed. And then one night, she was at a party and standing there was the author. She introduced herself and told him that after reading his novel, she wasn’t able to sleep for three weeks.

“That’s exactly what I had liked to hear,” she says, laughing.
On home game weekends during football season, WSU’s Pullman campus goes through a rapid and dramatic transformation. As soon as students and staff vacate their parking lots, a new community, equipped with hibachis and hot dog buns, motors in. These RV-driving Cougar fans come with their families, friends, and sometimes their cats and dogs, too. They set up outdoor living rooms, roam through campus, and share food and fun with the friends and strangers around them.

“It really is its own culture,” says Bridgette Brady, director of transportation services. “What we have here is very important to WSU. And we are unique in how many RVs we accommodate and how comprehensive our program is.”

Brady has a fairly long view of the football parking scene, having started with the campus transportation office as a student twenty years ago. She watched the game scene go from a single parking lot of RVs to a complex community. There were campers then, but they numbered around 100 and mostly filled the Yellow parking lot in front of Beasley Coliseum. Campers would drop $20 in an honor box to pay for a weekend. Some of those folks haven’t changed, says Brady. “We’ve seen that same core of people come back every year.”

But other things did change. Now, demand to park an RV on campus is so high, eight lots fill with more than 400 recreational vehicles, massive land yachts and tiny trailers alike. In recent years, the University has gradually increased the RV rules, to meet both safety concerns and the growing interest in overnight space. Where the RV drivers once parked where they pleased, they’re now assigned defined spots, to offer more organized room and provide fire lanes for emergency vehicles.

Very few schools offer overnight options, says Brady. The UW, for example, opens its parking lots at 6:00 a.m. on game day and closes them just a few hours after the game. Overnight parking is not allowed.

In a recent comparison of Big 10 and Pac-12 schools with lively tailgating scenes, nearly half did not allow overnight parking. Only three, WSU, Stanford, and Texas, offered overnight space for RVs. That in itself contributes to the sense of a community, of regular neighbors who see each other over entire weekends.

Over the past 20 years a community of devoted campers has developed in the parking lots around campus. At better: The Hunter/Cutler family. Photos Zach Mazur
About 10 years ago, things started changing dramatically. RV ing to games grew more popular and the parking scene became something of a free-for-all. "We had to make some changes," says Brady, "particularly for safety."

The changes now include pre-season communications with the regulars, a command center where people can ask questions or air concerns, improved security, and more bathrooms and dumpsters. Visits from Butch and the spirit squad have helped soften discontent with the changes, particularly with long-term tailgaters who weren’t thrilled that the cost for a season parking pass had risen to $500.

Last year was the big season of change, says Brady. Anticipating even higher demand because of the new athletic director and the new football coach, her office started working closely with the Athletics Department to control and improve the parking environment and, at the same time, keep those elements of the parking scene became something of a phenomenon for the regulars so loved. "We have become an example for other schools," she says. "We are doing more pre-season communications with the regulars so loved."

"And there’s Giovanni," she says pointing to the neighboring panel where Giovanni’s adult son stands with a friend in a biblical scene, but in a setting that features buildings with the look of fifteenth-century Florence. "The family is really ancient stock in Florence," she explains. "Records trace them back to the 1220s. Giovanni Tornabuoni, the patriarch of the family, lived in Rome for decades working for the Medici bank. He was also part of a Florentine delegation to Pope Innocent IV. Tornabuoni bought the rights to decorate the main chapel at Santa Maria Novella. He commissioned Domenico Ghirlandaio and Sandro Botticelli.

"The family is really ancient stock in Florence," she explains. "Records trace them back to the 1220s. Giovanni Tornabuoni, the patriarch of the family, lived in Rome for decades working for the Medici bank. He was also part of a Florentine delegation to Pope Innocent IV. Tornabuoni bought the rights to decorate the main chapel at Santa Maria Novella. He commissioned Domenico Ghirlandaio and Sandro Botticelli, to create frescoes with the themes of the births and lives of the Madonna and of John the Baptist. The design was to tell their stories in a series of panels and include representations of himself and his family and friends.

Michelangelo was at the time a young apprentice in Ghirlandaio’s workshop, and may have been involved in the chapel works. Another art historian notes that the apprentices or assistants helped in the chapel project by transferring the designs, grinding colors, and performing other mechanical tasks.

As we stand inside the church facing the main chapel, the left wall tells the story of the Virgin Mary and the right wall of John the Baptist. DePrano moves into the space and looks up smiling, pointing out some familiar faces. "There’s Ludovico," she says gesturing to the Nativity of Mary scene. Giovanni’s daughter is in full Florentine dress and not yet married, DePrano noting that it’s signified by her hair being down.

"And there’s Lorenzo," she says pointing to the neighboring panel where Giovanni’s adult son stands with a friend in a biblical scene, but in a setting that features buildings with the look of fifteenth-century Florence. The central wall tells the praying forms of Giovanni and his wife Francesca Pitti flank the stained glass windows.

Other identifiable members of the family as well as a self-portrait of the artist and images of other well-known members of the city inhabit the scenes. While the stories are biblical, the frescoes also depict clothing, furnishings, and architecture of the day. DePrano turns to the right wall and points to Giovanna degli Albizzi, a young woman from another powerful Florentine family who was married to Lorenzo when..."
History Develops, Art Stands Still

they both were 18. She bore a son in 1487, but died a year later during pregnancy. She stands in profile, her elegant dress a rich rust and gold brocade.

"But here I am able to look at the family compared to the rest of Florence," she says. With the art and the written records, just a handful of names and numbers in her research, DePrano is able to fill out the story of the Tornabuoni and enhance the view of families, both powerful and petty. She stands in profile, her elegant dress a rich rust and gold brocade. "It has come back to what it was when the Tornabuoni lived here," she says. "This year DePrano is spending most of her days just outside the city in her offices at Harvard's Villa I Tatti. Her one-year fellowship is to further her own research and expand the overall understanding of the Italian Renaissance. Her project is a continuation of work she started as a graduate student at UCLA, a Fulbright year in Florence, researching and studying details about this particular family so connected to both the history of the period and the artist." DePrano travels back and forth between written documents and the art. Digging through letters, she has found some that have yet to be translated from the old Florentine script. But she is excited about what they will reveal.

Beyond the paintings and personal letters, the family's tragedies have left a trail of materials. Their story is sometimes cruel, but for an art historian very useful, says DePrano. In 1477 Leonello was arrested for taking part in a conspiracy to return the Medici to Florence. They had been deemed too powerful and were driven from the city in 1449. For their involvement in the plot, Lorenzo and four others were beheaded. Their death explained the Tornabuoni's change of heart and prompted a forced accounting of the family's household. The list, written in a beautiful handwriting, details each room of the palazzo. "We know what instruments they had and what art and furniture were there," says DePrano. This gives us so much detail, she says, "we know what some of the rooms were used for... It gives us a fuller picture of what their lives in this space would have been like."

A poor showing in children's books

by Larry Clark '94

A picture book from a shelf in her office and, flipping through the pages, shows a story of a little girl living in a graffiti- and trash-covered apartment complex. The book, Something Beautiful, tells how the girl takes charge of her own environment and cleans up her home to make it more beautiful.

Such depictions of poverty in realistic children's fiction are unfortunately rare, says Kelley, an associate professor in the College of Education and a scholar of children's literature. Despite the historically high prevalence of poverty in the United States, that fact of life for many kids is underrepresented in the books they might read.

According to the U.S. Census Bureau, more than one in five children under 18 lives in poverty. The Census Bureau defines poverty based on household income, for a family of four that threshold was about $22,800 in 2012. The number of people in poverty rose for four consecutive years, likely exacerbated by the financial crisis after 2008.

Not only do few children's books reflect the reality of poverty, says Kelley, but the messages about poverty are often about fate or luck. "It's either good luck or bad luck that you're poor. They say, 'With a little luck I'll be able to get out of poverty and everything will be ok.'"

Kelley began studying poverty in children's literature in graduate school, applying critical multicultural analysis to help identify themes. But she also had firsthand experience with poverty as a classroom teacher for five years in Houston, the first graders, they knew about poverty. It was part of their everyday. When I taught in other schools, they didn't really know much about it," she says.

Since then, in the late '80s and early '90s, Kelley says she can't think of any books that realistically depicted poverty. Now with more books that show children in poverty, teachers have more options to address the issue.

"I think what's great about some of these books is that they can help teach children about all of these tough subjects without the teacher or the teacher's aid being involved. They can just read the story. It also gives kids a chance to talk about the issue, not about themselves, but they can talk about this little girl rather than say 'This is what's going on in my neighborhood,'" says Kelley.

Kelley's research suggests that reading becomes more meaningful and enjoyable when children can see themselves reflected. They are more likely to engage with the story and identify with the characters. As mirrors, "we can have children's books that are realistic, that do reflect what's going on," she says. "These books are important because they help kids say, 'Wow, there's someone else in the same situation,' and they can feel there's a comfort in that."
children’s books for their topics, though. The books have to grab the reader’s attention. “Number one, a book has to be engaging,” she says. “It has to have really quality writing. There are a lot of books out there that might be about poverty, but they’re not engaging. So they’re not going to do what we want them to do and get kids interested in talking about the topic.”

Kelley also heads up WSU’s Reading Endorsement Program, allowing her to work with teachers to find books that can represent poverty, homelessness, and other tough topics like assumptions about people who are poor. Then, depending on the context of the class, the teachers can bring those books into their classrooms where the children will find them.

Chastagner, officially a plant pathologist with the WSU Ponderosa and Eastern Research and Extension Center, is better known as “Mr. Christmas Tree.” For more than 30 years, his pursuit of new knowledge about the trees has been so thorough that it would be called obsessive, were it not science. He has studied tree diseases, analyzed species from around the world, deconstructed tree stands, and grappled with that bane of the Christmas tree consumer, needles on the carpet.

Now he is helping lead the largest Christmas tree research project in U.S. history, a $2.3 million effort bringing genetic analysis to bear on a devastating root disease and that pesky needle problem. Other researchers may be better versed in particular aspects of growing trees, says Chastagner, but he and his colleagues are pretty much the international authorities on what happens to a tree after it’s cut.

“We’ve probably done more post-harvest Christmas tree research than anyone worldwide,” he says.

If this strikes you as a quirky scientific niche of little social impact, keep in mind that Christmas trees are a $1 billion industry, with some 15,000 farms employing 100,000 full- and part-time workers. One-third of the nation’s trees come out of the Pacific Northwest.

Production numbers are largely unchanged over the past century, but sales are on the decline as the trees face growing competition from artificial trees and dissect from people who vacuum. Over the decades, Chastagner has consistently been looking out for growers, “trying to figure out a better mess,” so to speak,” says Ed Hallford, 75 forestry, who has operated a tree farm in Elma since around the time Chastagner started his tree research. He’s provided two official White House Trees, to the Clinton in 1999 and the Bushes in 2002.

The industry has been around a long time, but a lot of it was natural, Douglas fir from cleancuts,” he says. With the rise of Christmas tree farms, tree growing “became a whole different animal as far as diseases and the culture techniques. It gives you the opportunity to test different varieties of trees to dry out faster. Chastagner also saw trees being displayed on wooden stands with no overhead spraying, causing them to dry out further.

He set up a simulated Christmas tree lot in Tempe, Arizona, one of the driest cities in America. He displayed some trees dry, some with their bases in water, some with a sprinkler wetting the foliage at night, and set with both water and irrigation. The dry trees didn’t fare well, but even a sprinkled tree held up. As a result, many retailers in southern California and the southwest now use some system to keep their trees hydrated to ensure to invent better different varieties of trees react to drying. Some, even if displayed in water, last only three weeks or so. But a watered noble fir can last eight weeks, while Nordmann and Turkish firs in one test lasted three months.

Through repeated experiments, Chastagner has found that whatever the variety, and regardless of whether the tree is from a U-cut farm or a mass plant, the single best preservative for a Christmas tree is water. And lots of it. Each day, a tree needs a minimum of one quart of water per inch of diameter at the base. Of 30 trees Chastagner tested, roughly one in four fail to hold enough water for even the smallest tree they could otherwise accommodate. Only two could provide enough water for all the tree sizes they could hold.

"One time I did a story with the Wall Street Journal on Christmas tree stands,” says Chastagner, who has also appeared in the New York Times, the Los Angeles Times, and on National Public Radio. “Their conclusion was, someone invents the perfect Christmas tree stand is going to have a corner on the market.”

PRODUCTION OF CHRISTMAS TREE IN THE PACIFIC NORTHWEST

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Ask Mr. Christmas Tree

by Eric Sorensen :: If you’re looking for Gary Chastagner around this time of year, you’ll do well to put out, all points bulletin to wherever Christmas Trees Are Sold. His preserved trees up and down the West Coast, as well as in Massachusetts, Idaho, Wisconsin, Southern Illinois, Michigan, Arizona, and Texas. Just look for the cheerfulflow taking clippings, bending needles, and churning up the smears about things like moisture content and needle retention.

“My family knows that it’s Christmas time, I’m usually around looking at Christmas tree lots,” he says.

You can probably guess that the warmer, drying climate of southern California was causing the Christmas trees to dry out faster. Chastagner also saw trees being displayed on wooden stands with no overhead spraying, causing them to dry out further.

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Remember the time what’s-his-face was guarding that guy on that other team? And that one guy that took that shot — was it a two- or three-pointer? And Boom! He drained it and the crowd went wild.

I’ll never forget that!
Chastagner is now in the midst of his most industrious work yet, a USDA-funded project to identify just what properties consumers want in a Christmas tree and the genetic traits behind them. The effort has the backing of eight state and regional Christmas tree associations, as well as the National Christmas Tree Association and Weyerhaeuser, which grows seedlings for tree farms. "Jeff Jr.'s, an associate professor of marketing in the College of Business, is working with the national association and will conduct a consumer survey. Researchers in North Carolina, California, Pennsylvania, and Michigan will help with other aspects.

"The research team plans to identify genetic markers of fir with desired properties, as well as resistance to Phytophthora root rot, a major scourge, and use the genetic information to screen trees for the most promising sources of seed.

Technically, Chastagner could retire. But the trees keep calling him. "Research leads to additional research," he says, especially, "when you're curious about things—why is this happening and how can we modify this so it doesn't happen?"

Of mice, men, and wheat

by Tim Stary :: Although varieties of bread wheat can be more simply considered as either hard or soft, hardness being a measure of the kernel's resistance to crushing, all wheat originally was soft-kernelled. And there is, so far as we know, no evolutionary advantage to either the hard or the soft trait.

But clearly, somewhere along the line, the hard and soft trees keep calling him. "Almost certainly what happened," says Morris, "Neolithic farmers were growing a tetraploid ancestor. Goatgrass, a diploid, was a weed in the field.

Goatgrass can cross with wheat, but the union rarely forms a stable cross. Although Goatgrass can cross with wheat, but the union rarely forms a stable cross. Although it had a diploid ancestor, "Hardy" would not have existed until about 8,000 years ago," says Morris, referring to the genetic structure of modern wheat. "Ploidy" refers to the number of sets of chromosomes that make up an organism's genetic material.

"Some Neolithic farmer had it figured out," says Morris. "And hence, the world grows wheat."

"One can envisage," write Morris and his colleagues in a recent report in the journal Ecology and Evolution, "that within a limited number of planting/harvesting cycles, mouse predation could have reached 99 percent in a mere few centuries."

"The tiny house mouse, Mus musculus, may have played a major role in wheat evolution.

'Over' 2013-14

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Having abandoned journalism and returned to her family’s farm on Whidbey Island, Georgie Smith ’83 started gardening, and one thing led to another. Smith had at least two things going for her: family land and a knack for farming. Farmer’s markets sales led to supplying restaurants, and ten years later, she’s still in business, farming 20 acres on Whidbey’s Ebey Prairie outside of Coupeville with four full-time employees and the same number of three-quarter-time workers.

Even though Smith grows multifarious crops—greens, alliums, potatoes, tomatoes, carrots, sweet—after a year of enterprise right now is a lovely little bean called the Rockwell.

Besides its superb taste, the Rockwell is noted as growing well in a climate not particularly conducive to dry beans. It germinates well in cool soil and matures up to three weeks earlier than other dry beans. Washington has never seen any large commercial production of the legume.

Indeed, heirloom seeds are generally much prettier, often unusually so, than commodity beans, or beans you buy in a bag at the supermarket.

When he talks with gardeners and farmers about the seeds they save, Brouwer, “They say they want something that grows well, tastes good, and ‘love them because they’re beautiful.’” To other words, growers of heirloom beans will select not only for hardiness and flavor, but for looks.

The Rockwell is one of 20 heirloom beans in Brower’s variety trials. Others include the Swedish brown bean brought by Hungarians ancestors in the 1880s; a cranberry bean grown in Skagit County since the 1920s; the Henderson, a pole bean grown in Snohomish County since the 1930s; and two different soldier beans, one grown in Skagit County since the 1920s and the other in Chelan County since the 1940s.

For comparison, Brower is also testing commercially available beans and the Ocra, a variety developed by USDA breeder Phil Miklas at Prosser. Brower and Miles believe that demand for locally produced foods has opened a market opportunity for dry beans in western Washington. Although eastern Washington grows approximately 115,000 acres of dry beans, which is about 10 percent of total production nationally, western Washington has never seen any large commercial production of the legume.

Other varieties include the Swedish brown bean brought by Jungquist ancestors in the 1880s; a cranberry bean grown in Skagit County since the 1920s; and two different soldier beans, one grown in Skagit County since the 1920s and the other in Chelan County since the 1940s.

Brower and scientist Carol Miles also focused on working with Washington farmers to establish a local market for the schools through the greenhouses and School organization. In partnership with Willowood Farms on Whidbey Island, the Rockwell heirloom bean has taken root in the school gardens. The ultimate vision is to source locally grown beans to lunchrooms around the county, and developing a School organization.

Julie Atterberry wants kids to know beans. Dry beans, that is. This fall, the fourth and fifth graders in two Whatcom County schools harvested the small, but nutritionally mighty, crop they planted before summer vacation. Atterberry, a graduate student in horticulture, set up the bean gardening project as an hands-on learning tool for students. She is curious how plant science and nutrition education influence whether or not kids will choose beans in the lunchroom.

While the USDA requests schools to serve at least a half cup of beans or peas per week, Atterberry’s project promotes beans as main dishes and includes recipes such as a pinto bean spin on classic macaroni and cheese and black bean dips for vegetables. “It’s important what students choose to eat or try in a give and take, post-plate trial.”

“My main hope is to make an impact and increase awareness of healthier eating habits with students,” said Atterberry. “That’s the drive here.”

“All year, Georgie Smith has opened a market opportunity for dry beans in western Washington. Atterberry hopes that by growing and understanding the legumes, and having tasty choices, if the kids try them, they just might like them.”

To date, Georgie Smith has donated more than 20 percent of children met the national food guide recommendations for vegetables. Dry beans, high in protein and fiber and low in fat, are not only a nutrition option, but an affordable one for schools on tight budgets, according to Whatcom County Food$ense Extension Coordinator Lizzie Riddle, who helped establish the project.

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“Most kids are not interested in doing a commodity bean,” says Smith. “I want to do something special.”

Opposite, top to bottom: Rockwell heirloom beans. Staff photo.

The Smith family farm, near Coupeville, County George Smith. This page: George Smith tends his “garden.” Courtesy George Smith

Good for you, too. By Rockwell Miller’12

Kelly Atterberry wants kids to know beans. Dry beans, that is. This fall, the fourth and fifth graders in two Whatcom County schools harvested the small, but nutritionally mighty, crop they planted before summer vacation. Atterberry, a graduate student in horticulture, set up the bean gardening project as an hands-on learning tool for students. She is curious how plant science and nutrition education influence whether or not kids will choose beans in the lunchroom.

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Julie Atterberry is responsible for maintaining 17,284 accessions of beans. Thayer ’11 MS is the interim curator of the Phases county collection of the Western Regional Plant Introduction Station, one of four regional stations in the United States maintained by the USDA Agricultural Research Service as the National Plant Germplasm System. The stations are responsible for maintaining plant genetic resources and making them available to researchers. The Pullman stations also maintain collections of cool season legumes, forage grasses and salsify, horticultural crops, and temperate forage legumes.

For more about the Phases collection and the National Plant Germplasm System, visit wsu.edu/extra/baked-beans-recipe.

Find Grandma Smith’s recipe for baked beans at wsm.wsu.edu/extra/baked-beans-recipe. Find Grandma Smith’s recipe for baked beans at wsm.wsu.edu/extra/baked-beans-recipe.
Perhaps the most venerable of tree fruits, the pear is luscious, but can be difficult. Maybe, say some, the Washington pear needs some new blood.
The Pear

Over the years, Anjou has become the dominant variety for the valley, for a number of reasons. For one thing, it stores well. Even before refrigeration, says Schmitten, the Anjou would store for six to eight months. But the Anjou’s appeal goes far beyond storability. What gives the Wenatchee growing district its advantage over other areas in growing pears is the same thing that gives it the advantage for apples and grapes and just about any other crop. And that’s control of water. Here in the eastern foothills of the Cascades, the climate is desert. But desert supplied by abundant water. Three separate irrigation systems feed the orchards along the Wenatchee. Even up here, a thousand feet above the valley floor, irrigation canals wind their way around the convoluted slopes.

Along with the control of water come the temperature swings. Hot days and cool nights mean great sugars. And then, whether it’s a complicated combination of these factors or something yet unidentified, the Washington Anjou has the smoothest finish.

Any pear aficionado understands “melting.” And when the Anjou is perfectly opened, the melting finish is perfectly smooth.

The Anjou did not conquer the Wenatchee Valley all at once. If you were here a hundred years ago, you would see sage, some alfalfa, some pears, apples, a little bit of everything,” says Schmitten. “When Dad bought this block, it was all apples and pears. Now, there’s not a lot of everything. There’s a little bit of everything.”

The earlier ripening Bartlett is a fine pear. For many people, the Bartlett defines pear taste. But they do not winter well up here. Temperatures below zero will damage a Bartlett tree.

After a bunch of winter freezes, we ended up with more Anjous than Bartlets,” says Schmitten. Which is how the slopes and benches above the Wenatchee River came to be Anjou heaven. So well are the Anjou entrenched, in fact, that it can seem that the entire valley and its orchards are stuck in the past.

“These trees are right around 80 years old,” says Schmitten, nodding toward a block of gnarled, wizened trees. In contrast to the younger trellised apple orchards downstream, the orchards of the Wenatchee Valley are like another country. And when you harvest fruit from 100-year-old trees, which many do, you think differently, at least in terms of time. Also, much in contrast to the large apple orchards to the southeast, much of the pear acreage is on steep slopes. Two acres here, says Schmitten, five acres there, half an acre there. Twisting narrow lanes lead to even higher patches of orchard.

The key to the success of the modern apple industry is the dwarfing rootstock. But apples are not pears “breed true.” The only way to propagate a variety, say the Anjou or Golden Delicious, is to graft a piece of ”scion” wood from the chosen variety onto a separately grown rootstock. Although the scion determines the variety, the rootstock generally controls the tree’s vigor and other traits.

Apple growing and pear growing are about as different as, well, apples and pears. But because of this difference, some Washington growers fear the pear industry is losing its grip.

“It’s a management nightmare. This is why the Bartlett is interspersed with more Anjous than Bartletts,” says Schmitten.

Most of the pear trees around Cashmere and the Wenatchee Valley were planted about 14 years. Opposite page: The Anjou pear and the Wenatchee River Valley. Photo: This page: The Anjou pear: a lot of roots in a hundred years old above Cashmere.
draws sprayers and wagons and are very difficult to spray and manage efficiently.

In response, some growers, such as Schmitten, are urging the development of new rootstocks so that the industry can meet changing market demands. Others, such as Chuck Peters in the Yakima Valley, believe the emphasis should be on developing new varieties to supplement the Bartlett, which is dominant in the Yakima Valley and most of which traditionally have gone to processed pears. That market has shrank dramatically as “fresh” pears have become available year-round, whether from Washington storage or Argentine and New Zealand orchards.

Kate Evans was hired to be a “pome” breeder. Pomeans are, generally speaking, the fruits of flowering plants within the Rosacea family. But for all practical purposes, pome breeding means apples and pears. And in Evans’s case, for all practical purposes, this has meant apples.

Although Washington is the largest producer of pears in the United States, apple production far surpasses that of pears, which means apples get most of the attention. And research dollars.

“What money there is, the Yakima Valley growers would like to see dedicated to developing new varieties. The Wenatchee Valley growers, some of them, anyway, would like new rootstocks.

And there is a contingent of pear farmers, primarily in the Wenatchee Valley, who see no need for new rootstock or varieties. Eighty-year-old Anjous on seedling or OHF rootstocks have served them quite well; thank you very much.

Schmitten, who is director of research for pear growers in the Pacific Northwest, says, “It’s going to be a Cashmere coffeeshop, and there will be a table of pear growers, and they’ll say, ‘You haven’t found a new rootstock yet? We don’t want a new rootstock.’”

Schmitten is not entirely unsympathetic. Back at his house, he gestures toward a block of three-year-old Anjous on seedling rootstock corralling his yard. He’s been wanting to take it out and replant it with smaller trees, primarily to address labor issues.

But then he can’t bring himself to do it. “How can I take out a producing block that’s making me money, only to have no income for 7-8 years and investment paid back in 14 years?”

Evans, who has been very busy developing and releasing a line of new apple varieties, looks a bit weary as she expresses her desire to work on pears. But like so many things, it boils down to a question of money.

She also understands the pear culture as a curious conundrum.

“We’ve got this issue, growers here are making money, but not making the huge amount of money that would allow them to reinvest in new orchards. While these orchards are productive and continue to make some money and reasonable living, why change them?”

But she also sympathizes with the need for change. A major issue within existing pear orchards is labor, which is multi-problematic. The largely Hispanic labor force is aging and shrinking. The need for apple pickers competes with pears. The shorter, trellised apple orchards are far easier to pick and better paying. Pear orchards still require ladder work. Pears are heavier than apples. And the one major pest of the Wenatchee Valley orchards, the pear psylla, can make picking miserable. Pear psylla produce a sticky honeydew. Picture perching on a 12-foot ladder with a very heavy bag of pears hanging from your shoulders and everything is coated with honeydew. Who wouldn’t rather move down valley and pick apples off a six-foot-high trellised tree?

All of those problems could be corrected with smaller pear trees. Management is an additional, and overwhelming, issue.

“Spraying in these big trees is a nightmare,” says Evans. “You can’t target your spray, so the volume of spray is horrendous.”

“Incorporated pest management systems, all the things that have developed on the apple, you can’t really do so well in a pear orchard, because the whole pear orchard culture, the whole structure of the tree, is not amenable to modern practices.

There’s some movement on the horizon. In August, Stefano Musacci will be joining Evans at the Tree Fruit Research Station in Wenatchee. A plant physiologist from Italy, Musacci has bred some pear scions and rootstock and will bring some of his material with him.

Meanwhile Evans has tried to source material from breeding programs in France and Great Britain. Amir Zingales will be conducting comparative genetics work in a move to characterize that material.

“Where we are,” says Evans, “is very much foundational.”

Wondering what to do with your Washington pear? Check out The Crimson Spoon: Plating Regional Cuisine on the Palouse, a new cookbook highlighting Washington’s bounty of good ingredients. Readers can feast their eyes on beautiful pictures and guests. Read more about The Crimson Spoon cookbook in our holiday gift guide, wsm.wsu.edu/crimsgifts.

The pears are approachable, friendly, and immediate. You can pick an apple ripe from the tree or buy one at the grocery store and it’s into it and be immediately rewarding. Most modern varieties of apples are standstillforward, rewarding one primarily with varying proportions of sweet and tart and a bruising mouth feel. Apples make you feel good.

So of course will the pear. But the pear, in contrast, can be elusive and mysterious. Sophisticated. One must carefully time the eating of a pear: “Withemus an apple, it’s simply picked when ripe, a pear actually ripens better when picked mature, but not ripe. In order to achieve perfect ripeness, it must ripen off the tree in storage.

Most commercial apples are young. The popular Honeycrisp was released in 1991. Even the seemingly venerable Granny Smith was introduced to the world a mere 50 years ago.

Pears are early and old. The two dominant varieties grown in Washington are the Jonagold and the Bartlett. The Jonagold, or Beurré d’Anjou, is believed to have been introduced in the early to mid-19th century; the Bartlett, more properly known as the “Williams” variety, probably in 1870. Former varieties have simply not caught on.

The pear demands, but then rewards, patience. It does not pick an apple ripe from the tree or buy one at the grocery store and bite into it and be immediately rewarded. Most modern varieties of apples are straightforward, rewarding one store and bite into it and be immediately rewarded. Most modern varieties of apples are straightforward, rewarding one

If we thoroughly understood our fruit as a culture, we might express discomfiture by comparing "apples to pears" rather than "apples to oranges." Though admittedly, the apple/pear comparison would hold more delicious ambiguity.
Chuck Peters '61, '65 MS is frustrated to no end.

He has targeted Redbreed, "a small univer-
sity genetic mutation" that improved breeding of
fruits within the Rosaceae family. Apples, raspberries, ... sour cherries, sour cherries.

"Sour cherries" says Peters, astounded. No, he has nothing against sour cherries. But they are hardly a significant crop for Washington. But sour cherries and no pears?

Yes, pears have disappeared from the Redbreed prospect.

"We're years behind the rest of the world," he says.

At 75, Peters is officially retired. But he is still active in oversight of his orchards, in following fruit research and breeding worldwide, and most definitely, letting his opinion be known.

Peters '61 and his wife Cathy live in a lovely 1920's cottage-style home in the Yakima Valley, just up the road from Wapato, in the midst of orchards, which he would prefer be more pears. The pear block that was until recently across the street was used for processing; there is now an open field. It was originally planted to pears in 1918.

"That should be pears," he says of the empty field. "But no, it's going into apples, and it's going into red delicious!

"That should be into an enhanced elite pear variety with good consumer demand on a precious rootstock that will increase productivity, reduce production costs, and reduce labor inputs. Or the potential for mechanization."

The pear orchard that is now gone was actually planted two years before the irrigation systems were available, says Peters. The landowner had water from the Yakima River in wooden tanks and kept them alive until irrigation arrived.

"This is a homestead ranch, 1876. Pears were planted here in 1927. My father farmed it. We hauled water from the Yakima River until irrigation was available, says Peters. The landowner also planted two years before the irrigation systems were available, says Peters. The landowner had water from the Yakima River in wooden tanks and kept them alive until irrigation arrived.

"This is a homestead ranch, 1876. Pears were planted here in 1927. My father farmed it. We hauled water from the Yakima River until irrigation arrived."

After finishing his master's in horticulture at WSU and working for four years at Colorado State, Peters returned to his farm in 1946. His son joined him in the early 1990s.

In 2002, they downsized to the original homestead of 60 acres, three-quarters of which is pears.

Like most pear growers in the Yakima Valley, Peters grew primarily Bartletts for processing and drying.

But his story is changing, says Peters. The only market for canned pears anymore is institutional. Canned pears can be quite good, often much better than the off-season "leeks" pears that we consumers are assumed to insist on.

"U.S. per capita market for pears is 3.2 pounds per year," says Peters. "I don't know why there isn't concern about the future."

Throughout history, pears have been seen as a luxury market. "A little bit extra volume, you've got to reduce prices to sell product," says Peters. The best way to generate a larger market for pears is to develop new varieties, says Peters. But Peters' efforts to develop a new pear breeding program in the country, USDA program, of apples, West Virginia. The vast majority of U.S. pears are grown in Washington, Oregon, and northern California.

"The two pears sitting over there, we bought on Sunday," says Peters. Now it's Thursday, and they're not yet ripe.

"They've got some product on them that doesn't ripen them well," he says. "That's not what the consumer wants!"

Cathy sliced the two Anjous and brings them over to the table. The flesh is nicely melting for a pear in July. But it has no flavor.

"Tell Ray about this," jokes Cathy.

As a matter of fact, Ray had retrieved a couple of pears from his house at the end of our orchard tour. Anjou, of course, they represented the latest attempt to provide a delicious pear after months of storage. Each was encased in a separate plastic clamshell to concentrate the ethylene production of the pear and enhance its ripening.

They were indeed delicious.

Unfortunately, stored pears are not always so good. Storing a pear prevents spontaneous chilling and the trademarks are clear.

Indeed, at the heart of the pear's problems is that of ripening after storage.

Amrit Dhingra plans to solve that problem. "Industry wants to store fruit longer," says Dhingra, who is a molecular biologist and plant genomicist, "so they started applying 1-MCP."

"The growth regulator has been used successfully in apples. That's the treated fruit remains crisp and juicy. Unfortunately, the apple aroma disappears.

"If you go to the apple side right now," says Dhingra, "you smell Pinesol. You don't smell apples."

Dhingra's laboratory is also developing methods of micropropagation and other tools which have been commercialized into a company.

Everything is directly available to farmers, says Dhingra. One of his graduate students is director of operations.

Having laid out the need for change, however, let us at least brieﬂy consider another perspective, one that is suggested by some farmers' reluctance and even the ambivalence of Evans and Schmitten and others.

There is something at least nostalgic, if not romantic, even magical, about those lovely 100-year-old pear trees above Cashmere. There is also something romantic about anachronism, in this case not only the orchards themselves, but the way of thinking that they produce and are a result of.

Schmitten talks about a neighbor who continues to plant pears on OHF97 rather than the more promising OHF87 because production of the trees on the latter starts to fall off after about 10 years. In a culture seemingly in continuous flux, such a long-term way of thinking is refreshing.

"I think that's why I gravitated to pears," says Dhingra, "the older culture. It's interesting that pear farmers will grow apples and cherries, too, but call themselves pear farmers."
BERNICE “BUNNY” LEVINE ’51 IS FREE FOR LUNCH. She thinks. But first she has to call her agent to make sure she doesn’t have an audition.

The last time I checked in with her, the 80-something actress was on her way to shoot a Hooters commercial. Her life has gotten so much more interesting since she retired, she says. Especially now that she has moved to California and thrown herself into her lifelong dream of being an actress.

Levine grew up in East Orange, New Jersey. She had a sister whom she describes as the pretty one, but, she admits, she got the attention. “I’ve been performing from my earliest memory,” she says, explaining that she loved to sing for people the popular Oscar Hammerstein song “When I Grow Too Old to Dream.”

When Levine walks across to the plaza to meet me at the Sherman Oaks Galleria for lunch at the Cheesecake Factory, I get the impression of a Jewish grandmother with great skin, who does yoga and dresses stylishly. Her purse is over her arm, her once foxy red hair now a beautiful white — with her agent’s approval. Her eyes are bright blue, her features are soft, malleable, full of expression. She turns on a smile.

You’ve probably seen her somewhere. Most recently, she’s made appearances on the sitcoms Raising Hope and 2 Broke Girls. “I think of myself as a very unfunny human being,” she says, explaining that her husband’s jokes were often over her head. “But I’m almost always cast in comic roles.”

In the Adam Sandler comedy You Don’t Mess with the Zohan, she plays Older Lady in Salon #3, a customer to Sandler’s Israeli commando turned hairdresser. She is in constant to be typecast. Often her parts are described as “Old Lady,” “Kindly Old Woman,” “Mabel,” “Ezra,” “Hilda,” “Grandma,” and “Mrs. Rosenbaum.” “I’m the old lady, often Jewish, with an edgy and comic undertone,” she says. Besides Sandler, she has worked with Robin Williams, Eddie Murphy, Dave Chappelle, and Warren the Ape.

“Bunny,” as the directors call her, has a sweet open face that easily amplifies her expressions: joyful, dour, befuddled, chagrined, and amused. All float across it as we talk. We start with her childhood in East Orange, singing and performing for her parents’ friends and later falling for Bernie Levine ’52 and “running after him until he caught me.” Bernie was advised to go study at Washington State College, so they married and landed in Pullman for a time. “It was culture shock at first,” says Levine, a far cry from city life in East Orange. They lived in married student housing, and then took a little apartment on Maiden Lane. While Bernie studied math, Bernice made friends and pursued English, dramatic arts, and psychology. “I actually did a lot of theater there too.”

But, “In college, it began to dawn on me that I wasn’t a good leading lady,” she says. “There were other women who were just as good as me, but tall and beautiful.” So she turned her efforts to education, which led to a library career at schools back in New Jersey. It was often fulfilling, she says. But not always.

After retirement, she turned back to acting. “I was doing community theater and went right into whatever I could. The first television show that I spoke on was Law and Order,” she says, explaining that every talented actor who works in New York has at least one Law and Order credit. “I was a witness in a lineup who couldn’t be sure. My line was ‘I think it’s number two.’ She also landed a spot on Sex and the City. “But the lines were cut. I was so disappointed.”

Overall, she delighted in the experiences, seizing chances to work with other actors and new directors, whether on stage or in front of a camera.

In the 1990s, Bunny looked west and saw more opportunities in Southern California. So for a brief time both Levines were spending time on both coasts. But then Bernie was diagnosed with pancreatic cancer. “It was hard after my husband died,” says Levine. Acting kept her going. “It was my salvation to get out of the house.”
Ray Hamden returned home and studied engineering at WSU before going to work for Boeing. The collection of memories was a project Doty completed in time for their 65th reunion. "And you haven't even asked me about what I spent most of my time on," says Doty. The daughter of two WSU alumni who met in Pullman, she grew up seeing the Cougar-fight song at the dinner table. Now, when she's not writing in the small office at the front of her house, she's taking part in WSU events as a charter member of the President's Associates, as mother and grandmother to several WSU alumni and students, and as a participant in the WSU Impact program, an alumni effort to support civic advocates. "I'd say, even with everything else I do, WSU is my main activity," says Doty. "I think it's difficult to imagine Cougars sitting around looking at the walls. Cougs don't retire. They just keep on working." In the past, older people were seen as a burden to society. There was hardly any emphasis on the positives of aging, says Cory Bolkan of WSU Vancouver's Human Development department. Part of her work is exploring personality, health, and aging. There used to be no recognition that there are benefits to working after retirement not only for older people, but for society as a whole. "As we age, we tend to get more generative, we have a greater drive to give back," she says. "People do that in different ways. Some focus on their children and grandchildren. Some are mentoring and volunteering. Some are involved in civic efforts." Former Oregon State Senator Mike Thorne '62 and his wife Jill x'62 left public service in the Portland area to return to their hometown across the state in Pendleton. Back living on the family cattle ranch, they have helped revive the Pendleton Roundup and bought and restored a historic property downtown. They're eager for new challenges in serving their hometown. Mike Thorne most recently signed on to serve on the city's airport commission, and Jill Thorne has joined Travel Pendleton, an initiative to draw more visitors. It's important for retirees not to lose sight that during their worklives they have done things and learned things that would be of value to their community in flux.

Bunny Levine's life is a movie—and she's in charge of the script—one where her dreams of becoming a screen actress comes true, where one day she is acting for free in a local theater production, the next she's wearing a nun's habit on set, and the third she's in a crowd of older women doing water aerobics for a commercial. There may be a lively, unpredictable life, but Bunny Levine is onto something.

Retirees who return to work often have a greater sense of control and fulfillment than their non-working counterparts, says WSU economist Bidisha Mandal. As a result, they have better mental health. Mandal specializes in health economics at the WSU School of Economic Sciences. Several years ago she co-authored a study on job loss, retirement, and the mental health of older Americans. The initial study used data collected by the National Institute on Aging and the Social Security Administration to compare people who lost their jobs involuntarily and those who retired voluntarily. But as she reviewed the Health and Retirement study data, Mandal was also able to look at the impact of re-employment on depressive symptoms. The group was around 60 years old, and most had at least 12 years of education.

There was a gender difference in the results. Men reported more negative well-being after retirement, while women reported less. It seems that women adapted to retirement faster, says Mandal. But with both groups, a return to work improved their health.

Generally, the results were mixed because the retirees found them- selves needing to adjust to a different lifestyle, often feeling less in control. On the other hand, some showed lower stress levels due to greater autonomy after leaving a workplace. Nonetheless, re-entering the labor force is overall beneficial, says Mandal. Retirees find work gives them a social network, a focus, and as it improves their mental health, it reduces their health expenditures. "It is important for us to look at this as a society, at the benefits of having this be a working population," she says.

The Merriam-Webster version of retirement includes "the withdrawal from one’s position or occupation or from active working life." But today it has come to mean something very different. A few decades ago companies had mandatory retirement ages and people were forced to leave their jobs, whether they were personally or financially ready to do so. Today, people are seeing retirement as a fresh opportunity to follow a passion, to leave a legacy, to make a positive difference. "I tell people I failed retirement," says Nancy Talbot Doty '50. After "retiring" from her job at the Department of Health and Social Services, she has been called back to work nine times. When she wasn't back interviewing clients for eligibility, she devoted new energy to her involvement in local Republican Party politics. And then, just in the past few years, something new. Inspired by the Washington State Heritage Center's legacy project to collect oral histories from Washington state leaders, she seized the opportunity to visit with local figures and collect their histories. It put her DSHS interviewing skills to use. "I love history and I love to write," says Doty.

She turned her attention to Duane Bernston, a longtime state legislator and former head of the State Department of Transportation. She had managed his campaigns in the 1980s and already knew a lot of his story when they sat down together for a series of interviews. The published result, Duane Bernston: Life as a Team Player, provides an accounting of his life, with special attention to his years as a politician and public servant. Doty didn't take the task lightly. "He was a very good subject," she says. "I did a bunch of additional research and recorded our interviews on a plain-old cassette recorder. And then, she rolls her eyes, "countless hours of transcribing." Bernston died in Italy. But thanks to her and Doty's work, his story and memories are preserved for his family, for his hometown of Anacortes, and for those interested in the history of our state.

Looking around her community, Doty found other opportunities to capture local memories. In 2007 she sought out the stories of the Mount Vernon High School classmate of her late husband, Jack Doty '38. Many of them served in the armed forces during World War II, some drafted just days after graduation. They served in Europe, Guam, and Iwo Jima. I love to write," says Doty. She turned her attention to Duane Bernston, a longtime state legislator and former head of the State Department of Transportation. She had managed his campaigns in the 1980s and already knew a lot of his story when they sat down together for a series of interviews. The published result, Duane Bernston: Life as a Team Player, provides an accounting of his life, with special attention to his years as a politician and public servant. Doty didn't take the task lightly. “He was a very good subject,” she says. “I did a bunch of additional research and recorded our interviews on a plain-old cassette recorder. And then, she rolls her eyes, “countless hours of transcribing.”

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Tim Thomsen ’77 decided not to wait until retirement to follow his dream. Three decades ago he paddled his way into a kayak guide business in the San Juan Islands. One morning this summer, just a few days shy of his 65th birthday, he stood on the beach giving directions to a group about to explore some hidden coves. It’s all pretty awesome, he says of his sea-worthy life. “I have paddled every inch of every island in the San Juans.”

Some day he’ll sell the business, says Thomsen. But not yet. It’s bringing him money, providing him a role in his community, and keeping him healthy.

Thomsen majored in horticulture at WSU and in the mid-1970s found a job as a nursery manager at Friday Harbor. Several years in, a friend took him out in a sea kayak and he was smitten. “It’s one of the most amazing vantage points you can have,” he says. “It’s silent. You’re just off the water. You can hear the snort of a seal, the little blow of a porpoise, or the honk of a heron.”

When he started the business, hardly anyone knew what sea kayaking was. Now there are at least three kayak guide businesses in the San Juans, and thousands kayak around the islands every year. Thomsen enjoys seeing paddlers return year after year. “I have clients that were young couples just off the water. You can hear the snort of a seal, the little blow of a porpoise, or the honk of a heron.”

How we age is an issue of both genetics and the environment, says Bolkan. Genetics are only 25 percent of it. The other 75 percent is environmental, the where and how of living. “We have some control over it,” she says. “Through our behaviors, we can potentially minimize some of our problems including things like diabetes, heart disease, and dementia. And attitude seems to be key.”

“The research also shows that people who report higher levels of positive views about aging tend to age better, even on a physiological level,” says human development expert Bolkan. “They are looking at how setting and pursuing goals can affect life-time experience. She has looked at how goals may affect well-being, interviewing 85 adults aged 60 to 82. Addressing the questions ‘Who am I?’ and ‘What do I find to be meaningful?’ In the Wiley-Blackwell Handbook of Adulthood and Aging, she writes, ‘people become who they are via the ongoing activities, projects, or goals in which they engage over the course of their lives.’”

Crista Claar Whitelatch ’72 and her husband had successful Navy careers before retiring and eventually opening Claar Cellars at the farm her parents homesteaded near Zillah.

Enlisting right out of WSU, Claar Whitelatch started as a legal officer with a helicopter squadron in San Diego, she later served on the staffs of several admirals managing personnel and in Washington, D.C., worked for the Secretary of the Navy as a member of the White House liaison staff.

“But I love it, the beauty of it, the exercise.”

“I picked the Navy because the tours changed every 18 months, and sometimes the leadership changed,” she says. “She liked the challenge of the new assignments, as well as the travel and adventure.”

Her husband Bob was eligible to retire from the Navy in 1983, which prompted them to look back to Washington. She continued working through the Navy reserves until her retirement 12 years later. But they were already working on the foundation of the winery. Her dad had planted the farm’s first grapes in the 1970s, and Crista and Bob improved the vineyard, eventually replacing the apple orchards with 120 acres of wine grapes.

For years they were told to apply as a winery on the Columbia River that gave their fruit some unique qualities. Their whites, for example, had a really great balance of flavor to acidity: “She says, ‘They can be sweet, but not cloying.’”

But they had tasted it for themselves. After some careful planning, the Whitelatches decided to go a step further and make their own wines. Their labels today include Claar Cellars, Le Chateau, Ridge Crest, and Ruhos. Now they are moving the operation into a more sustainable way of farming by reducing chemical inputs and fostering wildlife habitat. The business is certified “Salmon Safe” as well as certified as “Salmon Safe Farming” due to its practices.

As the business matures, the Claar Whitelatches plan to transfer the day-to-day duties to their sons and keep the most enjoyable parts of, and adapting to whatever nature and industry sends their way. “So much changes in the seasons and with the weather,” says Whitelatch. “It’s never the same.”

“We are continually refining and can be redefining ourselves,” says Bolkan. “Despite a lot of negative perceptions, most older people are happier. Older people are better at managing their goals and are more focused on doing what is meaningful.”

Late life has at times been viewed as a period of decline and disengagement rather than creativity and contribution, writes Bolkan. It’s something that is reinforced in the media. These aging stereotypes can have a negative effect. But there is also a way to look at aging, identity, and adaptability (for example the ability to negotiate physical losses like strength and flexibility) that can highlight the resilience of older adults. We sometimes forget that throughout our lives, and well into being older adults, we are continually refining and can be redefining ourselves, says Bolkan.

Photo: CRISTA CLAAR WHITELATCH '72 AND HER HUSBAND, TIM, WHO TOOK HER OUT IN A SEA KAYAK AND SHE WAS SMITTEN. “IT’S ONE OF THE MOST AMAZING VANTAGE POINTS YOU CAN HAVE,” SHE SAYS. “IT’S SILENT. YOU’RE JUST OFF THE WATER. YOU CAN HEAR THE SNORT OF A SEAL, THE LITTLE BLOW OF A PORPOISE, OR THE HONK OF A HERON.”
Some scholars have determined that by knowing ourselves and by integrating age-related changes into our identity and maintaining a positive self-image, we can age more successfully. “Nothing in our psychology supports the idea that you just check out and laze about,” says Bolkan. “If you are more active, the better off you will be—and happier. That’s the new future of retirement.”

Bunny Levine will be the first to say that while her Hollywood life is lively, it isn’t entirely glamorous. She competes with a pool of talented actors. There are some women, when she sees them at an audition, she knows they’ll get the part. “The rest of us might as well leave,” she says. And in the past few years with the recession, fewer shows were being made and parts were harder to come by. Often actors who before would only take lead roles were seeking supporting parts on TV shows, pushing the character actors like Levine out of jobs.

Still, her credits include Everybody Loves Raymond, Gilmore Girls, Community (as Pierce’s mother), Southland, Criminal Minds, a Disney Channel show, and a score of commercials (think Capital One—she’s the lady swinging her purse at a Viking in a checkout line). When it comes to identity, Levine has no problem defining herself. “I look sweet, but I’m not sweet,” she says. “The real me is sort of tough.”

When Levine isn’t acting, she’s meeting a friend for brunch and a movie, swimming twice weekly at the Motion Picture Home, attending her book club, and often flying back to the East Coast to visit her family. The secret to a good retirement is finding and doing things you love, says Levine. “And most of all, have fun.”
Few body parts are called upon to do as much as the human neck. A curved, narrow port, it has to hold up a head that weighs more than a gallon of milk and keep it stable enough for consistent vision and hearing. At the same time, it needs to make large movements, like looking over your shoulder. It does all these things quite well, but its dual purposes make it inherently flawed. “You have these conflicting demands of mobility and stability,” says Vasavada. “When you have too much or too little of these, most likely you’re going to have pain.”

Vasavada came to study the neck by way of the leg, which had been extensively modeled by her Northwestern University doctoral advisor, Scott Delp. His model helped analyze problems like the crouch gait that has children with cerebral palsy walking with excessively bent knees. He showed many ways for surgeries to remedy the problem. Vasavada came to Delp after several years working with cadavers and implants in a spinal biomechanics lab, so he suggested she try modeling the neck.

She ended up developing the first musculoskeletal head and neck model based on the neck’s actual anatomy. With 20 color-coded muscles in play, it looks like a scaffold of multicolored pick-up sticks set on their ends and running at odd angles among the shoulders, spine, chin, and head. She has since used her model in an extensive study of whiplash. It is the most common motor vehicle injury, as well as the most poorly understood. This is largely because the neck offers plenty of parts to be injured, with three joints on each of its seven vertebrae, as well as ligaments, discs, nerves, and arteries. Focusing on the neck muscles, Vasavada collaborated with forensic engineers who had volunteers sit in a car seat and experience a five-mile-an-hour rear-end collision. High-speed video documented their body movements, while electrodes recorded their muscle reactions.

As Vasavada replays the video in her McCoy Hall lab, it’s easy to see a participant’s head snap backwards as the collision thrusts his body forward. The brain’s fluid is stirred, but it contains none of the injuries typical of a back or neck collision. The brain and spinal cord are well protected by the vertebrae and muscles that surround them, and the shock is absorbed by the neck and shoulder girdle, which are not attached to the skull. The shock is transferred through the head, but the brain is relatively stable, and the shock is absorbed by the neck and shoulder girdle, which are not attached to the skull. The shock is transferred through the head, but the brain is relatively stable, and the shock is absorbed by the neck and shoulder girdle, which are not attached to the skull.

Earlier this year, at the ripe age of 38, Bernard “Kip” Lagat ‘01 became the fastest American ever to run two miles indoors. It was a feat of both speed and longevity, helped in large part by a fluid, seemingly effortless running form the New Yorker describes as “perfect.” It was not always so. In fact, Lagat’s performance, as well as two Olympic medals and several other American records, may never have taken place without the long tutelage of James Li MS ’87 MS ’93 PhD, who recruited Lagat from Kenya’s Rift Valley Province in the mid-90s. “He was pretty good,” Li recalls “but I would venture to say that he was not as smooth as he is now.”

Li, who continues coaching Lagat while serving as a coach at the University of Arizona, has a resume that includes more than ten years with WSU’s track and field and cross-country programs, as well as the collegiate 800-meter title in his native China.

It also helps that his WSU master’s degree is in biomechanics.

Biomechanics, as they are sometimes called, straddle the worlds of engineering and biology. Like engineers, they study the physics of objects in motion or under stress, but their objects are living things. That introduces a host of complications. An engineer can design a vehicle on the known properties of steel, wheels, a motor, and so forth. A biomechanist will wrestle with muscle cells of varying power and body parts articulating under the direction of their owner’s nervous system, not to mention personal style.

Seemingly simple questions quickly get complex, like, “How do we hold up our head?” “Scientists don’t really understand that,” says Anita Vasavada, an associate professor of bioengineering and neuroscience who has made one of the most sophisticated models of neck musculature.

David Lin, a biomedical engineer and Vasavada’s husband, is currently struggling to model how a human trips and falls, a sort of Lagat gone bad. It’s a complicated process, with lots of parts—arms, legs, a torso—moving in three dimensions and sometimes acting against each other. For simplicity’s sake, his model has no spine or arms.

“You’ve got to pick your battles,” he says, “and you’ve got to make a hypothesis about what you think is important and then you create a model that provides a representation of whatever that is. Then you run your model and try to make some conclusions.”

In spite of the challenges, biomechanists are indeed managing to draw conclusions, or at least some striking intermediary insights. In a Moscow, Idaho, symposium earlier this year, WSU biomechanists discussed with other Northwest researchers the pigeon-toed running style of grizzly bears; ways accelerometers can detect dyskinesia, a side effect of Parkinson’s disease treatment; and how a concussion might affect the way an adolescent walks.

On the Pullman campus, Vasavada is deciphering the muscular mechanics of whiplash, gender differences in neck-pain sufferers, and potential pitfalls in how tablet owners interact with their screens. Other researchers are working to make a safer sled by using exquisitely detailed digital data on how one can break bones and other body parts. Nearby, other researchers are finding ways to repair broken bones by getting the body to heal in sync with synthetic compounds produced on a 3D printer.

Despite its many mysteries, biomechanics serves up surprises about strained muscles and bones broken and mended.
forward. Earlier research tended to focus on the moment and the strain placed on the large sternocleidomastoid muscles that run from the collarbone toward the ear.

Most people have focused on the early phase of whiplash and the sternocleidomastoid," says Vasavada, "but most of the pain people report is on the backside of the neck.

The studies suggest why the cricks victim's head bounces and shoots forward. Vasavada put these movements into her neck model, which could then calculate the forces and potential strains on other neck muscles.

Muscles are generally injured when they are lengthened too far while tensioned. "It's called an eccentric contraction," says Vasavada, explaining that it releases chemicals like creatine kinase, which lab tests can use as a measure of muscle breakdown. It can also rupture muscle cell membranes.

Vasavada's analysis showed significant lengthening of the neck muscles, which would explain the soreness that whiplash victims report.

Vasavada has also tackled another neck enigma: the inordinate percentage of women who experience neck pain.

Estimates vary, but women are as much as three times more likely than men to experience chronic pain after a whiplash injury. There could be cultural reasons, says Vasavada. They could drive smaller cars that absorb less of a collision's energy. They could more often be passengers and less aware of an impending rear-end collision. They could have different reactions to pain or a higher threshold for seeking medical attention.

Or it could be biomechanical.

With that in mind, Vasavada measured the neck length and neck strength of 50 subjects and found 14 pairs of men and women with heights and neck lengths within half a centimeter of each other. The women ended up having heads that were only slightly smaller in circumference—about 3 percent—than their male counterparts. But their necks were on average 16 percent smaller. In other words, their small necks were being made to work 33 percent harder than the thicker necks of their male counterparts.

"They're kind of closer to their limit and possibly more likely to fatigue just by the simple act of holding up their head," says Vasavada, "much less than when you put them in the Army and put a heavy helmet on them, those kinds of things.

Most recently, Vasavada and Liu have been pondering how our necks will fare in the rapidly advancing age of the tablet computer. In some ways, users interact with them as they have with old-school technology like books and newspapers, says Vasavada.

But newspaper readers might move more, reducing fatigue, she says. Also, "It may be that tables force you to stay in that same position, you're just so enthralled. Especially with games, and that's where people have the greatest potential to get neck pain.

People report being on their iPad for hours, six hours a day," adds Liu. "Most of us aren't reading a book six hours a day."

Vasavada and Liu photographed subjects using iPads in a variety of positions while they used the device for 20 minutes or until they had to take a break. They used an iPad app that measured strain in the neck muscles, electromyography, which maps muscle activity, and accelerometry, which measures movements.

Sure enough, they saw the tablet user's heads move forward, activating more neck muscles to hold up and balance their 10-pound heads.

"When you're in this head-forward posture," says Vasavada, "your muscles need to be anywhere between two and a half to three times more active.

Over the years, scientists and regulators have determined the best injury criteria are is a challenge and not something that people know."

One is: If you get hit by a ball, when does injury occur? What is being injured? Are you breaking a bone? Are you bruising? Are you causing internal injury? And if you have that injury, what are the criteria for when something is injured? Is it based on rate of deformation? Is it based on force or stress? Even trying to figure out what the right injury criteria are is a challenge and not something that people know.

"So that's why these studies are important," says Smith. "I'm always amazed when I watch this.

Vasavada has also tackled another neck enigma: the inordinate percentage of women who experience neck pain.

Ten years ago, Washington State Magazine had a cover story on the work of engineering professors Amit Bandyopadhyay and Susmita Bose. The cover had a picture of their son Shohom and the headline, "It's not easy to mimic nature."

It remains a recurring theme of their work, if not biomechanics in general, but they have been having remarkable success nonetheless. Since meeting at Rutgers University in the late-'90s, they have spent much of their careers creating a synthetic bone, with Bandyopadhyay focusing on its engineering and Bose on the chemistry and application to human health. At first glance, it might seem easy. Bone is mostly calcium phosphate. Shape it, bake it into a ceramic, and you're good to go. But chemistry, physics, and biology, particularly at the cellular level, soon get in the way.

There are many issues," says Bandyopadhyay. "It's really fishing in a big ocean."

Ideally, a physician can tailor some replacement bone to the size and shape of a break and insert it into the body. The body will then use the replacement as a scaffold on which it will build new bone as the replacement integrates with the bone and bone cells grow into it. The rate of this process depends on the tissue type and how structurally sound the replacement is. The group's research has shown that a new bone bed can be created only if the replacement is at least as tough as the bone it is to replace.

Bandyopadhyay and Susmita Bose. The cover had a picture of their son Shohom and the headline, “It’s not easy to mimic nature.”
Some blood vessel formation," says Bose.

"Later tests involving rats and rabbits, in vitro lab tests showed the material was biologically compatible, as have will be able to custom order replacement bone tissue in a few years. In a decade later, they started videotaping Bernard Lagat and analyzing his form. He relied on observation, not scientific measurements, but he could detect several flaws that on the track translated into crucial seconds: a high knee lift that would affect the landing angle of the foot, a long hang time that suggested too much energy going up, not forward.

"It can actually kill a patient," says Bose.

"One challenge is that bone has, in addition to calcium phosphate, trace elements whose function can be largely a mystery. By adding just half a percent of strontium oxide, which is already in use as a drug to treat osteoporosis, an OK bone material becomes exceptional. Similarly, Bose and Bandyopadhyay have found the addition of silicon and zinc more than doubles the fake bone's strength.

Another challenge: Depending on where they are placed, different materials heal at different rates. Hiding that takes three to six months in a jawbone can take nine to 12 months in the spine. All while patients tend to want quick results. Basically, says Bandyopadhyay, Mother Nature has 10 to 20 years from a baby's birth to grow and mature a bone.

"However," he says, "when there's a bone fracture, you cannot tell a patient, 'I'll put in something and it's going to be healed in 20 years. The patient wants the fracture to be healed if possible in six days. Essentially we need to learn from what Mother Nature has done but we also need to learn how we can accelerate the process so things happen faster than the natural kinetics."

"In spite of all these challenges, they're starting to make it work. Two years ago, the couple drew national attention when, with the help of a $1.5 million National Institutes of Health grant and equipment support from the M.J. Murdock Charitable Trust, they produced their bone-like material on a 3-D printer. The work bolstered the possibility that doctors can accelerate the process so things happen faster than the natural kinetics.

"It's possible to rotate a bone, but we also need to learn how we can accelerate the process so things happen faster than the natural kinetics."

"So far the compositions we have done in the animal model show human health," she says, "but it will still be difficult to mimic Mother Nature."

The work of WSU's current biomechanists is a world removed from James Li's master's studies in the mid-'80s, when he had none of the high-speed video and computing power behind today's biomechanical models. Using 35-millimeter film, he analyzed steeplechase hurdlers by focusing on a dot on the hinges of their moving joints.

For his part, Lagat earlier this year told Track and Field News that biomechanics has prolonged his career.

"[If] I could credit one person with that, it's my coach," Lagat said, recalling videotaped sessions on a treadmill and repeated suggestions to tweak his technique.

"I wasn't the guy who knew how to run really good like that," Lagat said. "Coach Li was the one, back in Pullman."

"He's the one who designed the form that, now, Lagat's form is, 'efficient, light—of the way he's running. The flow is just very smooth and he's known in the track community as probably the most smooth runner.'"

Thanks in part to biomechanics, Lagat is one of the world's great bodies in motion.
Three Great Ways to Belong to One Great Organization.

There are over twice as many members of the WSU Alumni Association (WSUAA) today than there were just a few short years ago. They joined to support student scholarships, take advantage of all the incredible member benefits, and connect with other Cougars. We extend our thanks to all the alumni, students, friends, faculty, and staff whose membership has helped the WSUAA claim its rightful place among the finest and fastest-growing alumni associations in the country. We salute our Annual, Life, and now Platinum Life Members.

New: Platinum Life Membership.

Platinum Life Membership is the newest way to belong to the WSUAA. It was suggested by and created for Cougs who want to help the WSUAA do even more for WSU. Platinum Life Members enjoy all the same great benefits and services as Annual and Life Members, plus a growing suite of extras.

If you have not yet joined, or you are a current member interested in one of the other membership types, please sign up today. Your membership—regardless of which type—is vital to the continued success of the WSUAA and WSU.


1-800-ALUM-WSU
alumni.wsu.edu

myStory

CLASS NOTES

1950s

Nancy Turqueti Sandison (“’53 For. Lang. and Lit., Ed.) and another granddaughter for Allison Dow (“’53) celebrated reunions and graduations on their recent trip to Pullman.

1960s

Steven D. Astr (“’62 Ag., ’72 MS Dairy Sci.) has been named as the Preston, Utah, Citizen of the Year for his dedication to local community service. Carol Lennon Allen (“’61 Eng.) and her husband, owners of Arizona Racing and Waterparks and Western Guitar, have won the “Media of the Year” award from the Arizona Game and Fish Department and the Award of Merit from the National Water Safety Congress. Allen has also been awarded an Outstanding Adjunct Faculty for Arizona’s Maricopa County College Dancer. Ken (“’65 Bus. Ad., ) and Brooke Miller (“’65 Home Ed.) were named 2013 Washington Tree Farmers of the Year.

1970s

Dr. Marvin Slind (“’72 MA History, ’78 PhD History) retired from his position at Luther College and has earned the title of professor emeritus. Slind taught at WSU from 1969 to 2010 in the history department after serving in the US Office of International Education from 1977 to 1989. Dave Lester (“’75 Eng.) retired from the Italian Heron-Republik after 17 years of service. Dr. Alan Gross (“’79 PhD Psych.) was awarded the newly established “award for Excellence in Graduate Teaching and Mentoring” at the University of Mississippi graduate school where he is a professor of psychology. Steve Lott (“’79 Com.) has joined Washington Tree Farmers of Columbia Marketing as vice president of marketing.

1980s

Peter Anderson (“’80 MVM, PhD Vet. Med.) is director of pathology undergraduate education in the School of Medicine at the University of Alabama at Birmingham. He has been selected for a National Institutes of Health Specialized project. Anderson will lead faculty-developed programs and hands-on workshops at the Toine Ch’s University College of Medicine in Tansui for two weeks.

myStory

Atop towers of power

by Eric Sorensen

On a windy night, when some of us might worry about things going bump in the dark, Dan Rottler ’92 feels over 20-ton houses of gears turning more than 200 feet above the ground. The gearboxes are like outsized car engines, capable of cranking the energy of the slowly turning 16-rpm blade of a wind turbine up to 1,800 rpm.

As plant manager of Puget Sound Energy’s Wild Horse Wind and Solar Facility, Rottler has 14 of these beasts to keep on the go. And for a reason. The wind turbines, capable of power generation, are the backbone of the nation’s electricity grid.

"There was smoke everywhere and this flashing light in the center of it. I called the load office and said, "Shut it down!" Not good.

"Oddly, Rottler tends to thrive on moments when things don’t go quite right. Sure, he would much prefer things go smoothly, and understands that a plant manager needs to have a little more paranoia than other people." But when things do go wrong, they also get interesting.

"My job has always been to minimize how many things go wrong," he says. "But it’s also to troubleshoot and correct anything that does."

"Their only concern is to make sure the turbines aren’t blowing over or anything like that," he says. "But when things go really wrong, it’s all about those things."
crane. That’s why Bottler is working with Vestas, their Danish manufacturer, to install a finer oil filter to catch more of the impurities that can wear down the gearing.

Bottler was introduced to engineering by his dad, Don Bottler, who managed the acoustic division at the Naval Undersea Warfare Center in Bangor. His dad also introduced him to WSU, bringing him to Pullman to try to recruit students. “He had electrical as well as mechanical engineers going with him,” says Bottler, “so I started off at WSU as an electrical engineer and switched over to mechanical, because I liked having a little more visual, electrical and a little more abstract.”

Once out of school he held a variety of jobs, including an internship at the Pacific Gas and Electric Co. He eventually became a man with a house on a fashionable street in Pest and the family that period between World War II and the 1956 Hungarian Revolution, available to him for three years.

Bottler likes to fly a Cougar flag outside his office downhill from the towers, but carefully. If it gets too windy, the flag gets torn up. If a blade gets damaged—two so far have been stricken—by lightning—technicians from Boeing Partner India will descend from the nacelle and make fiberglass repairs. Regular maintenance is carried out by Vestas teams who have access to the towers by climbing the towers on a rotating schedule. Bottler himself checks out turbine about once a month. A climb inside one of the towers is a study in safety systems. Prior to a climb, Bottler gives an extensive safety briefing, including a warning to avoid the 34 kilowatt line inside the nacelle. “We’ve never had any problems with it,” he says. “But please do not touch it.”

Guests—the general public is not allowed in the towers—are wear safety harnesses and are required to heed warnings about when they get out of the car. The harnesses have not one but two lifelines, both of which are secured to ropes on top of the nacelle.

Outside the nacelle, Bottler is cautious but relaxed. Taking pictures of a guest and pointing past the rows of towers to smoke from a wildfire that threatened the facility just days earlier. He may have a lot of concerns, but a fear of heights is not one of them. Speaking with The Seattle Times earlier this year, he said his only phobia is flying into the Huskies in the Apple Cup. Tracking at the diesel facility we ended up fine.”

Tom Cowan (‘63), who managed the Operations on July 1.

Helen Szwabas 76

Living in interesting times

By Haenlou Szwabas — Only weeks when World War II came to Budapest, Helen Szwabas remembers that December night in 1939 when she woke to the sound of bombs. The Soviet air raid was just the beginning of a siege that lasted more than a year and led to a Soviet occupation that culminated in a bloody attempt at a revolution in 1956.

At one point during the siege, all 22 members of Szwabas’s household took shelter in a little room that was normally used for ironing. It was on a floor lower and the sidest in the house. The family and their workers stretched their supplies, eating soup made from flour, salt, and water from melted snow. “Thank God for the water,” says Szwabas. In her family’s summer home in the hills of Buda, they were trapped between Russian soldiers and German and Hungarian soldiers. For a brief time both sides left the family untouched because Szwabas’s father was a doctor, and the soldiers worried they might need his help. By February of 1945, the city surrendered. But little Helen, and her home city, had another 11 years of interesting times. In her family’s summer home in the hills of Buda, they were trapped between Russian soldiers and German and Hungarian soldiers. For a brief time both sides left the family untouched because Szwabas’s father was a doctor, and the soldiers worried they might need his help. By February of 1945, the city surrendered. But little Helen, and her home city, had another 11 years of interesting times. Her mother was arrested many times, simply for being pregnant to whose property. According to her family’s summer home in the hills of Buda, they were trapped between Russian soldiers and German and Hungarian soldiers. For a brief time both sides left the family untouched because Szwabas’s father was a doctor, and the soldiers worried they might need his help. By February of 1945, the city surrendered. But little Helen, and her home city, had another 11 years of interesting times. Her mother was arrested many times, simply for being pregnant. For a brief time both sides left the family untouched because Szwabas’s father was a doctor, and the soldiers worried they might need his help. By February of 1945, the city surrendered. But little Helen, and her home city, had another 11 years of interesting times. Her mother was arrested many times, simply for being pregnant.
Szablya has only a few souvenirs from her Hungarian childhood. She remembers her wedding vividly. Helen was just 16. Then four months later, they married and stayed in the city, but out of necessity they kept their family together and in Budapest, where her grandfather couldn’t survive without them. The effort involved her mother keeping the wedding a secret until John joined the engineering faculty, Helen pursued a German language degree, and they increased their family to seven children.

During this time, “I wrote all the time,” says Szablya. “I had to wait until last minute to get out in 1960 before publishing,” she says. Her first piece on her Hungarian experience was published two years later. She started working on her book in 1970, after finishing her VSTU degree. “I had time,” she says. “My kids were in school, I would sit at the typewriter and it brought me back. When somebody came to the door, I’d have to think, where am I?”

Szablya was driven to tell her story and share the experiences of her fellow Hungarians. “I really want people to know that extreme right and extreme left are equally horrific,” she says. That’s one reason she wrote her book and why she and John would give public talks on life under the Soviet regime. “When ever asked they say, ‘We always wanted to help Hungarians to escape and become free.’”

When Hungary did become free in the 1990s, the Szablyas sought out the Hungarian foreign minister asking him to appoint Helen as Hungary’s Honorary Consul General for Washington, Oregon, and Idaho. As such, she assists citizens of Hungary and works to build trade and cultural relations between the two countries. Although John died a few years later, Helen Szablya continues their work of speaking out about the Soviet regime and their experiences. This fall she traveled to Hungary to visit and be honored for her work. “You know that saying, ‘May you live in interesting times,’” she says. “This is a blessing — if you survive them.”

Michael L. Stanley ('65 Pharm.), 73, July 26, 2013, Boise.
Edward J. Wells ('55 Mathematics), 71, March 27, 2013, Pasco.
Judith Ann Porter ('70 Geol.), 67, August 2, 2013, Seattle.
Kevin L. Wark ('70 AEd.), 70, 1991.
**Generations Rx**

By Tim Stacey – Don Cox ’71's life seems equally divided between his South Bend pharmacy and hunting. And family encompasses both.

Don is the second generation of a three-generation dynasty of pharmacists in South Bend, the county seat of Pacific County, just upstream on the Willapa River from Willapa Bay.

Don Cox ’46 graduated from Washington State University twice, first in chemistry before joining the Army during World War II, then in pharmacy in 1946. He began his career in Long Beach, then started the South Bend Pharmacy in 1958. The business is difficult to own, just off of U.S. 101. It is a twisty and twisty ride with cross-traffic.

The bathroom, for those slow to understand the alliteration, is distinctly WSU-themed. Upon graduation, Dave bought out his dad.

“Those were the days,” says Dave as we visit on his enclosed porch overlooking Willapa Bay, “and we’ve been open 43 Christmas days. We’re open Sunday to twelve. Matt will work today, says Dave, this being August 25.

Matt Cox ’05 D. Pharm., and David Cox ’71 have operated the South Bend Pharmacy for 55 years. Video home courting South-Bend Pharmacy

They settled on a hummock, hidden by the Spartina. “I said, ‘don’t shoot. Just sit here.’” There were probably 20,000 ducks, all sides of us.

Taylor [a son currently at WSU] and I went down on opening day.”

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The pharmacist in a town of 1,700 has a unique perspective.

Although he’s proud of the trophies he brought back from South Africa and elsewhere, there is “big passion is bird hunting.” It’s as much about the time in nature as the hunt.

He recalls an experience several years ago, when the bay was covered by Spartina, an invasive cordgrass.

One of the worst spots was right below the house.

“She told him her son."

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WSU Alumni Association News

Catching up with Ken Locati ’85

Ken Locati ’85 rediscovered his Cougar side at a football viewing party. He had just touch for a while after moving to California. But at McGregor’s Grill and Ale House in San Diego he recaptured the pleasure of watching a game with fellow WSU fans, made some new friends, and rekindled his feelings of pride.

“Now we’re looking to top 40,000,” he says.

“WSU has always been a family,” says Locati. “We help that family bond extend well beyond the years on campus.”

Ken Locati attended nine football games and 22 basketball games.

Through the Alumni Association he found greater involvement with the University as a whole. It has broadened his world of acquaintances to include alumni around the country, campus leaders, students, coaches, and faculty. "There is a great group of people who care about WSU,” he says. "There are a lot of universities where you never get to meet these people. But at WSU, you meet everyone."

After graduation, he moved to Seattle and started his career in marketing. That led to a move to California in 1998, where he is now vice president of client services with a market research firm in San Diego. He’s passionate about golf and cycling, having completed several century rides, as well as enjoying time with his wife Patricia.

That viewing at the ale house led to volunteering with his local alumni chapter, which led to leadership roles and regular trips back to Washington for alumni meetings as well as football and basketball games. In his best year Locati attended nine football games and 22 basketball games.

For more information about WSUAA and alumni chapters visit alumni.wsu.edu or call 1-800-248-6978.
Battered Women, Their Children, and International Law

by Taryn Lindhorst ’84 and Jeffrey L. Edleson

The book brings to light the negative consequences of the Hague Convention, exposing a new side that wasn’t considered in the original ruling. It also goes into detail explaining the effect of domestic abuse on children and their mothers. The response to the Hague Convention in the context of domestic violence, and how “abduction” shouldn’t be used as an umbrella term because it doesn’t account for those, especially women, who felt the need to emigrate to save their children from suffering.

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Throughout this book of engaging and quirky essays, Dauble examines similarly profound topics such as the moral ambiguity of trespassing in search of a good fishing spot, Jacques Pepin’s technique for making fish samosas, and the hazards and pleasures of being the odd man out.

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One of my favorite tracks on 3rd, “New Beginning,” is a song that resonates with all of us, who get easily distracted by the million and one things to ponder in our lives. Here can anyone resist a song that name-checked Johnny Cash, Def Leppard, and Chris Farley?

The Sunlight Solution: Why More Sun Exposure and Vitamin D Are Essential to Your Health by Laurie Winn

Carlson, who teaches natural history and biology at WSU Tri-Cities, was formerly a fisheries biologist with Pacific Northwest National Laboratory and previously published Fishes of the Columbia River: A Guide to Their Natural History and Identification.

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