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SPRING 2012

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In some ways, with so much science now involving tools that detect things outside the five senses, examining the world with a microscope seems quaint. But a corps of WSU researchers—let's call them microscopists—are wrangling photons, electrons, glowing proteins, exotic stains, and remarkably powerful devices in their pursuit of the small. *by Eric Sorensen*

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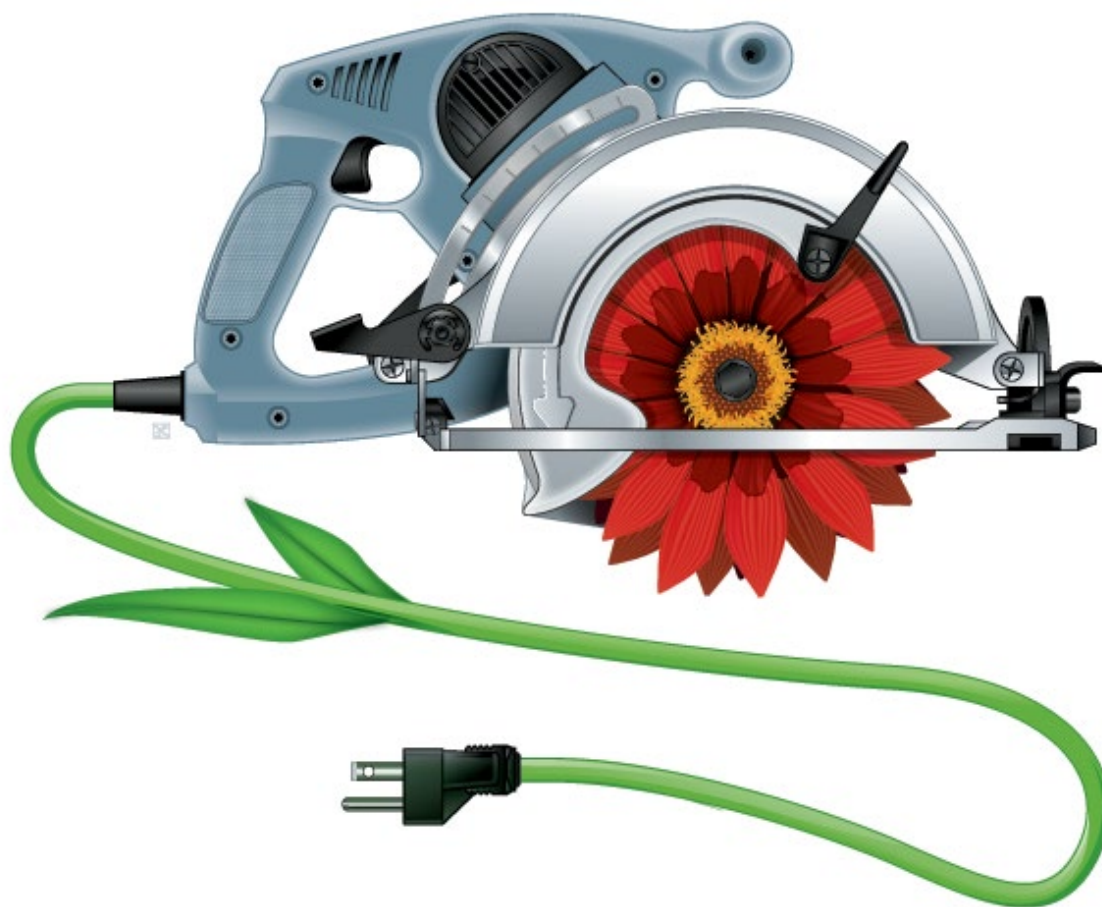
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first words

Time's Warehouse :: As anniversaries go, I suppose a mere decade is not so big a deal, even for a magazine. Many magazines, after all, have lived much longer. *Atlantic Monthly's* 154 years aside, even here at Washington State University, *Washington State Magazine* is a relative youngster. *Pow Wow*, Washington State College's first magazine for alumni, debuted in 1910 and ran until 1969, when it was replaced by *HillTopics*.

Along the way, *Pow Wow*, to which I last referred a few issues ago, reflected the life of a nascent college. Drawing on the dramatic events of the young twentieth century, dispatches from Washington State College's few alumni and faculty documented the Mexican and Bolshevik revolutions, the Great War, and other unfolding dramas around the world.

Along the way, lending appropriate perspective, the June 1936 cover of *Pow Wow* pictured the Lowell Elm, referring to it already as "a stately campus sentinel." President and Mrs. Bryan had brought a seedling with them from Elmwood, near Harvard, the former home of James Russell Lowell, in 1893. That same year the Lowell Elm was noted, another cover marked the twentieth anniversary of E.O. Holland's presidency.

Though the Bryans and Holland endure through their legacy, the Lowell Elm remains a very physical presence. A few years ago, worries about its fate led to propagation of a clonal offspring, but it continues as a stately campus sentinel, unfazed by mere time.

Despite our mere decade, we look back on these past ten years with a bit of wonder at the number of stories we've been blessed to tell: of discovery, of people, of our history, of food and wine and cougars and microbes.

Over the past decade, many future Cougs have been born. A good many alumni have died. Nearly forty thousand students have received their undergraduate degrees. Another eight thousand received their graduate degrees. Our newest alumni readers were not yet teenagers when our first issue came off the press.

At the core of our mission is our attempt to explore and report on the roles WSU and its researchers, scholars, and alumni play in society, how we examine, weave, and mend the social fabric. This issue follows the lead of our first ten years, proffering advice on child-rearing from an ancient culture, re-examining Washington's history and agriculture through eating, revealing nature through different ways of seeing, and surveying a 2,000-year-old philosophical conundrum.

Because of their periodicity, magazines can seem fleeting. *WSM* emerges every three months, supplanting the subjects of its previous issue in favor of the new and pressing. But if we're doing this right, that flight is momentary, adding steadily to the layers of our collective story. We slowly become, as *Pow Wow* did, a magazine in its fundamental sense, a word that reaches back ultimately to the Arabic, *makzan*, *makzin*, a storehouse: of stories, of personalities, of ideas and insights and results.

Feeling pretty good about what we have stored so far in this past mere decade, we threw a party in October for those who have contributed to or been covered by *WSM*. To those of you who were able to join us, thank you again. And thank you also and especially to the WSU-related wineries for your contribution to the festivity. And thank you to Tukey Orchard for the apples and the Washington Tree Fruit Research Commission for the delicious preview of our as-yet-unnamed WSU apple, code-named "WA5," which added momentarily to the good time had by all.

Tim Steury, Editor

WASHINGTON STATE

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EDITOR Tim Steury
 ASSOCIATE EDITOR/SENIOR WRITER Hannelore Sudermann
 ASSISTANT EDITOR/WEB EDITOR Larry Clark '94
 ART DIRECTOR John Paxson
 SCIENCE WRITER Eric Sorensen
 ADVERTISING MANAGER Barbara Olson
 PHOTOGRAPHERS Shelly Hanks '88, Robert Hubner

Contributors

WRITERS: Ryan Horlen '11, Jason Krump '93, David Menconi, Joanna Steward '86, Gay Vallorie Selby '80, Kevin Taylor
 PHOTOGRAPHERS: Bruce Andre, Stephen Dunn, Matt Hagen, Frank Hirahara '48, George Hirahara, Young Kwak, Zach Mazur '06, Henry Moore Jr., Matt Walker, Coke Whitworth
 ILLUSTRATORS: Aaron Ashley, Colin Johnson, Gina Jonas

PRESIDENT Washington State University, Elson S. Floyd

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Washington State Magazine
 PO Box 641227
 Pullman, WA 99164-1227
 email: wsm@wsu.edu fax: 509-335-8734

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Three Great Ways to Belong to One Great Organization.

Today there are over 70% more members of the Washington State University Alumni Association (WSUAA) than just a few short years ago. That's huge! They joined to support WSU, take advantage of the ten-fold increase in 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.

Introducing Platinum Life.

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 WSUAA and WSU. For information about the three great ways you can belong, and the many benefits and services members enjoy, contact the WSUAA.



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February 2012

Dear Alumni and Friends:

Intercollegiate athletics can be a two-edged sword. Nothing can unite a diverse group of university supporters more quickly than athletic success. However, given the high profile of college sports today, nothing can more quickly undermine a university's hard-won reputation than an athletics-related scandal.

For my part, I have often decried the escalating "arms race" in college athletics spending. At the same time, I understand that athletics provides a window into our university. Our membership in the Pac-12 Conference—which is widely recognized for both academic and athletic excellence—is a cornerstone of our university's reputation. It is an immeasurable asset for WSU in attracting high-quality faculty, staff, and students.

In all we do, WSU will pursue excellence with integrity. In athletics, we will never be able to match budgets with our conference peers whose spending, in most cases, far exceeds our own. However, we must make strategic investments—in both personnel and facilities—that will allow us to compete effectively.

During negotiations for a new conference television contract, WSU's athletic leadership helped encourage the adoption of a new revenue-sharing plan that treats all members equally. The dramatic incremental increase in our TV revenue—an average of about \$15.2 million yearly for our university over the 12-year life of the contract—provides us with new resources to support athletics programs.

In December, we welcomed our new football coach Mike Leach to campus. To bring him to WSU, we made Coach Leach an attractive salary offer, in line with what coaches of his caliber are being paid nationally. Neither state funds nor student tuition dollars will support Coach Leach's salary or our ongoing renovation of Martin Stadium. We will not divert funds from our academic mission for these purposes. We will, however, seek support from generous Cougar fans to provide a margin of excellence in athletics.

Academic and athletic excellence can go hand-in-hand. As Cougar fans were welcoming Coach Leach, wide receiver Jared Karstetter was in New York City to be recognized as a National Football Foundation Scholar-Athlete. A zoology major, Jared has worked with one of our faculty members on research that examines the correlation between neck strength and the incidence of concussion among athletes. He was named the Pac-12 Conference Football Scholar-Athlete of the Year.

WSU is committed, in all of its athletics programs, to being competitive and to attracting student-athletes who enhance our university community and can emulate Jared's success.

Warm regards,

A handwritten signature in black ink, appearing to read "Elson S. Floyd".

Elson S. Floyd, Ph.D.
President

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AARON ASHLEY



Living the right-sized life

by *Eric Sorensen* :: I want to walk on water, climb walls, and dance on the ceiling. If insects can do it, it's only fair that I should, too.

But this thing called physics has decreed otherwise. Carol Anelli, a WSU entomologist, can tell you why, having a lifelong fascination with ways insects can at times make us seem relatively slow, earthbound, and weak.

Anelli first came upon the wonders of insects as a child among the woods and fields of a suburbanizing central Connecticut. She would pull caterpillars from her father's garden, raise them on carrot tops and milkweed in her mother's Mason jars, and watch their metamorphosis into monarch and swallowtail butterflies that would fly around the kitchen. She still has the homemade medallion of the Junior Insect Collectors of Moths and Butterflies, an unsanctioned club of neighborhood preteens.

Even after she studied biology at Southern Connecticut State College in New Haven, she thought she was going to be a cashier. Then she found work in a Yale immunology lab where advanced scientific study was more a given than a fantasy. Four years later, she left to get a University of Illinois doctorate in insect physiology. Her studies were grounded in chemistry and physics, imbuing in her a sense that the forces of evolution and the physical laws constraining it "are really the story of insect success on the planet."

Key to that success is an elegant, fundamental feature: their size.

"To understand insects is to understand that they're small, relatively small," she says. "There are physical constraints on them, just like on us, but they're different ones than we deal with. The effects are way different on a small organism than on a large one like us."

Both insects and humans are under the same, constant gravitational force. But we weigh more, which is to say we are more prone to gravity's persuasions. So when a water strider sets foot on a water surface, its weight is not enough to overcome the surface tension caused by cohering water molecules. It might as well be stepping on a trampoline. Water striders also trap bubbles in tiny, water-repellent foot hairs, giving them flotation. A human best get a boat.

In some cases, our extra weight helps, increasing the friction underfoot when we walk. But some forego friction for adhesion, the attraction of dissimilar surfaces. They take advantage of this with an occasional sticky secretion, or a combination of goop and pads, claws, and hairs that let them grip the microscopic nooks and crannies of, say, a wall, a ceiling, or, in the case of an annoying fly, your face.

To take a big-picture view of such small-scale innovations, consider that the sizes of living things cover 21 or so orders of magnitude. A mycoplasma will weigh less than a picogram, or 10^{-12} grams. A blue whale will weigh more than 100,000 kilograms, or 10^9 grams.

Straddling the middle of the mass scale—100 milligrams, or 10^{-1} grams—a bee-sized insect can jump from any height with impunity. Tipping the heavier end of the scale, humans pay a price by falling harder.

“If an insect falls from a height many times its length, nothing happens,” says Anelli. “If you fall from a height many times your height, you’re gone.”

Insects also have the benefit of wearing their skeletons on the outside. Insect armor has a waxy layer to keep them hydrated in spite of a high ratio of surface area to volume.

Larger animals tend to lack armor. Not that it wouldn’t come in handy, as soldiers have learned over the last few millennia. It’s just that it is heavy, and an insect’s small size gives it the gift of relatively greater strength. That’s because a muscle’s strength is a function of its cross section. If you have a lot of muscle cross section and little mass, you can, like an ant, move more than your weight. But larger animals like us have had our mass increase on the cube while our muscle strength increased on the square. Our muscles couldn’t keep up.

In spite of its size, and because of it, the insect is one of the planet’s greatest living success stories. Its immunity to gravity, its exoskeleton, its right-sized musculature, and other physics-related advantages help explain why four out of five species on the planet are insects. Ants alone account for 15 percent of the earth’s terrestrial animal biomass. They may be small, but there’s strength in those numbers.



Watch a leaping roach and learn how it achieves the feat at wsm.wsu.edu/extra/leaproach.



Eat your broccoli or no cookie: Feeding styles and childhood obesity

by Larry Clark '94 :: Ever try to get a child to stop munching potato chips and eat some carrots? That push toward healthier foods can sometimes contribute to familial strife, make it difficult for children to tell when they are full, and even increase the possibility of children becoming obese.

“Parents struggle all the time to get their kids to eat the right foods or to try their fruits and vegetables,” says Thomas Power, chair of Washington State University’s Department of Human Development. And a child’s innate ability to determine how much to eat can be compromised in these situations, he adds.

Power and other researchers have found that the ways parents interact with children during mealtimes and snacks—their food parenting styles—can affect the risk of obesity for the children.

The significant impact of family eating styles and children’s ability to self-regulate are the keys to a new five-year study that aims to develop a family-based childhood obesity prevention program. Funded by a \$4 million U.S. Department of Agriculture grant, Power and colleagues from the Baylor College of Medicine, University of Colorado Medical School, North Carolina State University, WSU Vancouver, and WSU Extension will pilot and test the program among low-income, Latino and African American families with preschool children in Yakima, Tacoma, and Houston.

The research and outreach by Power and his colleagues come at a crucial point in the obesity

Carol Anelli detailed the superhuman feats of insects and the physics behind them as part of this year’s Common Reading Program. The program has 3,000 freshmen reading UC-Berkeley Professor Richard A. Muller’s *Physics for Future Presidents: The Science Behind the Headlines*, bringing science to the forefront of many campus discussions. Topics like global warming, nanotechnology, quantum physics, atomic-age comics, sustainability, and space travel have all been broached by dozens of WSU faculty and visiting speakers. Photo Shelly Hanks



A USDA-funded program’s aim is to teach children healthy eating strategies. Photo Zach Mazur

health crisis. The number of obese children in the United States has almost tripled in the last thirty years, according to the Centers for Disease Control and Prevention, which defines obesity as having a body mass index in the 95th percentile. In 2009, one of seven low-income, preschool-aged children was obese.

According to the CDC, Latino and African American children are significantly more likely to be obese, leading to higher incidences of Type 2 diabetes, high blood pressure, high cholesterol, asthma and other respiratory problems, and social and psychological problems.

Power describes three primary feeding styles in families, two of which can lead to a risk of overweight children. “With the authoritarian style, the child is focusing on external cues on what they should eat or how much they should eat, and paying less attention to whether they are full or not,” says Power. “They want to please their parents, so they eat as much as they’re given as opposed to stopping when they’re full.”

Parents using the indulgent style let children eat what and how much they want, whether the food is healthy or not. This style is most likely to lead to obese children in low-income populations. The indulgent parents sometimes use food as a reward, notes Power. “The idea is that feeding is like love and showing your affection toward your children is feeding them.”

Parents using the third food parenting style give healthy foods to children, but let the children



choose how much they want to eat based on their own signals of being hungry or full. Labeled the responsive style, research shows a lower chance of obesity in those children.

For the first year of the grant, Power and the other researchers will assess videos from their previous studies, in which they observed 143 Latino and African American Houston-area parents interacting with their kids at dinnertime, and analyze their feeding styles. The research team will then run focus groups, followed by a six-week program with families in Texas and Washington who were randomly selected to be in either the food parenting or a control group on food safety.

For the children, the program will teach self-regulation strategies and encourage them to try new foods. Parents will look at their food parenting and strategies to let the child decide how much to eat. After the program, the researchers will follow up with the families to see the impacts on eating habits and rates of obesity, controlling for specific diet and other factors.

Power anticipates some barriers. "It will be a real challenge for us, because in these low-income families, giving a child something good to eat is often one of the few things they can do for the child. They can't buy really nice clothes, lots of toys, or technology, but you can buy them a snack or a sweet," he says. A lot of the families live in "food deserts," where stores don't carry many affordable, healthy, low-calorie foods like fruits and vegetables, usually in areas with high poverty. And often

parents' work schedules make it difficult to prepare family meals or provide healthy foods.

Despite these issues, Power points out that the program will work on long-term skills for parents and their preschool children to sustain changes in food parenting and eating patterns.

"You have to do this in a way that makes sense to the parents and leads to results with their kids," says Power. "We're hoping that by providing new strategies for them, it might make dinnertime a more pleasant experience for them and they might be more likely to incorporate them into their daily lives."

Many of these techniques can be used by any parents with children, he says. "Avoid the power struggle, provide them with lots of opportunities to eat the right food, and leave it up to them how much they eat or even if they eat it at all."



See different food parenting styles in action at wsm.wsu.edu/extra/feeding-styles.

The end of free will?

by Tim Steury ::

The wind said
You know I'm
the result of
forces beyond my control

—A.R. Ammons, *"The Wide Land"*

When the subject of free will resurfaced on the media horizon recently, all I could think of was that last dorm room bull session on said topic many, many years ago. But up it pops again, not just in philosophy journals, but in the esteemed science, and generally nonphilosophical, journals *Nature* and *Science*. A subject that has been fervently teased, manipulated, and debated (by scholars decidedly more rigorous than a clutch

of college students with a couple of semesters of introductory philosophy under their collective belts) for at least 2,000 years has once again emerged from its largely philosophical confines, evoked, interestingly, by neuroscientists.

The more strident of whom insist that free will is a mere illusion.

Based on experiments in which researchers using brain scans were able to predict the action of a subject based on neuronal activity before he made a conscious decision to perform that action, the neuroscientists tried to close the long discussion with the peremptory decision that one's neurons directing one's conscious mind proves that there's no such thing as free will. In other words, one's biological brain telling one's conscious mind what to do proves that we're not really free to make "our" own decisions.

Joe Keim Campbell is bemused. A philosopher and chair of the Department of Politics, Philosophy, and Public Affairs, Campbell specializes in free will. He publishes scholarly papers with titles like "Free will and the necessity of the past." He is the editor, with fellow WSU philosopher David Shier and University of Idaho philosopher Michael O'Rourke, of a collection of essays titled *Freedom and Determinism*.

"What's the argument?" he asks of the neuroscience experiments. "Just because they're precursors to a particular decision doesn't mean the decision isn't free... When I look at it, I figure it's just the problem of free will and determinism, in another guise."

For the sake of those unfamiliar with the innumerable permutations of the free will v. determinism debate, Campbell has just established himself a compatibilist in the persistent argument over whether free will can exist in a determinist universe.

Determinism is the notion that our actions are the result of a cascade of causes, whether they be metaphysical, cultural, genetic, or otherwise. An incompatibilist believes that free will cannot co-exist with determinism.

Discovery

The political impact of Occupy Wall Street. :: Wind from the east, storm from the west.



wsm.wsu.edu/discovery

On the surface, the incompatibilists might seem the more logical in their either/or reasoning. The compatibilist, however, seems more intuitively correct—if not heroic, at least more commonsensical.

Think about it. Who will deny that any effect is determined by a prior cause? Whether through nature or nurture, our actions, and who we are, are determined by our genes, upbringing, historical events, a parent's influence, the physical laws of nature, a sergeant's command, and on and on. On the other hand, who's going to convince you that you weren't in full control of your decision about what shirt you put on this morning?



Joe Keim Campbell. Photo Robert Hubner

"For 2,000 years we've been talking about this issue, split between compatibilists and incompatibilists," says Campbell.

It is only recently that science has gained the tools to address the same questions that philosophers have been tangling over for two millennia, and Campbell and other philosophers feel that some scientists have been a bit hasty, if not haughty, in their conclusions.

For they are not solid conclusions at all within philosophical standards, but mere inferences. And not strong ones at that.

Referring to the argued relationship between the subconscious neuronal activity and the subject's subsequent action, Campbell diplomatically says, "This could be a fallacious form of inference.

"The data are indisputable," he continues. "There are good reasons to think there are precursors to our decisions. What the consequences of that are, though, is another deal."

Western philosophy and its consideration of free will have not endured over the centuries by way of jumping to conclusions.

Our definition of determinism, indeed, has taken on various forms and evolved over the years. Early on, belief in an omnipotent god raised serious questions about how we could possibly make free choices when this god already knew what would be the result. Lately, philosophers have been more concerned with what effect evolution and quantum physics have on our notion of free will. Along the way, they have developed a rigorous, logical methodology and vocabulary for discussing the intricacies of our metaphysical and existential well-being, a vast language indeed, for which the accused neuroscientists show scant appreciation.

But to the heart of the matter, what does this all mean? Does it really matter if we believe in free will or not? Isn't it simply a metaphysical construct?

The truth is, we all think about "free will" more often than we imagine, for it has many manifestations.

Consider that last brownie, sitting vulnerable on the kitchen counter. How do you think about it? If you believe you're a deterministic pawn, then you can simply chomp it down, blaming physiological forces over which you have no control.

Or you could decide (resisting those overwhelming forces) that no, you have already eaten the rest of them and that you can resist. Maybe you don't need those added calories, or perhaps you could leave it for someone else.

Which leads us to moral responsibility. Are we responsible for our actions, or are we will-less robots? Do we decide on our actions, or did "the devil make me do it?"

Consider: If free will is an illusion, then intentional evil, or bad acts, is impossible. Was Hitler evil, or was he simply the unfortunate result of a series of events?

Campbell believes that much of the problem, even among philosophers, might essentially be a matter of linguistic meaning.

Pursuing a similar line of thought, prominent neuroscientist (and author of the recent *Who's in Charge?*) Michael Gazzaniga has suggested that "free will" will eventually "go away," replaced in our thinking by "nature of action," eliminating the inferred discrete brain/mind divide, not to mention the incompatibility of determinism and free will.

"Who is going to make free will 'go away'?" asks Campbell. "How exactly is the transformation of the usage of these expressions going to happen, from 'free will' to 'nature of action'? That is just not how language works. For most

contemporary philosophers, our will is free if and only if our actions are free; so we already think of freedom in terms of action. And we are always going to distinguish the actions of the average person, which are presumably free, from those of, say, psychopaths, whose actions are not free."

The philosophical debate, in other words, is not about to wind down. Not after 2,000 years.

The Wire: Urban drama, gritty reality, and Soc 496 "textbook"

by Eric Sorensen :: It's not exactly a typical day in class, even an upper-level sociology class geared towards the grittiest of urban realities.

The room is filled with the sound of gunfire. A projection screen shows a quartet of inner-city drug thieves pinned down behind a parked car. Each reloads his and her weapon. Their leader, the scarred and unflappable Omar Little, gives them a look and says, "Y'all ready? Let's bang out."

The four stand up, fire back in unison, and execute a retreat, with one killed by friendly fire.

Professor Gregory Hooks stops the tape. The room goes quiet.

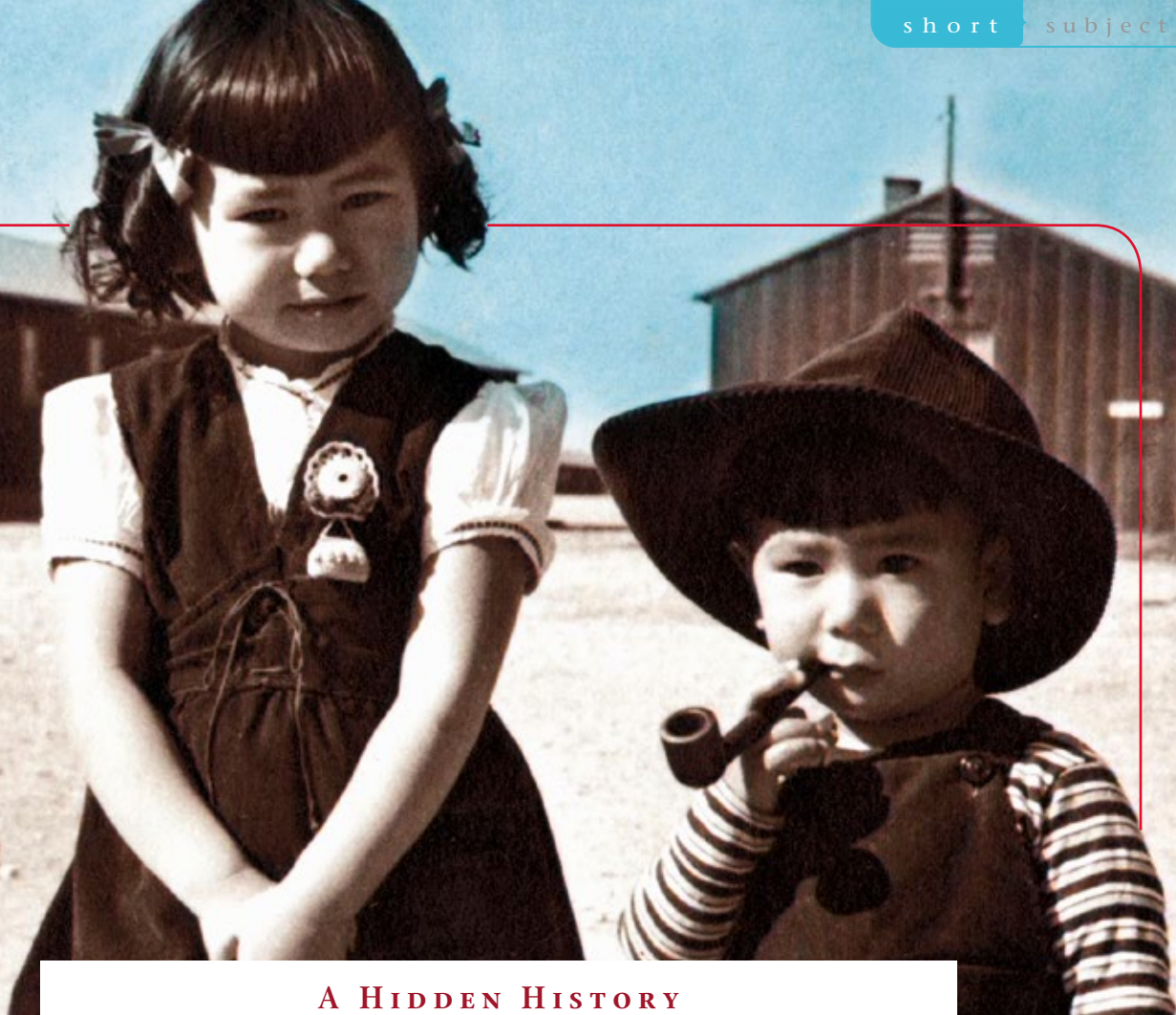
"And why'd we watch that?" he asks.

The drama on the screen is from season three of *The Wire*, the critically acclaimed HBO series portraying the turmoil of drugs, work, poverty, politics, education, and journalism in contemporary Baltimore. The class is Sociology 496, a capstone course focusing on issues of social justice and service. And the main reason everyone is watching Omar and company bang it out in a rain of bullets? *The Wire* is, to quote the syllabus, "the equivalent of a textbook."

Added bonus: The class's service component includes arranging a visit by the show's producer, David Simon, and one of WSU's most accomplished alumni, Harvard sociologist William Julius Wilson (PhD, Sociology, 1966).

The program's entertainment value aside, it's a challenging class, with *The Wire* presenting an unvarnished view of the nation's underclass and the forces that constrain it: inner-city

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A HIDDEN HISTORY

by Hannelore Sudermann :: photos courtesy WSU Libraries

IN 1992, FRANK HIRAHARA '48 sent his daughter Patti to Yakima to help his elderly parents pack up their home for their move to Southern California.

What had at first seemed a chore turned into a treasure hunt as Patti unearthed letters, photographs, and official records that chronicled her family's experience as Japanese Americans who had spent World War II in an internment camp. "These things were hidden all around the house," she says. She discovered notes in the buffet, letters in the kitchen cupboard, and photo negatives tucked into books.

Frank's grandfather Motokichi Hirahara came to Washington from Wakayama Prefecture in Japan in 1909. He brought over his wife Sato and son George the following year. They settled in the Yakima Valley, farming and driving their crops to Seattle for sale. George grew up in the valley, married a woman from Japan, and eventually became owner of the Pacific Hotel in Yakima.

Their lives were disrupted in 1942 when the Hiraharas, including George's teenaged son Frank, were ordered to leave their Washington home. They stored their belongings, packed their clothes, and boarded a train bound for an assembly center in Portland. There they were given numbers, handed luggage tickets, and assigned a barrack before joining about 10,000 others at Heart Mountain, Wyoming, where they would spend the next few years imprisoned at a relocation camp under Executive Order 9066.

Now Patti Hirahara has shared a number of items from her family's internment experience with the archives at Washington State University. They include the luggage tags from the train ride, high school yearbooks, her great-grandfather's death records, her father's WSU letterman's sweater, and about two thousand photographs and negatives. Here students and scholars, as well as descendants of other families interned at Heart Mountain, can access these things, said Hirahara during a visit to WSU last fall.

This is a valuable gift, says Trevor Bond, head of WSU's Manuscripts, Archives, and Special Collections. Often photographs from the Japanese internment camps are the product of a government-paid photographer. To have so many photographs taken by Japanese internees, and showing scenes of daily life as well as special events like parties and funerals, is unique.

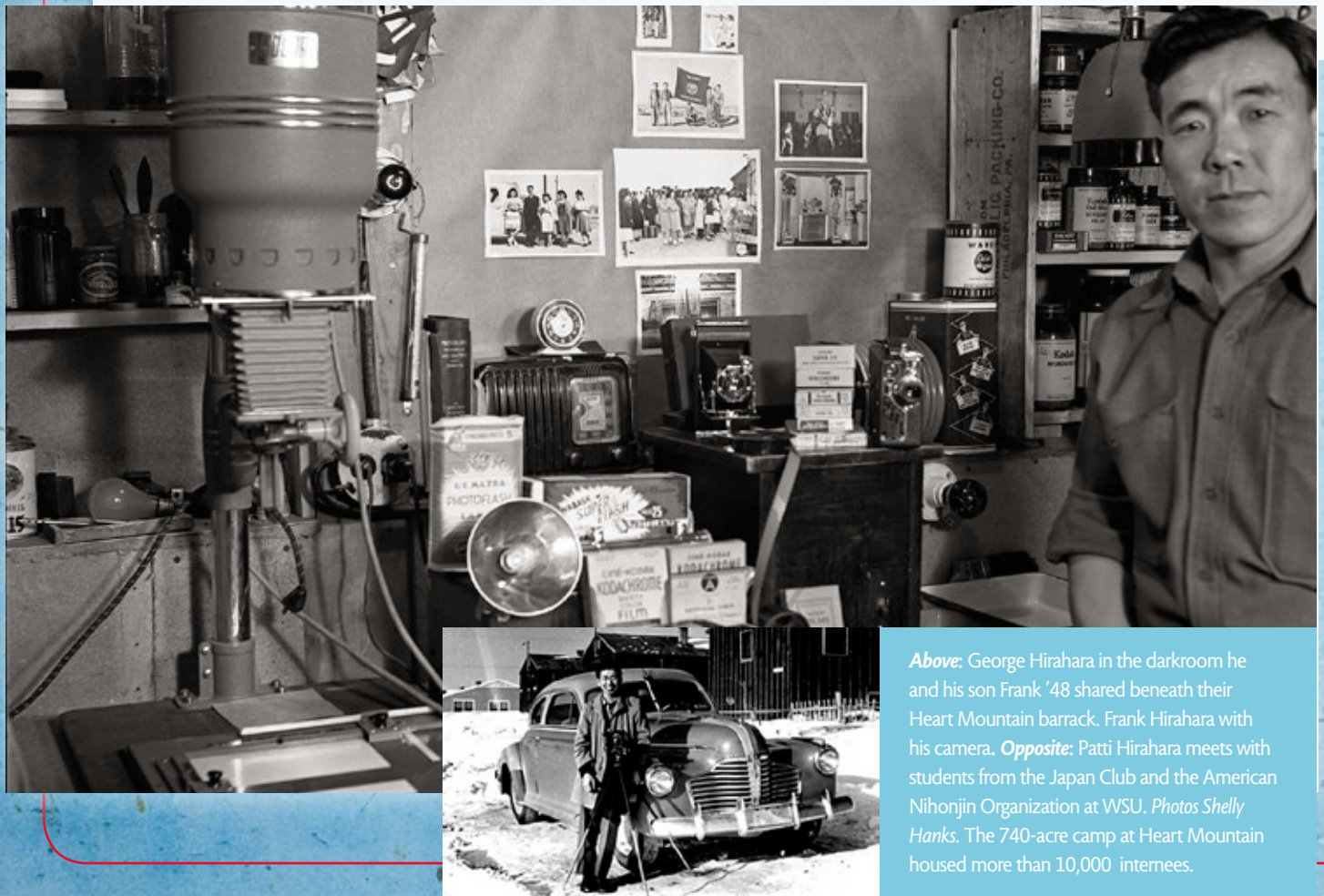
Until 1943, no cameras were allowed in the camp. But one resident sent a request to Washington, D.C. to change the rule. After that, the internees were allowed to mail-order their equipment from Sears, Roebuck, and Co. and a number of men and boys formed a camera club.

Some of the internees built darkrooms beneath the barracks where they lived. Hirahara has a photo of her grandfather's work area, beautifully organized with an enlarger and canisters of developer, and timers on shelves above the worktable. A few of his and Frank's photos are tacked on the wall.

This image is like many of the photographs in the collection—a look inside the camp from the resident's experience, be it Frank's or his father's. They're sharp and full of wonderful details, including views inside the barracks, tables set with meals punctuated with bottles of Coca-Cola, school dances, and photographic field trips around Wyoming.

Patti found the first large stash of negatives in her grandparents' attic 20 years ago. She found many more photos and negatives in her father's things after he died in 2006. "I had looked at these boxes many times before, but I didn't find the negatives until I looked under the photo equipment," she says. "He had hidden them so well."

The photographs tell a story of people in an unpleasant situation, imprisoned by their government in a spare landscape, but willing to make a good life for the time being, says Hirahara. They beautified their barracks, explored their surroundings, and developed a social life. Frank's pictures include high school yearbook photos, shots of basketball games, and school dances.



Above: George Hirahara in the darkroom he and his son Frank '48 shared beneath their Heart Mountain barrack. Frank Hirahara with his camera. **Opposite:** Patti Hirahara meets with students from the Japan Club and the American Nihonjin Organization at WSU. Photos Shelly Hanks. The 740-acre camp at Heart Mountain housed more than 10,000 internees.



To see a narrated slideshow
of the Hirahara collection, visit
wsm.wsu.edu/extra/hirahara-collection.



Frank Hirahara completed high school at Heart Mountain, then left for Pullman to study at Washington State College, one of the schools willing to accept students of Japanese ancestry. He majored in electrical engineering, which led to a job with the Bonneville Power Administration in Portland. Motokichi died at the camp in 1945. The rest of the family was released later that year, and they returned home to Yakima.

When Frank Hirahara became custodian of the family's history, he didn't think his materials or his history would be that interesting to others, says his daughter. But now she realizes her family's story and materials help fill out the story of internment and provide details about Heart Mountain that might otherwise be lost.

The National Park Service has granted \$49,217 for the preservation and digitization of film, prints, artifacts, and nearly 1,000 negatives from the relocation center. The grant includes funding to develop a curriculum based on the collection for five undergraduate courses.

One of Frank's high school classmates, Tom Hide, has enhanced the materials with his own documents, which include a listing of the residents of Heart Mountain and in which barrack they lived. This is particularly helpful in identifying people in Frank and George Hirahara's photos, says Bond, since many of the negative sleeves have notations of barrack numbers.

In the few months since word got out about the Hirahara donation, people who had family members at Heart Mountain have contacted her. One man from Spokane saw a story in the newspaper and called her. "His family was two doors down from mine," says Hirahara. "They were from Wenatchee."

Patti Hirahara says she has several goals for this donation: that her family's materials can be used by students and scholars, that the subject of Japanese internment won't be forgotten, and that Japanese families will find more information about their loved ones and perhaps come forward to share their own stories and documents. ☒

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neighborhoods with such rampant unemployment that drug dealing is as much an industry as a pox; a War on Drugs that has succeeded chiefly in locking up nonviolent offenders, most of whom are black; and a capitalist system that is valuing labor, and humanity, less and less.

Simon, a former *Baltimore Sun* police reporter, said *The Wire* is fundamentally about the “triumph of capitalism, when human beings matter less.”

“Capitalism is a wonderful tool for generating wealth, for generating mass wealth,” he said in a news conference while in Pullman to receive the William Julius Wilson Award for the Advancement of Social Justice. “It’s probably the only tool we have in the toolbox economically. But anyone who thinks it’s a metric for building a just and coherent society is just out of their minds.”

While the show grows out of what Simon saw on the streets, parts of it are rooted in sociology, with the economic woes of the waterfront-oriented second season inspired by Wilson’s *When Work Disappears: The World of the New Urban Poor*.

“I’ve received many awards over the years,” said Wilson, who visited Pullman as part of Simon’s appearance, “but nothing compared to that.”

The mix of academic study, which includes Wilson’s book, and urban drama is potent. Throughout the semester, the 18 or so students were consistently engaged and talkative, even if they were a bit more world-weary for it. One morning, after some spirited discussion about educational and economic opportunity, Hooks recalled Wilson’s visit when he said he has never felt so pessimistic. When Wilson asked how many students believed in the American dream, that if you work hard you will get ahead, no one raised his or her hand.



Watch David Simon’s presentation at WSU at wsm.wsu.edu/extra/david-simon.



The Coeur d’Alenes have built a permanent home for an extraordinary story. Photo Young Kwak/The Pacific Northwest Inlander

Sacred Encounters

by Kevin Taylor :: “When I drive past this place it gives me a good-hearted, happy feeling,” says Quanah Matheson ’04, cultural resources director of the Coeur d’Alene Tribe. At what is now Old Mission State Park, just off Interstate 90 at Cataldo, Idaho, Matheson is taking a breather from the rush of last-minute details prior to opening a major historical exhibit.

A graceful, whitewashed chapel, the Mission of the Sacred Heart, completed in 1853 and the oldest building in Idaho, tops a grassy knoll at the state park, but down below, the tribe has just completed a modern museum that is now the permanent home of an exhibit marking a powerful moment in tribal history—the arrival of Jesuit missionaries, the Black Robes, and the conversion of Indians to Catholicism.

This story is told in *Sacred Encounters: Father De Smet & the Indians of the Rocky Mountain West*, a landmark exhibition first assembled in the 1990s by historian Jacqueline Peterson, who recently retired from teaching Native American history at WSU’s Vancouver campus.

When *Sacred Encounters* first appeared as a Class A traveling exhibition touring the United States and Canada, its space requirements were so large it could not be shown anywhere near the Coeur d’Alenes. (What was then the Cheney Cowles Museum in Spokane staged a small preview, Peterson says.) Yet its unique and intimate examination of the mingling of two faiths and two cultures lent it such power that tribal members made the five-hour drive to see *Sacred Encounters* at the Museum of the Rockies in Bozeman, Montana, where it opened, and at Tacoma.

“It is important to get the Native American perspective,” says Jeanne Givens, a Coeur d’Alene Tribal member who was appointed to a tribal committee formed to work with Peterson to help shape the Coeur d’Alenes’ side of *Sacred Encounters*. “For so many years, exhibits have been strictly about what non-Indians think of Indian items and of Indian history. So Jackie’s approach was refreshing, and it was exciting.”

The impact of the exhibit was so profound, says Ernie Stensgar, chairman of the Coeur d’Alene Tribal Council at the time, that the tribe took the unusual step of seeking to purchase *Sacred Encounters* from the University.

Our Story

Jean Gleason Witt ’43 writes about a memorable and rainy geology field trip to an Idaho mica mine in 1942.



wsm.wsu.edu/ourstory

{ Quannah Matheson '04: Anthropologist for his tribe }

Growing up, Quannah Matheson was captivated by the iconic ancient civilizations of the world—the Inca, the Maya, ancient Egyptians.

“All those cultures fascinated me. You know, the pyramids and everything,” Matheson says. But when he attended Washington State University in the late 1990s, Matheson still wasn’t sure what direction to take. “So I took an introduction into world archeology—I think it was called Archeology of the World—and I really enjoyed it and looked into the fields of it and decided that’s where I wanted to go.”

Hooked, Matheson’04 graduated with a degree in anthropology. Little did he know, he says, that it would lead to a career delving into an ancient civilization that is exceedingly close to home: his own Coeur d’Alene Tribe. Even before graduation, Matheson worked for the tribe during summers, helping preserve and catalog culturally sensitive sites. After graduation, he was hired as the

tribe’s first anthropologist, a service previously contracted out.

The late Richard Mullen, a tribal member, watchdogged and safeguarded significant cultural sites and handled the repatriation of artifacts and human remains even though the Coeur d’Alenes had no dedicated cultural office. After his death in 2004, the tribe formalized Mullen’s groundwork and named Matheson its first cultural resources director. The department has expanded to include cultural resource management, language, and historical testimony.

It’s not the pyramids, but, Matheson says, “it’s really interesting to come across ancient sites because you can feel, if you’re sensitive to it, you can feel and understand the energy. You can imagine kids playing, people working on things...people living their lives and what they left there for us to come across—it’s like a good blessing in my eyes to touch some of the things they were working on, like mortars and pestles, tools and obsidian.”

It was a long process, taking more than a decade of negotiating with state, national, and European entities, working out arrangements with 50 museums and private collections to secure the loan of the artifacts, and raising \$3.26 million for a museum with proper security and environmental controls to display the fragile objects. It culminated with a grand opening at Cataldo October 15, 2011.

And while the exhibit is filled with artifacts, from Indian-made beaded Bible covers to gleaming gold chalices from De Smet’s native Belgium, *Sacred Encounters* is not static. In a design by the renowned Richard Molinaroli (who did both the original and the new version for the Coeur d’Alenes), visitors walk through nine “acts” or rooms, enveloped in a rich audiovisual environment.

Ambient nature sounds fade into Coeur d’Alene singing, which fades into Gregorian chant and Latin prayer. *Sacred Encounters*, Peterson says, is “about dialogue. About two separate worlds. About two separate ways of thinking and believing coming together. We couldn’t allow all this gold and silver from the Catholic tradition to overwhelm the Native story. We had to create two pathways.”

The dialogue does not shy away from touchy topics. While there is much joy in the initial conversion—as evidenced in De Smet’s letters to superiors, and in the fact the Coeur d’Alenes remain predominantly Catholic—there are also oppressive episodes of priests creating the

Soldiers of the Sacred Heart to enforce religious strictures against Native singing, dance, and activities such as stick games. The boarding school constructed at the village of Desmet could be a lonely and harsh experience for Coeur d’Alene children. One priest demanded the Coeur d’Alenes destroy “Indian things,” Givens says, by bringing moccasins, beadwork, and cradleboards to a public burning in Desmet.

“This is an honest exhibit. It is important not to tell a distorted history,” Matheson says. Especially, he adds, “at a place like Cataldo where people took their children, took their grandparents. Everybody went there and just wanted to pray together. Their prayers are still there; that feeling is still there.”

Peterson says she was deeply affected by the experience. “I came to really respect this tribe, and Indian people in general, for their capacity to forgive the unforgivable.”

There was much delight in the “sacred encounter” with the Jesuits, she says, but also, “I think there was a lot of hurt and a lot of anger and a lot of disappointment. At the same time, the dignity of these people in the face of really unrelenting oppression, the dignity is what finally shines through. And then that understanding, that deep understanding that you simply have to forgive human frailty.... This isn’t even Christian; it is much deeper than that. Something really, really fundamental, I think, to the way Native American people live and believe.

“And to tell you the truth, I think the Jesuits themselves were changed by this,” Peterson says. “What they didn’t understand—or maybe they did understand—is that the Coeur d’Alenes took elements [of Catholicism] that meshed with their existing beliefs and pretty much put the rest aside.”

His family on his mother’s side has been deeply Catholic since the Jesuits arrived in the early 1840s, Matheson says. A grandfather, Don Matheson of the Puyallup Tribe, carried a more traditional spirituality into the family, and today, Matheson says, “I go and pray both ways. There are no lines drawn in my understanding.”

If you go—Old Mission State Park is just off Interstate 90 at Cataldo, Idaho (Exit 39), 58 miles east of Spokane. Sacred Encounters is open 9 a.m.–5 p.m. daily. Entry fee to the park (which grants access to the exhibit and to the historic chapel) is \$2, \$1 for students, \$5 per family. Info: 208-682-3814.

A blighted Northwest icon

by Eric Sorensen :: Last March, Gary Chastagner was driving around southwest Oregon scouting test plots for a study of madrone, the gnarly, reddish-brown tree found up and down the West Coast. A variety of diseases had been hitting the trees in recent years, and Chastagner, a plant pathologist in WSU’s Puyallup Research and Extension Center, was undertaking a study to see if some varieties might be more disease resistant than others.

Driving between Roseburg and Medford, he started seeing entire slopes of trees that looked decidedly disease prone.

“It just looked like someone went through with a blowtorch,” Chastagner recalls.

County extension agents and natural resource officials soon reported similar devastation in British Columbia, the San Juan Islands, and the Olympic Peninsula. Puget Sound residents echoed them on a special madrone research web page.

“As we drive along side roads and down the Key Peninsula Hwy towards Purdy it looks like all the Madrone trees are dying or dead,” said one writer. “All the leaves are dried up and brown. We don’t see any new growth at all on most trees. They just don’t look like they’re going to come back.”

The madrone leaf blight, as it is called, brings to mind tree-ravaging epidemics of gypsy moths, Dutch elm disease, and chestnut blight. And while the tree has limited commercial value, it's good for drought-tolerant native landscaping and plays an important ecological role as wildlife habitat and food. It has been a recorded Northwest feature at least as far back as 1792,



The madrone leaf blight can make trees look dead from afar, even if it is rarely fatal. *Courtesy Gary Chastagner*

when the Vancouver expedition's naturalist, Archibald Menzies, mistook it for an oriental strawberry tree.

"It's sort of an iconic tree with a lot of passion attached to it," says Chastagner. "When things happen to it, people pay a lot of attention."

Leaf blight had been seen before but not investigated thoroughly. WSU researchers started looking at it in earnest in 2009, when Rita Hummel, a WSU Puyallup horticulturist, noticed several sickly madrones at the research station. Marianne Elliott, a plant pathologist, collected samples and found nearly half had a fungus, *Phacidiopycnis washingtonensis*, that was first isolated in apples by Chang-Lin Xiao, a plant pathologist at the WSU Tree Fruit Research and Extension Center in Wenatchee.

The fungus causes cankers and kills twigs in crabapples, a pollen source in commercial apple orchards, says Xiao. It also lies dormant on apples themselves, rotting fruit after it is harvested.

In the madrone—often called madrona in Washington state—it concentrates on the leaves and appears to be particularly active after colder-than-normal winters, says Elliott.

"I think it kills the tissue," she says. "It tends to sort of dry it out. We think that's because this

fungus can somehow grow in cold temperatures and that somehow the plant has to have been cold-stressed before infection can occur. So we're trying to understand that better."

Walking around the research center, Elliott points out the madrones that Hummel saw afflicted two years earlier. The leaves are wilting and covered by gray-brown blotches and spots.

But while the trees look awful and foregone in early spring, they bounce back in fine order in late spring as new growth emerges.

"It looks really bad," says Elliott, "but wait 'til June, and it might even look like it didn't happen."

Afflictions like branch dieback and canker are worse because they kill leaf buds and roots, preventing the tree from regenerating. The leaf blight can be a serious problem if it strikes several years in a row, starving the tree by limiting its photosynthesis, but probably won't kill the tree unless it's already compromised. Homeowners can help by raking up dead leaves, reducing the amount of fungus that can carry over from one winter to the next.

Meanwhile, Elliott and Chastagner are using a \$50,000 U.S. Forest Service grant to look for disease-resistant madrones among 18,000 seedlings gathered from as far away as Arizona and Texas and as close as the 400-year-old champion tree in Port Angeles. Plans call for planting them in various ecoregions, places with different climate and soil, and seeing which fare best.

Indaba Coffee

by Ryan Horlen '11 :: Spokane's Indaba Coffee is not your typical café. With a Zulu name that loosely means a gathering of tribal leaders to discuss important matters, the spot just north of the Spokane River is a resource for locals. The business has bulletin boards on the ceiling and space shared with a small nonprofit bookstore. It serves residents of the affordable housing project just upstairs as well as the attorneys who work at the county courthouse down the street.

It's the lively atmosphere founder and owner Bobby Enslow '06, '08 MBA is trying to brew up. "This is a place where successful people can gather and have an important conversation," he said. "It's also a space for everyone to rub shoulders."

It was a long journey that led Enslow to his current job. It started a few years ago when he spent two months in South Africa for an in-



Indaba founders Bobby Enslow '06, '08 (left) and Ben Doornink '07. *Courtesy Bobby Enslow*

ternship as an administration consultant for an HIV/AIDS clinic while working on his MBA. He found he liked the outreach work. After finishing his degree, Enslow moved back to his native Spokane and dug back into his own community. "I was the head of marketing development for a nonprofit," he said. "We started looking into this neighborhood and realized they were missing a third gathering place."

A third place, the first being home and the second workplace, is defined by urban sociologist Ray Oldenburg as a spot like a pub, eatery, or park where individuals in a community can meet and form bonds, talk politics, and feel engaged. However, the idea for a coffee shop actually came from a local Lutheran pastor, according to Indaba co-founder Ben Doornink '07.

"The pastor wanted to have a building with church on Sunday but a coffee shop-type place during the week," he said. "We loved the idea so much that we decided to use it, without the church, of course."

Doornink has supported the business in a variety of ways since it first opened in 2009. He even tried serving the patrons but found it wasn't his strongest skill. "I tried to get behind the register one day, and they never let me back," he said. "I handle more of the behind-the-scenes, day-to-day operations now."

No matter the origins of the idea, the desire to serve the community is a philosophy they take on in many aspects of their business. The shop serves gourmet espressos, sandwiches, soups, and pastries as well as soda. They try to stay local and affordable with their products. "We buy all of our produce locally from a hydroponic place," Enslow said. "We have a neighborhood baker doing all the baked goods. We even buy

our coffee from Bumper Crop, a group of roasters out of Spokane.”

According to Enslow, all the baristas are trained to make latte art. Latte art is topping the beverage with cream to make an artistic design. In addition, Indaba offers coffee made using a French press. “We use only French press and offer it for \$1.50,” he said.

They help out local artists, musicians, and artisans, displaying and selling their creations at the shop.

Though it’s in a lower-income neighborhood, Indaba has found customers both in the immediate blocks and throughout the city. “We really get a lot of neighborhood support, but there aren’t enough neighbors” to solely make the business successful, he said. Fortunately, “we also get a lot of destination traffic. People go out of their way to come here.”

Indaba is one of the first businesses in the Kendall Yards project area, a planned development to revitalize the neighborhood northwest of downtown through remodeling and rebuilding. The Indaba owners support the venture. “We want to be a catalyst of economic development,” said Doornink.

Mulch ado about garden plastics

by Eric Sorensen :: In 2001, Carol Miles certified WSU’s first piece of organic land, a three-acre parcel at the WSU Vancouver Research and Extension Unit. It was a landmark moment, leading the way for organically managed land at all of WSU’s research facilities.

But one thing kept nagging her: the plastic.

In the absence of conventional herbicides, weed control was her number one issue, and laying down a layer of plastic took care of the problem handily. But it’s nonrenewable and not recycled.

If it’s going to be used in an organic production system, reasoned Miles, now a vegetable horticulturist at the WSU Mount Vernon Northwest Research and Extension Center, it really should be renewable or recyclable.

The problem extends beyond the occasional three-acre parcel as well. With more than half a million acres of black plastic spread across American farmland, it starts to add up, turning into more than 100,000 tons of trash that costs millions of dollars to dispose of.

As home gardeners might imagine, the solution should be as simple and mundane as a cardboard-lined path. Surely there must be some sort of paper product that could fight weeds as well as plastic, then mulch away like the paper coffee filters that disappear so routinely in the compost pile.

It turns out it is not so easy to align the needs of farmers, consumers, regulators, vegetables, soil, mulch-degrading microorganisms, and the range of farming conditions across America. But Miles and a host of other researchers are managing to make some progress with a blend of horticulture, polymer chemistry, economics, plant pathology, soil microbiology, sociology, and a plant-based fabric.

In 2003, Miles started five years of test plots with various crops. She tried Garden Bio-Film, a starch-based product from Europe. She used a film called Envirocare. She tried kraft paper, so named for the nineteenth-century process to convert pulp. She used Longview Fibre raisin paper, which is ordinarily used to sun-dry grapes.

They all had trade-offs.

Plastic remained the most durable, while Garden Bio-Film was expensive and *too* biodegradable, breaking down before summer’s end. Envirocare wasn’t biodegradable enough, even in a postharvest compost pile, nor is it approved for organic ground.

Weeds frequently grew under paper, pushing it up and causing it to tear. As soil microbes start breaking it down at the edges, it is easily lifted by the wind. Once it covers less than half the ground, it is basically useless for weed control.

Paper also weighs a lot.

“The heaviness comes into play in a lot of different ways,” says Miles. “You have to ship it, and a roll weighs several times more than a roll of plastic. A 500-foot roll of paper weighs as much as a 5,000-foot roll of plastic in some cases.”

When Miles moved to Mount Vernon in 2007, her mulch work caught the eye of Debra Inglis, a WSU plant pathologist. The two and a team of other researchers secured \$2 million under the USDA’s Specialty Crop Research

Initiative, plus a matching \$2 million. The effort included researchers in Texas and Tennessee, stretching the range of conditions and crops in which biodegradable mulch might be used.

Through Karen Leonas, professor and chair of the Department of Apparel, Merchandising,



COURTESY CAROL MILES

Design, and Textiles, they also started working with fabric made from plant-based polylactic acid.

The first prototype didn’t block weeds, probably because it was too lightly colored.

“It was a greenhouse,” says Miles.

Last year, they used a darker version that worked better at holding down weeds.

But the researchers are still struggling with making the mulches execute a tricky natural timing play. They want them to hold up during the growing season, then disappear over the winter so there is clear planting ground in the spring. But materials break down best in the summer, when heat, light, and microorganisms are most abundant.

“Biodegradation is microbially driven,” says Miles. “There’s very little microbial activity in the wintertime. Therefore, it’s very unlikely biodegradation is going to happen in that six-month time frame.”

Their Tennessee colleagues are looking at a catalyst that might be applied to a mulch late in the season. The aim now is to speed along its degradation just when a farmer will want it to disappear. <<

Coordinates



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Tom Jager swims—and wins—a 50-meter butterfly race against Mark Spitz in Mission Viejo, California, April 1991. *Photo Stephen Dunn/Allsport*

Let him swim: The Tom Jager story

by Jason Krump '93 :: On a Friday evening in August 1989, Tom Jager is about to race in a 50-meter freestyle event at the U.S. National Championships in Los Angeles.

The race marks the return of Olympic gold medalist Matt Biondi, who dueled with Jager in the same event at the 1988 Olympic Games less than a year earlier.

The capacity crowd of 2,500 is settling in for what promises to be a memorable race when Jager is called for a false start and disqualified, though TV replays indicate otherwise.

Jager's reaction is immortalized in a *New York Times* photo taped to his Gibb Pool office window. His arms are outstretched, an incredulous look on his face.

"The way I prepare," recalls Jager. "I don't need to false-start. I can give people a head start."

Jager argued his case amid the din of a disappointed and disbelieving crowd who chanted, "Let him swim! Let him swim!"

"I remember distinctly the referee said to me, 'It doesn't help that you swear.'"

"I remember me being calm, saying, 'I appreciate that,'" Jager says, laughing, "'but what would you like me to say?'"

Jager said a lot with his accomplishments in the pool during a decorated career as an NCAA and Olympic swimmer. His goal today is to do the same as a coach.

On another Friday evening, this one in late October 2011, Jager once again has his arms outstretched, but this time to cheer on the Washington State swim team during a meet with Pac-12 rival USC at Gibb Pool.

"This is as big a moment in my career as any moment that I've had," Jager recalls thinking that night.

This from a man who earned seven Olympic medals, including five gold, and six NCAA titles.

The Cougars are facing a USC team led by Hall of Fame coach Dave Salo, a fact not lost on Jager, who accepted the WSU head coach position in May after seven years leading the University of Idaho program.

"The Pac-12 hosts the best coaches in the world, and it was really an honor to be on the same deck as Dave Salo," Jager says.

Though the Cougars lost on this night, it seemed fitting that Jager's first meet as a Pac-12 coach was against USC, an opponent Jager was no stranger to during his competitive swimming days as a student at UCLA.

The winning and championships Jager enjoyed at UCLA carried over to the Olympics and, for a time, overlapped.

While at UCLA, he captured two relay gold medals (4x100 meter freestyle, 4x100 medley) at the 1984 Games in Los Angeles. A year after graduating, he picked up two more relay golds (4x100 meter freestyle, 4x100 medley) and a silver medal in the 50-meter freestyle at the 1988 Games. In 1992, he closed out his Olympic career with a gold medal in the 4x100 meter freestyle relay and a bronze medal in the 50-meter freestyle.

It is the relay gold medal at the 1992 Games that is Jager's favorite.

Entering the event, Jager says the U.S. team, which had been dominant in the event in past games, faced its first serious threat.

But Jager and teammates, including Biondi, held off the challenge of the Unified Team of former Soviet republics by less than a second.

"We beat them, and it was a great experience," says Jager, reflecting back on winning what he describes as the "signature event" of the Olympics.

Four years earlier, Jager and his relay teammate Biondi were involved in another memorable race, but this time against each other.

The 50-meter freestyle would be making its debut at the Olympic Games, and Jager, who says the race was "my event," was the world-record holder when the race began.

But not when it ended. Jager lost to Biondi, who swam a world-record time of 22.14 seconds to Jager's 22.36.

Over 20 years later, Jager still describes the loss as a "killer."

"I was a world-record holder when I went in, and I had beaten Matt seven out of nine times. To have that all taken away in 22 seconds. Those are the races that haunt you."

Though acknowledging he would have rather won, the loss is an experience that Jager anticipates will serve a purpose during his coaching career.

"I find myself seven years in [my coaching career] and I'm at the Pac-12 level. I'm pretty proud of that," Jager says. "I knew that I had to earn my stripes at a mid-major and work hard in order to prove myself and learn this business. There's no pretense on my part that I have the ability of a Dave Salo today, but in 10 years, yes. In 10 years, I see myself to be a top coach in the country." <<

PHOTOS: ROBERT HUBNER



Below: A member of the Three Sisters herd.
Opposite: Ron '86 and Shelly Muzzall with their daughters Jennifer (*seated*), Jessica, and Roshel (*top*). Photos Matt Hagen

{ A CATTLE DRIVE }

:: by Hannelore Sudermann ::

PENN COVE may be known for its mussels, but just across the Whidbey Island bay from Coupeville is another operation—the Muzzall family farm, known to local grass-fed beef fans as the Three Sisters Cattle Company.

The farm was founded in 1910 by Ron Muzzall's great-grandparents. For generations it was a dairy. When Ron '86 returned from college, the farm had 50 cows. With his wife, Shelly, who grew up with family farming in Eastern Washington, he planned to follow in his parents' footsteps.

But the dairy business was changing so fast. To keep up, the Muzzalls had to continuously add to their herd—something that was hard on their small farm and hard on them. By the time they reached 200 animals, they knew they couldn't keep growing. "We were too small," says Muzzall, and Whidbey is not the place for a large-scale dairy. "We realized that this is not a commodity agriculture area."

They thought about moving. "But this was home," says Muzzall. By that time they had three daughters, as well as family around them in the Oak Harbor community. So Ron and Shelly looked at the dairy, the pastureland, the green forage, and thought about what they knew how to do. They realized a simple shift might keep them in farming. "We left the commodity business," says Muzzall.

What had started as a side operation of raising beef for themselves and their neighbors ten years ago became a full-time grass-fed beef producing ranch. The timing, though, seemed precarious. Early into it, mad cow disease was discovered in a Holstein in Eastern Washington. The Muzzalls went ahead, though, and it turned out that that diagnosis

and others in Canada may have helped their business. "It brought about this awareness about where is this beef coming from," Muzzall says. He found customers who wanted to know how their beef was raised and by who, and were willing to pay a little more for the peace of mind.

"Ten years later, our oldest daughter is out of college and back on the farm. The youngest is a high school junior. All our girls are involved in the business," says Muzzall. While he runs the production side of

the ranch, Shelly and their daughters manage the sales and marketing. They have a small store on the farm and also sell locally through farmers markets, through several stores on Whidbey, and over the Internet.

Last May, Three Sisters was featured on the Cooking Channel. The segment, which aired nationally, brought a lot of attention, says Muzzall. But because the farm is small scale (there are about 150 cows), it can't easily deliver the cuts of meat around the country. The interest, though, spurred the Muzzalls into looking at processing some of the beef and sent them in the direction of hot dog and pepperoni production with Ferndale-based Hempler Foods Group.

Since the Muzzalls started ranching, the demand for locally sourced beef has grown as has the number of small

farms in Washington producing beef. To name a few: Basket Flat Ranch in Battle Ground with Jon Schoenborn '97, Chinook Farms in Snohomish County with Eric Fritch '84, and the Colvin Ranch in Tenino with Fred '70 and Katherine '71 Colvin.

Even with the increased demand for beef from small-scale and local farms, in recent years the large-scale operations in Washington haven't been suffering. According to the USDA's National Agricultural Statistics Service's most



recent census, the number of beef cattle, on farms of all sizes, in Washington has increased from 2002 to 2007 by about 25,000 head to 274,001.

When you think of Washington crops, beef isn't the first to come to mind. "I found that there is an entire cattle culture in the West that runs 'below the radar' for most of us," writes historian Laurie Winn Carlson '04 in *Cattle: An Informal Social History*. Once she started researching her book, she looked at her own community, at that time the Spokane area, and realized how many farms, even on her drive down to graduate school in Pullman, had cows and calves.

North American cattle ranching brings to mind the Old West, scenes of huge herds driven across open plains, notes Carlson. The scale and style are not nearly the whole story. The reality is that cattle ranching happened and still happens in a variety of environments: tropics, mountain ranges, and meadow wetlands, to name a few. "Cattle are adaptable creatures which do well in nearly all conditions in temperate climates," writes Carlson. And because grazing cattle is one of the least intensive forms of commercial agriculture, it often gets pushed to the hinterlands and to properties not suitable for other farming.

Scale is another thing. The average cow herd size in the United States is 25 to 40 head, says Don Nelson, WSU Extension's beef specialist. Almost all of the cattle operations on the west side of Washington are small because of land value and small acreages, he says. On the east side of the state, you can find the larger operations, with 100 head or more.

Small or large, many of Washington's cattle operations are breaking with tradition to make their ranches more sustainable, says Nelson. Calving is just one example. Typically calving season starts in late February or March. But some cattle producers are changing that. Think about the natural cycle of wild animals, says Nelson. They usually have their offspring in later spring, when the weather is warmer and there is an abundance of green forage. Calves born in February or March suffer terrible stress from the cold, and they are more vulnerable to disease and don't grow much because of it. It could cost the farmer, too, since under the old system he has to bring in extra feed and use medicines to treat the animals' illnesses, like calf scours. But if cows calve in May or June, they've had a third trimester of fresh green grass, and their newborn calves won't be stressed by the cold, wet, or snow.

"Many practices have improved over the years," says Nelson. He points to the old way of weaning and shipping calves the same day. "It's another bad practice in terms of stress on the animals," he says. At the

feedlot, the weakened calves are more vulnerable to other disease organisms that may come in with the other animals.

A new weaning protocol involves putting the cows and calves in a good pasture with easy access to water, then separating the cows from the calves with a fence. It's something the Muzzalls do. The calves can be close to their mothers, just not able to nurse. "In a few days, you can turn the cows out, and the calves are fine," says Nelson. "That reduces stress and in turn reduces disease."

Another option would be not to wean the calves but let them winter with their mothers, who know how to negotiate the cold, and get to shelter and food and water. This practice is countercyclical, which can be a benefit, says Nelson. Most cattle sales occur in the fall. If you sell these calves in January, the "numbers are down and the prices are better."

It's all a matter of using resources in the best possible way, he says. In nature, cattle's dietary preferences are grass (70 percent), forbs and weeds, and browse, the edible parts of woody vegetation. "A cow-calf producer is really in the solar energy harvesting conversion business," says Nelson. The energy captured by the plant leaves is converted to carbohydrates that the cattle consume in the grass,

and this is converted to beef. "All this is provided by nature free of charge," says Nelson. "All we have to do is learn how to take advantage of these natural processes." The fewer the inputs, the more free grass rather than purchased grains consumed, the more sustainable the farm.

One thing to remember, Nelson notes: Small-scale producers like the Muzzalls generally produce grass-fed and grass-finished beef, which means the animals don't get into feedlots and aren't finished with grain. The often-desired result of the feedlot finishing is consistent flavor and increased intramuscular fat. According to a recent report from WSU's IMPACT Center, it's a practice that evolved after World War II, when there was an oversupply of grain.

By contrast, the grass-finished beef may taste different, depending on what the animal has been eating, and is very lean. Muzzall's ground beef, for example, is only six or seven percent fat. Health-conscious consumers may prefer it, since it has higher levels of the desirable omega-3 fatty acids and lower overall fats.

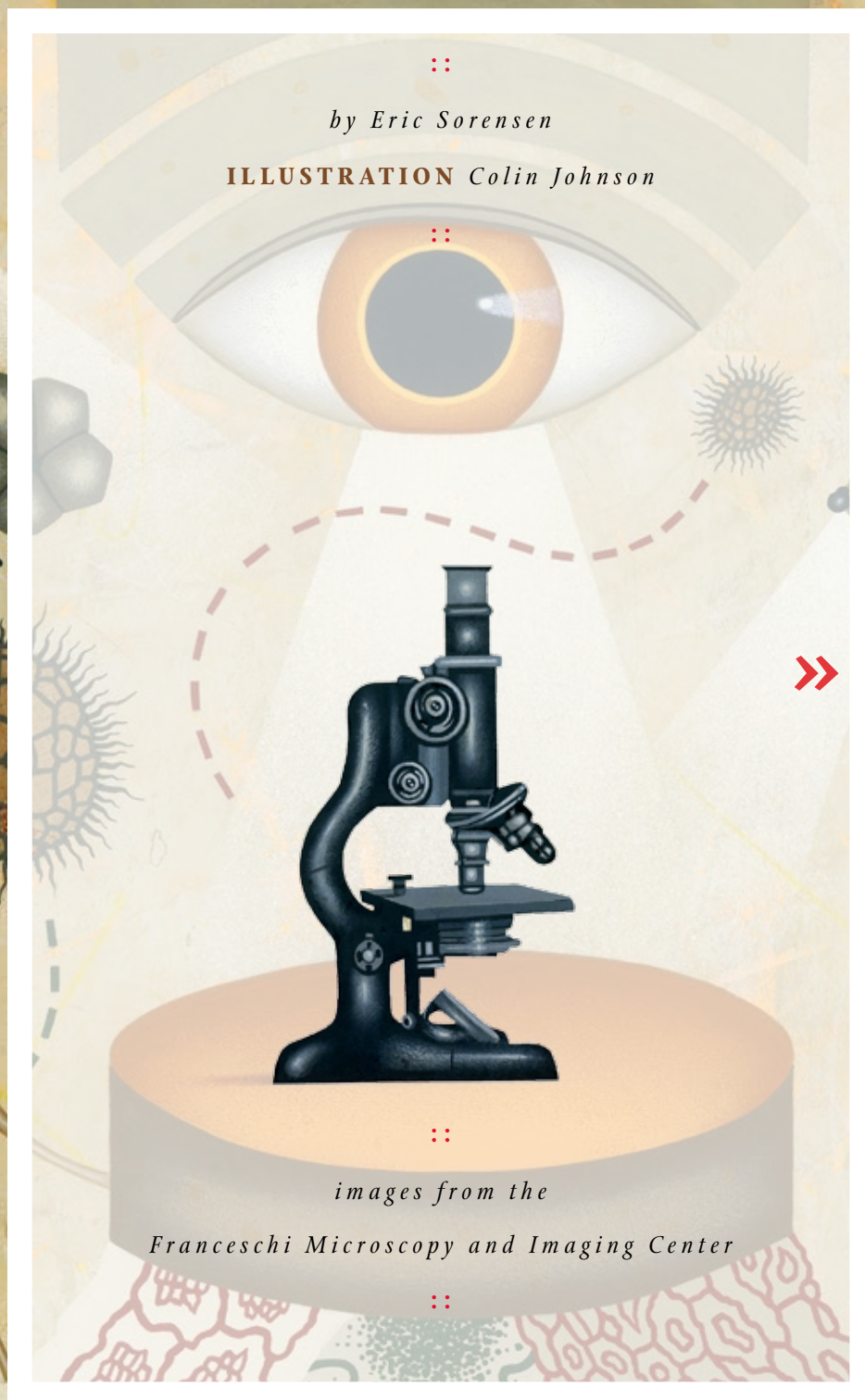
It's tasty, says Muzzall of his beef, but you can't just throw it on the barbecue and flip it in a half hour. "It's a whole different hamburger." ⊗



For tips on how best to cook different cuts of lean, grass-fed beef, visit wsm.wsu.edu/extra/cook-beef.



On Closer Inspection



The
Curiouser and
Curiouser World
of the Small



» **THIRTY YEARS AGO**, *The Seattle Times* ran a massive Pulitzer Prize-winning series documenting the labyrinthine development of the Boeing 757—the 3 million parts, the 65 miles of wiring, the hundreds of thousands of pages of instructions, the 65,000 “engineering events” behind its design.

“No one really understands the Boeing 757,” wrote Peter Rinearson. “No single person knows how to design or build it. No one human, or even a modest group of humans, could fully fathom its complexities.”

But for outright mystification, a 60-ton jet has nothing on the smallest unit of life, the 1-nanogram cell.

“Cells are so complex,” says Michael Knoblauch, a plant cell biologist. “There is an action of thousands and thousands of substances at a time.”

To fathom it, says Knoblauch, scientists have to break it down into parts, to simplify them until they are understandable. Even if all those parts and individual systems might be comprehensible, conceptualizing their overall workings would be beyond the power of the human brain.

“Compared to a cell,” adds Knoblauch, “an airplane is very simple.”

And visible.

You can see an airplane from ten miles away. Cells are so elusive that even after Robert Hooke described them in 1665, comparing cork cells to the rooms of a monastery, it took almost two more centuries for scientists to theorize the cell was the common unit of development for plants and animals.

Even now, biologists like Knoblauch are flummoxed by a process as seemingly simple as the movement of nutrients from a plant’s leaves to its roots. But they are finding new ways to use two of their profession’s oldest tools: their eyes and the microscope.

In some ways, examining the world with a microscope seems quaint, with so much other science revolving around theory, inference, high-powered data crunching, and modeling, not to mention tools that detect things outside our senses, like the gel electrophoresis that enabled the gene sequencing of the Human Genome Project. The microscope brings with it a simpler seen-with-my-own-eyes satisfaction.

“There’s an excitement from seeing something for the first time every day,” says Chris Davitt, supervisor of WSU’s Franceschi Microscopy and Imaging Center, which deploys half a dozen different microscopes in pursuit of the small. “We’ve all seen *E. coli*, but then you’re doing an experiment with it and you look and say, wow, that’s what it’s doing or not doing. It’s a pretty incredible job.”

“When you’re working with stuff, oftentimes you can’t see,” says Val Lynch-Holm, the center’s electron microscope specialist. “You’re running gels or you’re trying to make assumptions based on data—this is happening, that is happening. Here you can

see. You prep a sample, you look at it—bam—you have instant results. So it’s very rewarding because you’ve done the work and you have a picture right there. And it shows you so much.”

The work also brings with it huge challenges. Like sculptors who must first master welding, the scientists who journey to spaces measured in nanometers—millionths of millimeters—must wrangle photons, electrons, glowing proteins and stains, and samples whose appearance can vary dramatically depending on the microscope at hand and whether the sample is dead or alive. It’s no mere coincidence that Ibn al-Haytham’s work in the field of optics 1,000 years ago led to his now being called the First Scientist. It’s why researchers who master such a craft get to wear two titles: one for their chosen field, like biologist, and a clunky, tongue-tripper for their tool, microscopist.



MICHAEL KNOBLAUCH BY ROBERT HUBNER

Michael Knoblauch’s beginnings as a microscopist were inauspicious at best.

At 16, he dropped out of high school.

“I was fed up with just sitting there and learning theory,” he says.

Looking for a more hands-on experience, he signed on as a technical assistant at the Senckenberg Museum in his native Germany, preparing animals for display and making images and graphics for journals and papers. He went on scientific expeditions on the North Sea and near the Alps in southern Germany. He learned to recognize every mouse species in the country.

“It made me learn to see there’s a sense in learning and that it can be fun,” he says. “And I hadn’t had that at school.”

A few years later, while starting his doctorate, he saw an advertisement for someone familiar with the confocal microscope. Capable of making three-dimensional images of cell structures, the tool is one of the most important in the life sciences. But back around 1995, it was so new that people with confocal experience were not to be found.

“They got me,” says Knoblauch.

He has since learned to use a variety of microscopes and become director of the Franceschi center while exploring the inner workings of phloem, the sequence of cells that move nutrients from a plant’s leaves to its roots.

“The big thing, what I’m interested in and still working on, is we don’t understand how plants translocate their

On Closer Inspection



CHRIS DAVITT BY ROBERT HUBNER



nutrients through the phloem,” he says. “What is the driving force for it? ... It is as if we didn’t know the heart is driving our circulation. What impact would that have in medicine if you didn’t know that? You wouldn’t know what stroke is. You wouldn’t know what heart attack is. You wouldn’t know all these things.”

Ernst Münch, a German plant physiologist, in 1930 laid out his pressure flow hypothesis to explain the hydrostatic pressure by which fluid moves through the phloem. But nearly 85 years later, scientists still can’t say with confidence that Münch’s hypothesis matches the real world. Knoblauch is hard at work on it, using a variety of tools and protocols that tend to complement each other’s benefits and limitations.

“Because a cell consists of so many different chemicals, like proteins, lipids, all kinds of things, it is difficult to find a good procedure to preserve all of them at once,” he says. He is sitting at a scanning electron microscope, which uses a high-energy beam of electrons to detect a sample’s topography.

This particular sample is from the dehydrated stem of a bean plant. Knoblauch has destroyed its proteins with enzymes and washed out its carbohydrates and lipids with detergent. He cut it with a store-bought razor blade, the sharpest tool short of a diamond knife. He mounted it on a dime-sized plug and coated it with an atomic-thin layer of gold to conduct the microscope’s electrons.

As he starts to look at the sample, the phloem cells, called sieve tubes, appear like holes in a ciabatta. He zooms in, and ever-sharper details loom up like geographic features in Google Earth. At the ends of the cells are microscopic nets called sieve plates, which let liquid move from cell to cell.

“There’s a sieve plate here,” Knoblauch says. “There’s another one. There’s one. There are several inside here, see?”

He continues to zoom; the images continue to stay sharp.

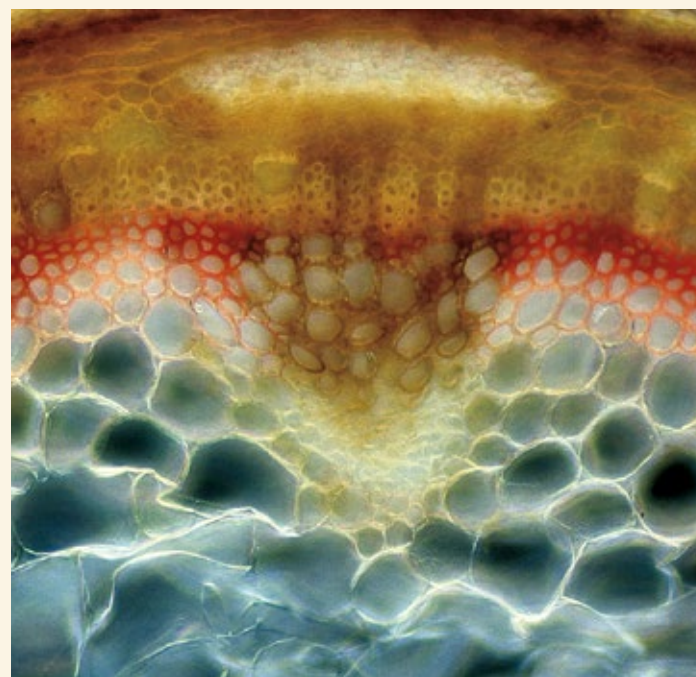
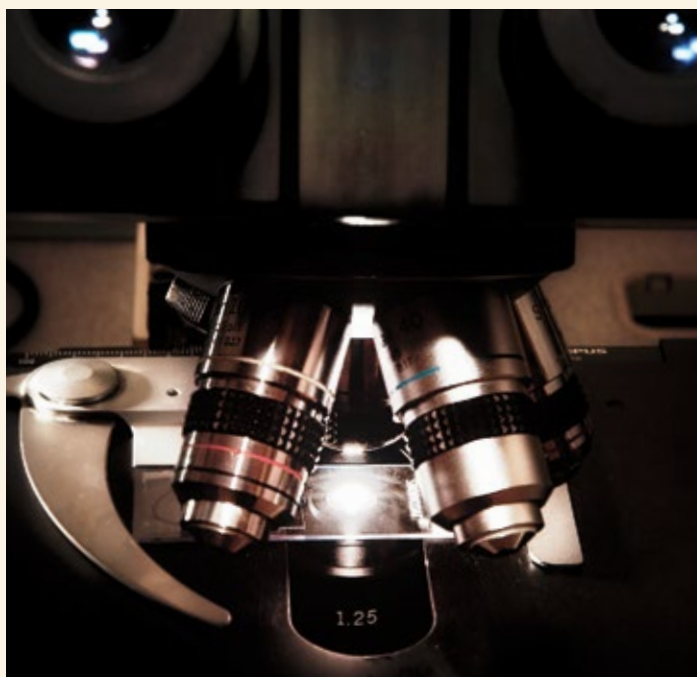
“We are currently at 9,000X,” he says. “We can go about 350,000 with this thing.”

Sieve plates were first seen with a light microscope about 150 years ago, but the diffraction barrier—a resolution limit dictated by a light’s wavelength—meant any two objects within 240 nanometers of each other would appear as one. With this instrument, the resolution is closer to 1 nanometer, the size of about 10 atoms laid end to end.

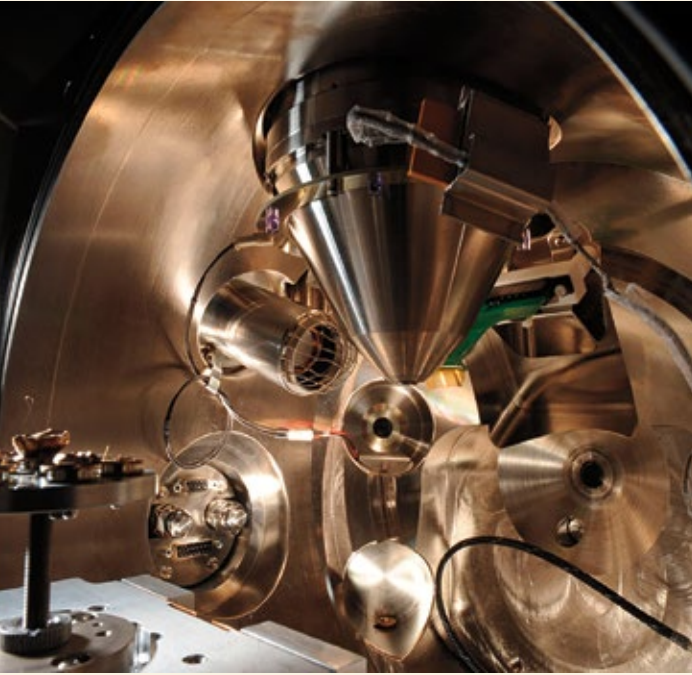
Below: A light microscope shows lignin cells in transgenic alfalfa.

Opposite: A scanning electron microscope image shows *Cimex lectularius*, commonly known as the bed bug.

ROBERT HUBNER



ANN PATTEN / PROGRAM IN MOLECULAR PLANT SCIENCES, FALL 2005



KERRY BOWDEN, DEPARTMENT OF BIOLOGICAL SCIENCES, SPRING 2003



VAL LYNCH-HOLM BY ROBERT HUBNER

"This is part of a publication in *The Plant Cell* in 2010," says Knoblauch, "and it was the first time that you could see the sieve plates with this detail. This enabled us to make precise calculations on conductivity of the tubes."

But there's more to a sieve tube than a sieve plate, and it happens to have been washed out in preparing the sample. So Knoblauch turns to a transmission electron microscope, which beams electrons through a super-thin sample and can bring all sorts of details into view.

"These are, for example, mitochondria, the organelles that produce the energy, ATP," says Knoblauch. "Here's another one. These are membranes, these little things. These are vesicles. This here is a Golgi—you see these layers?"

The ability to see such features helps Knoblauch look at forisomes, fibrous, shape-shifting bodies that plump up and plug sieve plates when a plant is under attack and in danger of springing a high-pressure leak. Knoblauch is one of the world's leading experts in the forisome, but

it's an elusive feature that managed to hide in plain, albeit microscopic, sight.

"I used the confocal for a very long time and never found the real structure," he says. That was because he needed to stain what he wanted to see with a fluorescent dye, but since he didn't know what he was looking for, he didn't know how to stain it.

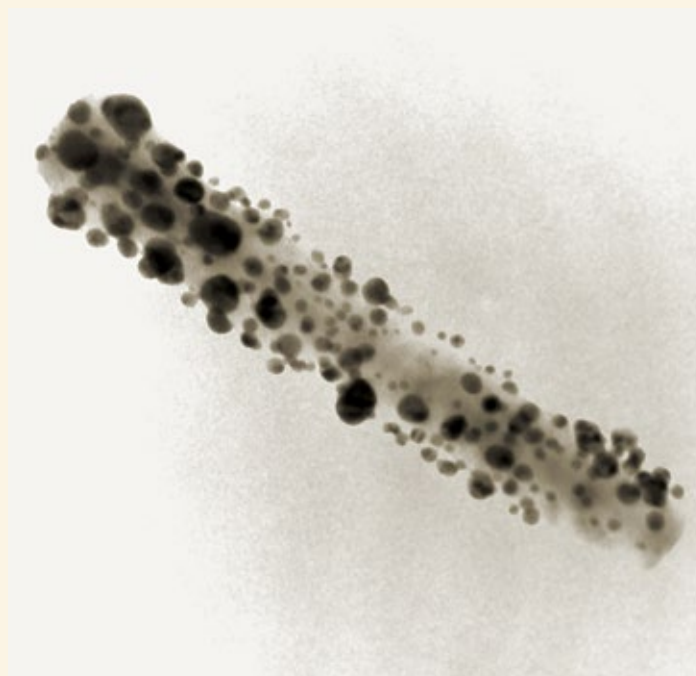
But he knew from old literature that something should be there. He went looking for it on a light microscope, "a standard, old-fashioned, bright field microscope" not far removed from those used back in the day by Robert Hooke and Antonie van Leeuwenhoek, the self-taught Dutchman who discovered sperm cells, bacteria, and protozoa. At first he didn't see anything and left to have tea with some colleagues. On his return, he saw a toothpick-shaped forisome.

It didn't look like much, a vague outline, really, but a mere mote to our eyes was a log to Knoblauch.

"If you're a microscopist, at some point you trust yourself," he says.

He also suspected the forisome had become visible by changing shape and altering the light properties that suddenly made it visible. So he returned to the confocal microscope and, using different stains, found it in a plumped shape that could prevent sap from leaking out in the event of an injury.

The fact that the forisome took different forms in different microscopes explains how its function eluded investigators for more than a century. It also helps explain why previous microscopists thought they were looking at two different things, if not some random artifact.



“You could never say this is a dynamic reaction from this to this,” Knoblauch says.

For that, a researcher needed to look at the sample live, *in vivo*. The confocal microscope opened the door to that possibility, giving Knoblauch the chance to see features in their dynamic, natural environment while studying other aspects in greater detail in other types of microscopes.

There’s no orderly sequence of tools in the process, no narrative of microscopes. But often a new instrument like the confocal microscope leads to new protocols and new things to be seen, followed by the arduous process of figuring out what those things are.

“When I see something new, when I know there is something nobody has seen before, that’s one of the biggest things,” say Knoblauch. “Then you have to figure it out. And that often takes years.”

Eric Shelden is looking at a zebrafish. When full-grown, it’s an ordinary, minnow-sized creature that typically has dark, horizontal stripes. This is the descendant of one from the Pullman pet store Barnacle Bill’s. It is an albino—no stripes—and it’s a GloFish®, carrying a gene that will express fluorescent proteins.

Above: Gold nanoparticles, seen as black spheres in a transmission electron micrograph, can turn this gallium nitride nanowire into an ultrasensitive gas sensor. **Opposite:** A fluorescence micrograph shows a section of sunburned Fuji apple.

It’s also an embryo, under enough magnification that Shelden, an associate professor in the School of Molecular Biosciences, can see nuclei in its cells.

And it’s alive.

“These are living muscle cells in an actual organism in a real tissue,” says Shelden. “These are anesthetized animals, but if they weren’t anesthetized, they could swim. So these are not cells grown on a dish. These are fully differentiated, normal, actual cells in an actual organism in the actual tissue.”

In a 24-hour period, the zebrafish grows from a single cell to having an eye, forebrain, hindbrain, muscle tissue, and a heart.

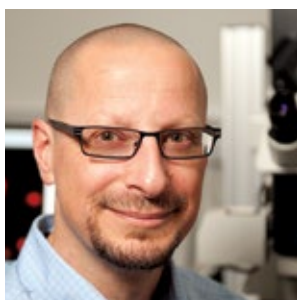
“You could in principle watch how an eye develops from nothing to a functional eye on this microscope in a day,” says Shelden.

That microscope is the two-photon Leica TCS SP5MP laser scanning confocal microscope. Shelden acquired the device and an ultrafast laser last year with a grant from the M.J. Murdock Charitable Trust, plus matching funds from the dean of research, the Center for Reproductive Biology, and the colleges of Sciences and Veterinary Medicine. It reflects a lot of the changes he’s gone through as a microscopist.

As a kid, he was given a Sears microscope, which he still has, along with a copy of the science classic *Microbe Hunters*, and he was on his way. Studying biology in grad school, he met Shinya Inoué, one of the first people to connect microscopes to computers, “the grandfather of modern biological microscopy” and a mentor of his graduate advisor.

He also was smitten by what he saw in the cytoplasm of a cell.

“I was just absolutely captivated by that stuff—that each cell in our body has this incredible structure to it,” he says. “It’s



ERIC SHELDEN BY ROBERT HUBNER

not just a little bag of membrane. It's this really intricate, really beautiful array of structural proteins that gives cells their shape."

He went on to spend 16 years looking at cell cultures. They're great for studying, say, the fundamental processes of cell division or how to interfere with cell division in a cancer tumor. But Shelden now speaks like an adherent of seeing the cell in an actual living organism.

"If you want to understand how a neuron behaves physiologically in a low-oxygen environment in the case of something like stroke, well then you have a big problem," he says, "because neurons don't act in culture like they act in your brain."

To start looking at processes deep inside a live animal required several revolutionary developments.

One was the microscope itself. Marvin Minsky, MIT cognitive scientist and son of an ophthalmologist, first conceived of a "confocal scanning microscope" in 1955 to plot neural networks in the brain. But the device needed lasers, computers, and electronic light detectors, all of which happened decades after.

Similarly, two-photon microscopy was conceived of in 1931, but it could not be applied to biology until nearly 60 years later. The technique exposes tissues to less light damage, but it requires bursts of photons so brief—femtoseconds brief—that the first photon in the pulse, traveling at the speed of light, is only a hair's breadth ahead of the last.

Another important development was green fluorescent protein, which can be used to genetically tag and illuminate proteins in a cell.

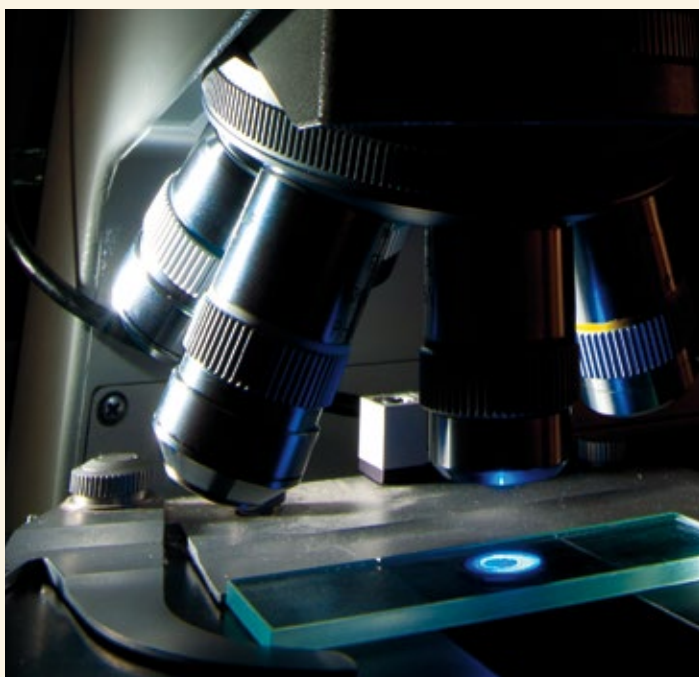
"Microscopy was kind of dying for a while with all the genetics and molecular biology and gene mutations," says Shelden. "All these things were incredibly powerful and didn't involve fluorescence microscopy. So microscopy was kind of going by the wayside until somebody cloned a gene for a fluorescent protein, and now you can do all kinds of things and you can see the stuff. You can see molecules and proteins... Every day somebody comes up with a new idea to use one of these things."

Indeed, the week Shelden says this, *Time* magazine features a green, glow-in-the-dark cat in which the fluorescing protein helps scientists track a gene to fight the feline immunodeficiency virus.

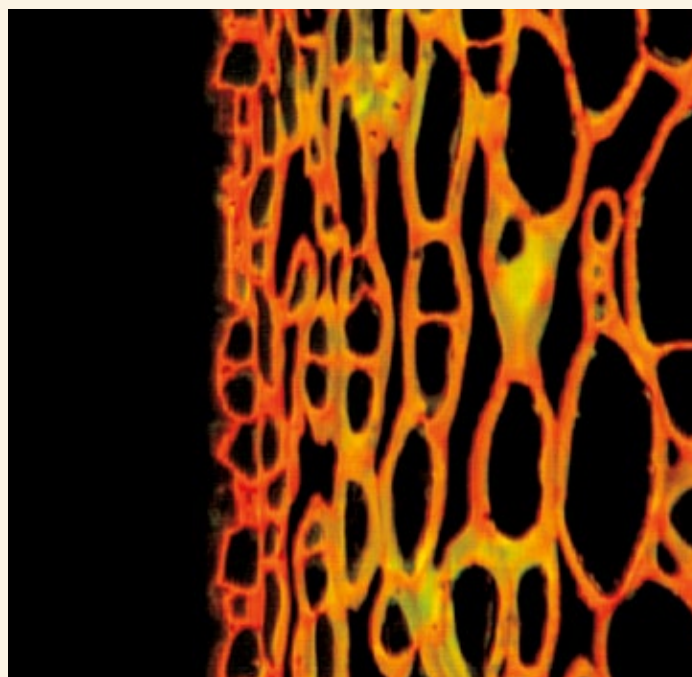
In the zebrafish, Shelden is looking to see if and how a stress-response protein mobilizes in response to injury or other trauma. The first question was if the protein attaches itself to something in response to injury, like higher temperature.

"The answer is yes it does," says Shelden, "but only under the right circumstances."

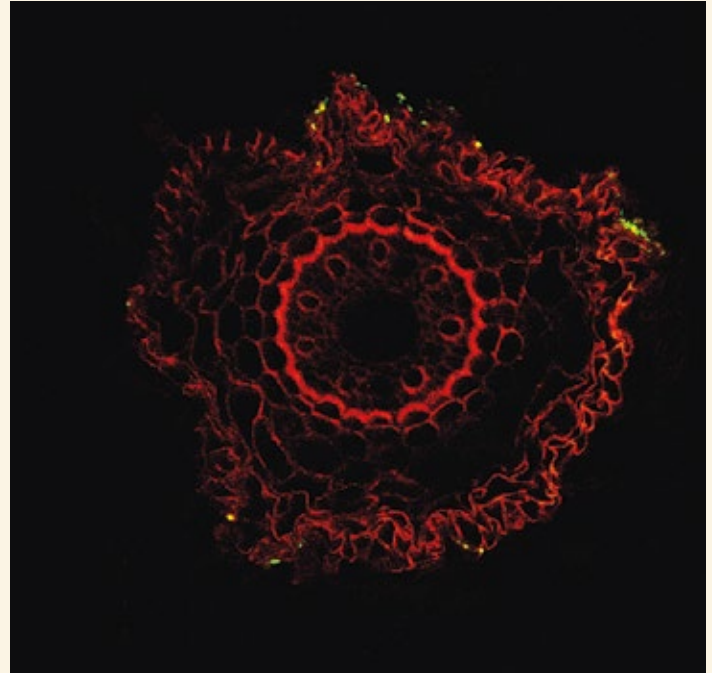
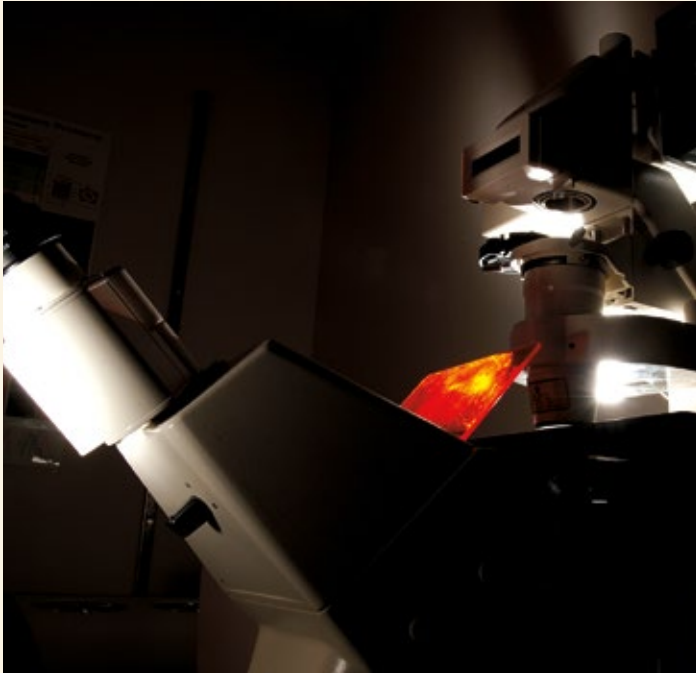
"The next question is what does it attach to? That's going to be part of what we do next, to repeat this study but



ROBERT HUBNER



DAVID FELICETTI, FALL 2003



RYAN RICE, SPRING 2006

On Closer Inspection



look at the specific location of these attachment points.”

If Sheldon can figure out how the proteins mobilize to make repairs, that knowledge can be incorporated into therapies, even used to prevent damage before it occurs. Some 10 percent of coronary artery bypass patients have strokes, but it’s possible they could be given activators of stress-response proteins before being operated on.

“We’ll give you a drug that’s going to activate all of these stress responses, and your prognosis for successful surgery is going to go up,” he says.

It’s the kind of research, and result, that microscopists look forward to. ☒

Above: A confocal micrograph shows a wheat root, red, with a green fluorescent strain of bacteria that may provide fixed nitrogen to the plant.

Right: Built in the 1930s on a shoestring budget with spare and handmade parts, WSU’s original electron microscope was one of the first in the world. *Photo Robert Hubner*



View a gallery of FMIC micrographs at wsm.wsu.edu/extra/micrographs.

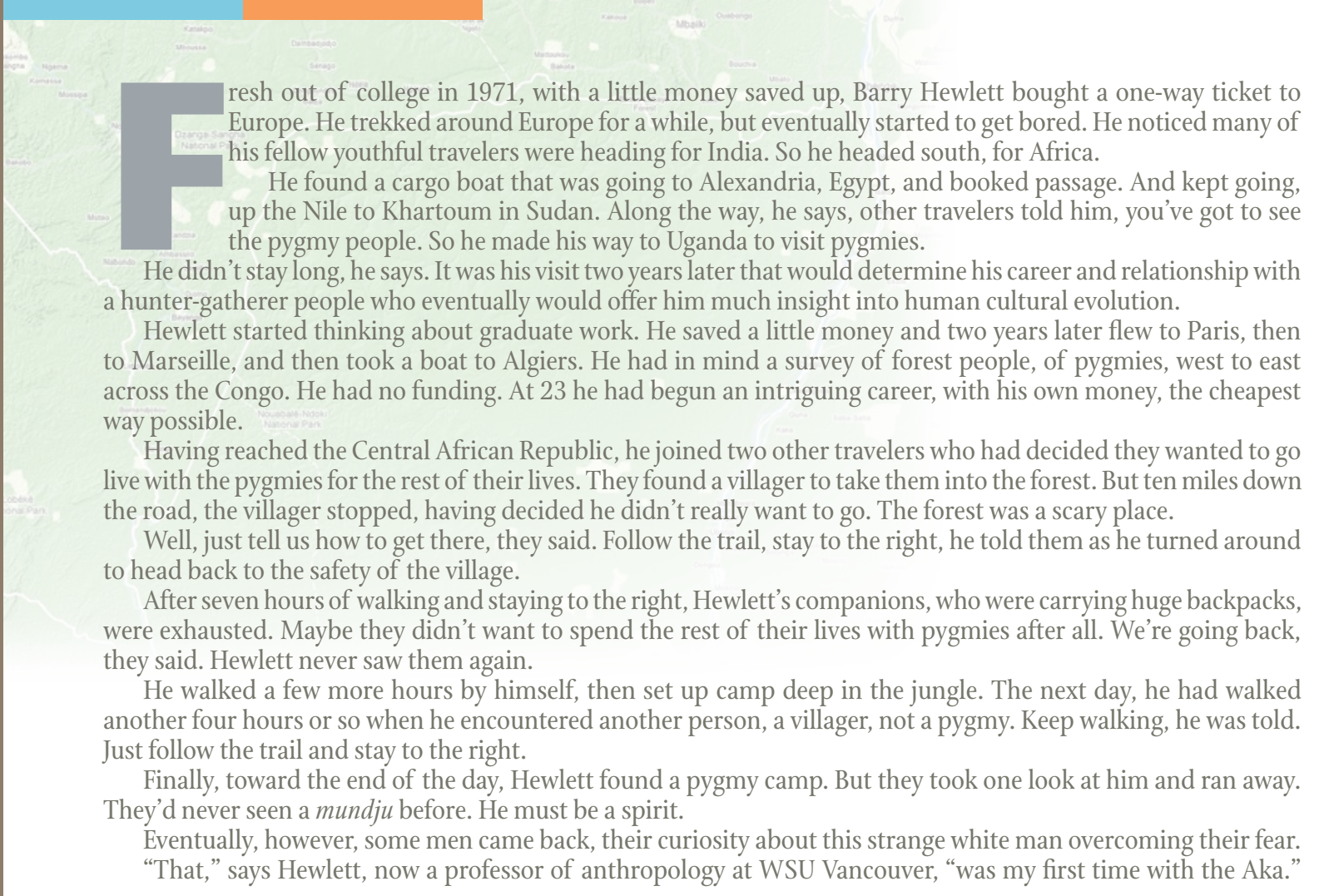


N 3° 9' 5" | E 17° 30' 24"

LESSONS FROM THE FOREST

The anthropology of childhood

:: by Tim Steury ::



Fresh out of college in 1971, with a little money saved up, Barry Hewlett bought a one-way ticket to Europe. He trekked around Europe for a while, but eventually started to get bored. He noticed many of his fellow youthful travelers were heading for India. So he headed south, for Africa.

He found a cargo boat that was going to Alexandria, Egypt, and booked passage. And kept going, up the Nile to Khartoum in Sudan. Along the way, he says, other travelers told him, you've got to see the pygmy people. So he made his way to Uganda to visit pygmies.

He didn't stay long, he says. It was his visit two years later that would determine his career and relationship with a hunter-gatherer people who eventually would offer him much insight into human cultural evolution.

Hewlett started thinking about graduate work. He saved a little money and two years later flew to Paris, then to Marseille, and then took a boat to Algiers. He had in mind a survey of forest people, of pygmies, west to east across the Congo. He had no funding. At 23 he had begun an intriguing career, with his own money, the cheapest way possible.

Having reached the Central African Republic, he joined two other travelers who had decided they wanted to go live with the pygmies for the rest of their lives. They found a villager to take them into the forest. But ten miles down the road, the villager stopped, having decided he didn't really want to go. The forest was a scary place.

Well, just tell us how to get there, they said. Follow the trail, stay to the right, he told them as he turned around to head back to the safety of the village.

After seven hours of walking and staying to the right, Hewlett's companions, who were carrying huge backpacks, were exhausted. Maybe they didn't want to spend the rest of their lives with pygmies after all. We're going back, they said. Hewlett never saw them again.

He walked a few more hours by himself, then set up camp deep in the jungle. The next day, he had walked another four hours or so when he encountered another person, a villager, not a pygmy. Keep walking, he was told. Just follow the trail and stay to the right.

Finally, toward the end of the day, Hewlett found a pygmy camp. But they took one look at him and ran away. They'd never seen a *mundju* before. He must be a spirit.

Eventually, however, some men came back, their curiosity about this strange white man overcoming their fear. "That," says Hewlett, now a professor of anthropology at WSU Vancouver, "was my first time with the Aka."

THE AKA PYGMIES, a hunter and gatherer people, occupy the southwestern regions of the Central African Republic and Congo, across an area of approximately 100,000 kilometers. They share the area and interact with over twenty agricultural groups.

After the 1930s, there were several attempts to settle them, but to no avail. Currently, there are approximately 20,000 Aka.

The Aka are known as skilled elephant hunters, but utilize nearly 30 species of game, twenty insect species, eight types of honey, and many plant species. Hunting increases during the dry season.

The Aka generally reside in camps of 20 to 35 individuals, consisting of one to 15 families.

Since his first couple of visits, Hewlett has returned to Africa nearly every year since and now has a home there, having dedicated his career to understanding a group that represents better than 95 percent of human history.

In the opening chapter to the recent *Hunter-Gatherer Childhoods*, Hewlett writes, "Global capitalism has been around for about two hundred years, class stratification (chiefdoms and states) about five thousand years, simple farming and pastoralism about ten thousand years, and hunting-gathering hundreds of thousands of years... ."

That enormous portion of human history undoubtedly holds many answers as to why we are as we are—and to the reasons we have

survived as a species. But because traditional hunter-gatherers are steadily being subsumed by encroaching development, the chance to study such an obviously essential part of our being is quickly disappearing.

What drew Hewlett, and what has commanded his fascination since, is an urgent desire to understand "an incredible way of life."

Many people think of hunter-gatherers as belonging to the exotic realm of *National Geographic*, he says. Exotic, but not offering much in terms of applicability.

Rather, insists Hewlett, there is a long list of things we can learn from the people who live as our ancestors did, who offer a glimpse of the eons of human evolution and socialization.

Among those lessons is the Aka's indulgent child-rearing.

NOT ONLY DO WE KNOW LITTLE of the biological and cultural evolution that made us what we are, anthropologists have generally ignored children—even though children represent more than 40 percent of most populations anthropologists study.

The average age of the Aka, according to *The Cambridge Encyclopedia of Hunters and Gatherers*, is 21. Fifty percent of the Aka are younger than 15. Both fertility and infant mortality rates are high.



Left: Barry Hewlett in Sudan in the 1970s.
Previous page: Aka father Etobe with daughter
Esombe. Courtesy Barry Hewlett

Hewlett was struck by the relationship between father and child among the Aka. His dissertation on the subject became his first book, *Intimate Fathers*.

Aka infancy is completely indulgent, he writes. “Infants are held almost constantly, they have skin-to-skin contact most of the day as Aka seldom wear shirts or blouses, and they are nursed on demand and attended to immediately if they fuss or cry.” Three- to four-month old infants are held 91 percent of the time, much of that time by their fathers.

Whereas Western fathers are often the rough-and-tumble playmates of their children, Aka are more likely to hug and kiss them. Western fathers tend to play a more extrinsic role in the life of the child, says Hewlett, assuming the responsibility of introducing the child to the outside world. Mothers are more responsible for the emotional-social aspect. That model simply does not apply to the Aka, he says, where

fathers are actively involved in all aspects of the child’s being. “Aka infant attachment to fathers seems to occur through regular and sensitive caregiving.”

Forager camps are typically very dense, often occupying a space the size of a large American dining and living room. When you sit down in an Aka camp, says Hewlett, you’re generally touching someone.

The Aka also sleep very close together and almost always with someone. Forager children and adolescents never sleep alone. In contrast, village farmer children over seven years old sleep alone 30 to 40 percent of the time.

The Aka are obviously and blithely unaware of the American Pediatric Association’s warning against sleeping with one’s infants. “If hunter-gatherers were rolling over and killing their kids, co-sleeping never would have evolved,” says Hewlett, smiling wryly. He notes also that the Aka consider our sleeping patterns as child neglect.

Lesson: Quantity of time matters. Try to be around your children, even if you are not actively engaged with them.

Lesson: In a social-economic setting where parents have to be away from their children most of the day, co-sleeping with children may enhance parent-child communication.

“Aka fathers provide more direct infant care than fathers in any other known society and provide substantially more direct infant care in the camp,” he writes in a chapter in *Anthropology and Child Development*.

One exception to such intimacy is childbirth. Hunter-gatherer fathers are seldom involved in childbirth, says Hewlett, though they will not be far away. The only father he’s encountered who helped with his wife’s childbirth was out hunting with her when she went into labor.

SUCH INTIMACY REQUIRES HELP. No matter how long a father, or mother, is willing to hold, and tend to, an infant, he or she cannot do it all by themselves. After all, they depend on hunting and gathering to survive. The success of a group therefore depends on “allomaternal” (more than maternal) help. And not just from grandma.

Traditionally, write Hewlett and colleagues in a recent article in *Science*, anthropologists have suggested that hunter-gatherer co-residence is based almost entirely on kinship, that the bands and camps are all related.

What they now understand is that the evolution of cooperation and cultural capacity, as well as genetic viability, depended on certain factors.

First, bands are mainly composed of individuals either distantly related by kinship and/or marriage or unrelated altogether.

Second, large interaction networks may be required for culture to develop and accumulate. As an example, he cites an isolated group that lost its ability to make fire.

“Our foraging ancestors,” write Hewlett and colleagues, “evolved a novel social structure that emphasized bilateral kin associations, frequent brother-sister affiliation, important affinal [related by marriage] alliances, and co-residence with many unrelated individuals. How this social structure evolved, and how it in turn affected cooperation and cultural capacity—and the role of language in all these features—are key to understanding the emergence of human uniqueness.”

In addition, hunter-gatherers “often show extensive cooperation among members of a residential unit in ways not paralleled by any other primate. This includes band-wide food sharing; high levels of allomaternal child care; daily cooperative food acquisition, construction, and maintenance of living spaces and transportation of children and possessions; and provisioning of public goods on a daily basis.”

When a hunt is successful, a family will share nearly all of the meat with the rest of the camp.

Biological success “appears to be based on both cooperation with non-kin and exceptional reliance on cultural transmission, yet critical questions remain about why these traits emerged in humans but not other animals.”

In spite of such cooperative care and the physical immediacy and intimacy, children are not the center of attention in Aka culture.

Adults will not interrupt their interaction or activity to tend to a child’s demands.

Also, Aka children develop as completely independent and autonomous. By three or four, an Aka child can cook a meal over a fire, use sharp knives and axes, and trap small game. By ten, he or she can survive on their own in the forest.

The Aka believe, says Hewlett, that telling your children what to do all the time is inconsistent with the value they place on respecting autonomy. The autonomy allowed an Aka child can be unsettling to an outsider. Hewlett reports toddlers playing with knives and machetes, ignored by their parents. Camp residents will, however, gently guide a child away from a fire or other immediate danger.

Autonomy is a core value among the Aka, says Hewlett. A curious side to this value, however, is that Aka children are not socialized to respect elders, respect and deference giving way to intergenerational equality.

Whatever the reason, it is interesting that Aka teenagers undergo no identity crisis—they know who they are and do not have issues about their future. There are no surly or rebellious Aka teens.

“Everybody knows what you’re like by the time you’re a teenager,” says Hewlett. “They don’t have to act out.”

Aka children spend their entire day with the same social group. In the United States, on the other hand, a child will change social groups throughout the day, from daycare to school to soccer.

Aka teens do have reputation building to consider, says Hewlett. They want to be seen as good workers. But that’s not trying to establish their identity.

HEWLETT IS CURRENTLY MOST INTERESTED

in what he calls “social learning,” or how individuals learn from others. Interestingly, for such a fundamental process, not a lot is known.

“There are more books on chimpanzee social learning” than on hunter-gatherer social learning.

A recent paper by Hewlett covered various aspects of social learning. First, are parents primarily responsible for transmission of culture, or peers? How does the combination vary amongst cultures, and what is the predominant means among hunter-gatherers?

With the Aka, Hewlett is realizing, early learning is primarily vertical, but with lots of horizontal.

“That’s why they place the kids facing out on their lap when holding them in camp.” We of the West generally hold our children facing us.

The same paper has been cited extensively, because it has always been thought that hunter-gatherers wouldn’t employ teaching. There is an academic faction, in fact, amongst social anthropologists, that



Aka father Maman with son Samole.
Courtesy Barry Hewlett

denies teaching even exists in any small-scale cultures, especially hunter-gatherers.

Hewlett picks up a book from a nearby shelf, leafs through it, and shows me a couple of chapter titles: “Infants not seen as learners” and “Absence of teaching.”

We might just need a better definition, says a bemused Hewlett.

He concedes that such ideas have some inspiration in as esteemed a source as Margaret Mead, who characterized small-scale cultures as “learning cultures” because children acquired knowledge and skills easily, without teaching.

But social anthropologists take it further, using the word “osmosis,” referring to learning as automatic, without effort or failure.

“Social learning always takes place in a biology-culture interface,” Hewlett insists. “Social anthropologists tend to ignore biology, and evolutionary biologists tend to neglect the role of culture,” he writes.

Although such interpretations might be simply dismissed as academic positioning, or an overly romantic vision of primitive culture, Hewlett concedes that lack of proper models and tools can feed the perception.

“We don’t have existing methods for small-scale groups like this to evaluate teaching,” he says.

How children learn, who they are watching, and how many others they are watching are fundamental questions toward understanding social learning, he says.

“We need to talk with kids more, about who’s important to them.”

Referring to the social anthropologists, he says, “We need to address the academic ideas, but also I do think if we do things more systematically, we’ll be able to contribute to broader ideas.”

Lesson: Mothers are not the sole caregivers of infants and young children. Non-maternal care is part of the human pattern.

“Respect for autonomy and an egalitarian ethos promote self-discovery and an intrinsic motivation to learn,” he writes, acknowledging the ambiguity of learning, but firm in his conviction that natural pedagogy is universally human.

“We know very little about social learning in hunter-gatherer adolescence,” he reiterates. “Systematic research on hunter-gatherer social learning is urgently needed. This way of life will not be part of the human landscape for much longer.”

HOW CHILDREN LEARN is only one of many fundamental questions toward understanding human evolution that Hewlett would like to understand. Besides helping to understand cultural evolution of humans, on a very practical level, an understanding of child-rearing that comes out of a culture as old as humanity itself can offer a continuity to our child-rearing in a culture that changes dramatically each generation. But our understanding of both the elemental and the applicable exudes urgency.

As old and continuous as their culture is, the Aka are not immune to change.

Some time ago, Aka representatives approached Hewlett and asked him to help them build a school. It was very important to them, says Hewlett. Although their traditional relationship with the farmers was good overall, some tried to exploit their labor and lack of education.

The Aka wanted to learn how to count money. They wanted to understand the monetary system. They wanted to learn how to speak French so they could represent themselves at local or regional meetings.

Finally, they wanted to improve the future of their children.

As an anthropologist, Hewlett was torn. “The school has been very problematic for me,” he says.

But, he adds, the idea was completely initiated by the Aka. In anthropology, it’s generally bottoms up in terms of development, he says. “We like to focus on what people say and what people want.”

So he helped them build a school. There have been rough times. Once, the roof blew off in a rainstorm. “At those times, I take the opportunity to ask, ‘Do you really want a school?’”

And each time, it’s yes, don’t stop.

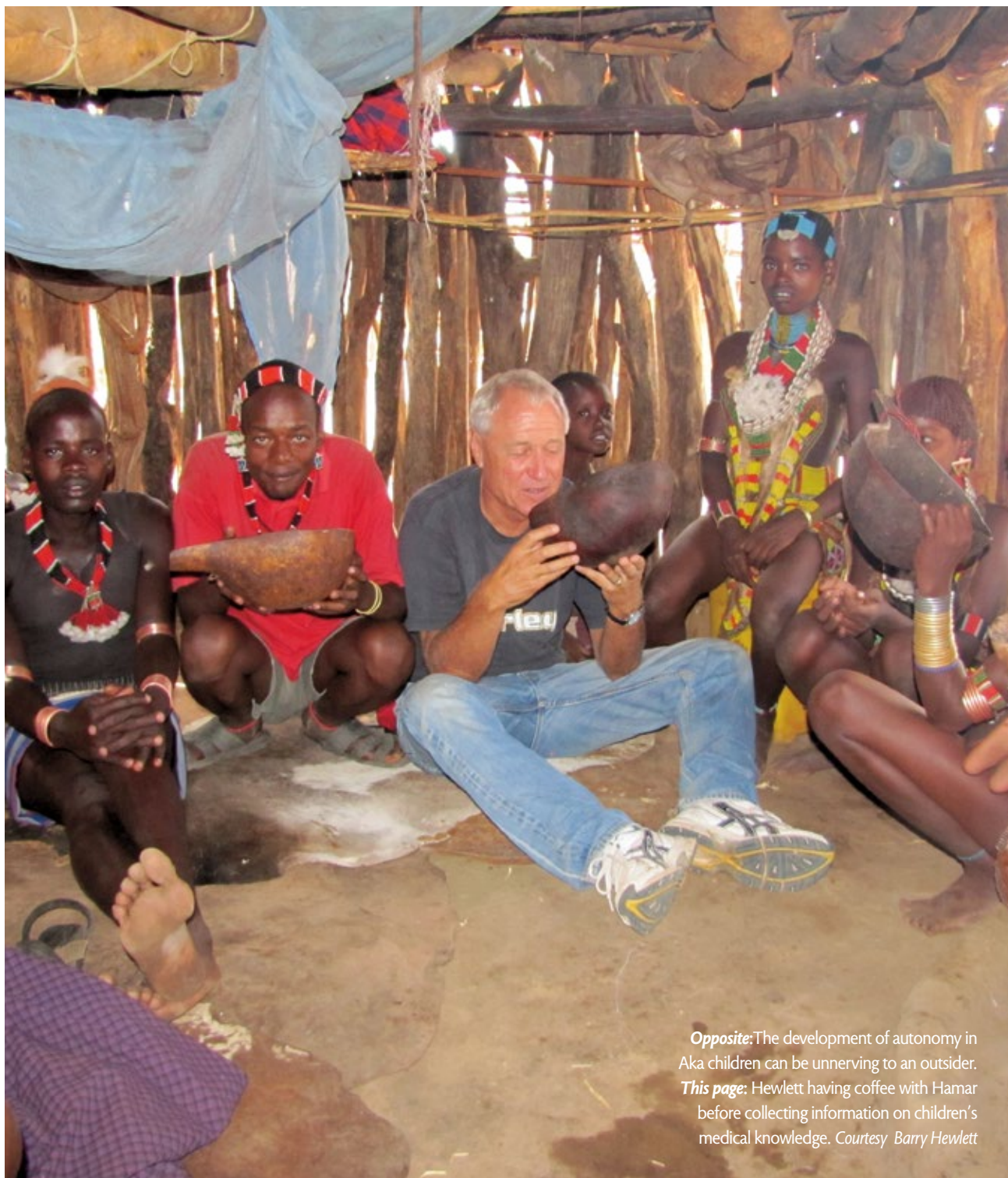
But if a school and its required schedule mean a dramatic disruption in the pattern of their year, the Aka are also careful to choose what change will come to their culture.

“If they wanted more of [outside] culture, they would move closer to the city,” says Hewlett. “They don’t.”

NEXT YEAR, Hewlett, his anthropologist wife Bonnie PhD ’04, and other colleagues, including former graduate student Courtney Meehan PhD ’05, now on the anthropology faculty at Pullman, will return to Africa, and he will continue his quest to understand these people who represent such a dominant segment of human cultural history.

“I love Africa,” he says. “Every day is a new lesson.” ⊗





Opposite: The development of autonomy in Aka children can be unnerving to an outsider.
This page: Hewlett having coffee with Hamar before collecting information on children's medical knowledge. Courtesy Barry Hewlett

Lesson: Indulgent care does not lead to dependent children.
 Indulgent care may lead to increased trust and self-esteem.

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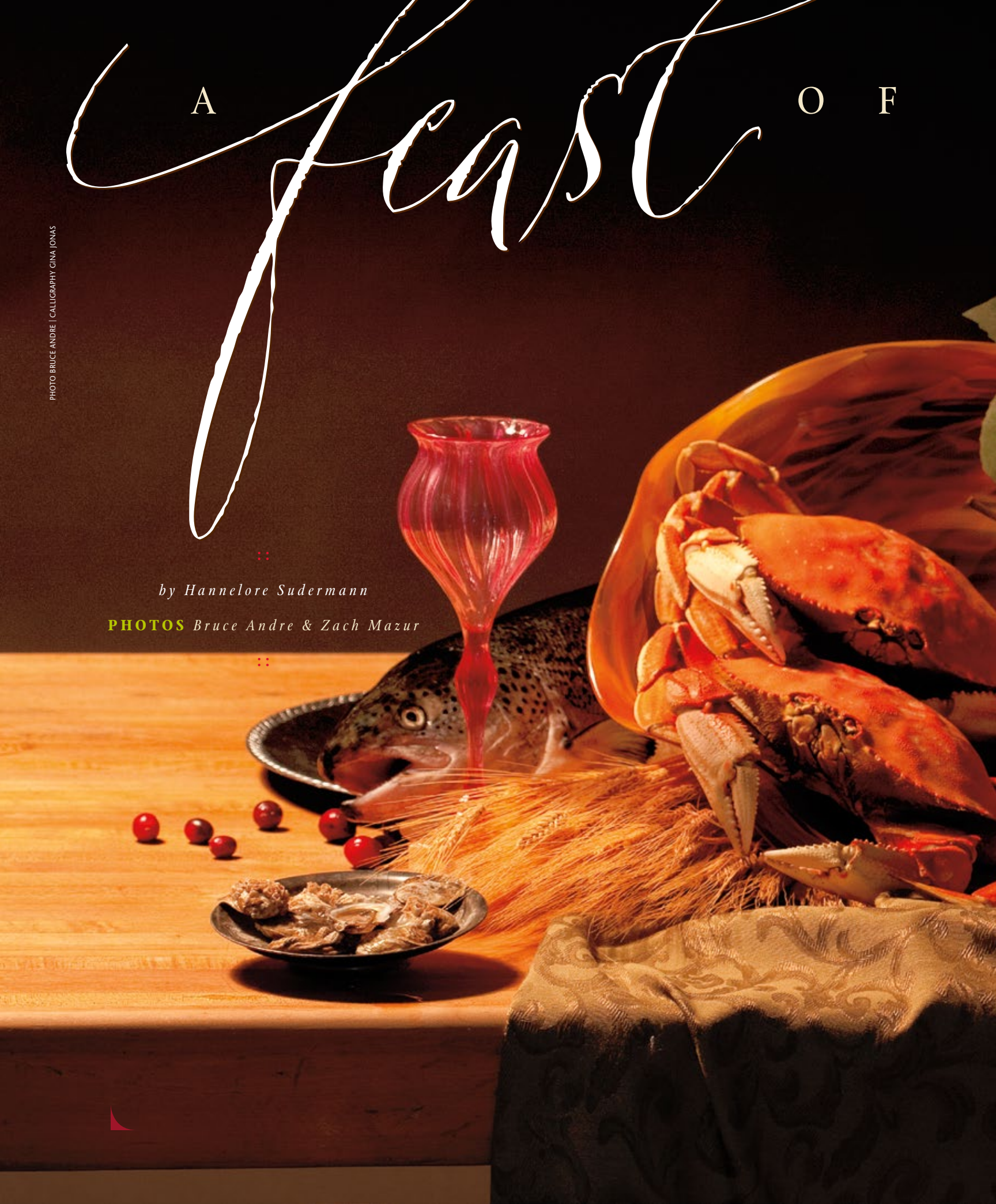
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Feast

PHOTO BRUCE ANDRE | CALLIGRAPHY GINA JONAS

by Hannelore Sudermann

PHOTOS Bruce Andre & Zach Mazur



G O O D T H I N G S





FALL WAS A FORTUNATE SEASON at the Tonnemaker farm in Royal City, Washington. A warm October provided brothers Kurt '84 and Kole a few extra weeks of squash, tomatoes, and peppers to load into their trucks and deliver to farmers markets and restaurants around the state.

This family farm has changed since the current generation took charge of it. It was established by WSU extension agent Orland Tonnemaker '22 and his wife Pearl. In 1962 they planted orchards of cherries, pears, and apples. Like many of the farms around them, they sold their fruit to area warehouses.

During cherry harvest in 1981, Orland died, and his grandson Kole Tonnemaker, a University of Idaho graduate, stepped in to help. After a few years, Kole decided to diversify so the farm wouldn't be solely dependent on the fluctuating commodity fruit market. By the late '80s, he was planting produce for retail sale, and the Tonnemakers started trucking their produce to farmers markets around Washington. In 1992, Kurt Tonnemaker, who studied business at WSU, took on the marketing and distribution, while Kole focused on the orchards and fields.

Their timing was just right. "Then there was a lot of demand, a real upsurge of people wanting to connect with their food," says Kurt. They started with two farmers markets. Today in the high season, they deliver to 18 a week. While Kole stays on the farm, Kurt is based out of Bellevue where he is closer to the majority of the retail customers.

A few years ago, the brothers noticed chefs wandering into their market stalls looking for fresh and interesting produce to incorporate into their menus. They realized they could be much more efficient delivering directly to these Puget Sound-area restaurants. Today their customer list reads like a best restaurants article: among them Poppy, Emmer and Rye, the Dahlia Lounge, and Spring Hill, which is co-owned by WSU alumna Marjorie Chang Fuller.

"Restaurant people are really concerned about where our food is coming from," says Kurt. The chefs eagerly read the Tonnemakers' fresh sheets to see which of the more than 400 varieties of apples, peaches, pears, and other fruits and vegetables, including melons, eggplant, heirloom tomatoes, squash, cucumbers, and dozens and dozens of pepper varieties, are coming in that week. It seems that there's more demand for this type of produce than

local farms to meet it, says Kurt. "Restaurants I've never even heard of are asking for our stuff."

The Tonnemakers' farm adaptation of direct selling, experimenting with new varieties and new crops, and transitioning to organic has helped the bottom line. "Our farm has survived while many around us have closed," says Kurt.

THE DISCOVERY OF ABUNDANCE

In 1906, Seattle had a vegetarian café. Food historian Jacqueline Williams found this tasty detail in an advertisement in a small, blue-covered cookbook published that year. She shows me as we sit in her living room in one of the city's older hillside neighborhoods.

In the 1990s, Williams wrote *The Way We Ate*, a history of the Northwest pioneers told through their food. If anyone has some perspective on early Washington cuisine, it would be this author and vintage cookbook collector.

From the time her book was published, Williams has continued to add cookbooks to her collection, most of which were published before 1940. Beyond the recipes, they're pretty



Opposite: Kurt Tonnemaker '84, right, and his brother Kole at their Royal City farm. **This page:** Tonnemakers' peppers, pumpkins, and squash. Farm to table pioneer Mark Musick in his kitchen garden.



useful, she says, as she pulls out others. She shows me they are laced with advertisements—diaper services, restaurant fliers, advice for new brides. “You can learn a lot about what’s going on in the Northwest by them.”

Until last year, the oldest Washington cookbook she had ever seen was *A Feast of Good Things*, the title of many a church-published cookbook around the country. This one was published in 1895 in Spokane by the Ladies of the First Presbyterian Church and for decades was thought to have the distinction of being the oldest cookbook in the state. But one day recently, while Williams was looking through the collection at the Museum of History and Industry, she found a small collection of pages that she determined was the earliest cookbook in Washington, *What the Plymouth Brethren Eat and How the Sisters Serve It*. It is dated 1889 and from the Plymouth Congregational Church in Seattle. “I was so excited,” says Williams, who brought it to the archivist’s attention. “They didn’t even know they had it.”

Frankly, much of that cookbook and the others that followed featured traditional cooking that Washington’s early settlers brought with them from the East Coast and Europe. These settlers were not at all bedazzled by

delicate chanterelle mushrooms, charmed by briny clams, or particularly fond of fiddle-head ferns. “There was really no Northwest cuisine like we see today,” says Williams. According to the early cookbooks, as well as the letters, newspapers, and diaries that Williams studied, the settlers liked the wild game, the shellfish (particularly oysters until local stocks were nearly wiped out), and the abundant berries.

For years the food selection was meager. Williams found recipes for cakes made without eggs and coffee from bran and molasses. But as settlements developed all across the state, wheat, potatoes, and apples quickly factored into the early diets. Most of the time, though, the settlers bemoaned the lack of good staples. What you ate very much depended on where you lived, says Williams. Those in larger cities had readier access to basics like salt, flour, and sugar. Even those a few miles out along the Puget Sound relied on ships to bring in goods and had to be inventive with what was available.

The first wave of settlers were white, middle-class, and mostly Protestant. The later waves brought new ethnic groups and new cuisines. Chinese workers arriving in the 1850s brought not only their style of cooking, but also many of

their vegetable crops. Settlers from rural Japanese communities came in the 1890s. Italians and Jews traveled from the East Coast. While they brought new cuisines, Williams says there wasn’t much sharing across cultures early on. There was adaptation, though. Gefilte fish, for example, a Jewish fish ball traditionally made with pike or other whitefish, was given a Northwest spin. “Out here it was made with salmon,” says Williams.

As each new wave of immigrants turned to farming, their crops found a way into the cities through the groceries and markets. It’s at places like Pike Place Market and the Olympia Farmers Market that a real Northwest approach was formed, says Mark Musick, a farmer and social activist who co-founded Washington Tilth in the 1970s. The nonprofit agriculture alliance helped put in place organic farming standards for the state. Musick recently donated Tilth’s first 22 years of documents and photographs to WSU’s archives.

Our food may not be as easily defined as the deep-fried South or the corn-fed Midwest. But it is a food legacy rich with cultures and characters, says Musick, who today works as a food policy consultant.

Musick’s first exposure to agriculture was harvesting strawberries alongside migrant work-

A FEAST OF GOOD THINGS

ers near Puyallup. He started college at WSU in 1965 intent on studying communication, but by 1967 knew he wasn't ready to complete his degree. So he dropped out. Ultimately, he finished his degree at another school, worked as a community organizer, and joined Pragtree Farm, an organic collective near Arlington, Washington. He later worked for Larry's Markets, one of the first Washington groceries to seek out and feature local produce, and was for a time farmer liaison for Pike Place Market.

Historian Jeffrey Sanders, an assistant professor at WSU, writes about Tilth, Musick, and the Pike Place Market in his book *Seattle and the Roots of Urban Sustainability*. He starts the market section with artist Mark Tobey and his sketches depicting the market "as a fecund blend of nature, commerce, and urban democracy."

His canvases captured a built environment teeming with organic energy. In a 1942 painting titled E Pluribus Unum, the frame is packed with a sea of human faces, signs, and piles of fruits and vegetables—all the weltering diversity he saw at the market in the early 1940s.

The market was at the heart of our state's food culture, says Musick. It has been an entry point for each new generation of immigrants to bring their cuisine into Washington. Vendors like Pasqualina Verdi, an Italian woman who moved to Washington after World War II and who farmed near the Duwamish River in South Seattle, have pushed us in new culinary directions.

"She was the empress of the Pike Place Market in the 1950s," says Musick. "And there was a real cultural churning there." From her stall at the market, Verdi introduced fresh basil to the Northwest palate. Thirty years later, she pushed us into arugula. It's likely that another Italian immigrant, Seattleite Angelo Pellegrini, was the first in the country to publish a pesto recipe—in a 1946 issue of *Sunset* magazine. In his 1948 book *The Unprejudiced Palate*, Pellegrini wrote about a simple life of eating straight from the garden and with care for the ingredients. His approach is classically Northwest, says Musick.

Pellegrini wrote: The hearty discriminating eater "... knows, too, that simplicity and variety, both in ingredients and in their preparation, are the abiding principles ..."

Following and alongside the Italians at the market were the Japanese farmers, the

Filipinos, the Hmong, and the Mexicans, says Musick. Each group delivered new food and new approaches. The Hmong, for example, got us eating pea vines. Now, thanks to Central and South American influence, peppers and peanuts are claiming their places at the markets.

In the 1970s, chefs and restaurants, particularly Bruce Naftaly of Rosellini's Other Place, made a point of visiting the market to incorporate local seafood and produce into the menu. He traveled out to Pragtree Farm to collaborate on developing seasonal salads for the restaurant. They used not one lettuce, or one salad, but dozens of different greens, herbs, even native plants.

Naftaly (now owner and chef at Le Gourmand) was the first in the city to produce farm-to-table cuisine, says Musick. The restaurants were the vanguard. And then business leaders like Larry McKinney of Larry's Markets moved this food into the grocery stores. "This was before Whole Foods," Musick notes.

From the markets to the restaurants to the grocery stores, now to an explosion of farmers markets around the state, farm subscriptions, and food cooperatives, it all flows into our culinary scene.



WSU students prepare a Feast of the Arts dinner in the College of Business's commercial kitchen.

Opposite: An appetizer from the meal featuring house-made grilled flatbread with fresh goat cheese and roasted teardrop tomatoes.

So is there a Washington cuisine? It's more that there are Northwest ingredients and a really eclectic range of cultural influences and multitude of styles, says Musick. "This is not San Francisco. This is not New York." We have a whole different culture and economy. But our one constant theme is that we like to venture into new territory and embrace variety. When you think of the many fruits and vegetables, the cheeses, the seafood, the grains, mushrooms, the meats, and thousands of fresh and delicious things available to us, the mind boggles. And we haven't even yet mentioned the wine!

"We don't know how lucky we are," says Musick.

Well, maybe Jamie Callison does. As executive chef for the WSU School of Hospitality Business Management, he eagerly scours our campus and the surrounding farmlands for ingredients—which he uses to teach his students the techniques of cooking. One morning this fall, Callison's gang is preparing for the Feast of the Arts dinner. A few are setting up tables in the Todd Hall dining room, while Callison stashes apples he had just collected from the Tukey Orchard into the cooler. He is waiting for the next night's line-caught salmon to arrive

from the airport. Produce, apples, beef, art—all components of the event, all from around the Pullman campus—were on his mind. "We're showcasing the whole university on one table," he says. "We use whatever we possibly can from what the students are involved in on campus."

The tenderloin came from the Ensminger Beef Center, the fall vegetables, tomatoes, and beets from the organic farm, and the huckleberry ice cream from Ferdinand's.

"My philosophy is to keep it simple," says Callison. "We're really about showcasing good food and to show its connection with wine." The pairing provides a valuable tool for Callison: using bridge ingredients to link a featured food with a wine. The first course, a wild Alaska king salmon will be dressed with a *beurre blanc* to cut the acid in the featured wine, a Barnard Griffin Viognier.

His goal is to have that bite of food finished with a sip of the wine. It rounds out the taste experience, completing the sauce, he says. "If you hit that perfect pairing once in a five-course dinner, then you have success."

Callison works with 27 student employees for these fall season meals. Of them, maybe four or five are thinking of going into the culinary field. But all of them will benefit from taking

part. Whether they go into hotel or restaurant management, or some other part of the hospitality industry, "an understanding of food and wine in this day and age is becoming essential," says Callison.

In Callison's view, the Washington style is really good local, simple products, he says. That's the advice he gives his students: "Make sure you buy high-quality product, and try to source locally."

FROM FARM TO TABLE

We're having dinner in a sleek blond wood booth in West Seattle's Spring Hill restaurant. It's a Tuesday night, but the place has quickly filled up. Servers are carrying peculiarly-shaped plates across the concrete floor from the open kitchen to the tables around us.

Co-owner Marjorie Chang Fuller '89, '90 slips in across from me. By day she's an architect who works for a construction company, but at night and most of the rest of the time, she's a restaurateur.

She's had a hand in the space's hip, contemporary feel. And while her husband, chef



PHOTOS ZACH MAZUR



PHOTOS ZACH MAZUR

Mark Fuller, runs the kitchen, she works with the front of the house.

Both grew up in Washington, he in Seattle, and she out on the coast in Montesano, she explains. They met in Portland, where she had her first job out of college with Hoffman Construction and he was the chef at Lucy's Table, a well-loved Pearl District fixture known for featuring fresh, local products.

They moved to Seattle when Mark took a job with chef Tom Douglas as a line chef at Etta's, at the Pike Place Market. He eventually became the executive chef at the Dahlia Lounge before breaking away in 2008 to open Spring Hill.

Here the menu is built on a foundation of fresh seafood and produce from around Washington, Marjorie explains. "We do it because it's the right thing to do." Mark sources sea salt from his family in Hawaii and uses local eggs, shellfish, greens. "We don't look solely for organic," she explains. "We want to feature local food. I think we're very fortunate in the Northwest. We have a lot to use."

My dining companion Zach Lyons, president of the Seattle Chefs Collaborative, arrives and hugs Marjorie before trading places with her in our booth. "Oh sure we know each other," he says.

"Seattle, and Washington in general, operates as a community." As he picks up the menu, it becomes clear that ordering will be a negotiation. Will I share plates? If he gets the oysters, will I get the soup? Which entrées sound most intriguing?

As the first plates arrive, our table goes quiet. I look up to realize Zach has just bitten into a crispy fried Washington oyster that he dipped into a harissa mayonnaise. The silence ensues. Then ... a smile.

What about the mayonnaise flavored with the hot chili sauce?, I ask. That was good, too. But this is a prime example of Washington cooking, he says. "The harissa is ... hmm ... trendy. It's featured in restaurants everywhere in the country," says Lyons. "But here in Washington, the oyster is the star." That's one thing our chefs do very well, he explains. They try new things, but do it to elevate the incredible ingredients we already have.

This is something Lyons preaches regularly. Now a freelance writer, co-author of the Washington State Farmers Market Manual (published in cooperation with WSU), coordinator of Taste of Washington State University, and former executive director of the Washington State Farmers Market Association, he has deep

ties with the state's food scene and its small-scale farmers, the kind like the Tonnemakers who sell directly to restaurants like this.

We're not in this lively West Seattle joint just to share a meal. Our mission is to try to define Washington cuisine. And somewhere here, between the butter lettuce and the popcorn ice cream, we hope to discuss not just what it was. Or is. But what it's becoming.

Maybe we're not as noisy about our food as other parts of the country, says Lyons. Northwest chefs are not celebrities. They're not self-promoters, he says. It's a subtler and friendlier scene than in many other cities. When it comes to ideas, inventions, it's a free-for-all. "They're all stealing from each other all the time," he says. "And nobody cares."

The notion of sharing manifests itself in many ways. The trend now is toward small plates—like the ones we're sharing this evening. It's why we can both try the oysters, the potato leek soup with turkey leg confit, the butter lettuce with radishes, the bavet steak with purple and orange cauliflower, and the roasted hen-of-the-woods mushrooms served with grits enriched with Beecher's cheese (owned by Kurt Dammeier '82).



It makes sense in a place like Washington, where there is such a variety of good things to taste. “It works on so many levels,” says Lyons. “It’s far more interesting for the customer and the chef.”

It’s also time for us to realize we have incredible local food every season, not just in the summer and fall, says Lyons. “There’s a vigorous, year-round food pattern happening.” Even in the leanest months of February and March, we have parsnips, rutabagas, sunchokes, potatoes, and Brussels sprouts.

The driving force is not the customer. It’s not even the chef anymore. “Now it’s the farmer,” says Lyons. He points to the orange cauliflower next to the steak. “That’s cheddar cauliflower. The farmer decided to grow that, that’s why we’re trying it here,” he says. “People are taking risks, trying new things.”

Chefs read cookbooks and magazines for ideas. In the winter, the farmers are poring over their seed catalogs with the same intensity, he says. “The whole region has this culture, and the farmers are driving it.” ☒



See inside WSU’s Feast of the Arts and explore our state’s cuisine at wsm.wsu.edu/extra/nw-food.

Opposite: Marjorie Chang Fuller ‘89, ‘90 with her husband chef Mark Fuller at their Spring Hill restaurant in West Seattle. **This page:** A small plate awaits a finishing touch at Spring Hill.



{ Tender }

“Taste, taste, taste, taste, taste,” chef Tamara Murphy advised Jody Ericson Dorow ‘78 as they were testing recipes for *Tender*, a book project connecting Washington eaters with their food that they worked on with Nancy Gellos ‘76 and Marlen Boivin.

“I always thought you had to wait until the end of the recipe when all the ingredients were in before you could taste,” says Dorow. Besides learning to taste as she goes, and that olive oil went well with certain things, and that pairing basil with fresh cherries could be quite interesting, she discovered that we all have a bit of the intuitive cook inside us.

Dorow and Gellos were classmates and sorority sisters at WSU. After college, Dorow went into corporate marketing, and Gellos pursued a career in graphic design. A few years ago, Gellos convinced Dorow to join her working for a Seattle-based custom book publisher. They got a taste for completing projects together and co-created ShinShinChez, their own publishing company.

For their first project, they wanted to create something that connected farmers, farmers markets, chefs, home cooks, and eaters. They found Murphy, a Seattle chef whose approach of using local and seasonal ingredients and of maintaining connections with the farm and the farmer resonated with them.

“We were looking for somebody who could help put together all these things and show how simply one could eat,” says Gellos. “She was walking the talk.”

They crafted a book that would both document the local food community and capture the cuisine in a simple, straightforward way. The result of their collaboration is a beautiful, colorful mix of text and photographs of farms and markets and food. It contains 100 recipes featuring some of Washington’s finest produce—like Swiss chard with garlicky chickpeas, cinnamon rice pudding with caramelized apples, and cherry salad with basil and mint.

“I don’t call it a cookbook,” says Dorow. “It’s a beautiful book with recipes.”



For the recipe of Swiss chard with garlicky chickpeas, visit wsm.wsu.edu/extra/tender-recipe.



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1940s

Jack Algeo ('48 BS Ag., '49 MS Ag.), former head of the department of Animal Science and Industry at California State University San Luis Obispo was inducted into the American Feed Industry Association's Liquid Feed Hall of Fame for his contributions to the feed industry's science and growth.

1960s

Haluk Taysi ('64 Mech. Eng.) and **Margaret "Maggie" Taysi** (x65) recently celebrated their 50th anniversary after meeting at WSU in September 1961.

William E. Ebel ('65 Ag. Econ.) was honored by life insurance company Northwestern Mutual with membership in its 2011 Forum group. Ebel is a Los Ranchos de Albuquerque-based financial representative. The recognition is for an outstanding year of helping clients in his region achieve financial security.

1970s

Jon Rickman ('72 PhD Comp. Sci.), Northwest Missouri State University's vice president of information systems and the father of the university's "electronic campus," announced his retirement after 35 years with the institution.

Jim Piccolo ('75 Hist.) was named as one of the recipients of the 2011 Distinguished Service Awards given by the National Interscholastic Athletic Administrators Association. He was the athletic director at Stanwood High School from 1984 to 2006 and now serves as the Washington Interscholastic Activities Association's District One director.

Bill Barr ('77 MA Child and Fam. Stud.) was named the new chief executive officer of Regence Life and Health.

Richard Duval ('77 Comm.) is a Northwest-based landscape and scenic photographer. He had an exhibit, "Art from the Vine," which was featured between November 1 and December 31 at the Wine World Warehouse in Seattle.

Tremaine Smith ('78 Acctg.) joined Ernst & Young LLP's indirect state and local tax practice in Seattle.

James Farley ('79 Zoo.) was appointed chief operating officer of the Advocate Medical Group, a physician-led medical group in Oak Brook, Illinois, providing primary care, specialty services, medical imaging, outpatient services, and community-based medical practices.



Doug Forseth '71

Snow business

by Hannelore Sudermann :: Doug Forseth '71 believes in “management by skiing around.”

He is kidding, kind of, playing on the concept of the popular business book *Management by Walking Around*. But the senior vice president of operations for the Whistler Blackcomb Ski Resort is serious about the skiing.

“It is where our guests are,” he says from his office, which looks straight at the base of Blackcomb Mountain. Those runs, and the lifts, and the mountaintop restaurants are things he needs to see regularly. Whether it’s testing the powder on the Ridge Runner, soaring down Sunset Boulevard, or cruising his favorite run, the seven-kilometer Peak to Creek, he wants to keep track of the experience.

Although it’s summer as we sit for an interview, the slope behind him is alive with children

on horseback, a bungee trampoline, and families hiking up trails.

During ski season, it is even busier with a tube park and ski run. Forseth’s days start at 7 a.m. when he checks with the overnight shift for updates on the trail grooming, the ski patrol, avalanche control, and lift maintenance. He makes sure the snow has been removed from around the galleries, shops, and restaurants of Whistler Village. Then he checks in on the start-up of food and beverage, much of which goes to the restaurants up the mountains via Snowcat and gondola. With 3,500 employees and 800 volunteers, the resort has a lot of moving parts, says Forseth.

Throw in a snowstorm, a wet rain, or strong winds, and Forseth’s teams have a new set of issues. “We’re not in a controlled environment,” he says. “We’re in Mother Nature’s playground.”

Last spring, that meant lots of extra snow—so much that the crews had to dig out the chairlifts so they could be used. “I’m not complaining,” says Forseth. “That’s a good problem to have.”

Doug Forseth '71 caps a career in hotels with a life on the slopes. Photo Matt Walker

Forseth has had a lifetime of good problems. When he graduated from WSU, he had to leave Pullman before commencement ceremonies to start his first hotel job. In lieu of donning a gown and picking up a diploma, he and his new bride Mary (Pete), a high school sweetheart and WSU classmate, trekked across the country to his job as a management trainee at a Hyatt Hotel in Albany, New York.

When they arrived, they found a one-room apartment and tried to settle in. “We didn’t have a bed, we didn’t have a table, and we didn’t even have dishes,” says Forseth. And since neither of them even had credit, they couldn’t get a credit card. Forseth went to his manager at the Hyatt, who let them furnish their small apartment with hotel items in storage and later was generous enough to co-sign for a Sears card.

Over the next 24 years, they followed Forseth’s Hyatt career around the country to

places like Cherry Hill, New Jersey, downtown Chicago, and Washington, D.C., during the 1976 United States Bicentennial. "It was an election year. I got to meet both President Carter and President Ford." The Hyatt Regency in Chicago brought special demands. It had 1,000 rooms when Forseth arrived and 1,100 more when he left. "It was bigger than the town I grew up in."

In 1985, the Forseths moved to Vancouver to manage the Hyatt Regency. Being back in the Northwest felt like coming home, he says. In 1988, he was named Hyatt's General Manager of the Year. They lived in the hotel in the heart of downtown. Then they were asked to move again, this time to San Diego to open the Grand Manchester Hyatt. It was the type of job Forseth very much enjoyed. "It's one of the best times in a hotel's life," he says. "Hiring, training, creating the culture of a new facility. Everyone comes together."

Life in California was good, but in 1994, an executive headhunter called him and asked him if he would return to Canada. He had been working for Hyatt for 24 years. "I was, I think, looking for something new," says Forseth. When he learned he was being invited to apply to become the president of the Whistler ski resort, he and Mary couldn't believe their luck. "When we lived in Vancouver, we owned property up here. We knew Whistler pretty well. It's a very special place."

The classic Canadian resort had opened in 1966 and enjoyed a worldwide reputation over the years. But in the early 1990s, it was in need of help. Its major rival, Blackcomb Mountain, which opened just next door in 1980, was fresher, newer, and more popular. Forseth's hiring as an expert from the hospitality industry was planned to further reinvigorate the older resort.

Six years later, the company that owned Blackcomb purchased Whistler and joined the two resorts, and Forseth became the vice president of operations. Mary had found a place in Whistler Village as co-owner of a gallery. The two love their mountain life, each having their own role in the community, and living among visitors, retirees, elite athletes, and the people who make the resorts run.

Along with helping to blend Whistler and Blackcomb, Forseth's duties included making Whistler Blackcomb a candidate for the 2010 Winter Olympics. He was the resort's chief liaison with the Olympic Committee before and during the events. "It had that corner of my desk," he says, pointing to his full desktop. "I did that as well as all my other duties."

Forseth was a member of Canada's delegation in Prague when it was announced that Canada would host the 2010 Winter Olympics. "I never hugged so many guys in business suits," he says. He also had his "rock star moment" in Quebec when he got to run with the Olympic torch for three miles. He points to a small picture on the far wall of his office of himself in a white slicker running with the torch, a crowd around him.

Then came the Olympics. In the 17 days from the opening ceremonies to the hockey game where Canada beat the United States for the gold medal, Forseth and his management team were constantly on standby to help the organizers when problems arose. "I couldn't believe how fast it all went by," he says. To host the games, and then for Canada to win a number of golds on its own soil, not to mention the ice hockey triumph, "it was a bit of a coming-out party for Canadians," says Forseth.

Whistler has changed quite a bit in the years since Forseth returned to live and work in the community. Summer visits have increased 50 percent. Many come just to ride on the lifts and the gondola between the two mountains. Forseth took a leading role in managing the \$52 million project to build the 2.73-mile gondola ride. Others come for the mountain bike park, which riddles trails over the mountain after the ski runs melt off and dry up.

With his familiarity with the resort, his years in Vancouver, dual citizenship, and Mary's involvement in the community, the Forseths are pretty much locals. And, quips Doug, "I can speak the language, eh?"

Anna Ballard Wilson '04

CSI: Cheney

by Joanna Steward '86 :: When Anna Wilson's cell phone rings, there's usually a dead body involved.

No matter if she's in the shower or at the movies, she's out the door in a matter of minutes, headed for the Washington State Patrol forensics lab at the edge of the Eastern Washington University campus. There she changes into lightweight boots, black pants, and a polo shirt emblazoned with "WSP CRIME SCENE" across the back. A quick check of supplies—gloves, gel lifts, camera cards, detection chemicals, evidence packaging, and the like—and the van is ready. Then she and a similarly clad coworker enter the address into a GPS unit, buckle up, and hit the road.

1980s

Collins G. Loupe ('81 Music, '82 Ed.) is currently instrumental director at North Central High School in Spokane where he teaches band, orchestra, percussion, and guitar. He is a member and director of the Spokane British Brass Band as well as conductor of the Spokane Youth Symphonies.

Don Smith ('82 Ed.) was named a 2011 Legislative Civic Educator of the Year. He was nominated for the award by Senator Linda Evans Parlette ('68 Pharmacy).

Karen Rice ('83 Bus. Admin.) was added to Constant Contact, Inc.'s West Coast regional development team as the regional developer director for Northern California.

Patrick Giroir ('84 Hotel & Rest. Admin.) has been named president of Boardwalk Pipeline Partners' operating subsidiary, Boardwalk Field Services, LLC. His job will be to guide the company to become a full-service midstream natural gas company.

Ethan Bergman ('86 PhD Nutrition) is president-elect of the American Dietetic Association. Currently, he is interim dean of student success at Central Washington University.

Meg Quinn ('88 DVM) is the new owner of Bush Animal Clinic in Bend, Oregon's, Old Mill District.

1990s

Lian-Ping Wang ('90 PhD Mech. Eng.) is a professor of mechanical engineering at the University of Delaware and recently has been elected a fellow of the American Physical Society.

Larry Wright ('92 BS Comm., '98 MA Comm.) became managing director of the Bellevue Arts Museum in September. He has more than 15 years of leadership experience with nonprofits. His last job was in Washington, D.C., as CEO of the National Mentoring Partnership.

Tammy Buss Alejandro ('93 BA Ed., '98 MA Ed.) is Teacher of the Year for Northwest Educational Service District 189. She teaches at Eagleridge Elementary in Ferndale and is among the regional teachers of the year recognized by the state superintendent of public instruction.

Jerry R. Roberson ('93 PhD Vet. Med.) received the 2011 American Indian Science and Engineering Society Professional of the Year honor. Roberson, a Cherokee, is an associate professor of veterinary medicine at the University of Tennessee.

Jaime Silva ('93 Ed.) is a bilingual teacher for third-graders at Longfellow Elementary in Pasco, where he has worked for the past 17 years. He is among the regional teachers of the year announced by the state superintendent of public instruction.

Chris Gabriel ('94 Geology) is the new commanding officer of the Naval Oceanography Mine Warfare Center based at Stennis Space Center in Mississippi.

Jeff Lanctot ('95 Bus. Admin., Poli. Sci.) is the first chief media officer at the interactive marketing and technology company Razorfish. He returns to the company after spending some time at Microsoft, where he was managing director of advertiser and publisher solutions. He lives in Seattle with his wife and three children.

Gita Bangera ('96 PhD Microbio.), a biology professor at Bellevue Community College, was recently featured in a *Science* magazine article about community college faculty involving their students in research. Her students work on sequencing the genome of *Pseudomonas fluorescens* L5.1-96, a bacterium that fights a wheat fungus.

Emily Rucker ('96 Ad., '04 Psych.) is the search engine marketing manager for 451 Marketing, a communications agency with an emphasis on new media technologies based in Boston.

Erik Snider ('99 Soc.) recently graduated from West Hills College as a psychiatric technician and passed the California state boards. Snider is working at Coalinga State Hospital, a secure treatment facility for sexual violent predators, as a psychiatric technician. He has been assigned as a staff member on the special services unit for individuals with severe behavioral issues.

2000s

Michelle M. Sauer ('00 PhD Engl.) was promoted to full professor of English and gender studies at the University of North Dakota.

Matthew Canterbury ('01 Psych., '03 Econ.) and **Elizabeth "Beth" Kleweno** ('00 Microbio.) were married in a Cougar-themed wedding in Spokane on October 8, 2011. The Cougar fight song was featured in the wedding reception.

Chris Grygiel ('01 Comm.) has been named Washington state news editor for The Associated Press. The Washington native had worked at the *Seattle Post-Intelligencer* since 2000.

Natalie Murillo ('01 Comm., '03 MBA) recently completed U.S. Navy Basic Training at Recruit Training Command, Great Lakes, Illinois.

Steve Wymer ('01 Comm.) is now director of corporate communications for TiVo, Inc., an advanced television services company based in Alviso, California. He worked as senior advisor and communications strategist to three U.S. senators, most recently Senator Mike Johanns of Nebraska.

Josh Melcher ('02 Mktg.) has been hired by Sterling Savings Bank as vice president and private banker for the company's Spokane private banking office.

Ian Wallace ('02 Genetics and Cell Bio.) moved from Boston back to Pullman to establish a new genetic counseling clinic at Pullman Regional Hospital.

Matthew Semmler ('03 Bus.) was married in Spokane on July 30, 2011, to Stacy Stone. Matthew and Stacy live in Anchorage, Alaska, where he works for the Department of Homeland Security and she is an attorney.

Brooke Olzendam ('03 Comm.) is the Fox Sports Indiana TV host/sideline reporter for the Indiana Pacers. She had been working with CBS College Sports Network as its primetime football sideline reporter.

Julie Ledford ('04 Comm.), a private practice attorney working in Southern California, is returning to Washington to become Centralia College's vice president for human resources and legal affairs.

"It's not like the TV show," she explains with a smile and a shake of her head. "For one thing, you never see Greg write anything down." Wilson and her fellow Crime Scene Response Team colleagues are constantly taking notes, sketching what they see, and cataloging important details. It's "a lot of looking with your eyes," and then applying scientific methods to correlate what is known with what can be observed. For example, spines fanning out from a drop of dried blood show the drop was struck by an object while it was still wet; the length of the spines can help determine the amount of force used.

As a WSU undergraduate, Wilson watched the first season of *CSI: Crime Scene Investigation* along with 17 million other television viewers. The show exploded in popularity after the September 11 attacks. The franchise has since expanded from Las Vegas to Miami and New York and had crossover storylines with shows like *Without a Trace* and *Cold Case*. It was an entertaining diversion, but "forensic scientist" wasn't anywhere on Wilson's career list. She'd been raising and showing rabbits with 4-H since sixth grade and had her mind set on becoming a wildlife biologist.

Wilson's organized and confident nature helped her achieve a great deal in her four years at college: a double major in biology and Spanish, treasurer of the wildlife biology club, a semester in Ecuador studying comparative ecology, and plenty of time in the research lab. She prepared DNA primers for milkweed as a sophomore and by her senior year had advanced to sequencing the DNA of New Zealand mud snails in Mark Dybdahl's evolutionary ecology lab.

Spring semester of 2004, her last at WSU, would prove pivotal. A friend invited her to a forensics club meeting. The topic? Decomposing pig carcasses. Not your average evening in the lab, she thought, so she went along. It wasn't hands-on training, just discussion, but toward the end of the meeting, the club's faculty advisor, entomologist Bethany Marshall, told them of an upcoming forensics internship with the WSP in Olympia. Wilson didn't yet have a job after graduation, so she "applied on a whim" and was accepted.

They put her to work creating a database of fiber characteristics that could be used to identify criminal evidence. "I immediately felt comfortable," she says recalling the summer-long assignment. She spent her days carefully cutting cross-sections, mounting samples, not-



STAFF PHOTO

Anna Wilson '04 in the WSP Crime Scene Response Team van.

ing color options and manufacturer details, and collecting information on hundreds of different fibers. By the time it was over, her thoroughness and attention to detail earned her a WSP Chief's Coin for volunteer service, and Wilson was hooked on forensics. "I thought I had no chance of getting hired," she confessed to a group of WSU students during a recent visit to campus, "but thought I might as well go through the steps and see where it went." Many applicants do not have the required 20 hours of chemistry classes or simply can't pass the three-hour knowledge test. Then there's an intensive interview phase, a background check, and finally a polygraph test.

For the first two years, she worked exclusively in the sparkling clean forensics lab in Cheney, analyzing evidence from cars to carpets to cigarette butts, and processing DNA from most every type of body fluid. Once she had enough experience handling complex cases, she asked to join the Crime Scene Response Team. Four years later, she still works in the lab during the week, but for one week every month she's on call for crime scene processing anywhere from Omak to Pullman.

She no longer watches *CSI*, but understands all too well how popular television can affect public perception. While she does use the same blue luminol spray as the *CSI* technicians to locate traces of blood, it takes her days, sometimes weeks, using specific scientific protocols to generate valid DNA results. And you won't find her or any of her colleagues interviewing witnesses—any such

conversations could taint the objectivity of their reports in a court of law.

Wilson believes that being involved from the beginning of a criminal case “makes you a better scientist. You get to see the case as a whole, so now you’re thinking not just of DNA, but you’re thinking about chemistry, about trace, you’re thinking about impressions and latent prints and anything that might aid in the investigation.” It can be both exhausting and exhilarating at the same time.

Forensic science is a staple of the modern judicial system, and she values her role in providing scientific analysis to people on both sides of a criminal investigation so they can make good decisions based on facts. Wilson also recently co-founded the Inland Empire Forensic Science Society in Cheney and helps organize tours of the lab as well as workshops and demonstrations with hopes of inspiring future forensic scientists.

Orrin Pilkey '57

A climate change provocateur

by David Menconi :: In August 1969, Hurricane Camille slammed into Mississippi with winds of nearly 200 miles an hour. The storm blew many things far and wide, including the career track of coastal geologist Orrin Pilkey '57. Up to that point, Pilkey had worked quietly studying deep-sea sediments, becoming an expert on abyssal plains (the flat underwater surfaces found along the edges of continents). But when he visited his parents on the Mississippi Gulf Coast, Pilkey found he was a lot more interested in what was happening to coastlines than on ocean floors far from shore. Pilkey and his father co-wrote a book, *How to Live With an Island*, and Pilkey's focus started moving from sea to land.

“This was at a time when I was getting bored with going out to sea anyway,” Pilkey says in his office at Duke University in Durham, North Carolina. “People were actually interested in this, and nobody ever called me about abyssal plains—ever. But this had me in the public eye, all of a sudden. So I decided to go ashore, from deep-sea research vessels to 16-foot skiffs studying shorelines.”

As Pilkey studied shorelines, he couldn't help noticing changes happening because of rising sea

levels, a phenomenon attributed to global warming—and also that many of the things people were doing to try and “save” beaches, such as trucking in sand and building offshore breakwaters, were making environmental problems worse. And so he began sounding the alarm in the media and in a series of books, including *The World's Beaches*, *The Beaches Are Moving: The Drowning of America's Shoreline*, and *The Rising Sea*.

Pilkey has been involved in 43 books as co-editor or co-author, including the new *Global Climate Change: A Primer* (Duke University Press). Co-written with his son Keith Pilkey, the book makes its case with both words and pictures in the form of striking batik paintings by artist Mary Edna Fraser.

Global Climate Change arrives at a key moment in the public perception of global warming and whether it represents a serious threat. At the turn of this century, public opinion was in line with the prevailing scientific opinion that carbon emissions were causing dangerous climate changes. But since then, global warming has emerged as a hot-button issue that ranks somewhere between evolution and abortion on the controversy scale. After a decade of contentious debate, fewer than half of all Americans now believe that global warming is due to human actions, according to a 2010 Gallup poll.

In an attempt to turn the tide, Pilkey breaks the science down for a nonscientific readership and offers talking points aimed at winning over skeptics. The book also considers arguments from the other side of the debate, which Pilkey calls “The Global Warming Denial Lobby.”

“It's gotten so political,” Pilkey says. “In order to be a good Republican now, you have to say you don't believe in global change. We scientists have a very hard time seeing Oklahoma Senator [James] Inhofe saying that global warming is ‘the greatest hoax ever perpetrated on the American people’ and not being laughed at. He is respected for that, and he is so wrong. Now there are many things we may be wrong about because it's all uncertain. It is inexact, as projections inevitably are. But calling global warming a ‘hoax’ is ridiculous because the cumulative evidence—melting glaciers, shrinking sea ice, melting permafrost, rising sea levels—is overwhelming. If you look at satellite data for the last 20 years, it's undeniable.”

It's no surprise that Pilkey has put himself on the firing line, because he's a self-described “scientific advocate” who has never shied away from controversy. Some of the earliest waves he made were for speaking out against the development of fragile beaches in North Carolina, where

Heidi Banse ('07 DVM) was presented with the inaugural 2011 EQUUS Foundation Research Fellow for her work to advance veterinary knowledge during the American Association of Equine Practitioners' 2011 annual convention. She is working on her doctorate at Oklahoma State University.

Carly Jordan ('09 Engl., '11 MIT) is an English teacher for grades 9 and 10 at Coeur d'Alene High School.

Eric J. Larson ('10 Crim. J.) was recently sworn in as patrol deputy of Lincoln County, Oregon. While attending college, he was a police intern and held the rank of lieutenant.

2010s

Riley Corcoran ('11 Comm.) is hosting Afternoon Drive on Boise, Idaho's new sports radio 630 The Fan. Corcoran joins the station on-air Mondays through Fridays from 4 to 5 p.m.

IN MEMORIAM

1930s

Eleanor B. Koch ('33 Bact.), 99, July 31, 2011, Sonoma, California.

Danna Hutto (x'35), 95, September 6, 2011, Greeley, Colorado.

Jessie E. Satre ('39 Home Ec.), 94, November 19, 2011, Spokane.

1940s

William H. “Bill” Ambrose ('40 Ag.), 94, November 4, 2011, Bellingham.

Bruce G. Anderson ('40 Civ. Engr.), 93, November 18, 2011, North Oaks, Minnesota.

Donald H. Greeley ('41 Gen. Stud.), 91, October 24, 2011, Satellite Beach, Florida.

Henry W. Shields x'41, 88, October 14, 2011, Lamont.

John W. Brownell ('42 Elect. Engr.), 91, May 1, 2011, Walla Walla.

Myron Calkins ('42 Civ. Engr.), 91, September 15, 2011, Ventura, California.

Robert W. Anderson ('44 Elect. Engr.), 90, October 16, 2011, Spokane.

Eleanor L. Nordlund ('44 Home Ec.), 89, August 18, 2011, Mercer Island.

Floyd Louis Dobson x'45, 84, September 14, 2011, Spokane.

John R. Gorham ('46 Pre Med., '47 MS Vet. Med.), 88, October 14, 2011, Pullman.

Arthur E. Williams ('46 Music), 89, August 16, 2010, Ferndale.

John F. Bender ('47 Vet. Sci.), 88, June 24, 2011, Seattle.

Twila Fern Blain x'47, 86, October 17, 2011, Olympia.

Jack Franklin Carter ('47 MS Agro.), 91, September 11, 2011, Fargo, North Dakota.

Dorothy Ann Johnston ('47 Psych.), 87, October 25, 2011, Des Moines.

Richard F. Peterson ('47 Poli. Sci.), 88, March 8, 2011, Carlsbad, California.

Charles H. Rhodes ('47 Speech Comm.), 88, February 28, 2011, Anchorage, Alaska.

Janet Rae Adams x'48, 85, October 9, 2011, Gresham, Oregon.

Leonard Wesley Beil ('48 Ag. Ed., '49 MS Ag. Ed., '88 Ed.), 88, October 21, 2011, Port Angeles.

Arthur Conrad Derr x'48, 87, November 16, 2011, Winston-Salem, North Carolina.

Beverly Jean Gilger ('48 Music), 85, September 20, 2011, Sequim.

Marjorie Jean Kafer-Smith ('48 Engl.), 85, November 3, 2011, Everett.

Mary Ethel Larche ('48 Bus.), 86, October 29, 2011, Grandview.

Richard L. Nowadnick ('48 Ed., '68 Higher Ed. Admin.), 88, November 20, 2011, Burlington.

Roy E. Nuckolls ('48 Wildlife Bio.), 86, August 28, 2011, Reno, Nevada.

Anne M. O'Malley ('48 Social Sci.), 85, June 5, 2010, Glendale, Arizona.

many resort communities have expensive homes that are now on the verge of falling into the ocean. Pilkey argues that they should not be saved, a sentiment that doesn't play well with developers.

"It would not be an exaggeration to say that Orrin is the best-known coastal geologist in the world," says Rob Young, a professor at Western Carolina University who studied under Pilkey at Duke. "He relishes that role, and nobody else is filling it. He speaks what he believes to be the truth, and he's right the vast majority of the time. In today's political climate, facts are often viewed as an extreme political statement. There was a great cartoon in the journal *Science* about the climate-change debate, with a Paul Revere figure riding into the capitol building on a horse and yelling, 'The facts are coming! The facts are coming!' You could put Orrin Pilkey on that horse."

Pilkey was not the most avid student at Washington State, amassing a modest 2.6 grade-point average (mostly because he says he was having too much fun). But he managed to get into graduate school, earning degrees from Montana and Florida State. In 1965, he took a position at Duke, where he is now professor emeritus. That



Orrin Pilkey '57 has never shied away from controversy.
Photo Coke Whitworth/OnEarth

gives him the perfect bully pulpit for playing the provocateur.

He minces no words when talking about those who deny that climate change is taking place, derisively calling a Swedish geologist who is well known in the doubting commu-



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nity “some jerk.” And he isn’t too concerned about “Climategate,” the 2009 controversy that gave climate change doubters ample ammunition, brushing it off as “nothing more than some smart-assed scientists grouching out loud.” The way Pilkey sees it, there’s no time to waste on social niceties. The stakes are too high.

“Deniers hit at the fact that we don’t know what will happen,” Pilkey says. “But just letting things continue on as they are is a bad experiment with great cost attached to it. If I was king of the world, I’d do everything I could to start reducing CO₂ output—cover the desert with solar panels, put wind farms in shallow ocean floors. I’d promote nuclear power, even though I think it’s dangerous no matter how well it’s done. And of course, I’d go down to the shoreline and start moving buildings. Do not pump sand onto beaches or build sea walls. My God, Miami is going to be a horror story. It’s the most threatened city in the world. It sits on top of porous limestone, and there are ponds in the city where you can see tides corresponding to those offshore. So building a sea wall would do no good. You’d have to build a dam.”

No, the news is not too good for places like Miami.

“All projections are that we’re looking at a one-meter rise in ocean levels worldwide by the year 2100,” Pilkey says. “Of course, we can’t prove a thing. Deniers ask for proof and there isn’t any, and they blow up every mistake into arguments about how the whole thing is a hoax. But all indications are that it will happen.”



Read reviews of Pilkey’s books at
wsm.wsu.edu/extra/pilkey.

Hal Dengerink 1943–2011

Tribute to Hal

by *Gay Vallorie Selby* ’80 :: On September 14, 2011, the first chancellor of Washington State University Vancouver, Hal Dengerink, passed away at the age of 68.

I first met Hal Dengerink when he came to WSU Vancouver from WSU Pullman to oversee the programs that were offered at Bauer Hall on the Clark College campus. The process of selecting a site for the WSU Vancouver campus was underway when he joined the site recommendation task force that was appointed by WSU President Sam Smith. As members of the task force, we spent many months and endless

weekends meeting regularly to complete our charge, which included visiting potential campus sites in southwest Washington and finalizing a recommendation for the site of the new campus.

I think every member of the site recommendation committee knew they had found the perfect location for a new campus when they visited the Salmon Creek site. The gradual-sloping property, surrounded by neighborhoods of family homes, with the spectacular vistas of Mount Hood and Mount St. Helens was the perfect place to dream and build a new campus to



Hal Dengerink. Courtesy WSU Vancouver

serve the population of southwest Washington. This region of Washington state was the most underserved area with access to higher education opportunities. The groundbreaking for the new campus occurred during the summer of 1994.

Hal Dengerink was the perfect match for the Salmon Creek site. He was a visionary, and his vision was the beacon that guided the academic, cultural, and physical development of the campus. He knew for the vision to become reality it needed more than faculty, students, and facilities; it needed the unwavering support of the community. As Interim Chancellor Lynn Valenter said, “Hal never met a collaboration he didn’t like.” The community recognized his commitment to collaboration by honoring him as Clark County’s First Citizen for 2011.

He believed in the saying, “build it and they will come.” And, of course, come they (students) have to WSU Vancouver. (Enrollment for fall semester 2011 exceeded 3,000 students.) He was a very authentic leader who was able to “cut to the core and clear away the barriers.” I would characterize his leadership as pragmatic. He was very strategic in his planning and adaptability. He had the uncanny ability to turn challenges into opportunities. He

Roy Franklin Atwood (’49 Poli. Sci.), 84, July 9, 2011, Bellingham.

Robert L. Boettcher (’49 Ag. Engr.), 87, September 8, 2011, Pullman.

George Bosmajian (’49 Chem.), 90, September 23, 2011, Annapolis, Maryland.

Lorin W. Johnson (’49 Elect. Engr.), 85, September 23, 2011, Bellevue.

Jean H. Landerholm x’49, 85, January 12, 2011, Yelm.

Frank Scott Loihl (’49 Bus. Admin.), 87, May 19, 2011, Seattle.

Claude E. Munsell (’49 Electr. Eng.), 87, September 13, 2011, Wenatchee.

James E. Omans (’49 Bus. Admin., Acct.), 88, November 8, 2008, Chesterfield, Missouri.

Genevieve A. Pieretti (’49 Home Ec.), 98, September 4, 2011, Reno, Nevada.

Dale Clifford Prohaska (’49 Ag.), 88, November 9, 2011, Lodi, California.

1950s

John B. Blair, Jr. (’50 Econ.), 87, October 8, 2011, Black Diamond.

Norman C. Borell (’50 Phys. Ed.), 77, March 17, 2011, Tacoma.

Leo D. Caron (’50 Forest and Range Mgmt.), 86, January 14, 2011, Bigfork, Montana.

Terry Fieldhouse (’50 Forest and Range Mgmt.), 81, June 5, 2010, Nevada City, California.

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

Robert Leslie Fraley (’50 Arch. Engr.), 83, August 31, 2011, East Wenatchee.

Doreen Marie Hagan x’50, 79, November 10, 2011, Pasadena, California.

J. Robert Landerholm (’50 Civ. Engr.), 84, November 16, 2011, Mesa, Arizona.

Loretta Donna Lane (’50 Engl.), 80, September 13, 2011, Palm Desert, California.

John A. Peterson (’50 Gen. Stud.), 86, March 20, 2011, Oak Harbor.

E. L. Sturdivant (’50 Phys. Ed., ’54 MS Phys. Ed.), 85, November 29, 2010, Bremerton.

Eugene L. Bugozdy (’51 MS Chem.), 87, November 3, 2011, Dublin, Ireland.

William D. Huelett (’51 Math.), 87, October 16, 2011, Seattle.

Emil Vinson Smyer (’51 Agro.), 90, October 6, 2011, Sedona, Arizona.

Mary K. Weidman (’51 Bacteriology), 97, October 6, 2011, Spokane.

Frank Brancato (’52 PhD Bacteriology), 96, September 14, 2011, Seattle.

Donald “Don” Wayne Fluke (’52 Phys. Ed., ’56 MA Ed.), 83, October 16, 2011, Portland, Oregon.

Aileen Lois Jones ('52 Soc.), 80, November 3, 2011, Spokane.

Bill "Swanee" Swan, Jr. x'52, 77, October 25, 2011, Belmont, California.

George John Stimac ('53 Pharm.), 81, August 30, 2011, Ballard.

Leland Dwain Swanson ('53 Phys.), 86, November 7, 2011, Mesa, Arizona.

Roland Barber Austin ('54 Hotel & Rest. Mgmt), 80, September 15, 2011, Fresno, California.

Joan Hoitink ('54 Bacteriology), 69, September 4, 2011, Ellensburg.

Robert A. Buckholz ('55 Bus. Admin.), 83, November 17, 2011, Spokane.

Alfonso Carl Aronica ('56 Hotel & Rest. Admin.), 82, October 31, 2011, Carnation.

Margie M. Command ('56 Phys. Ed.), 78, September 20, 2011, Federal Way.

Susan Minton ('56 Soc.), 77, October 7, 2011, Mount Vernon.

Roy A. Pritchard ('57 Ag.), 80, September 21, 2011, Stanwood.

Roger Hasting Underwood ('57 Poli. Sci.), 76, October 28, 2011, Spokane.

Richard B. Barclay ('58 Phys. Ed., '59 MAT Phys. Ed.), 78, September 1, 2011, Kent.

Nora Porter ('58 Comm.), 75, October 31, 2011, Port Townsend.

Janet Fanning ('59 Soc.), 74, September 4, 2011, Spokane.

Berger T. Sather ('59 DVM), 84, September 8, 2011, Hansville.

1960s

Ronald H. Alvarado ('60 Zoo., '62 PhD Zoo.), 77, September 9, 2011, Tempe, Arizona.

Alf Anton Bergersen ('61 Bus. Admin.), 75, September 11, 2011, Woodinville.

George Oakshott ('63 DVM), 82, September 13, 2011, Colville.

Jean E. DeYoung ('65 Engl.), 68, October 4, 2011, Portland, Oregon.

John Q. Mitten ('65 DVM), October 21, 2011, Snohomish.

Bryan Vandiver Hearsey ('66 Math., '68 PhD Math.), 69, October 28, 2011, Annville, Pennsylvania.

Daniel L. Munter ('66 Engl.), 68, October 14, 2011, Hampden, Maine.

Ronald Carl Olsen ('66 Vet. Med.), 70, August 17, 2011, Pasco.

Jon Alan Kangas ('67 Psych., '70 PhD Psych.), 68, September 5, 2011, San Jose, California.

William H. Clarke ('66 Poli. Sci.), 68, September 19, 2011, Spokane.

did this through his intellect, his relationships, and his perseverance. His word was a contract.

Hal was a complex man. He was at home both in the world of academics and the world of those who work with their hands. He had many interests that he shared with friends and family. He could be found building items, from cabins (built two) to the stand in the chancellor's reception area that holds a dictionary or the small table in the chancellor's office. He loved his adult toys—his truck, his tractor, his power tools, and his scooter. Hal was a lifelong learner and an avid reader, both fiction (mysteries) and nonfiction (biographies). He played the banjo until he injured his finger. His children and grandchildren were his greatest joy. He relished opportunities to teach them new things, such as building "sea shanties from driftwood found on the beach." He liked dogs and tolerated cats. He loved his work, his community, and his family.

As chancellor, he was known as "Hal." He did not seek or require any other title from the campus community. He and WSU Vancouver were one and the same. He left a legacy that will serve as the visionary beacon for WSU Vancouver for many, many years to come.

John R. Gorham 1922–2011

Veterinary pathologist

by Hannelore Sudermann :: In the early 1940s, John Gorham '46 DVM, MS '47 left his family home in Sumner to attend Washington State College as an undergraduate. He found a life here, marrying fellow student Mary Ellen Martin and staying on to earn his doctorate in veterinary medicine, at the same time serving in the U.S. Army. In 1948, he was the first student to earn a graduate degree from the veterinary college.

He then took a position as a U.S. Department of Agriculture researcher in 1949 and the next year made his first big contribution to the field of animal disease research with his major professor Donald Cordy. They discovered the microorganism that causes salmon poisoning, a fatal dog disease. He also soon after discovered a cat disease that could be avoided by including vitamin E in the feline diet.

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-Summer Advantage Student



Gorham spent his career in Pullman, though he left briefly in the 1950s to complete a doctoral degree at the University of Wisconsin. As much a historian as part of the University's history, Gorham was full of stories. Among his favorites were those of the campus he remembered as an undergraduate, where the animal facilities weren't far from where the English classes were held, and that studies of Shakespeare could be interrupted by the squeals of pigs nearby.

Over nearly 70 years, Gorham watched the college develop from a small veterinary school into a major animal disease research institution. His own contributions included research into both parasitic and viral diseases affecting livestock and fur animals. He was one of the first to establish animal models for human diseases. In 1991, Gorham received some unwanted attention after someone broke into his office and two research sites on campus. Some of his documents and records were destroyed. According to the Animal Liberation Front, Gorham was targeted because of his work with mink, which benefited the fur industry.

The setback did not keep Gorham from his research. For the next two decades, Gorham continued to work and make regular visits to his



John Gorham with his Gold Head Cane Award from Hartz Mountain Corporation. Photo Henry Moore Jr.

office on campus. In 1993, he was recognized with the WSU Regents' Distinguished Alumnus Award, and in 2007, he was awarded the Lifetime Achievement Award by the American Veterinary Medical Association.

Gorham, who died October 14, 2011, at the age of 89, is survived by his wife, his son Jay Gorham '73, daughter Katherine Ellen Gorham MA '79, and two granddaughters. <<

James Werndle Curtis ('68 Bus. Admin.), 66, October 19, 2011, Spokane.

Homer Metcalf ('68 PhD Sociology), 76, August 11, 2011, Fair Oaks, California.

Michael J. Moore ('69 Bus. Admin.), 64, October 3, 2011, Tulsa, Oklahoma.

1970s

Mary Anne Dames ('72 MS Home Ec.), 64, October 14, 2011, Granada Hills, California.

John C. Churchill x'72, 57, September 1, 2011, Everett.

Alfred M. Christianson ('73 Ag.), 60, October 2, 2011, Stanwood.

Glenn Edward Szabo ('73 Gen. Stud.), 59, December 23, 2011, Placentia, California.

Albert Rawkins ('74 Bus., '75 MBA), 61, September 21, 2011, Richland.

Joan Alberta Roscher ('75 PhD Botany), 75, October 18, 2011, Niles, Michigan.

Michael D. Aiken ('76 Econ.), 56, April 17, 2011, Ephrata.

Suzanne Lynn Baier ('76 Phys. Ed.), 57, September 2, 2011, Seattle.

Glen S. Greene ('76 PhD Anthro.), September 27, 2011, Prairie Grove, Arkansas.

Nicolee Bradbury ('76 Arch.), 61, August 28, 2011, Inchelium.

Brent Anderson ('79 Ed.), 55, September 30, 2011, Silverdale.

1980s

Robert Clyde McClain ('80 Finance), 58, September 2011, Turlock, California.

Glenn Jerome Blair ('81 Arch.), 53, August 27, 2011, Camas.

John Collier Newman ('83 Const. Mgmt.), 50, November 7, 2011, Concord, California.

Charles G. Lindgren ('84 Bus.), 49, October 2, 2011, Marysville.

Nancy Marie Samaritano ('84 Biology, '90 MS Vet Sci.), 72, October 20, 2011, Richland.

Hilda G. Thompson ('84 Master Cont. Ed.), 73, October 13, 2011, Salem, Oregon.

Lisa Marie Renz ('87 Bus. Admin., Mktg.), 46, October 11, 2011, Prosser.

Miner Putnam Gross ('88 Hotel and Rest. Admin.), 43, August 27, 2011, Cincinnati, Ohio.

Stefanie L. Ludwig ('88 MA Anthro.), 54, May 11, 2010, Anchorage, Alaska.

1990s

Michael F. Wahl ('93 MS Chem. Engr.), 42, November 19, 2011, Williston, Vermont.

Marilyn Rogers ('94 Soc.), 71, July 15, 2011, Spokane.

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Charlene Patricia Daley ('98 Bus. Admin.), 60,
October 24, 2011, Aromas, California.

Daniel John Epeneter ('99 Bus. Admin.), 35,
November 1, 2011, Seattle.

2000s

Minnie Marie Marshall ('08 Hum. Dev.), 56,
November 7, 2011, Washougal.

2010s

Debbie L. Dougan, ('10 PhD Ed.), 46, July 30,
2011, Spokane.

Faculty and Staff

Jeanette Askins, 65, September 10, 2011,
Palouse.

Hubert "Tony" Baker, 80, Prosser research and
extension, November 10, 2011, Richland.

Archie Bendel, 72, 1982-1986, central stores,
October 19, 2011, Troy, Idaho.

Mabel B. Buttermore, 96, retired staff, June 13,
2009, Longview.

Margaret West Davis, 98, 1952-1978, music,
October 20, 2011, Seattle.

H.A. "Hal" Dengerink, 68, 1969-2011, most
recently chancellor of WSU Vancouver, September
14, 2011, Vancouver.

Jack Dunlap, 95, 1950-1978, veterinary
microbiology/pathology, September 25, 2011,
Sparks, Nevada.

John R. Gorham, 88, College of Veterinary
Medicine, October 14, 2011, Pullman.

Arthur Robert Hard, 94, 1945-1981, mechanical
engineering, November 11, 2011, Pullman.

Dorothy C. Hobson, 92, retired professor,
October 20, 2011, Kilmichael, Mississippi.

Rick S. Naylor, 61, facilities operations, October 3,
2011, Spokane.

Hilda H. Roberts, 94, 1945-1982, College of
Nursing, Lynden.

Marilyn Rogers, 71, retired staff, July 15, 2011,
Spokane.

Elizabeth Semingson, 77, 1973-1997, animal
sciences, Pullman.

R.V. Subramanian, 78, retired faculty, August 5,
2010, Greenbelt, Maryland.

WSU Alumni Association News

Renewing your plates

Get Your "Crimson to Go" New Cougar Plates Hit the Road

For several years the Washington State University Alumni Association has had designs on a new WSU license plate. This January, plans to replace the blue, white, and Cougar logo plate with an all-crimson plate came through. Now alumni and friends can license their cars, show their affinity for WSU, and raise money for scholarships.



The first Cougar license plate was introduced in 1995 to wide appeal. About 3,000 sold in the first few months of the program. By 2000, that number had grown to well over 11,000. And today, WSU's 13,348 plates outnumber those from all the other state colleges and universities combined.

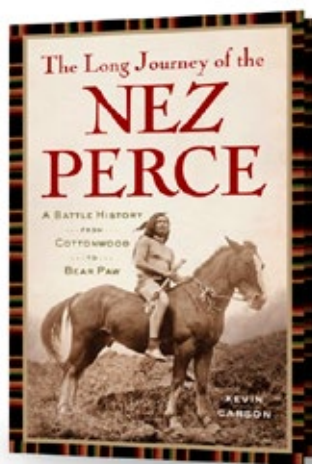
But with only about 15 percent of all Cougars in Washington State buying the plates, the time has come for an eye-catching new approach. WSU staff members and volunteers had something very specific in mind. They took their inspiration from the WSU flag, "Ol' Crimson," like the one flown by WSU fans on ESPN's *College GameDay* broadcast. "Since the Department of Licensing currently offers about 45 special plates, we wanted the WSU plate to stand out," says Tim Pavish '80, executive director of the WSU Alumni Association.

The all-crimson plate with silver/white numbers and letters and the Cougar logo needed some tweaking to meet the state requirements and get approved. But it was worth it. "No other plate on the road looks anything like it," says Pavish. "We think Cougars will love it."

In addition to the special WSU plate, the Department of Licensing provides personalized WSU plates. They have the same all-crimson background and the opportunity to design your own unique message. Those who currently have WSU special or WSU personalized plates can keep their same numbers or message on the new all-crimson plates.

The special plate costs an initial \$40 in addition to standard license plate fees. The renewal is \$30 plus fees. Personalized plates cost an additional \$49.75 to purchase plus other standard license plate fees. Of the costs, \$28 from each plate goes to scholarships for WSU students. Last year alumni plates raised over \$350,000.

For more information about the WSU license plate program visit www.alumni.wsu.edu/license or your local DOL office.



The Long Journey of the Nez Perce: A Battle History from Cottonwood to Bear Paw by Kevin Carson '81

WESTHOLME PUBLISHING, 2011
 :: Review by Tim Steury :: In his foreword to the latest account of the Nez Perce War of 1877, Kevin Carson '81 writes, "In my memory, there was never a time when our family was not fascinated by the saga of the Nez Perce." Carson's great-great-great grandfather, Levi Watrous, served as a scout during the Civil War, then moved to Columbia County, Washington, in 1872, where he made his living as a stockman. When the Nez Perce War exploded, he rode out of Dayton as a lieutenant of volunteers, eventually becoming their commander.

"Generations removed," writes Carson, "we now recognize that the war was planned and manufactured by politicians and the greedy. The history is written, and my ancestor was a part of the violent story of the summer of 1877."

Carson's fascination and his personal connection have resulted in a fresh and vigorous retelling of the Nez Perce rebellion against the federal government's betrayal of its treaties and desperate flight toward refuge in Canada, where they hoped to join Sitting Bull's forces.

Carson approaches the conflict between the Nez Perce bands and the U.S. Cavalry, as the subtitle indicates, largely as a battle history and notes that Nez Perce tactics are part of the modern U.S. Army curriculum.

Following the rout of the first major battle of the rebellion, Captain David Perry realized he would need to learn a new style of warfare "against a foe of unprecedented skill at arms. He had been outthought and outfought, and it rankled."

Eventually, the superior resources of the Army would prevail. Chief Looking Glass was killed. Chief Joseph surrendered short of the Canadian border, unwilling to subject his band to any further suffering. Only White Bird and his small band would cross the border and join Sitting Bull. But their military skill and tenacity in the face of such great odds were extraordinary.

Carson writes with great admiration for that skill and empathy for their suffering and loss. He tells the story with immediacy and fascinating analysis. This is a really fine addition to our Western history, one that has given me a deeper understanding of our Nez Perce neighbors and our landscape. ☺



Good Science: The Pursuit of Truth and the Evolution of Reality by Timothy McGettigan '95 PhD

LEXINGTON BOOKS, 2011 ::
 Review by Eric Sorensen :: Truth, writes Timothy McGettigan, is a challenging subject.

It's hard to get at, consuming the bulk of scientific endeavor for starters. It's also hard to nail down, with paradigm shifts both altering our sense of reality while rattling our faith that something like the truth can be attained.

McGettigan, a professor of sociology at Colorado State University-Pueblo, makes an enjoyable and wide-ranging case for forging ahead. Drawing on the revelations of Galileo

Galilei, Charles Darwin, Albert Einstein, and others, he notes that the enterprise can be discouraging as old views—an earth-centered universe, a universe created in six days, classic physics—get knocked off by rebellious upstarts.

Moreover, he says, "no paradigm is perfect, they can all be improved." But along the way, new explanations emerge for previously inexplicable facts.

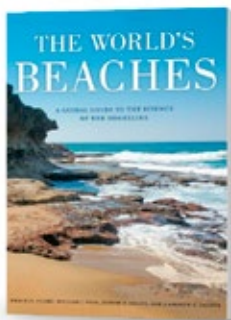
"The advantage of the unending quest for scientific truth is that it elevates and inspires new thinking," McGettigan writes.

Big thinking is also in our nature as a species that has evolved by both biological evolution and conscious thought. Quoth Karl Popper, the science philosopher to whom *Good Science* is dedicated: "All life is problem solving."

In this spirit, McGettigan celebrates problematics—scientific endeavors that seem nearly impossible yet inspire us to reinvent reality. President John Kennedy's

call to put a man on the moon was a problematic that helped turn the United States into the sole superpower and a leader of the information age.

McGettigan's proposed problematic: the quest for artificial intelligence, which would help us create machines to probe the truth for us while helping us discover what it truly means to think. ☒



The World's Beaches:
A Global Guide to the
Science of the Shoreline
by Orrin H. Pilkey '57,
William J. Neal, Joseph T.
Kelley, and J. Andrew G.
Cooper UNIVERSITY OF
CALIFORNIA PRESS, 2011 ::
Review by Hannelore

Sudermann :: It may appear to be a scholarly approach to beaches, but once you

wade in to this book, you will find an entertaining and informative read. With a light touch, Pilkey and his co-authors manage to describe some heavy concepts like erosion, tsunamis, and human impact. Their goal, they say in the introduction, is to provide "a global perspective in regard to beaches, how they form, how they evolve, and how they are similar but different."

They succeed, starting off by providing some beach history with Julius Caesar landing near Dover in 55 BC, Leif Ericson reaching Newfoundland in 1001, and Columbus claiming land for Spain on a San Salvador beach in 1492. They mix in some less profound landings—like beach volleyball arriving in Europe through a nudist camp in France.

But they quickly get down to business, as geologists, earth scientists, and coastal studies experts.

One chapter explains how to read a beach, starting with the large landforms

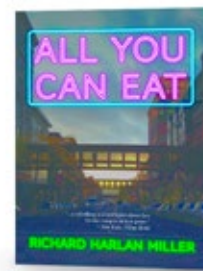
and then working down to dunes, washover fans, and tide lines. Don't miss the smallest and newest features, the bedforms on the surface of the beach. There is a whole descriptive language of ripple marks, like flat-topped and ladderback. How they look reveals how they were formed.

Besides providing a deeper understanding of beaches, tides, wildlife, and geology, the authors point out problems like beach mining in the Caribbean, sea walls (which can narrow beaches) and shoreline development, and the rising sea level. They make the point that humans are the greatest threat to the world's beaches. This is nothing new, they note. Manmade hardscapes date back to ancient Rome.

Whether it is through offering a broader understanding of nature and its forces, or a new approach to rising sea levels and human efforts to groom, replenish, or generally control the sand and waves, this book offers

many new ways to explore the beach.

Read more about author Orrin Pilkey in our Tracking section. ☒



All You Can Eat by
Richard Harlan Miller
:: GRAY DOG PRESS, SPOKANE,
2011 :: Review by Larry Clark
'94 :: In an expensive
downtown Spokane condo
lives a predator. You
wouldn't guess it from his
expensive wine,
conservative clothes,
classical music, and
penchant for nature and
historical TV programs,
but Darius is part of a
group who must drink the
blood of humans.

They don't use the v-word,
turn into bats, or sleep in
coffins, but the
bloodsuckers in *All You Can*

Eat live a very long time
and prefer the night. As
one of them, Darius hunts
in Seattle, with victims
carefully selected and
seduced from an online
dating service.

His stable, if occasionally
violent, life goes awry when
he falls for a potential
victim, Susan, and receives
a visit from old comrade
and fellow hunter Luke.
The story turns on
another ancient and
powerful member of their
kind who compels Darius
and Luke to attend a
counterculture festival in
rural western Montana, set
up as a feeding ground and
scene of some shadowy
plans.

Miller, who works for
WSU's Center for Distance
and Professional
Education, gives readers a
well-constructed twist on
the classic horror genre
with sharp dialogue and
darkly humorous passages.
Thanks to his years around
the Northwest, Miller
sketches the culture and
quirks of the region from
Seattle to Montana as a fine
background for his first
novel. ☒



The Lowell Elm

Harriet Bryan, wife of Washington Agricultural College president Enoch Bryan, planted the Lowell Elm in 1893. She had brought the seedling to her new home from Elmwood, the estate of James Russell Lowell, near Harvard University, where her husband had earned his master of arts degree shortly before becoming Washington State College's first long-term president. *Staff photo*

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