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COVER: PACIFIC TREE (OR CHORUS) FROG IN A DUCKWEED-COVERED ISSAQUAH POND. JANET HORTON/ALAMY. LEFT: WSU CYCLING TEAM ON A PALOUSE FLYER. FRAME WSU VIDEO SERVICES.
This silence is quite golden  

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Cycles. An army of frogs lived in a small pond about half a mile from my childhood home, sharing the space among the cattails with turtles and red-winged blackbirds. My friend and I built a small raft and tried to catch those noisy frogs—probably Pacific chorus frogs—but they were fast. I also witnessed the full life cycle of the amphibians there, from egg to tadpole, froglet to frog.

The fond memories of that small bit of water with its abundant animals came back to the surface as I considered the breakthrough research of Washington State University scientists into devastating diseases that have killed and endangered amphibians around the world. These animals play a vital role in the food web of our environments, so it’s heartening to know that WSU researchers might break the disease cycle.

Our lives, too, revolve around recurring events, large and small. From the changing seasons to the switching of traffic signals, we move within a pattern. Here at the University, fall brings students and faculty back to campuses soon covered with colorful leaves, and the academic year begins anew. Yet, even as the months and years pass in that pattern, there’s a shared goal that transcends the cycle and informs WSU’s work.

The frogs in the pond, as generations went through their life cycles, shared a simple purpose: eat, avoid being eaten, reproduce. The University has its own higher purpose: access to excellent education, innovative research, and meaningful community outreach. Those noble goals go back to the origin of our land-grant institution and still resonate.

However, how do those goals translate into our era? How does WSU best serve the state, and beyond, as people move around, industries change, and scientific knowledge expands? It’s a question addressed by presidents throughout Washington State’s history, including our eleventh president Kirk Schulz. He and the WSU community continued that conversation in May, and now work toward a plan to honor and expand our land-grant mission into the 2020s.

Cycles can shift, hopefully for the better, as with more efficient traffic signals, improving health behaviors, or regenerating textiles from used clothes. Yet there is also a beauty in long-lasting repetition, like the flow of University life or the changes in leaves, flowers, and fruit on trees through the seasons.
A century of memories

I thought you might be interested in hearing from a 100-year-old alumnus of the University who attended the school from 1936 through 1943.

I graduated from Skykomish High School in 1936 as valedictorian and received a one-semester scholarship at Washington State University, where—archaic as it was—Washington State College with 3,500 students. The award entitled me to housing in Walker Hall and dining at the Commons. Now I understand the goal is 40,000 students. I majored in geology under Harold E. Culver, head of the department, mineralogist and structural geologist Charles E. Campbell, and paleontologist Keith H. Lupper.

Those were the days of baseball coach Buck Sewell, basketball coach Jack Fred, quarterback Bill Fred, wintertime ice skating in a flooded field down by the Fieldhouse, 7:00 a.m. ROTC, and the Big W paddle squad out chopping freshmen to buy green beanie hats to benefit sports. As a graduate student, I looked so young that I was chased by the paddle squad and soon learned it was useless to argue. I would run into the nearest building, up the stairs, down the other side, and back to the street.

I graduated in 1941 with a BS in geology and entered the graduate school with my new wife, Frances Nelson Valentine. We attended school together while I worked on my master’s degree and she studied biology.

After the attack on Pearl Harbor, draft boards were set up and was classified 3-A, which meant instantly available for service. I received one deferment to complete my master’s degree and my teaching fellowship. During basic training at Camp Roberts in California, I volunteered for a unit that included being part of the 136th Infantry in the Panama Canal to the Philippines, where, as we entered Manila in August, we watched an American destroyer sink a Japanese submarine. We got news over the loudspeaker that atomic bombs were dropped on Hiroshima and Nagasaki. My unit entered Japan with the authority to restrict orchard operations if any activities near the runway created hazards for airplanes.

“Tukey Orchard” was useless to argue. I would run into the nearest building, up the stairs, down the other side, and back to the street.

Moving an orchard

HIGH ON A WINDSWEEP HILL, hundreds of apple saplings settle into high-tech homes at Washington State University’s Spillman Agroforestry Farm. After a century of being forced from one location to the next, the ancient fruit trees may have finally found a permanent site two miles south of the Pullman campus.

“We don’t anticipate any urban, residential, or university development taking place out here,” says Rich Koenig, professor in crop and soil sciences. “Our vision is that the orchard will be part of the new Tukey Horticultural Center for research, teaching, and extension outreach. It won’t be just tree fruit,” he says. “Eventually, we want to include landscape plants, ornamental horticulture, berries, vegetables, and opportunities for education and future research. We don’t often get this chance to build from the ground up, to design a facility that uses all the modern technologies.”

Horticulture has been at the heart of the University’s mission since its inception in 1890. Remnants of the earliest apple orchard—planted in 1902 near the current Lewis Alumni Center—can still be found in flower beds by Hulbert Hall.

Formal orchard teaching facilities were constructed in 1968 along Fairway Lane where the Student Recreation Center now stands. As WSU continued to expand, the grove was moved to an area near the Moscow-Pullman Regional Airport and named for Extension orchardist Ronald B. Tukey. There, Tukey Orchard thrived for 40 years along with its popular public fruit sales. In 2015, 150 apple trees were planted at a new site on campus.

Tukey Orchard's historic role in fruit production per acre. The orchard is still an important asset for the department, faculty, and students.”

As the tree fruit industry moves toward automated harvesting, that means planting dwarf trees which require the support of trellises. Dwarf trees also allow for closer planting—up to 1,000 trees per acre at the Spillman site.

Pehrson says Washington State University’s old apple varieties, like Winesap, Jonathan, and Scarlet O’Hara, were grafted onto dwarf root stocks. “We have to start over,” she says. “There’s value in the diversity of the genetic material. You might discover a unique characteristic, color, or flavor attribute that students don’t usually see, like kiwis or maybe nut trees and mulberries in the windbreaks.”

“Moving the orchard was originally planted at WSU, the vast majority of tree fruit facilities were here on campus,” says Koenig. “Today, most are located out at the research centers, but there is still a relevant piece here.”

The Germans were entrenched on Rosa Ridge, a 2,000-foot hill holding down the throat of the Allen. We scaled the cliff in February 1943 and drove the Nazis off the ridge and Mount Belvedere. With the end of the war in Europe in June 1945, I was placed in the 55th Engineering Division and put on a troop ship through the Panama Canal to the Philippines, where, as we entered Manila in August, we watched an American destroyer sink a Japanese submarine. We got news over the loudspeaker that atomic bombs were dropped on Hiroshima and Nagasaki. My unit entered Japan with the authority to restrict orchard operations if any activities near the runway created hazards for airplanes. Koenig says. “For example, things that attract birds, like cherry trees. Or students walking in the runway protection zone—that area where, if a plane is going to go down, it has a high probability of doing so during takeoff or landing.”

With limited options elsewhere on campus, Koenig says they began the monumental task of moving Tukey Orchard’s 1,200 heirloom apple varieties and other fruit trees to a ten-acre tract at Spillman Farm. Much of the work fell to the cheerful efforts of farm manager Deb Pehrson.

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Correction

In our feature story “How may we help you?” in the Winter 2019 issue (and magazine.wsu.edu/contact), we alluded to the new site where students can purchase a variety of fresh fruit. We should have stated that the orchard is still an important asset for the department, faculty, and students.”

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Talkback

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reduce, reuse, recycle, regenerate

BY BRIAN CHARLES CLARK

The bobbins Washington State University textile scientist Hang Liu examines are treasured by something new: lustrous fibers made from old T-shirts and jeans. This isn’t recycled cotton; this is regenerated cellulose—one of the main molecules in plants, including cotton—in new fibers reincarnated from cast-off garments.

That’s a big deal, as the Marie Kondo “tidying up” effect circulates the globe and people clear their closets of unneeded clothes. Those garments, with all good intentions, might end up on the racks of thrift stores, but thrift stores, overwhelmed by our collective generosity, are unable to use everything we send their way and so are discarding many of those donations.

In the end, our old clothes are piling up in already-choked landfills. Cotton recycling is a long-standing challenge. The ability to do it well, and in a non-toxic way, has been called a “game changer” by at least one nonprofit that, a few years ago, offered a million Euro prize for just such a method. But current recycled fibers suffer by at least one nonprofit that, a few years ago, offered a million Euro prize for just such a method. But current recycled fibers suffer toxic chemicals are used to dissolve it. But Liu adds, “people worry about contamination.”

Whether virgin or recycled, everybody who deals with cotton is concerned about contamination. Virgin cotton often contains residues from other plants, and rocks and sand from loading docks—even workers’ hair gets in to the mix during the spinning process. And strands of the ubiquitous plastic HDPE also get into the process at every step. With recycled cotton, the list of contamination grows to include stitching thread (often nylon or polyester) and spandex.

Liu’s method of regenerating cellulose is non-toxic. “Cellulose is really hard to dissolve,” she says. “With the existing methods, toxic chemicals are used to dissolve it. But our chemicals are nontoxic. It’s a common solvent, and we control the dissolving conditions to make the process work well.” Even better, the chemicals used in the dissolution process can themselves be recycled and reused in other processes.

While her process does use water, it’s minimal compared to the 10,000 liters of water it takes to make a kilo of cotton fabric. You can look at a T-shirt as nearly a month’s supply of drinking, cooking, and washing water for an adult. Liu speculates that her process is still a mathematical problem, says Hajbabaie. “Each intersection is a separate model,” he says. “Signal controllers can also send messages to vehicles to adjust their speed. By combining both real-time and speed optimization, it’ll reduce travel time by 4-7 percent more.”

Hajbabaie and his students projected what could happen when 100 percent of vehicles are connected and automated. On the computer model, vehicles zip around each other in what appears to be a chaotic scramble. However, the vehicles clearly are telling each other how to slow down, speed up, and maneuver in a way that keeps everyone moving quickly with virtually no wait times or near-crash conditions.

While a connected traffic future may be a decade or more away, Hajbabaie and his students are already examining the effects of a connected and automated vehicle environment through a grant from the Washington State Department of Transportation to prepare for the future.

Smart signals

BY LARRY CLARK

Sitting in traffic, especially in a busy city like Seattle, can feel like a twisted version of the kids’ game “red light, green light.” You crawl forward in your car a bit and then the signal changes and you wait, frustrated, through another cycle.

While many traffic signals still run on timers that might cause those delays, the future of traffic control at intersections could get a lot smarter and more efficient once those signals start talking to each other and to the cars, says Ali Hajbabaie, assistant professor at Washington State University’s Volair College of Engineering and Architecture.

Hajbabaie and his graduate students examine the effects of traffic signals that work as networks, talking with connected vehicles or sensors to better adjust timing. To avoid overload, each intersection is its own network, which then communicates with other traffic signal networks to figure out how to keep vehicles moving in a more effective way and reduce congestion.

“Think about Seattle. There are many intersections and many constraints,” the mathematical problem, says Hajbabaie. “Each intersection has too many decisions to make, so we distribute the problem. Instead of looking at the whole city, which represents a very complex problem, each intersection is a problem that we can solve.”

Based on their models, that system could reduce delays by up to 43 percent. It also reduces the number of red lights and the emissions of connected vehicles that communicate with the signals and each other. In the real world, the results likely wouldn’t be that dramatic, but traffic congestion would significantly improve with around 35 percent of vehicles connected.

Congestion is a pressing and very visible problem, particularly in urban areas around the world. Kirkland-based connected car services company INRIX calculated that in 2018 commuters across the United States spent an average 97 hours last year stuck in traffic, at a cost of $87 billion lost to traffic congestion. That doesn’t even count the environmental or health consequences.

In Seattle, the sixth most congested U.S. city, according to the study, motorists spent an average 138 hours in traffic, costing an average $1,932 each. Portland, Oregon, clocked in at number 10 on that list.

Smarter traffic signals wouldn’t solve all traffic congestion, but Hajbabaie says, more communication between vehicles and signals can make a difference.

“We’ve created that conversation between intersections, so that one might tell another one, ‘I’m going to send this many vehicles to you.’ The other one says, ‘OK, I have this much capacity to receive vehicles,’” he says.

Mehrdad Tajalli, a doctoral student working with Hajbabaie, says the old methods, such as traffic engineers counting the vehicles in an intersection and then adjusting timing on the signal, are not able to cope with the additional traffic or the emergent technologies. In the connected system, “each intersection can find the optimal timing,” he says. “Signal controllers can also send messages to vehicles to adjust their speed. By combining both real-time and speed optimization, it’ll reduce travel time by 4-7 percent more.”

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Hearts in motion

BY LATISHA JENSEN ’19

Joselin Hicho received the call the night of March 12. Her 21-month-old son, César Vicente, had been added to the next day’s schedule for volunteer surgeons to operate on his cleft lip. The next morning, they hopped on the 5:00 a.m. bus from their town of San Sebastian for the two-hour journey to a private hospital in Zacapa, Guatemala.

The humanitarian organization Hearts in Motion (HIM) has been sending surgeons to perform life-changing surgeries on Guatemalans for about 35 years. Cleft lip and palate, which can lead to malnutrition, are common operations in the area.

Hicho says she’s happy her child will have a vida normal, a normal life.

Luke Neuenschwander, one of 35 Washington State University students on this year’s spring break volunteer trip with HIM, witnessed surgeries such as Vicente’s, and his dream to provide free medical services to less fortunate individuals around the world solidified into a concrete goal.

“I had realized that I spent a lot of time engineering things that help people, but never really got an opportunity to work with those people,” says Neuenschwander, who just graduated with bachelor’s degrees in mechanical engineering and Spanish. “Hearts in Motion was the perfect combination.”

For 12 years, students, primarily health sciences and Spanish majors, have traveled to Guatemala with HIM offering assistance to dentists, surgeons, and other specialists. They were assigned a new duty each day, such as checking people in, measuring height and weight, or drawing blood. The students provided people with anemia and diabetes, assisted in tooth extractions, distributed and gave instructions on pain pills, helped with speech and physical therapy, and constructed homes.

The students all had varying levels of Spanish skills, and Neuenschwander says being a “runner” to direct people at the clinics required the most diverse set of Spanish skills. If patients had anemia or diabetes, runners would explain that, if diabetic, they needed to drink less soda and eat fewer sugary foods. If anemic, runners would send them to Ana María Rodríguez-Vivaldi, associate professor of Spanish, who would give detailed advice.

“There is nothing I can compare to being thrust into a situation where everybody around you speaks no English, and you have to communicate really refined instructions about their health,” Neuenschwander says.

Students also visited the nearby nutrition center for malnourished children, orphanage, and senior center built by the HIM program.

The seniors come in on Wednesdays, and the orphanage children serve them meals, says HIM founder Karen Scheeringa-Parra. What makes the program unique is that anyone at any age or ability can help change others’ lives, she says.

“This program [is] so broad that you can bring your grandma down and she can rock babies in the nutrition center while we go do surgery.”

Scheeringa-Parra always had a heart for helping others and went to school to be a social worker.

Her journey to creating this nonprofit was not a smooth one. After suffering a fifth miscarriage, she adopted a little girl from South Korea. She had no idea how this would lead her to help hundreds of other children and eleven adopted children of her own. Eventually, she was able to conceive one child.

While in South Korea, she met a woman who was adopting six children.

In 1989, HIM started sending university students as volunteers to make a larger impact. The program has been in Zacapa, the area with the most need, for 24 years. WSU junior Anna Edwards arrived in Zacapa as a biology major and, after interacting with Guatemalans, left with the realization that she wants to become a physician’s assistant to have more direct personal contact with patients.

It was Edwards’s first study abroad experience, and she says she was shocked by how kind and grateful everyone was.

“They have so little but they are still just as happy, if not happier, overall,” Edwards says. “We were literally pulling teeth with just topical, and they were amazed. They got up out of their chains and hugged and thanked us.”

Edwards traveled to Ecuador in July to test anemia rates with Kathy Beerman, professor in the School of Biological Sciences. Beerman recognized that Guatemalans might have iron deficiency because of their high-starch diets when she first started going on the trip seven years ago.

The group rode buses on dirt roads in the overflowing heat to a new village each day, set up the clinic, and spent the day offering their services, including anemia testing. About 100 people were tested in each village. This year, the average anemia rates ranged from 20 to 25 percent, up to 35 percent.

When patients test positive for anemia, they are given the Lucky Iron Fish, a fish-shaped iron piece activated in boiling water and then cooked in meals such as rice to enrich the food with iron. It lasts five years for an entire family.

HIM has resettled patients in later years to see the impact, and Guatemalans have reported feeling more energetic and having an increased ability to do activities such as walking their children to school.

HIM already offers a few services in Ecuador but founder Scheeringa-Parra wants to expand even more. Beerman’s goal is to start a second HIM program in Ecuador in May 2020, if there’s enough medical need.

Edwards says the HIM excursion gives students a cultural experience they couldn’t take for granted sitting in a classroom, and Neuenschwander agrees.

“We complain about things like not having Wi-Fi,” Neuenschwander says. “But when you compare them to the things other people in the world live with—that really provides you with perspective of how privileged you actually are.”

Latisha Jensen ’19 Comm. and photojournalist Matthew Winchell, part of the Marrow College Backpack Journalism program, accompanied the HIM volunteers in March.

It’s an anti-sound, the audioversion of true black, a pressing absence that makes the ears flinch like hands grasping at empty space. “Isn’t it amazing?” says Bjur.

This is the sonically blank slate on which WSU music students and faculty immortalize their art. It also epitomizes some of the wholesale changes in the music recording industry, from a caste system of companies and recording contracts to a more egalitarian model of do-it-yourself recording and digital distribution.

The studio was part of a two-story addition to Kimbrough in the 1990s. The facility wanted a way to record and share their scholarly output, and the Paul G. Allen Family Foundation helped with a $625,000 gift. “It’s a way to share our scholarship widely,” says Greg Yasinitsky, Regents Professor of music at Washington State University. With a background as diverse as his, one would expect great things when he channels all of his skill and energy into one recording project. Yasinitsky’s 2018 release IAZZ Band does not disappoint. Featuring nine original compositions arranged for big band, the album takes the listener on a diverse and executive musical journey. The action-packed opening track “Serpentine” runs up to 10 minutes and is equal parts John Coltrane, Wayne Shorter, and... snakes. The melody of this energetic piece grips the listener’s attention as it chromatically drifts to and fro. Other stand-out performances include the ballad “Missing You,” “True North” with its playful union theme woven throughout, and the cool and confidant “New York Confidential” which tips its hat to the writing styles of Billie Stritchom and Thad Jones. Other highlights from the album include beautiful and burnin’ solos from Brian Ward on piano and Vern Silecic on trumpet.

Yasinitsky is a generous and thoughtful arranger, giving each section of the band their time to shine, like the trombone section on “Gator Tail,” or the piano on the lower sounding instruments on “Full Bloom Blues.” Being a saxophonist, he really knows how to craft a sax solo, as can be heard on “Partial Eclipse” and “One-Two-Three.” His parts are part of a bigger picture, humorous, and engaging arranging style means you’ll be listening to IAZZ Band over and over again, and hearing something new each time.

On a side note, I usually shy away from modern big band recordings: creating using a handful of players and overdubbing section parts as I often find them to sound sterile or lacking tonal diversity within the horn sections. IAZZ Band, recorded at the WSU recording studios, successfully presents the music and ensemble without sounding bland or sonically drab.

———

“Kids get a nice clarinet tone,” he re-creating a solo. Capturing it is a Novation U76, the go-to microphone of Al Schmitt, a Grammy-draped producer behind more than 150 gold and platinum records and a Bjur gun. It’s just one of many fastidious details in the process. Another multiple computer running algoritms just for reverbs. With the right adjustments, the studio can sound like a church, concert hall, or nightclub.

At one point a mauled thing comes through the control room speakers. Someone bumped a mic, says Bjur, but he can isolate it and replace it with sound from an earlier take. “What doesn’t work is if someone plays the wrong note,” he says. “It’s a long, dynamic piece with lots of moving parts. One challenge, Bjur says over the intercom. “We think so,” says Ward. “Well let’s find out. Here we go.” It’s a long, dynamic piece with lots of moving parts. One challenge, Bjur says, is the band invariably plays louder during a recording than the sound track.

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“Kids got a nice clarinet tone,” he repeats during a solo. Capturing it is a Novation U76, the go-to microphone of Al Schmitt, a Grammy-draped producer behind more than 150 gold and platinum records and a Bjur gun.

It’s just one of many fastidious details in the process. Another multiple computer running algoritms just for reverbs. With the right adjustments, the studio can sound like a church, concert hall, or nightclub.

At one point a mauled thing comes through the control room speakers. Someone bumped a mic, says Bjur, but he can isolate it and replace it with sound from an earlier take. “What doesn’t work is if someone plays the wrong note,” he says. “That doesn’t happen. The students finish the tune at 12:59 p.m. The students applaud, Ward says goodbye and quickly scatter.

It’s part of the education for the future, in a way,” Yasinitsky says. “It’s probably what folks should have been teaching all along.”
The French connection

BY REBECCA PHILLIPS

IT WAS JUST AFTER MIDNIGHT. Spring at a 2,200-kilometer cycling event in the French Pyrenees when Stan Vink Sikorski felt something hit his left shin.

“I was alone and saw it out of the corner of my eye,” recalls Sikorski (’81 Physics). “On the ambient light, I looked down and saw a tear attached to my ankle. ‘What the hell is this thing?’ I thought. As I ripped it away, I felt a sting in my finger and a drop of blood. I’d been bitten.”

At the next checkpoint, he explained the situation to the volunteer who guessed it was a bat and took Sikorski to a clinic. There, a nurse assured him that the risk of rabies in France is very low and not to worry. Sikorski has 1,600 miles in six weeks. It was exciting—it’s an awe-inspiring way to keep going. But there’s something else, too, he says. “There’s something else like, ‘I’ll just have to look at the sun set and hours later, watch it rise again. It takes up to 90 hours to complete, so you don’t get to sleep much. I usually finish in about 70 hours. It’s very hilly terrain.”

“I started riding when I was five, chasing that dream,” he says. “I’ll never stop until I get there.”

The race was 30 miles long and then a three-mile climb almost straight up,” he says. “Even my parents came to watch that one.”

Dugan trains about 60 miles every day, mostly on hills. Fluent in Spanish, he was first inspired by former professional Spanish cyclist Alberto Contador as well as Fausto Cutaia, a Colombian climber whom Dugan says reignited cycling for that country and has become a national hero.

“I want to reinvigorate competitive cycling for the United States—that’s my ultimate goal,” says Dugan. “In the Tour de France, there are no longer any American teams or American team captains that are climbers. To win it, you need to be good at climbing.”

If all goes well, Dugan hopes to be in the Tour de France by 2024 or 2025. Cougs from every nation will be cheering.
Leading the Crimson and Gray: The Presidents of Washington State University

WSU Press, 2019

The long struggle to found a public university in the nascent United States began with George Washington. Washington offered to donate land to the cause, which he saw as common ground for those separated by the “jealousies and prejudices which one part of the Union had indulged against another part.” Washington was interested in a university to instruct his grandchildren, and he wanted this institution to be a model of virtue. Washington’s dream was realized in 1862 when the Morrill Act was signed into law.

By Larry Clark

Washington State University

The book, and the questions it raises, led to a WSU-wide symposium in May, where several hundred members of the WSU community turned out for the conversation about WSU’s future, looking forward from the vantage point of the past. Gavazzi emphasized that land-grants must remain centered on communities. They should teach those in communities who must need it, research issues of importance to them, and serve specific community needs.

Washington State University President Kirk Schulz—himself a graduate, faculty administrator, and president of land-grant universities—has witnessed the ongoing transformation. When Schulz read the 2018 book Land-Grant Universities for the Future, by Stephen M. Gavazzi of The Ohio State University and West Virginia University President E. Gordon Gee, he struck a chord. Gavazzi and Gee had interviewed land-grant leaders, and identified strengths and changing threats.

Thirty-three years later, Washington’s land-grant college was founded in the wheat fields of the Palouse.

This, and more, can be gleaned from Leading the Crimson and Gray, an anthology of biographies of WSU’s first ten presidents. Commissioned and published by WSU Press, the contributors are all sharp-eyed historians, either by profession or association. Each president’s biography covers the arc of his major accomplishments, as well as providing some psychological insight into what made these men tick.

“Don’t these people ever quit?” writes William Simmons (’89 MA, ’90 PhD) History) in the introduction, referring to WSU’s tenth president Elson Floyd’s herculean push for the state’s second medical school. “The answer is no, of course they don’t. That’s perhaps down to WSU’s famous tenacity but, more than that, Floyd’s drive is testament to the meritocratic championing of the land-grant philosophy that has underpinned the system of state universities since its inception.

The first two long-term presidents, Enoch A. Bryan and Ernest Holland, certainly began that tradition of dedication.

Land-grant future

BY LARRY CLARK

Washington’s land-grant college opened in 1892 to educate the working class and focus on agriculture. Times and the college changed, but it remains dedicated to accessible education, research, and service to the public.

Washington State University President Kirk Schulz—himself a graduate, faculty administrator, and president of land-grant universities—has witnessed the ongoing transformation.

But more significant than these business innovations were Bryan’s agrarian roots and values. Raised on a subsistence farm in southern Indiana, Bryan idealized rural life, and his values developing into a passion for his land-grant vision.

Advertising for Riviera promoted these ideals, sometimes to hyperbolic extremes. “Prepare for the Change! THAT’S COMING!” blared an ad promoting the project. “The people must go back to the soil to avert a financial crash.”

For a while, Riviera showed promise. According to Don Clarke in the Bunchgrass Historian, the company built a store, a post office, a blacksmith shop, a boarding house, and a school. Bryan built a cottage for his family. Accounts vary, but there were as many as a dozen or so houses at the community’s height. At one time, the school enrolled 35 children. But that success was fleeting.

Bryan’s son Arthur was the manager and secretary-treasurer of the Riviera Company. In a letter to his father barely a year after the land was purchased, Arthur noted that Riviera was overdrawn at the bank and there was no money to pay for electric poles or freight. His father had bought an electric company in Starbuck, with the goal of stringing electric wires 11 miles down the rugged roads to Riviera to run irrigation pumps.

Although Arthur was to his mother a few months later that the line to Riviera had been finished, their attempt to electrify the town and irrigation pumps eventually failed, as the generator in Starbuck could not produce enough power. An attempt to secure power for the community turned out for the college’s mission. The two men eventually gave up hope in the end.

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Their skin is thin and sensitive. They’re easily bruised. And their season—six to seven weeks, if we’re lucky—is more fleeting than summer itself. That short harvest time and extreme susceptibility to wind and rain and temperatures either too hot or too cold are just a couple of reasons why Rainier cherries are so special.

These spectacular stone fruits are prized for their sweetness and color. Distinctive and delicate, Rainiers—the color of a buttercup tinged with a pleasing pink to bright red blush—are little gems. “The appeal of these contrasting colors is what makes them stand out on the tree and in the retail market. It’s just a good combination,” says WSU horticulturist and cherry expert Matthew Whiting (’01 PhD). He calls Rainiers “tree candy.”

Their flesh—creamy, yellow, firm, gently floral, exceptionally sweet—is made up of nearly one-fifth sugar, or anywhere from 17 to 23 percent. “The Rainier is a wonderful-tasting fruit,” Whiting says. “With such high sugars and typically very low acidity, it truly is like eating a piece of candy, except it’s much better for you.”

Customers have been willing to pay more for this two-toned premium cherry than for other sweet cherries. And, over the years, they’ve become increasingly popular. The 2018 crop was the largest ever for Rainiers, according to an annual review by the Northwest Cherry Growers, a Yakima-based organization that markets cherries for growers in Washington, Oregon, Idaho, Montana, and Utah. Packers moved 2.52 million boxes of Rainier cherries last year, breaking the previous record of 2.36 million in 2014.

Named for Mount Rainier and developed at WSU, Rainier cherries are a cross between two cultivars: the Bing, which originated in Oregon in 1875, and the Van, which originated in British Columbia in 1936. “I was just as surprised as anyone that ‘white’ ones showed up,” Harold Fogle told The Seattle Times in 2004. The late USDA breeder developed Rainier cherries at WSU’s research station in Prosser in 1936. “I was just as surprised as anyone that ‘white’ ones showed up,” Fogle told The Times, “from the moment I first saw it ripen.”

Golden-hued Rainier cherries were first released in 1960. Despite their unusual good looks and natural sweetness, Whiting says, they were “initially sold out as a pollinator. The Bing itself is sterile and needs a compatible pollinator tree to fertilize its flowers.” Rainiers were largely planted to support Bing crops until the early 1980s, when growers really began to realize their potential on the fresh market. “Now,” Whiting says, “it is the premier cherry around the world.”

Sweet cherries are thought to have come from the region between the Black and Caspian seas, and cultivation is believed to have begun with the Greeks. Colonists brought sweet cherries to the New World, and they arrived in the Pacific Northwest in 1847 when Henderson Ling arrived from Iowa to Oregon with nearly 1,000 trees and shrubs. His younger brother, Seth, later developed the Bing, named for his Chinese workers’ foreman, Ah Bing.

Today, Washington state is the top producer of sweet cherries in the country. According to the Washington State Department of Agriculture, sweet cherries are the state’s number six cash crop with a value of about a half billion dollars.

Growing cherries of any variety is a fickle business. Birds love them. And there’s that thin skin. A summer rainstorm can split it. Sweet cherries are thought to have come from the region between the Black and Caspian seas, and cultivation is believed to have begun with the Greeks. Colonists brought sweet cherries to the New World, and they arrived in the Pacific Northwest in 1847 when Henderson Ling arrived from Iowa to Oregon with nearly 1,000 trees and shrubs. His younger brother, Seth, later developed the Bing, named for his Chinese workers’ foreman, Ah Bing.

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Where have all the frogs gone?

BY REBECCA PHILLIPS

ILLUSTRATION ESTHER NG
It happened again that morning. During their rounds, zookeepers found another tank of dead blue poison dart frogs. The tiny azure amphibians, native to South American rainforests, had been enjoying a successful breeding program at the Smithsonian National Zoo. Now, inexplicably, they were dying from a mysterious skin disease and the cause remained elusive.

The year was 1996 and Allan Pessier (’96 DVM) had just begun a pathology residency at the National Zoo. As a lifelong amphibiophile, he was more than a little intrigued when the deceased dart frogs began arriving in his laboratory.

Together with senior pathologist Don Nicholls, Pessier used an electron microscope to search for the likely culprit. It wasn’t long before they zeroed in on what appeared to be an unusual fungus called Chytridiomycetes or “chytrid” that typically grows on decaying vegetation.

Seeking verification, Pessier used their pre-Google web browser to locate one of the world’s few experts on chytrids, a mycologist named Joyce Longcore. Longcore agreed their specimen seemed to be a chytrid but was unlike anything she’d ever seen before. Eventually, she identified it as an entirely new species and the first chytrid fungus known to infect vertebrates like frogs. They named it Batrachochytrium dendrobatidis or Bd.

“Bd has truly earned its name as the most deadly pathogen ever recorded,” he says, speaking of the worldwide analysis published last March in the journal Science. The report concluded that Bd, uninvited in its ability to kill untold hundreds of millions of frogs, was responsible for the decline of more than 500 species with at least 90 forced into extinction. Deadline than the 1918 influenza pandemic or medieval bubonic plague, Bd is the worst infectious disease known to science.

In 2017, Pessier, Nicholls, Longcore, and colleague Elaine Lamiarade were honored with the Golden Goose Award from the American Association for the Advancement of Science. The award is given to groups of researchers whose seemingly obscure, federally-funded research has led to major breakthroughs in medicine, science, technology, the environment, and engineering.

Today, in an office adorned with frog paintings and posters, Pessier has returned to Washington State University as a pathologist in the Washington Animal Disease Diagnostic Laboratory (WADLD) and clinical associate professor in the College of Veterinary Medicine. With 20 years’ experience in aquatic pathology, Pessier is the “go to guy” when wetlands and other ecosystems are damaged by amphibian disease. Each year, WADLD receives hundreds of samples from people across the world seeking Pessier’s expert knowledge and diagnostic skills.

But Pessier is just one of several WSU scientists taking amphibian research to the global level. Careen Goldberg in the School of the Environment, they set out to develop reliable techniques that would enable them to detect rare amphibians and fish on military bases across the United States. “Our military bases are some of the last preserved parts of ecosystems that have otherwise been developed or plowed under,” Goldberg says. “They contain a lot of the nation’s endangered species. If you think about it, even a bombing range, for example, is much less disturbance to a salamander than is a shopping mall.”

She began the project by adapting protocols for working with poor-quality DNA that she’d learned as a doctoral student at the University of Idaho. In 2012, she joined WADLD and designed her lab to use these new methods for processing eDNA samples.

Recently, Goldberg, Strikler, and wildlife biologist Jeff Manning in the School of the Environment were awarded another $1.4 million DoD contract to continue improving eDNA detection especially for over rocks and kicking up mud, which can harm the animals living there—scientists can get answers with only a few water samples.

When Goldberg first learned of the concept as a graduate student in 2007, it transfomed her world.

“As an ecologist, I spend a lot of time looking for rare species out in the field and not always finding them even though we know they are probably there,” she says. “When I heard about eDNA that detected amphibians in water, I was so excited. I knew it could have huge implications for managing and conserving rare species.”

By 2011, Goldberg had a contract with the Department of Defense to bring eDNA surveillance into the real world as a practical tool for wildlife conservation. Joined by fellow researchers Katherine Strikler and Alex Fremier in the School of the Environment, they set out to develop reliable techniques that would enable them to detect rare amphibians and fish on military bases across the United States.

“We thought we’d discovered a cool thing in zoo frogs,” says Pessier. “But, there was this window of time when we realized we may be the ones who knew exactly what was causing these enigmatic global die-offs. That’s pretty exciting, especially when you’re just a year out of veterinary school.”

In time, their theory was validated and Pessier began providing diagnostic help to investigators in Central America. Bd thrives in a cool moist climate, so frogs living in mountainous cloud forests suffered the most. Particularly those in Panama like the iconic golden frog now thought to be extinct in the wild.

“It didn’t hit me how devastating it really was until I went out into the Panama rainforest in 2006,” Pessier says. “Before the chytrid fungus went through, the forest was dancing with frog calls and they covered the ground everywhere you stepped. But after the chytrid fungus, it was completely silent and I had to search for 45 minutes to find a single frog.

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Rain clouds are gathering but, for the moment, it’s a sunny April afternoon as I follow a muddy path around the... Caren Goldberg at Virgil Phillips Farm Park. Photo Robert Hubner
species that are very rare and present in low numbers. They want to increase test sensitivity to handle some of nature’s most challenging conditions such as highly acidic water or very large ponds.

The biggest challenge for eDNA surveillance, however, may lie in the frontline battle to prevent a deadly salamander fungus from entering the United States and other vulnerable parts of the world.

In 2013, scientists were alarmed to discover massive salamander die-offs occurring throughout Europe from a new strain of chytrid fungus similar to Bd. Known as Batrachochytrium salamandrivorans, Bd, or salamander chytrid, the disease is especially threatening to the United States, a global hotspot for salamander biodiversity.

Thanks to lessons learned during the frog Bd pandemic, the new infection was quickly identified and international barriers were established to prevent spread of the pathogen. By 2016, the U.S. Fish and Wildlife Service had banned imports of 2013 salamander species.

Jesse Brunner, associate professor in the School of Biological Sciences, is on the National Bsal Task Force and says the fungus has not yet been detected in North America.

“Bsal has been at the front of my mind for a while,” he says. “Allan Pessier, Caren Goldberg, and I are working on developing better approaches to screen animals and try to prevent it getting here. Millions of amphibians are imported into the U.S. every year, mostly through the pet trade.”

The idea is that we can collect a handful of samples from the water and have a high probability of ensuring there isn’t an infection in that group of animals.”

Worldwide surveys indicate these infectious fungi likely emerged from Asia where over millions of years, the local amphibian species developed a resistance to it.

“The exact origin may be uncertain but what is clear is the movement of animals for the pet trade is moving pathogens like Bd and Bsal around the world,” says Brunner. “So, we can expect to see more emerging dangerous pathogens in the future rather than fewer.”

And while Asian frogs and salamanders seem to have a natural immunity, the fungus can wreak havoc when moved to a new location or into a novel species, he says. “That’s when you often see some of the worst outcomes.”

The Bd fungus is a devastating example. Brunner says frogs rely on their skin for breathing as well as electrolyte balance. When Bd invades skin cells, it disturbs the frog’s ability to regulate water and electrolytes, which leads to changes in the blood that essentially cause a heart attack.

“It’s sort of like whole-body athlete’s foot that ends up killing them,” he says.

Though most salamanders breathe using both lungs and skin, it’s a similar story when they’re infected with Bsal—within days the fungus causes ulcers and sloughing tissue that lead to apathy, loss of appetite, and death. As one researcher put it, “It’s death by a thousand holes.”

Besides the fungus, Brunner is also concerned about one more “cold-blooded killer” called ranavirus that can cross-infect fish, reptiles, and amphibians.

“Ranavirus has a global distribution now,” he says. “It can be a really nasty infection—the virus gets into every bit of tissue they have, every cell, where it causes massive damage and organ failure. Thankfully, it doesn’t replicate at warm-blooded temperatures.”

The curious question is how some animals manage to control these viral and fungal infections so they don’t cause severe illness or death. Part of Brunner’s research is aimed at determining the factors that lead to this resistance and why catastrophic losses occur in some places and not others. He and his fellow scientists are following several clues.

Erica Crespi, a physiologist and associate professor in the School of Biological Sciences, studies the way stress affects an amphibian’s early development. Frogs and salamanders are very sensitive to environmental changes which can trigger spikes in their stress hormone corticosterone.

“Just as in pregnant mammals where elevated stress hormones can cause premature birth, high corticosterone can shorten an amphibian’s development time and affect how the brain and lungs develop and cause other lifelong impacts,” she says.

Brunner says the idea that long-term chronic stress can suppress the immune system and make it harder for an animal to fight off infections has been studied by biologists for decades.

“In its simple form, the hypothesis says that anywhere we see animal activities or other stressors, we should see big outbreaks of disease, but it’s not that simple. Stress doesn’t always translate into outbreaks.”

He and Crespi are trying to determine how individual animals respond to environmental stressors such as increased salinity or water temperature, and how that scales up to negative population outcomes like a pond full of floating frogs.

“The underlying stress mechanisms we’re studying apply to all sorts of animals like elk, fish, or any other species—and disease outbreaks in general,” says Brunner.

The investigation continues at WSU Vancouver, where Jonah Piovic-Scott, assistant professor in the School of Biological Sciences and a member of the National Bsal Task Force, is exploring the effects of climate change on chytrid fungal diseases.

“Neither Bd nor Bsal tend to do well when it’s hot,” he says. “So, some aspects of climate change may actually help amphibians with these pathogens. But other aspects may make them more susceptible. For example, if ponds dry up earlier in the season, it will decrease the amount of time amphibians have to develop. The stress will force them to develop faster, which may make them more susceptible to disease later in life.”

Piovic-Scott is often asked why we should care about amphibians and his answer is unequivocal.

“These amazing, beautiful, and wonderful organisms have intrinsic value, and are a part of our world we’re losing quite rapidly,” he says. “They are also integral components of the ecosystem—an important food source for some animals and they themselves eat insects, worms, and snails. Like salmon who are eaten by bears and fertilize the forest, amphibians are also an important link between aquatic and terrestrial systems.”
Indeed, isolated and far away, every frog and salamander die-off creates a domino effect that ultimately impacts the planet. Streams that were once crystal clear turn green without tadpoles to eat the algae. Human infections like malaria and dysentery spread more rapidly without amphibians to eat mosquitos and flies.

“Diseases like Rd and Bd are moved around by people. Domestic cows don’t move from Asia to the U.S. without a huge number of diagnostic tests. But for frogs, you just need the right permits and you can move them all over the world without concerns about disease.

“Once Bd has moved through an area, the amphibian biodiversity drops to virtually nothing and there is no way to mitigate the fungus in the wild,” he says. “In the last resort strategy is to develop survival assurance populations (SAP). We capture threatened species to preserve their genetic diversity and then try to breed and maintain a colony in captivity until they can be reintroduced to the wild, once we have a way to deal with the fungus.”

Pessier works with SAP in Madagascar, Ecuador, Panama, and many other areas around the world to diagnose disease issues such as vitamin A deficiencies in captive Panamanian golden frogs.

“Closer to home, he is joining Crespi and Goldberg to protect Washington’s last surviving remnant of northern leopard frogs in the Columbia Basin. Working with the Washington Department of Fish and Wildlife, they hope to reintroduce and expand populations within the state. Their intentions clearly reach beyond academia to a deeper love of the Pacific Northwest and our amphibian wildlife. Drafted in the spirit of Teddy Roosevelt, their proposal reads, ‘Do what you can, with what you have, where you are.”

It’s a philosophy all five faculty members stand behind. Their shared interests and mutual support have multiplied efforts to protect frogs and salamanders throughout the world.

“Conservation is an interdisciplinary science,” Crespi says. “Having Jesse, Caren, Allan, and Jonahs here allows me to do projects I could never do in isolation.”

The legacy lives on

It’s the cutest photo ever—innocent black eyes, little mottled snout covered with sand. Erim Gómez has won several awards for his angelic close-up of a spadefoot toad.

The doctoral student in environmental and natural resource sciences admits to a soft spot for the shy creatures. Working with associate professor Rodney Taylor in the WSU Endangered Species Lab, Gómez is conducting the first comprehensive survey of frogs and salamanders on the Palouse Prairie since the 1930s.

Though it’s estimated that only two or three percent of native Palaue Prarie remains intact, he was pleasantly surprised to find a healthy biodiversity of amphibians living here.

“We set out to see if we still have some historical legacy left,” Gómez says. “Even with such a highly-modified ecosystem here, we found everything we expected plus the Great Basin spadefoot toad. So, we still maintain the ecological memory but the species are not as widespread or abundant as in the past.”

Specifically, the rolling Palouse farmland is home to eight species: long-toed salamanders, Pacific chorus frogs, Columbia spotted frogs, tiger salamanders, western toads, Great Basin spadefoot toads, and two that were introduced—rough-skinned newts and bullfrogs.

Gómez says one of the biggest factors affecting where amphibians can successfully breed is the presence or absence of non-native fish, like goldfish, which devour thousands of eggs and tadpoles.

Goldfish are introduced by humans and were found in nearly half of the permanent wetlands he surveyed. Gómez believes eliminating the goldfish could allow dwindling amphibian populations to recover.

“Three winters ago, there was a big fish kill in the WSU Arboretum woodland pond,” he says. “That next summer was one of the highest of productivity of Columbia spotted frog seen in any Palouse wetland.

Despite such biodiversity, Gómez says there is still room for improvement. His number one counsel is never put goldfish or bullfrogs into wetland ponds.

“The rare spadefoot toad is unusual in that the adults are nocturnal and stay underground during the day, says Gómez. He accidentally discovered their tadpoles in a drainage ditch where the farmland hadn’t been plowed in several years.

There were thousands of them plus long-toed salamanders and tree frogs, the three most common amphibians in the area. “Since then, the goldfish population has rebounded and amphibian numbers have dropped dramatically.”

A large part of Gómez’s research involves developing wetland conservation plans specifically tailored to protect the different types of Palouse amphibians.

Long-toed salamanders, for example, can live in a variety of habitats—such as seasonal wetlands, grasslands, or woodland—as long as there are no fish. It’s similar for Pacific chorus frogs. Columbia spotted frogs, a species of concern in Washington state, need a more permanent wetland. Gómez says they are typically found in wetland complexes on the eastern edge of the prairie.

Western toads, on the other hand, prefer the Snake River, as do bullfrogs, an introduced species and voracious predator. Large enough to consist with fish, bullfrogs can also be seen in parts in some wetlands.

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“Number two is don’t plow or plant agricultural fields right up to the edges of wetlands,” he says. “Create a buffer zone. Even the ponds that dry up for a bit can still be very important for amphibians as they metamorphose into adults. The wetland doesn’t have to hold water year round—they just need moist soil to survive.”

As soon as the students put on the virtual reality headsets in Don McMahon’s lab, the exclamations of amazement begin.

Two of the students are exploring Google Earth. One, wearing the goggles, has her hands out, like she’s trying to maintain balance. The other lightly grips her classmate’s wrist, as if to steady her. “I ended up in Bulgaria!” “You’re an international traveler!” “Oh, this is really cool; can I move to France?”

Another student is apparently underwater. “This is terrifying! I’m swimming with sharks!” she says, sounding more thrilled than frightened.

Yet another student is immersed in Space Station Experience. At first, she seems fine: “I’m, like, in a spaceship!” But then she moves and gets lost in space. After McMahon steps in and guides the student’s hands to the navigation controls on the paddles she’s holding, she heaves a sigh of relief. “I found my way back to Earth.”

Virtual reality (VR) and augmented reality (AR) have the potential to revolutionize the way we teach and learn. For medically fragile and physically disabled students, VR lets them go where they never could in reality. And for behaviorally challenging students, the engagement offered by VR and AR gives teachers a precious tool that opens the possibility of their students learning new, more positive behaviors.

But video games, including AR and VR, also have their dark side. The games that hit the top of the bestseller list are often replete with violently racist and misogynistic stereotypes. In one version of a now-classic game, *Grand Theft Auto* (GTA), the player might learn that if they stop their car next to a female character, she’ll hop in. She’s a prostitute; there’s an exchange of money for services. If the player then drives around the corner, though, he can simply murder the woman—and the player gets his (or perhaps her) money back.

There’s the good, the bad, and the ugly when it comes to games and gaming technologies. While Washington State University teaching and learning professor McMahon and his colleague Jonah Firestone based at WSU Tri-Cities focus on the promise of the good, it’s the bad and the ugly that have caught comparative ethnic and American studies professor David Leonard’s critical gaze.
Leonard is one of the first scholars to study and hold open conversations about the stereotypes in video games. As other spent countless research hours trying to determine if the violence in video games resulted in real-world violence, Leonard was asking questions about what games like GTA were saying about urban life through grotesque racial stereotypes.

When his cousin showed him the hidden “trick” about killing prostitutes, Leonard says, “Very little surprises me but I was struck by that moment because how we’re seeing in the video game world wouldn’t be seen on TV, on film—and it’s interactive.” GTA is rated for adults but is often played by children, and thus became one of many pivotal moments for Leonard, a white male who had begun to seriously question the types of representations and narratives available in the media.

“If my understanding of urban life in Los Angeles was simply as a place to play because that’s what GTA San Andreas taught me, showed me, impressed upon me,” Leonard says, “then the conversation becomes about, ‘Well, who is living there? What does their everyday experience look like?’

“Conversation” is an important word for Leonard because, he argues, we simply don’t have enough of them. At least, we don’t engage each other in the uncomfortable conversations about race and sexism that need to be talked through in order to come to terms with the bad and the ugly—not just in video games, but in the real world, too.

“There’s a silencing of those voices, of those pleas of, of those tears that are emanating from the victims of violence and those oppressed by systemic racism and brutalizing stereotypes. ‘We sandpaper over these issues by ignoring them, or by saying “look how far we’ve come” or “at least it’s not that off-beaten path. So it’s down to me to say what things are not so smooth, these are the things we need to address.’ And it’s not me opening that conversation, I am walking beside those who are doing that work.”

The Overton Window is the range of what’s acceptable to talk about in public. Conversations about sexual assault and harassment were, until recently, mostly silenced; the window was closed. But with the rise of the #MeToo movement, the window has been thrown open and sexual misconduct is now part of an international conversation. And with #BlackLivesMatter, so are conversations about race.

Leonard recently codirected a collection of essays, Woke Gaming, that opens the window to conversations about not only racism and sexism in games but what comes after. The collection, Leonard and his coeditor Kishonna Gray write, arose “from the ashes of Gamergate.”

Gamergate began in 2014, when several women involved in the gaming community were targeted with threats of rape and other forms of violence, as well as falsely accused of unethical behavior. Developer Zoe Quinn, in particular, was targeted for “crafting a nontraditional game”—Depression Quest—and for suffering from depression. Brianna Wu, also a developer, mocked the (mostly, and mostly anonymous) males of Gamergate on Twitter but the tables were rapidly and rudely turned on her, too, as threats of violence streamed across the internet.

But the threats weren’t confined to the net. Both women and others (including Anita Sarkeesian, a feminist video game critic who received multiple sexually charged death threats) were “doxed,” meaning personal information, including home addresses and phone numbers, were published on social media and elsewhere. Worse, gamers seeking to drive women out of the field have resorted to “SWATting,” making an emergency call to police, accusing their victims of bomb building, hostage holding, or drug manufacturing. SWAT teams show up with sometimes lethal consequences for victims. Fearing for her life, and those of her family and friends, Quinn had to flee her home and cancel public appearances.

All because of a game about depression! But the stakes are high. The video gaming industry is a $135 billion per year enterprise. Games like Fortnite and the augmented reality-driven Pokémon GO are rivers of cash for their developers, so foreclosing the expectations of gamers is critical to profits. As Leonard and Gray point out (spending another scholar), there is a “hegemony of gaming practices that ‘require algorithm-like behavior from players.’” Anyone who deviates from that algorithm is subject to severe backlash.

The subtitle of Woke Gaming’s “Digital Challenges to Oppression and Social Injustice” is “What gaming needs, eschew Leonard and Gray, is a move from algorithmic, knee-jerk reactions to games that fall outside the mainstream expectations of what a video game should be, to a conversation about what justice—in games and in the world—looks like.

“For me,” Leonard says, “justice is thinking about privilege. Privilege is an unearned opportunity,” like being white and male in a culture dominated by white males. But, Leonard adds, privilege is also the freedom to live untouched by fear and want. As a woman, or a gay or transgender person, or a person of color, justice is “being able to walk across campus at 11:00 p.m. and not fear. It’s being able to put on a game and see yourself. It’s people living in a world with access to the essentials of life.”

But what would that even look like in a gaming industry dominated by the adrenaline rush of committing mayhem at high speeds, as in Grand Theft Auto, Mortal Kombat, or numerous other games, where the play, as Leonard says, is “all about the light and the edge of your seat suspense?”

Leonard suggests that “a game that highlights the importance of water and the ways in which pollution, racism, war, and violence become obstacles to having access to water is something I can see.” Leonard says, “Games can foster that critical conversation.”

“It’s simply taking advantage of witnessed experiences could be helpful, Leonard argues. “A war game only shows the field of battle. The only thing is your character or your infantry fighting an enemy. The worst that might happen is that your character might die—and then you just start over.” But what if, to get your “health score” back after being wounded in action, “the game takes you to the hospital for rehabilitation for six months.” Even if the recovery hiatus was a short, animated interlude, the consequences of violence would be exposed and laid bare for further consideration.

“There is nothing about what happens to that soldier when their tour is over,” Leonard emphasizes. “What happens to that soldier in terms of PTSD? Neither do we see that family living in Baghdad—what we see are abandoned cities,” like the city-center playgrounds of GTA. “We don’t see those who are living alongside war just as we don’t see the urban families working, teaching, learning, playing, and loving.

If our consumption of media was neutral and without consequence, none of this would matter. But all media, including video games, Leonard says, “shape our opinions about war,” about romance and sex, about who gets to do what and with whom. “So we can think about the ways that video games tell stories and then erase so much about the story.”

Challenging the script

To think about these questions, together with her colleague from the Department of Human Development, Kathleen Rodgers, uses scripting theory to shed light on the ways in which media consumption shapes our views of gender, sex, and romance. Scripting theory argues that we assign meaning to feelings of sexual attraction and other physiological sensations through culturally constructed scenarios; in other words, we explain why we feel what we do through interactions with peers and media.

“Video games,” says Hust, “like other media, largely promote traditional gendered scripts in which men are shown as dominating and sexually aggressive and women are shown as sexual objects.”

Exactly how video games shape script and idea about our own sex and violence is the subject of heated debate in academic (as well as parenting and policymaking) circles. But one thing is clear: over the past couple of decades, a body of research supporting the contention that violence in games begets violence in the real world has grown. A 2010 analysis, for example, of previous studies of the relationship between game violence and real-world behavior found that the connection is incontrovertible. The paper’s epigraph quotes Nina Huntemann, a video game scholar, who points out that when you’re playing, “you’re not just moving your hand on a joystick, but you’re asked to interact with the game psychologically and emotionally as well. You’re not just watching the characters on screen; you’re becoming those characters.”
Ninety percent of kids in the United States play video games (which rises to 97 percent of children ages 12–37), and 90 percent of these games include mature content, including violence. Manhunt, Thrill Kill, Gears of War: the titles speak for themselves.

By 2016, and in view of mounting evidence of the correlation between violence in games and aggressive behavior, both the American Psychological Association and the American Academy of Pediatrics began advising parents not to allow children and teens to play violent video games. As Gammage states, though, it’s not just the games that contribute to socially maladaptive scripts; it’s the culture of the gaming community itself that is often victimizing or ostracizing girls, kids of color, and gender nonconforming people. Games like Fortnite are played online, often with thousands, or even millions, of players at once. Game-associated chat systems allow players to collaborate and strategize together, but also to bully players who, for whatever reason, are deemed socially unacceptable.

As dire as this culture of hyper-violence, misogyny, and racism appears, there is a flicker of hope among scholars and developers.

Leonard talks about growing up with games and now playing as a man himself, but also to bully players who, for whatever reason, are deemed socially unacceptable.

“Same with the gaming community,” Leonard says. “Gaming is not only ‘nerd’s bar’, it is a large diverse community dreaming and realizing what scholar Robin Kelly called ‘freedom dreams.’ Gamemers cut across communities and gamers want different kinds of games that do different kinds of work that inspire different kinds of imagination—that is a step forward.” Which is one reason why he and Gray edited Enne Gaming:

“We challenge the idea that there is a core gamer community that wants a particular kind of game. But we still need to have a critical conversation about why we find joy and pleasure in committing acts of virtual violence.

Without dismissing the prevalence and demonstrably malign influence of negative social tropes in games—“there’s a lot of that”—Firestone, like his College of Education colleague McMahon, sees gaming as full of teachable moments.

Firestone has a historical perspective that helps put gaming technologies, and their uses and abuses, into perspective.

“Technology has always met resistance,” he says. “Socrates against writing.” As Plato sat at his feet, writing down what the wise guy said, Socrates warned that writing would rot memory and leave us unable to recite the oral literature of the Iliad, the Odyssey, and other culturally important works. “The printing press—civilization ends if everyone knows how to read!” Especially, the argument went in Gutenberg’s day, if everyone can read the Bible for themselves. “And if you stick your kid in front of a TV for eight hours a day, and think they are going to learn something—you are going to be damaging that child. But if we approach technology in a systematic, thoughtful way, it can be useful.”

Firestone and McMahon are especially interested in “educational hacking.” “How do undercompensated teachers in underfunded schools engage and teach kids in an equitable way?”

“Every student should have a great educational experience,” says Firestone. “But, given linguistic, cultural, behavioral, and accessibility differences, that simply wasn’t possible until recently. Special education programs segregated certain students from the standard-ability ones, for instance. That stretches resources (teachers’ time and classroom space, for instance) to the breaking point for many communities.

Now, Firestone says, technology is beginning to change that. “WSEI is invested in culturally responsive pedagogy, the idea that instead of saying a student has a deficiency because of X, Y, or Z, and we need to fix it, we want to understand that student’s strengths, their background, what do they have that they can bring to the table, and how we can use that to educate everybody.”

Part of that cultural sensitivity might be getting teachers to visit students at home to see how they live. But that, Firestone points out, is a big ask of already time-challenged teachers.

“I can loan a 3-D camera to a student. They can use that to create an immersive home-visit experience that can be brought back to school and shared with everyone.” “If empathy is, in part, imagining a walk in another person’s shoes, then VR helps literalize that experience in ways multiple participants can share and discuss.

“Those cameras,” Firestone says, cutting to the bottom line, “are not that expensive. And AR and VR are on everyone’s phones already.” While emphasizing that “this stuff in no way replaces classical learning techniques, lectures, reading, writing, labs,” they do open up possibilities “that have never existed before.”

Indeed, what Firestone and McMahon advocate is in some sense a return to that most basic of pedagogical goals, the teaching of inquiry. “The way you read a picture book to kids,” Firestone says, “is to ask, ‘What happens next?’ That’s how you model inquiry for kids. So don’t want them to leave—nor anyone—to their own devices.”

Firestone, Leonard, Hust, and Rodgers—they all land in the same place. We’ve got to talk to each other about the issues we all contend with, and we need to talk especially with our kids, whether about race, relationships, violence, or privacy in a digital world.

Leonard talks about growing up with games and now playing with his child. Where once parents were advised to monitor their kids screen time and what they were watching on TV, “now it’s what are you playing with your kids.” And are you talking about what is being represented? And if you’re a father, are you only playing with your son? Are you assuming your daughter doesn’t want to play? And are you assuming your son does want to play, because maybe he doesn’t.”

If approached thoughtfully, most games, even violent, sexist ones, contain teachable moments. For McMahon, it might be a few minutes of AR basketball: “Play for five minutes, generate some numbers, and work on mean, median, mode, or other math lessons.” For Firestone, it might be Monopoly or some other board game, ancient or modern, around which he can build a lesson and a curriculum.

But all this takes assessment, research, thoughtful consideration—and lots of conversation. McMahon says that the number one thing he needs are graduate assistantships; it takes a small army of grad students do to the time-intensive research that puts data behind assumptions about what works or doesn’t.

“A lot of things get packaged and sold to schools. That’s why we do research,” Firestone says. “A VR program about cellular biology might look good, but has it been tested? Does it actually teach? Is it a big proponent of technology, but I’m an even bigger proponent of assessing that tech.”

Otherwise, we end up with pretty pictures or, worse, distracts students full of misconceptions about how the world works. “The goal of my research,” says Firestone, “is to make situations which are normally difficult to understand relatable.”

For Leonard, gaming might teach us about histories of racism, gentrification, environmental injustice, or the cost of war. For Hust and Rodgers, gaming might open up avenues of exploration to better understand how gender scripts are not biological destiny.

“Thesis why,” Leonard says, “diversity is important. Technology is created by people. People bring their ideologies, identities, beliefs, their prejudices into the creation of tech, their understanding of who the market is, who the gamer is. If the programmers are not only all of a particular demographic but also battle in privilege—what sort of world are they imagining?”
As Andaya Sugayan ('17 Comm.) recalls it, her passion for women being involved in politics dates back to elementary school, when she learned women in America didn’t always have the right to vote. “It just struck me as unjust,” she says.

By the time Sugayan got to high school, she was setting the highest sights. “I wanted to be president for a really long time,” she says, recognizing even then how difficult that could be. “On the one hand, women were starting from behind, but on the other hand, I knew as a woman I could do really anything that I wanted to.”

Sugayan (who still touts the fact that she played clarinet in the Cougar Marching Band) is a regional coordinator in the Philadelphia area at Inspire U.S., a nonprofit, nonpartisan group that helps high schools conduct student-led voter registration drives in 10 states. Her previous political positions include working as a digital director for the Washington State Democrats, as a field director for Hillary Clinton’s 2016 presidential campaign, and as deputy campaign manager for Matthew Sutherland (’16 Poli. Sci.) who ran for the legislature in 2017.

Not surprisingly, Sugayan has strong feelings about 2020 being the centennial of the 19th constitutional amendment being made into law and giving women the right to vote. “Women tend to work really behind the scenes in the political process,” she says. “We’re seeing a lot more women being able to be the face of the political process. But there are still hurdles to overcome.” For one thing, Sugayan wants to see attention focus more on women’s ideas and their actual contributions to the
With justice for all

BY BRIAN CHARLES CLARK

Why do people commit crimes? There are a lot of theories, says Matt DeGarmo ('14 PhD Crim. Jus). Reasons range from needing to steal for simple survival to performing a cost-benefit analysis and deciding that crime does indeed pay.

A record number of women were elected to Congress in 2018 and, largely because of that, a record number of women are now serving in Congress. Moreover, after the 2018 elections, a record number of women are now serving in state legislatures across the country.

At the same time, it took nearly 100 years for a woman to be elected speaker of the House—Nancy Pelosi, in 2007—and of course, the country has not elected a woman to be a (U.S.) senator because that’s impossible, says DeGarmo. “My eventual goal is to be a (U.S.) senator because that’s pretty cool. Is to be a (U.S.) senator because that’s my eventual goal in the future, I do plan to run for office,” she says.

Moreover, after the 2018 elections, a record number of women were elected to state legislatures across the country.

DeGarmo also studied drug markets in the Ozarks and St. Louis. He used a network of contacts to gain access to dealers and, once he earned their trust, interviewed them to better understand their motivations for working in the black market.

Says DeGarmo, “We’re probably the only college in the U.S. with a student-only security team.”

Casting an artful brush

BY ADRIANA JANOVICH

The idea came to him during a phone call. The artist and avid fly fisherman was talking with his brother when he suddenly wondered whether it would be possible to combine his two loves in a way he hadn’t seen before. Could he use the same tool to catch fish as well as make art illustrating their natural habitat?

Could he paint the rivers he loves to fish with a fly rod instead of a brush?

“A good fly fisherman is going to be really precise with their presentation,” says Ben Miller (‘10 Fine Arts). “If you’re going to be that precise with where you cast, why can’t you use that same motion as a means of painting?”

You go out there and you experience the river, and you create art in the same manner.

As soon as he hung up, Miller grabbed his fishing gear and painting supplies, and headed to the creek behind his house. “The urge to try this was overwhelming,” he says. “There was a moment there when it just felt so good to be doing what I was doing.”

It still does. And Miller has been developing his unique technique ever since. The fly cast artist, now based in Bozeman, Montana, can be found at the Gallatin, Missouri, or Madison, casting his paint-laden line onto an easel set up next to or in the water to capture “the mood of the river. I’ve never heard of anyone else doing this,” he says. “It’s such a foreign concept to most people.” But, “to me, it just makes so much sense.”

Miller grew up in Darrington, a small lumber town in Snohomish County. His parents, Budd Miller (‘79, Anim. Sci.) and Diane (Johnson) Miller (’75 Gen. St.), met at WSU. Miller studied art in Pullman for four years, then spent a year at Central Washington University to earn a K-12 teaching endorsement. After two years of teaching high school art in Cooswee, outside of Yakima, he returned to Darrington to work at the same high school he had attended. He taught there for ten years before moving to Montana to be closer to the famed rivers and streams and rich heritage of fly fishing.

Miller’s been fly fishing since he was eight years old. “I love fly fishing,” he says. “My grandfather showed me when I was young, and I was hooked. I’d go fishing with my brothers. My parents would let me ride my bike like a mile down the road to this small creek almost every day, and I couldn’t wait to do it. I would usually meet a friend, and it was amazing. We’d catch so many fish.” Today, Miller has two rods for fishing and three for painting. Standing on the riverbank or in the water, he applies paint to a piece of yarn affixed to the end of his line. He casts the line to paint the same way he casts a fly to fish, but the target is a custom-built, seventy-pound, seven-foot, aluminum, A-frame easel typically set up to 20 to 28 feet away. From afar, it looks like he’s fishing.

“When paint with a fly rod?” an onlooker once asked him. “Why fish with one?” Miller answered. “There are far more effective ways to catch fish yet millions of folks around the world have subscribed to the fly fishing method.”

Initially, Miller tried painting with flies “but a fly cannot take the abuse of hitting a hard surface over and over again.” He also traded canvas for Plexiglas to explore “the idea of trying to push the depth of water.” But, just as with flies, the fisherman’s perspective. A stream is nothing more than a moving palette of color,” he
says, noting he paints “backwards,” adding highlights before painting the deeper, darker depths—instead of the other way around.

“When you are fishing you look down at your fly box and take two decisions about your fly, what size and what color. I have a palette on my arm for mixing paints to match the stream, and I make the same decisions as when paint what size and what color.”

Miller uses resin to give the illusion of depth and refracted light. Sometimes, he incorporates a wooden frame to give a piece a rustic look. He’s tried painting year-round, including in Montana’s sub-zero temperatures. “Your line freezes in mid-air. Some days,” he says, “it’s just counter-productive to go outside.”

Miller dreams of owning his own art gallery. He also hopes to spend Dutch Rouge Cove, his favorite art business, as well as his reach—traveling around America to famed fly-fishing destinations, such as Wyoming, Colorado, and the Catskills.

He calls fly-fishing “a meditation. You get the rhythm of the water and the casting, and pretty soon you’re one with the river. Whether you’re catching fish or not, that relaxation is, I think, why so many people do it. Creating a painting with a fly rod is part of that.”

Looking back in 1975 when his grandfather, Al, joined Kiona’s Board of Directors, he says, “The whole Kiona torch has officially been passed down. Of course, we’re solidly into the third generation,” says Scott. “We’re solidly into the third generation,” he adds. “It’s that kind of fun to think about.”

Graduating from WSU in agricultural engineering, Scott returned to Red Mountain in the early 1980s. Even then, success wasn’t guaranteed, and money was tight. “One paycheck went to planting grapes,” he recalls. “The other went to putting food on the table.”

In the end, hard work, education, and resolve have paid off. Considered one of Washington’s finest and prolific wine producers, Kiona is also renown as a grape grower for about 60 other wineries in the Northwest.

The incubator of wine science at the time was WSU’s experimental station in Prosser, where the faculty here, “And I have learned some fine corners of wine science that I wouldn’t have otherwise been exposed to.”

Exposure to research is exactly what he got, as evidenced by his graduate work. “We’re assessing which types of acids are available to winemakers, and at which pH levels their addition to a wine results in significant differences in that wine’s microbiological profile,” he says.

That cutting-edge research is a dramatic leap forward from the conventional thinking back in 1975 when his grandfather John established Kiona Vineyards on Red Mountain.

Regarded as a pioneer in the state’s wine industry, John grew up in Richland, where his father worked at Hanford during World War II. After graduating from WSU in physical metallurgy, he too took a job at the research process.

Tyler will be joining his older brother, JJ Williams, Kiona’s director of operations, in the family trade. Possessing an encyclopedic knowledge of the industry, region, and the business, he’s quick to point out Kiona’s many ties to WSU. “Tours of employees are, or have been in the graduate program, “he says. “Five, if you count Tyler.”

At WSU, Tyler was able to ground his worldly experience in science under the direction of his major professor, Jim Harbertson, and Thomas Henrich-Kling, professor of enology and director of WSU’s Viticulture and Enology Program. “I felt very encouraged by the faculty here,” he says. “And I have learned some fine corners of wine science that I wouldn’t have otherwise been exposed to.”

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Regarded as a pioneer in the state’s wine industry, John grew up in Richland, where his father worked at Hanford during World War II. After graduating from WSU in physical metallurgy, he too took a job at the nuclear reservation, working as an engineer. At Hanford, he shared an office with Jim Holmes, a Vallejo, California, native and wine enthusiast. The two of them hatched a plan to start a vineyard, and then put the idea into motion.

The incubator of wine science at the time was WSU’s experimental station in Prosser, and its resident expert was Walter Clore, Washington’s grandfather of wine. “We used to talk to Dr. Clore quite often, and we could call him up anytime we had a question,” John remembers.

Even though the science seemed sound, people still thought they were crazy. Blissing nearly everybody, he planted nine acres of grapes in equal parts Cabernet, Chardonnay, and Pinot Noir on Red Mountain, now an officially recognized American Viticultural Area. From the very beginning, he envisioned it being a family operation, with his son poised to take over one day.

“I was a junior in high school when we planted that first block of grapes,” Scott says. “I remember working after school in the vineyard, rolling wire, and planting on weekends. ‘I’m probably the only guy still alive out here who remembers pulling sargeards with a chain and tractor, and not a bulldozer.’”
NEW media

Low Dose Radiation: The History of the U.S. Department of Energy Research Programs
ANTONE J. BROOKS
WSU PRESS: 2018

Many questions about the real impacts of low amounts of radiation on human bodies drove the research of biologist Antone Brooks and his colleagues at the U.S. Department of Energy in the last decade. Using microbeams to analyze cellular response and other advanced technologies, Brooks, professor emeritus at Washington State University Tri-Cities, and other scientists made some startling discoveries. At low doses, biological reactions to radiation are unique and often unrelated to those that occur at high doses. The standard model was flawed when applied to lower exposures and, in fact, small doses of radiation can have an adaptive protective effect, according to Brooks.

Brooks grew up close enough to Nevada Test Site nuclear detonations to see the sky light up, feel the shockwaves, and be exposed to radioactive fallout. In his scientific career, including his role as chief scientist for DOE low dose radiation research, Brooks questioned the impact of fallout exposures. How dangerous were they? How afraid of low dose radiation should people be?

The answers in his book show how knowledge might be useful in a nuclear event, describe the current thinking, and provide a scientific basis for setting radiation standards.

—Ashley Cole '19

Interwoven Lives: Indigenous Mothers of Salish Coast Communities
CANDACE WELLMAN ‘66 SOCIO.
WSU PRESS: 2018

This enlightening and detailed recounting of the lives of indigenous women in Salish Coast communities, specifically around Bellingham Bay, explores cross-cultural marriages throughout this region during the mid-1800s. The exciting and taming lives of Lummi member Jenny Wynn, Snoqualmie member Elizabeth Patterson, Nlaka’pamux member Mary Allen, and the Haida wife of Fort Bellingham commander George W. Pickett—who later became a Confederate brigadier general—provide insight into how they held together marriages and families, significantly impacted communities, and mediated between Native people and settlers.

The stories are not as cheerful as some might imagine. As a historian, Wellman provides insight into how they held together marriages and families, significantly impacted communities, and mediated between Native people and settlers.

—LARRY CLARD

Nowhere to Remember: Hanford, White Bluffs, and Richland to 1943
ROBERT BAUMAN AND ROBERT LAHMAN (‘24 MA HISTORY)
WSU PRESS: 2018

A husband and wife team of surveys conducted with Leatris Reed’s family in White Bluffs before removal orders were given in 1943. “They didn’t even know what they were surveying for,” she recalls, only that “they were hired by the United States government” and “we thought it was an irrigation project.”

Her family had come to White Bluffs from North Dakota during the Great Depression because “there was fruit there”—fruit and food and a “reasonable” temperature. They came looking for a better life, and they found it—even though it was too short-lived.

“Fruit farmers had to leave their crops on their trees. And that was very hard on them, no money, no future,” recalls Catherine Finley, another resident whose roots in White Bluffs trace back to 1888 when her father, Archie Borden, was born there.

Their stories are two of many that make up the backbone of this 194-page first volume in the Hanford Histories series. It details daily life in Hanford, White Bluffs, and Richland before the government forced out the towns’ residents. Many owned farms or businesses that had to be destroyed, and were given only about a month to vacate their homes for a new military wartime effort.

The top-secret Manhattan Project was established in 1943, and the area has largely been off-limits to the general public ever since.

—ADRIAN LIMSWICK

BRIEFLY NOTED

Emily’s Tears
IAN MIRELLY ’97 PSYCH.

Twenty-five years after she adopted her twin sister, Emily, an adoptive mother learns of her former foster father, who cared for her for two years when she was very young. She discovers more about the circumstances of her adoption in this slim novel, and then decides whether to attend the funeral and pursue a relationship with her former foster mother.

Author and Southern Baptist pastor Ian Mirelli and his wife, Stephanie, live in Michigan’s Upper Peninsula; their personal experience as foster parents led him to write the book.

Wheat Country Railroad: The Northern Pacific’s Spokane & Palouse and Competitors
PHILIP F. BEACH
WSU PRESS: 2018

Drawing heavily from newspaper accounts and renowed documents and correspondence, this encyclopedic reference work describes in great detail the intense rivalry between Oregon Railway & Navigation Co., Union Pacific, and Northern Pacific in Eastern Washington from 1860 to 1910. The 368-page hardbound volume features 15 pages of notes and citations as well as more than 50 illustrations, including many images from Palouse regional historical societies.

Contemporary Irish Writing and Environmentalism: The Wearing of the Deep Greens
DONNA L. POTTS
PALGRAVE MACMILLAN: 2018

Potts, an English professor at WSU, explores contemporary Irish writers, musicians, and artists who have addressed as well as been influenced by the country’s environmental movement, which began gaining traction in the 1970s.

Dogs & Autism
ANNE BOWES ’98 DVM
PUBLICATIONS INTERNATIONAL, INC.: 2018

Written by a veterinarian with autism, Dog & Autism covers the basics of dog ownership, Anne Bowes uses common sense in her discussion of breeds, training, the role of the human-animal bond in our lives and cultures, dealing with pet death, and how dogs understand the sensory world of those on the autism spectrum.

Waterlogged: Examples and Procedures for Northwest Coast Archaeologists
KATHERINE M. BICK, ED.
WSU PRESS: 2013

Sixteen experienced archaeologists, including WSU adjunct professor Dale Cross (‘71 MA, ’77 PhD Anthrop.), provide guidance on how to locate wet archaeological sites, outline procedures for recovering and caring for waterlogged artifacts, and share highlights of research findings.

Citizen Jean: Riots, Rogues, Fantasies, and Other Inside Seattle Stories
JEAN GODDEN
WSU PRESS: 2019

Newspaper columnist, city councilmember, and author Jean Godden outlines the history of Seattle in this captivating read, drawn from her many years living and working in the city.

The story begins with Godden recalling monumental events such as the World’s Fair, the boycott of a new freeway, newspaper strikes, and the rescue of Pike Place Market. Toward the end of the book, we learn that Christine Gregoire, as the new governor in the mid-1990s, was fighting everything in her power to get the city of Seattle back on track, according to Godden.

The book ends with Godden’s observations on the immense difficulties that women face when running for office, due to gender bias and stereotypes.

Beautifully and intelligently written, Godden’s book is intended for a broad audience—anyone who is interested in the history of Seattle—and even Seattle natives may not be aware of all the scandalous events that she recounts. While it is fascinating to read about events which have taken place in one’s own city, this book could also benefit people who have very limited knowledge of Seattle. The city has been home to countless noteworthy historical events which affected people all over the country—and still do. Godden has conjured an engaging and informational compilation of Seattle’s historical happenings, pivotal events, and inside stories.

—ASHLEY COLE ’19
The Marrowstone Island Community Association named VISQ ANDERSON (’77 Bus.) the Marrowstone Island Citizen of the Year for 2018. Anderson has lived on the six-square-mile island with his wife Paula since 2007. After graduating, he served two years with the Marines in Vietnam, then worked for Caterpillar in Alaska. Former Canadian Football League record-breaking kicker for the BC Lions TED GERELA (’67 Ed.) was inducted into the Powell River Sports Hall of Fame in British Columbia.

After 13 years at the Spokane County Interstate Fair, including the past eight as fair director, RICH MARTZELL (’71 Ag. Ed.) is retiring. He plans to move to the family dairy at Skyler Farms in Monroe. If Gac. Jay Insko has appointed FRED JANET (’71 Fin.), recently retired King County senior deputy executive and former state representative, to the state Public Disclosure Commission. ORG STUART (’71 Ag.) is retiring after 48 years as president and general manager of the Central Washington State Fair in Yakima. He’s active in community service in addition to his work with the fair.

CARY KOPCZYNSKI (’73 Civ. Eng.) was elected vice president of the American Concrete Institute. A recognized expert in the design of reinforced concrete and prestressed concrete building structures, Kopczynski is CEO and senior principal of Cary Kopczynski & Company, a structural engineering firm with offices in Seattle, San Francisco, Los Angeles, and Chicago. During its convention in February in Florida, the Southern Conference on African American Studies awarded HOWARD JONES (’75 PhD Amer. St.) for his extraordinary vision, exemplary loyalty, and unwavering commitment as the organization’s founder and executive secretary and treasurer from 1979 to 2017. U.S. Representative DENNY WARRINGTON (’73 Ed.) was elected CEO of the energy company’s board of directors. Vermont Attorney General T. J. Donovan (’85 Univ. Mass. Law) was elected CEO of the energy company’s board of directors. Vermont Attorney General T. J. Donovan (’85 Univ. Mass. Law) was elected CEO of the energy company’s board of directors.

The Auction of Washington Wines announced SCOTT WILLIAMS (’80 Ag. Eng.) of Kiona Vineyards as its 2019 honorary grower. Williams and his wife, Vicky, moved to Red Mountain in 1994 to help his parents in one of the area’s first vineyards. CARL JAMESON (’83 Comm.) cohosted The Illustrated Field Guide to Vintage Trailers, a one-stop identification resource with hundreds of photos and detailed illustrations of trailers. He’s also a producer and director at Craftmaster Productions, a full-service video production company in Portland, Oregon. BRIN NUGOLI (’78 Forest & Range Mgmt.) has been promoted to senior vice president of human resources at Boise Cascade Company. She worked at the company for 23 years, took another position for 10 years, and rejoined Boise Cascade in 2016. WSU Extension Pacific County director KIM PATTERN (’84 PhD Hort.) retired from WSU in April, after 30 years helping cranberry farmers and oyster harvesters at the Long Beach Research and Extension Unit. Pattern also received the William F. Stephen Lifetime Achievement Award at the Pacific Northwest Pollinator Summit & Conference in February. Avista President DENNIS VERMILLION (’85 Elec. Eng.) was elected CEO by the energy company’s board of directors. Vermillion, who joined Avista in 1985 and has held a number of staff and management positions, also serves as a board member for Western Energy Institute, American Gas Association, and for the Avista Foundation. The Auction of Washington Wines named industry veteran JAMIE PENA (’89 Hotel & Rest. Mgmt.) as its interim executive director. Pena’s career highlights include building Taste Washington into a nationally recognized event, serving as interim director for both Woodinville Wine Country and the Walla Walla Valley Wine Alliance, and heading up the Auction’s “Private Barrel Auction,” which raised money for projects such as WSU’s wine science research. Biogasuticulture company NewLeaf Symbiotics added MARK WARNER (’86 Chem. Eng.) to the organization’s scientific advisory board. Warner has extensive experience in sustainable agricultural solutions. BRAD RAWLINS (’87 Comm., Spanish) became the interim director of the School of Journalism and Mass Communication at Pepperdine University.

WASHINGTON STATE MAGAZINE FALL 2019
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Cougar VI

In true Cougar Spirit, the latest release of the Cougar Collectors’ Series is a little extra special. We are happy to announce the very first single varietal for this program with a hand-crafted Cabernet Sauvignon from the Coupes at Canoe Ridge Winery! You won’t want to miss it. Guarantee your bottle by joining Wine-By-Cougars, the official wine club for Cougs, before August 13. Learn more at winebycougars.com.

And, get your first taste of Cougar VI at the Release Party this summer: August 17, 1:00–4:00 p.m. Canoe Ridge Vineyards, Barrel Room 1102 W. Cherry Street Walla Walla, WA 99362

alumn.wsu.edu/cougarvireleaseparty

WELL LUCIAD (89 Plk. Sc.) is president of Wilder Handeck Wine, with offices in Los Angeles, San Francisco, Silicon Valley, and Seattle. Luciad runs the public relations firm Edel, where he led the Pacific Northwest business unit. Edel is a public relations firm. His staff includesberries.

WALLA WALLA, WA 99362

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DEAN GARY M. POLLACK, PhD
Your leadership and service to the College of Pharmacy and Pharmaceutical Sciences over the past nine years has been exceptional. Best wishes to you in your new endeavor at the University of Toledo.

AND CONGRATULATIONS TO
Linda Carrell Masten (WSU Pharmacy, class of 1978) who will serve as interim dean while a national search is underway for a permanent dean.

To show appreciation to Dean Pollack, alumni, faculty and staff have established the Gary M. Pollack Indoreed Scholarship in Pharmacy and Pharmaceutical Sciences. To contribute to this effort, visit go.wsu.edu/tribute scholarship or call 509.335.6475.
Monumental task

Ruby Autio (52) and Harold Balazs (51) were monumental artists in their respective orbits, which coalesced in the early 1950s while both attended graduate school at Washington State University. Autio’s fame extended well beyond her Montana home, buoyed by his involvement with the internationally-acclaimed Archie Bray Foundation. A celebrated ceramic arts innovator, Montana’s Balazs’s work, in contrast, was prolific, varied, yet regional: seven decades of paintings, jewelry, drawings, enameled, and more, all sculptured in public and private spaces throughout Washington, Idaho, Alaska, California, Oregon, and Montana. Each exerted enormous influence in their fields, but more poignantly through the lives they supported and nurtured the young artists who came up behind them,” says Ben Mitchell, an independent curator, arts writer, and editor familiar with both artists. While curator at Spokane’s Northwest Museum of Arts and Culture (MAC), for example, Mitchell assembled in 2010 Balazs solo exhibit, featuring more than 125 sculptures, drawings, and other pieces—including the artist’s workbench. When each man died—Autio in 2007, Balazs in 2017—he left a considerable void in the art world, and a larger question, too: what to do with the collection? “There is an exquisite challenge and responsibility to the artist’s collection, their own works left behind, and those works of others—friends, colleagues, students—they collected throughout their lives,” says Mitchell. For the Balazs family, the answer to “What to do with the artwork?” was simplified by the success of the artist’s last exhibition in 2017. Like others before—it’d exhibited at Coeur d’Alene’s Art Spirit Gallery since 1997—it virtually sold out. “There’s not that much of Harold’s artwork to sell,” says daughter Errika Balazs, one of Harold and wife Rosemary’s three adult children. “He was never about inventory,” adds her sister, Andrea Balazs.

Indeed, the 89-year-old artist was oft-quoted as to why he sold stuff: to make more stuff. Thus, to put together an August 2019 exhibition of the two men’s work titled Northwest Monumentalists, Art Spirit Gallery curators and organization of a traveling show,” she says. “Like others prior we’ve been mindful of doing the right thing for the folks, whatever the issue. We have all gotten better at this.” Lisa says of the past three years dealing with her parents’ estate. “At the beginning, it seemed like a mountain. We didn’t have space to grieve.” She is thankful her mother left funds to care for the collection, which is nonetheless still in flux. “I think museums are like a mountain. We didn’t have space to grieve.”

Now Lisa is the point person amongst her three brothers. “We’ve Answers show, answer dad’s website questions, set up family meetings about the collection (and the estate before it was settled),” she says. Lisa was also unknowingly a catalyst for the upcoming joint-collection exhibit by attending the opening of what would be Harold’s last Art Spirit show. She and Williams chatted about how the two families grew up similarly influenced by their fathers’ shared profession. William, a Courte d’Alene local who attended college and started a career in Montana before returning to Idaho, wondered how the gallery might enlighten the culture of camaraderie that existed between artists like Rudy and Harold. Williams eventually narrowed the focus and consulted with curator Mitchell and both families. The resulting exhibition offers another gift from the artists: an opportunity for frank discussions about artists, and their legacy—artwork, but also family. “We have all gotten better at this,” Lisa says of the past three years dealing with her parents’ estate. “At the beginning, it seemed like a mountain. We didn’t have space to grieve.” She is thankful her mother left funds to care for the collection, which is nonetheless still in flux. “I think museums are like a mountain. We didn’t have space to grieve.”

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Ancient ink

As he inventoried archaeological materials in College Hall at WSU, anthropology doctoral student Andrew Gillreath-Brown pulled out a pen-sized instrument that had been tucked away for 40 years. Residue staining on the tip immediately piqued his interest.

He had chanced upon a 2,000-year-old cactus spine tattooing instrument, one that pushes back the earliest evidence of tattooing in western North America by more than a millennium.

The three-and-a-half-inch tool, with a skunkbush handle and ink residue on the end of its attached cactus spines, was made by the Ancestral Pueblo people of the Basketmaker II period in what is now southeastern Utah.

"Tattooing by prehistoric people in the Southwest is not talked about much because there has not ever been any direct evidence to substantiate it," says Gillreath-Brown, who wears his own sleeve tattoo of a turtle shell rattle, mastodon, water, and forest on his left arm.

No tattoos have been identified on preserved human remains and there are no ancient written accounts of the practice in the southwestern United States, so Gillreath-Brown's finding provides scientists a glimpse into the ancient art form.

PHOTO ROBERT HUBNER

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