Their intentions reach beyond research to a deeper love of the Pacific Northwest—and its amphibian wildlife. 20

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The Palouse can be a great training ground for the world of cycling. 14

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.
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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. 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.
TALKBACK
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 — archie — the archie 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 Kahl P. Lusher. Those were the days of baseball coach Buck Noah, basketball coach Jack Reid, quarterback Bill Sewell, wintertime ice skating in a flooded field down by the Fieldhouse, 7:00 a.m. ROTC, and the Big W paddle squad out chasing freshmen down by the Fieldhouse, 7:00 a.m. ROTC, and dismissed the Japanese.

The Germans were entrenched on Rosa Ridge, a 2,000-foot cliff hanging down the slopes 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 Engineer 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 atomic bomb.
The hobbiist Washington State University textile scientist Hang Liu examines are treined with something new: lustrous fibers with vibrant colors made from old T-shirts and jeans. This isn’t recycled cotton: this is regenerate cellulose—one of the main molecules in plants, including cotton—in new fibers reincarnated from cut-off garments.

That’s a big deal, as the Marie Kondo “tidying up” effect sends the globe and people clear their closets of unwanted 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 Euros prize for just such a method. But current recycled fibers suffer—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 of every step.

With recycled cotton, the list of contaminants 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.

And 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 couple years from being scaled up to the commercial level. Going from the lab bench to manufacturing dresses, skirts, and T-shirts is full of engineering challenges. But Liu already has major players in the clothing industry interested.

The feel of the fiber can be customized, too. And the dyes used in the original materials can be retained, making highly marketable limited-edition colors possible.

“In the complex nature of cotton, it’s hard to dissolve,” Liu concludes. “Whatever you use cotton for, you can use this regenerated fiber,” Liu concludes.

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 Unold 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 in 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,” to 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 relies heavily on 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 pervasive 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 1.38 hours in traffic, costing an average $1,932 each. Portland, Oregon, clicked 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, you’re see traffic,’ the other one says. ‘OK, I have this much capacity to receive vehicles,’” he says.

Mohammad 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 timing and speed optimization, it’ll reduce travel time by 6–7 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, or change lanes 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.
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 Sebastián 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.

Lars 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 bioengineering 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. They assisted people for 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.

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 everyone 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.

“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 and was not a smooth one.

In 1990, 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.

“We 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 so grateful. They got up out of their chairs 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 sent 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 get 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 (‘20 Comm.) and photojournalist Matthew Winchell, part of the Marrion College Backpack Journalism program, accompanied the HIM volunteers in March.

Opposite: Happy Guatemalan kids. Clockwise from top: Auni Beerman, part of her team; Guatemalan boys; Lars Neuenschwander; Volunteer doctors, nurses, and other medical professionals perform cleft palate repair and other surgeries. Photos Matt Winchell.
It's an anti-sound, the audioversion of true black, a pressing absence that makes the ear feel like hands grasping at empty space. “But it’s 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 faculty wanted a way to record and share their music, so the Robert 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, saxophonist, and composer. A concert can only reach so many people, however far away, “but if we make a recording, people all over the world can hear it.”

Indeed, when Yasinitsky visited his daughter in Europe and asked if she had received a compact disc he had sent, she confessed she didn’t have a CD player. But moments later, she said, “Oh, here you are,” and there he was on her phone, on Apple Music. Through the studio and the School of Music’s in-house label, Washington State University Recordings, WSU faculty have produced more than a dozen and a half classical and jazz recordings. Each one goes through a peer-review process with musical experts from around the United States before being distributed through iTunes, CD Baby, Amazon, Apple Music, Spotify, YouTube, and other services.

WSU Recordings is only a fraction of the music made in the studio, says Yasinitsky, with other recordings released on different labels, as publisher’s demos, and mores. Also, at the Allen Foundation’s request, the studio is open to everyone at WSU and in Pullman for the nominal charge of $40 an hour.

For students, the studio is a way to develop “blended careers” in which performing, teaching, and recording intertwine. The studio can sound like a church, concert hall, or nightclub. At one point a muffled thud 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.

“Kid’s got a nice clarinet tone,” he remarks during a solo. Capturing it is a Neumann U67, the go-to microphone of Al Schmitt, a 15-time Grammy winner. Yasinitsky knows how to craft a sax solo, as can be heard on “Partial Eclipse” and “One-Two-Three.” His quirky, humorous, and engaging arranging style means you’ll be listening to 1AZZ Band over and over again, and bearing something new each time. On a side note, I usually shy away from modern big band recordings created 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. 1AZZ Band, recorded at the WSU recording studios, successfully presents the music and ensemble without sounding bland or sonically drab.

— Kevin Woods

Kevin Woods is the director of jazz studies at Western Washington University.
The French connection

BY REBECCA PHILLIPS

IT WAS JUST AFTER MIDNIGHT, during a 2,000-kilometer cycling event in the French Pyrenees when Vince Sikorski felt something hit his left shin.

"I was alone and saw it out of the corner of my eye," recalls Sikorski (‘81 Biotech). "On the ambient light, I looked down and saw a lamp attached to my ankle. ‘What the hell is this thing?’ I thought. As I tripped it away, I felt a sting in my finger and a drop of blood. ‘I’ve 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.

As a team leader, Sikorski has led a number of new riders who have been bitten along the way. "It’s a stress reliever," adds Sikorski. "We were both starting demanding jobs at the time, and everything gets a little harder." Maasch also rode at WSU but became serious when the couple moved to Canada, and parts of the United States. In all, they’ve logged around 1,200 miles together.

"It’s been 25 years of fun-filled adventure for world-class cyclists Sikorski and Maasch, including learning to pack, ship, and assemble single and tandem bikes. So far, the couple has toured France, Spain, Italy, Ireland, Scotland, Portugal, Slovenia, Croatia, Taiwan, Vietnam, Cambodia, Thailand, Canada, and parts of the United States. In all, they’ve logged around 75,000 miles on five different continents.

"I started cycling as a student at WSU," Sikorski says. "I had a cheap Sears bike and I’d ride it out to my job at the radiation center on breaks between classes." Maasch also rode a WSU but became serious when the couple moved to France. "I used to worry about him falling asleep, crashing, being hit by a car," Maasch says. "Now, I need to add bitten by a bat to my list. Cycling really makes him happy, but I won’t be sad when he gives it up."

This August Maasch will cheer on Sikorski as he returns to France for his seventh solo ride in the Paris-Brest-Paris Randonneur, another 1,200-kilometer timed ride that is held every four years.

"It’s a challenge. Yous’re nomadic," he says. "You’re lucky to watch the sun set and hour later, watch it rise again. It takes up to 90 hours to complete, so you don’t get to sleep much. It usually finishes in about 70 hours. It’s very hilly terrain."

"There’s nothing like it," says Maasch. "The French are out there cheering in the middle of the night. They give food and gifts. They have shows if it’s hot and kids come out with boxes of cookies. Even if they ride through some little town of 2,000 people, there will be a bunch of thanks outside the bar cheering at them. The French love cycling and participate however they can."

THAT EXHILARATION AND INSPIRATION are shared by Chris Dugan, a surgeon in social sciences and two-term captain of the WSU Cycling Team. Dugan is one of the University’s most dedicated competitors in the Northwest Collegiate Cycling Conference, but his eyes are on a bigger prize—the Tour de France.

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

Thighs Dugan admits tighter, larger riders have the advantage in sprints or flat road races, he dominates as a “climber” on hills. Last spring, he won a tough race at the Montana Bobcat Classic in Bozeman. "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 Nairo Quintana, a Colombian climber whom Dugan says reignited cycling for that country and has become a national hero.

"I want to reinvent competitive cycling for the United States—that’s my ultimate goal," says Dugan. “In the Tour de France, there are no longer any all-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.

The Cougar soccer squad netted quite a season last year.

BY LAUREN CLARK

The WSU women started last fall with a school-record 10-straight victories, and became the final undefeated and untied team in the country. Behind the athleticism and talent of players such as Maddy Hans, Morgan Weaver, and Rachel Young, Washington State achieved its highest national ranking in 30 years at number seven and finished the 2018 season with 13 wins, one off from the program record of 14.

“We’ve had exciting performances and games,” says fourth-year head coach Todd Shulenberger. He came to WSU in 2015 from Texas Tech to take a Palouse training ride with Chris Dugan: "take a Palouse training ride with Chris Dugan: "I used to worry about him falling asleep, crashing, being hit by a car," Maasch says. "Now, I need to add bitten by a bat to my list. Cycling really makes him happy, but I won’t be sad when he gives it up."

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“Anything you want to achieve.”
“Prepare for the Change! THAT’S COMING,” he said, and he encouraged others to do the same. The people must go back to the soil to avert a financial crisis.”

For a short while, Riviera showed promise. According to Don Clarke in the Bunchgrant 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 School. 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 wire to Riviera to run irrigation pumps. Arthur wrote 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 deliver water via a wooden flume upstream of the settlement also failed.

Even if efforts to establish ample irrigation at Riviera had succeeded, it may well be that Bryan’s dream was nevertheless doomed. It was simply too isolated. Other than the very rough road from Starbuck to Riviera, the only way to reach, and supply, Riviera was by train to Railpoh Station, across the river from Riviera, and then by ferry. And then came World War I. A letter from Arthur to his father dated February 4, 1918, reports that he was on his way to the rifle range at Annapolis, where he was stationed with the 56th U.S. Engineers. He asks his father to take care of some finances and notes that he was probably overdrawn to the company.

Other accounts report that remaining residents of Riviera were lured away by industry jobs. Even though the failure of Riviera was undoubtedly a great disappointment, Bryan met it with the same determination he did the challenges of founding a college. He eventually paid off the mortgage, and upon his death in 1941, Riviera was listed as a major asset in his estate. His agrarian dream now lies under the waters of Lake Bryan formed by Little Goose Dam. *

Thirty-some 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, and any 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 Simmon (’89 MA, ’90 PhD History) in the introduction, referring to WSU’s tenth president Elion S. Floyd. “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 unwavering 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. William Starbuck, with the goal of stringing electric wire to Riviera to run irrigation pumps. Arthur wrote 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 deliver water via a wooden flume upstream of the settlement also failed.

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Thirty-some 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, and any 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 Simmon (’89 MA, ’90 PhD History) in the introduction, referring to WSU’s tenth president Elion S. Floyd. “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 unwavering 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. William Starbuck, with the goal of stringing electric wire to Riviera to run irrigation pumps. Arthur wrote 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 deliver water via a wooden flume upstream of the settlement also failed.

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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 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 premium cherry season. The richly red Bing and Van cultivars carried a premium price, and the result was $1.48 million. It stood out. Fogle told The Times, “from the moment I first saw it ripen.”

Golden-hued Rainier cherries were first released in 1980. Despite their unusual good looks and natural sweetness, Whiting says, they were “initially sold out as a pollinizer. 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 Luelling traveled from Iowa to Oregon with nearly 1,000 trees and planted them at a higher rate to go slow.” The idea is to encourage workers to exercise caution, select fruit for optimal color and size, and gently lay—not drop—the tender fruit into a basket worn around the neck. In Prosser, at WSU’s Irrigated Agriculture Research and Extension Center, Whiting does research to support the entire sweet cherry industry. He works with growers to improve yields, production efficiencies, and labor-saving techniques as part of WSU’s Pacific Northwest Sweet Cherry Breeding Program.

WSU re-established the cherry program in 2004, after a hiatus of two decades, to develop superior new cultivars for the Pacific Northwest sweet cherry industry. One area of research is breeding resistance to diseases, particularly powdery mildew, which attacks both the foliage and fruit. “It’s primarily a Pacific Northwest problem,” says Per McCord, WSU’s new cherry breeder and associate professor of stone fruit breeding and genetics. “It won’t kill the tree, but it will certainly make the fruit unmarketable and that’s why it’s such a challenge. There’s also a risk of losing the ability to control it via chemicals, so that makes breeding an attractive option.”

Rainiers could still be improved. They, too, are susceptible to powdery mildew. And, like both of their parent varieties, Rainiers require a compatible pollinizer. “That’s one area you could improve upon for the grower: to produce a Rainier cherry that’s self-fertile and doesn’t require another cherry to pollinate it,” McCord says. “If we could develop a blush variety that was earlier or later than the Rainier, we could increase the market window for that class of cherry.”

Meantime, these blushing beauties—plump, juicy, and a good source of Vitamin C—are best enjoyed fresh, according to Cook’s Illustrated. Use raw Rainiers to top desserts or add a pop of color to a green salad. Chop them up for salsa. Eat them straight from the bowl. They’re simply too pretty to tuck into a pie. But, if you want to bake with them, consider WSU’s executive chef Jamie Callison’s Rainier Cherry Clafoutis. His take on the French custard—traditionally made with whole dark sour cherries from the Limousin region—is complete by orange zest and a splash of orange liqueur.

McCord personally likes fruit with a bit more acidity. But, no matter how Rainiers and other sweet cherries evolve, McCord says, “they’re always going to be a premium fruit. I don’t think we’re going to see bargain sweet cherries. It’d be like saying a bargain BMW.”
Where have all the frogs gone?

BY REBECCA PHILLIPS

ILLUSTRATION ESTHER NG

WASHINGTON STATE MAGAZINE FALL 2019
WHERE HAVE THEY GONE?

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 America, 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 1998 and Allan Pessier (’96 DVM) had just begun a pathology residency at the National Zoo. As a lifelong amphibophile, he was more than a little intrigued when the deceased dart frogs began arriving in his laboratory.

Together with senior pathologist Don Nichols, 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 Jaye 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.

Around the same time, researchers in Australia and Central America announced the discovery of a protozoan they believed was causing the ominous global decline in wild frogs that had been occurring since the 1970s. Incidents of these massive die-offs had risen sharply in the 1980s but no one could pinpoint exactly why.

According to Pessier, their team saw photos of the suspect microbes in the New York Times, they immediately knew the organism was not a protozoan, but was instead Bd, the chytrid fungus they had just identified. With a daunting awareness, they recognized their discovery could have enormous implications.

“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 teeming with frog calls and they covered the ground everywhere you stepped. But after the chytrid fungus, it was completely silent and you had to search for 45 minutes to find a single frog.

“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 of the Science Report. The conclusion 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. Deadlier than the 1918 influenza pandemic or medieval bubonic plague, Bd is the worst infectious disease known to science.

In 2017, Pessier, Nichols, Longcore, and colleague Elaine Laminarde 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 public policy.

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 (WADDL) and clinical associate professor in the School of Veterinary Medicine. With 20 years’ experience in aquatic pathology, Pessier is the “go to guy” when zoos and other organizations have tough questions about amphibian disease. Each year, WADDL 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. Caren Goldberg in the School of Biological Sciences is investigating physiological and environmental factors that could help trigger mass amphibian die-offs. Their findings have applications for many other species as well.

Together, this diverse group of scientists has created a synergy that puts WSU in the national spotlight as an emerging center for amphibian research. They share a critical goal: To prevent the occurrence of a second fungal pandemic—an explosive threat looming just over the horizon.

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Making my way through trees and cattails, I join assistant professor Caren Goldberg, who is busy assembling her eDNA collection system. Dressed in jeans and tall rubber boots, she kneels in felled grass near the edge of the water where two male Columbia spotted frogs have staked out territories.

Goldberg carefully lowers a plastic tube into the pond and uses a hand pump to draw water up through a filter and into a flask. With tweezers, she carefully removes the wafer-like filter and stuffs it into a test tube. Back in her laboratory, she will extract DNA from the skin cells, feces, urine, and other bits of material left behind by aquatic inhabitants. The DNA is then run through assays to identify target species of fish, amphibians, snails, turtles, and other creatures. With that one sample, Goldberg can also detect rare and invasive species as well as disease-causing organisms like Bd and ranavirus.

As one of the world’s leading amphibian eDNA researchers, Goldberg analyzes more than a thousand samples each year from all over the world, including endangered frogs from the Panama forests visited by Pessier. She and her team have developed nearly 50 assays, each uniquely designed for a particular species.

Not only does eDNA improve and simplify the process of monitoring aquatic species, it’s also safer, more efficient, and minimally invasive. None, instead of trampling through fragile wetlands—turning 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, she was transfixed.

“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 Foren 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 disruptive to a salmon run 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 WSU 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
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 201 salamander species.

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

“That’s really a good thing,” he says. “Allan Pesier, 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.

“Bd is a very unregulated—we know Bd is found in some of these animals,” Brunner says. “We want to use eDNA testing to screen a whole shipment at a time rather than test each animal individually. The idea is that we can collect a handful of samples from the water and have a high probability of ensuring there isn’t infection in that group of animals.”

Worldwide surveys indicate these infections 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 that 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-incfect 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, when 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 human 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 Piovia-Scott, assistant professor in the School of Biological Sciences and a member of the National Bd 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.”

Piovia-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—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 hold water year round—they just need moist soil to survive. “It’s a very good example of how small the world has gotten,” says Pessier, who also specializes in biosecurity and reintroduction programs for endangered species.

“Diseases like B. dolichos and B. salamin 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 captivity until they can be reintroduced to the wild, once we have their genetic diversity and then try to breed and maintain a colony assurance populations (SAP). We capture threatened species to preserve

“They intend to closely monitor the reared populations and then find populations in the wild where they can be reintroduced.”

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

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“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 Pacific amphibians.

“Long-toed salamanders, for example, can live in a variety of habitats—such as seasonal wetlands, grasslands, or woodlands—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 withstand fish, bullfrogs can also be seen in parks and in some wetlands.

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.

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

“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.”

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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 rife 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.

BY BRIAN CHARLES CLARK

WASHINGTON STATE MAGAZINE FALL 2019
What does it feel like to you?

Leonard is one of the first scholars to analyze and broadcast conversations about the stereotypes in video games. As others 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 in that moment about 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 then 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 everyday reality.

‘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 is their everyday experience 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 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 those tears, emanating from the victims of violence and those oppressed by systemic racism and brutalizing stereotypes. ’We sandwich over these issues by ignoring them, or by saying ‘look how far we’ve come’ or ‘at least it’s not this other awful thing. So it’s down to me to say: things are not so smooth, there are 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 codified 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 Koshonna Gray write, is “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”—Expressions 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 “doxxed,” 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 to 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 feeding the expectations of gamers is critical to profits. As Leonard and Gray point out (quoting another scholar), there is a “hegemony of gaming practices that reproduce 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, argues 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 Combat, 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 gender, race, and violence become obstacles to having access to water is something I can see.” Leonard says, “Games can foster that critical conversation.”

Or simply taking advantage of winning expectations 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 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 were 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

Leonard has created a series of webinars and conversations, together with her colleague from the Department of Human Development, Kathleen Rodgers, using script theory to shed light on the ways in which media consumption shapes our views of gender, sex, and romance. Script 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 the way 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 and script our ideas about 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’ve 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 77 percent of children ages 12–37), and 99 percent of these games include mature content, including violence. Manhunt, Thrill Kill, Grand Theft Auto: 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 Gamasutra shows, 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 kids, girls 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.

As Hust points out, “Video games allow for the exploration of gender roles and gender identity in a virtual space as the player can choose an avatar that is not the same as his or her biological sex. Additionally, some video games provide an alternate script for women as they include physically strong female avatars who often complete the same tasks as male avatars. Oftentimes, these female avatars are sexualized, however.”

It’s that flicker that keeps Leonard thinking critically about gaming and pushing the conversation. “It’s like hip hop,” he says, the music he grew up with. “If we say that hip hop is sexist by defining sexualized, however.”

Addiction, some video games provide an alternate script for women as they include physically strong female avatars who often complete the same tasks as male avatars. Oftentimes, these female avatars are sexualized, however.

“With 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. “WSE” 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 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 you don’t want to leave them—or anyone—to their own devices.”

Firestone, Lent, 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 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 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? I’m 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, distracted 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 Firestone and McMahon, that might be geologic time, plate tectonics, evolution, or the nature of scientific inquiry itself. 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 biologically destiny.

“The science,” Leonard says, “diversity is important. Technology is created by people. People being their ideologies, identities, beliefs, their prejudices onto 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 bathe in privileges—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 president.

Sugayan said she learned at Washington State “how every single person has their own role in the political process and how every single person’s strengths can benefit the political system. You don’t have to be a politician, you can be involved behind the scenes,” she says.

Not that that is what she sees for herself.

“I am really happy doing voter registration for the time being, but at one point in the future, I do plan to run for office,” Sugayan says. “My eventual goal is to be a (U.S.) senator because that’s pretty cool—I in 100. And from there we’ll see, maybe I’ll want to be president after that.”

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 BN MILLER (’92 FINE ARTS). “If you’re going to be that precise with where you cast, 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 where it just felt so good to be doing what I was doing.”

He’s training and supervising a student-focused security force, something the campus previously lacked. The paid student interns earn college credit as well as state certification as security guards.

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

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**Matt DeGarmo:** attorney for forensic science students on their crime scene investigation in a field lab at Blue Mountain Community College in Pendleton, Oregon. Photo: E.J. Harris/Tumbleweed Photography

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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, Madison, 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, Eric Miller (’75 Gen. St.) 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 Cosmopolis, 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 with 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 25 feet away. From afar, it looks like he’s fishing.

“Why 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 canvases for Plexiglas to explore “the idea of trying to push the depth of water.” But, just as with the flies, the force of the line caused the material to shatter. Now he uses Lexan—an ultra-durable, clear polycarbonate—upon which he typically paints both sides to achieve his desired effect.

Miller paints fish in his studio before heading outdoors to paint water “from a fisherman’s perspective. A stream is nothing more than a moving palette of color,” he
Return to Red Mountain

BY BRANDON SCHRAND

It’s a bright morning on Red Mountain, where three generations of the Williams winemaking family are gathered in their tasting room. The space is elegant and elemental. All stone, steel, wood, and windows. Outside, vineyards trail off into the distance in undulating rows. John Williams (’81 Mat. Sci.), the patriarch, adjacent to his well-worn WSU hat. His son, Scott Williams (’80 Ag. Eng.), scans the view with an eerie grim. The business, he says, is about the present as well as the future. That includes this very building. “This was built to be a 100-year building,” he says.

A true legacy, the Coug family knows, is like a good wine: it takes time. That legacy, like this building, isn’t going anywhere anytime soon. Scott mentions the Italian winemaking Antinori family, operating for twenty-six generations. With Chateau Ste. Michelle, the Antinori family established Cellarele, a winery and vineyard that abuts the Williams’s property on Red Mountain. Their legacy, Scott says, “was an impetus for us thinking of the long term.”

His son, Tyler Williams (’83 Vit.), a third-generation vintner, spent four years backpacking around the world and making wine in seven countries on both sides of the equator before coming home to Washington, where his family owns Kiona Vineyards and Winery. Instead of settling into the family business, though, the Gonzaga grad went back to school, enrolling in the graduate program. “I felt very encouraged 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 level their addition to a wine results in significant differences in that wine’s microbial 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 nuclear reservation, working as an engineer. At Hanford, he shared an office with Jim Holmes, a Valley, 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. Blasking nearly everybody, the planted nine acres of grapes in equal parts Cabernet, Chardonnay, and Riesling. Their first vintage 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. He remembers working after school in the vineyard, rolling wire, and planting on weekends. “I’m probably the only guy still alive here who remembers pulling sagebrush with a chain and tractor, and not a bulldozer.”

After 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 renowned as a grape grower for about 60 other wineries in the Northwest.

That success has garnered broad recognition. John is a Legend of Washington Wine, the Antinori Family Hall of Fame inductee, and Scott was named 2010 Honorary Grower of the Year by Auction of Washington Wines.

With Tyler’s recent graduation, the Kiona torch has officially been passed down. “That’s really what the Marching Band is all about. And right now, it needs our help. As Brianne Davison, wildlife ecology and conservation science major and Marching Band member, says, “We struggle to get what’s necessary to perform. We need to replace many of the older instruments and fund the new addition of the Color Guard (whose student members currently pay their own uniform expenses).”

Please join the WSU Alumni Association in supporting the Cougar Marching Band.

Alumni Association News

Cougar Marching Band: Best in the West...East, North, and South

The Cougar Marching Band (CMB) does so much for our university. The WSU Alumni Association wants to do something for them. The CMB is filled to the brim with Cougar Spirit. The group of dedicated Cougs provides inspiration and entertainment whenever they go. Through CMB’s collaboration with the WSU Alumni Association, the Marching Band contributes to the Cougar experience each year.

For the Marching Band occupies a special place in the hearts of Coug-everybody and adds to the spirit of any WSU rally or event. In recognition of all that and all the Marching Band does for the WSU Alumni Association, the WSU Alumni Association wanted to say “thank you.” For Giving Day, the WSU Alumni Association announced plans to match all donations to the band up to $10,000. To date, the challenge is nearly halfway complete. To reach the goal, the WSU Alumni Association is asking Cougs who love the Marching Band to donate. To contribute to the Marching Band, visit marchinbg.wsu.edu.

As Cougs, many of our first memories of the Marching Band are from the student perspective. Watching performances during football season, standing up the Fight Song together while we cheer the Cougs to victory. When students become alumni, the band’s relationship with the WSU Alumni Association becomes the same as those alive. The WSU Alumni Association not only supports the Marching Band but also helps bring those traditions to life. The WSU Alumni Association wants to experience it all. Through CMB’s collaboration with the WSU Alumni Association, the Marching Band contributes to the Cougar experience each year.

The band is dedicated to entertaining Coug fans at the Alamo Bowl Pre-Game event, Cougar Spirit Night, and Diamond Grad Reunions, to surprising Feast of the Arts dinner guests. As they enjoy the best food and wine WSU has to offer, to viewingCougs in the Alamo Bowl Pre-Game event, the Marching Band is dedicated to entertaining Cougs and inspiring Cougar Spirit. That’s really what the Marching Band is all about.

And right now, it needs our help. As Brianna Davison, wildlife ecology and conservation science major and Marching Band member, says, “We struggle to get what’s necessary to perform. We need to replace many of the older instruments and fund the new addition of the Color Guard (whose student members currently pay their own uniform expenses).”

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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 Antoine Brooks and his colleagues at the U.S. Department of Energy in the last decade. Using micromammals 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 took up close 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.

—Larry Clark '29

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 taxing 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. Pickers—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 like to claim, but they are captivating. This book sheds light not only on several monumental events, but more importantly on small events that formed these Salish Coast communities. The strong women in this book were responsible for an increased pool of teachers, the growth of Whatcom County, and the development of southeast Alaska. Mrs. Pickers (her first name lost to time) was the mother of an influential artist. This book is definitely worth a read to learn more about the influence of these women that persists to the present.

—Ashley Cole '19

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

A husband and wife team of surfers lodged with Leonid Reed’s family in White Bluffs before their ownership orders were given in 1941. “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 short-lived.

“Forty 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 Finley, moved to Benton City. Reed’s went to Walla Walla, but by 1940 another resident whose roots in White Bluffs, James Finley, had returned to the pasture—and heading off to school.

When they were forced to vacate, some moved to Yakima and Sunnyside. Others ended up in Kennewick, Goldendale, Pendleton, and beyond. Finley’s family moved to Benton City. Reed’s went to Walla Walla. Chapter three, written by Laura Azuzu (‘14 PhD History), offers the distinct perspective of a woman in the valley. David Harvey, who’s spent more than 35 years in historical preservation, wrote the first chapter, an overview of the area and its early years.

Michael Mays, a professor of English at WSU Tri-Cities and the director of the Hanford History Project, is the series editor. Robert Franklin, assistant director, and Robert Bauman, associate professor of History at WSU Tri-Cities, edited the volume.

—Adriana Iannacci

BRIEFLY NOTED
Emily’s Tears
IAN MIRNELLY ’77 PSYCH.
2019

Twenty-five years after she adopted her son and uncle, Emily learns of the death of her former foster father, who cared for her 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 Mirnelli and his wife, Stephanie, live on Michigan’s Upper Peninsula; their personal experience as foster parents led him to write the book.

Waterlogged: Examples and Procedures for Northwest Coast Archaeologists
KATHERINE M. SMITH
WSU PRESS: 2018

Sixteen experienced archaeologists, including WSU adjunct professors Dale Cross (‘71 MA, ’77 PhD Archaeology), provide guidance on how to locate wet archaeological sites, outline procedures for recovering and caring for waterlogged artifacts, and share highlights of research findings.
The Marrowstone Island Community Foundation named VISJO ANDERSON ('87 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 ('87 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 MERTZELL ('71 Agr. Sci.) is retiring. His plans to move to the family dairy at Skyift Farms in Morrow. Gov. Jay Inslee has appointed FRED JARRETT ('79 Fin.), recently retired King County senior deputy executive and former state representative, to the state Public Disclosure Commission. GREG STEWART ('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 the current president 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 Ph.D. Amer. St.) for his extraordinary vision, exemplary loyalty, and unswerving commitment as the organization’s founder and executive secretary and treasurer from 1979 to 2017. U.S. Representative DAN NEWHOUSE ('77 Ag. Econ.), a Republican from Sunnyside and a hops grower, was appointed by Governor Jay Inslee to the board of the Washington Growers Relief Board. He will work full-time to help his parents in one of the area’s first vineyards.

The Auction of Washington Wines announced SCOTT WILLIAMS ('80 Agr. Eng.) of Kiona Vineyards as its 2019 honory 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.) co-authored Field Guide to Vintage Italian, a one-stop identification reference with hundreds of photos and detailed illustrations of wines. He’s also a producer and director at Craftmaster Productions, a full-service video production company in Portland, Oregon. BRIN NUGOLL ('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 ('86 Ph.D. 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 P. Stephen Lifetime Achievement Award at the Pacific Northwest Pollinator Summit & Conference in February.

WSU Extension Pacific County director RICH HARTZELL ('85 Elec. Eng.) was elected CEO by the energy company’s board of directors. Vermillion joined Avista in 1985 and has held a number of staff and management positions. He also serves as a board member for Western Energy Institute, American Gas Association, and for the Avista Foundation.

The Auction of Washington Wines announced industry veteran JASME PENA (’96 Hotel & Rest. Adm.) 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.

Biogaeacture 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 Media and Journalism at Arkansas State University. Rawlins has served in several administrative roles for Arkansas State, as president of the Association of Schools in Journalism and Mass Communication, and as a member of the Accrediting Council for Schools of Journalism and Mass Communication. He is also an editorial board of journalism and communication scholarly journals.

Pacific Lutheran University's Board of Regents has appointed ALLAN BELTON ('88 Bus.) as PLU’s fourth president. Belton has served in the role as interim president for the past two years. He first moved to PLU four years ago as senior vice president and chief administrative officer. Prior to joining PLU, Belton enjoyed a 25-year career with Bank of America Merrill Lynch, where he served most recently as managing director in global treasury management for higher education, government, and nonprofit organizations.

TOM SCHWILKE ('98 B.S.) has been named president of the Dallas division of retail and supermarket company Kroger. He previously worked in management for Safeway.

SAMMI JO THYHTYACRE ('88 English), a U.S. Air Force veteran and education advocate, was selected to serve on the Eastvilleon School District Board of Directors.

DON CARRELL ('89 Ag. Econ.) has been named chief executive officer of Keyluk Corp. in Yakima. Carrell joined Keyluk in 2017 as chief operating officer. Before that, he was general manager at Kaiser Plastic Industries, Inc., vice president at Shields Bag and Printing Co., and senior logistics manager at Kaiser Aluminum Trentwood Works.

PBA team Memphis Grizzlies have hired RICH ORO ('90 Mech. Eng.) as its new vice president of basketball strategy. Oro is the former general manager of the Charlotte Hornets and the Portland Trail Blazers. He was the first Asian American general manager in NBA history.

Webster Shandwick, a global communications and marketing solutions firm, announced...
Wine-By-Cougars, the wine club for Cougs, before August 13.

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To show appreciation to Dean Pollack, alumni, faculty and staff have established the Gary Pharmacy, class of 1978) who
Linda Garrelts MacLean (WSU past nine years has been exceptional.
Your leadership and service to

DEAN GARY M. POLLACK, PhD
Your leadership and service to the College of Pharmacy and

AND CONGRATULATIONS TO
Linda Carrollo Matias (WSU

WITH GRATITUDE TO

To show appreciation to Dean Pollack, alumni, faculty and staff have established the Gary M. Pollack Inhoused Scholarship in Pharmacy and Pharmaceutical Sciences. To contribute to this effort, visit go.wsu.edu/pollack-scholarship or call 509-368-6675.
Monumental task

Rudy 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 Montana home, buoyed by his involvement with the internationally-acknowledged Archie Bray Foundation in Butte. Balazs – a graduate from the University of Oregon – was its director. Balazs’s work, in contrast, was prolific, varied, yet regional: seven decades of paintings, jewelry, drawings, engravings, and more, with a focus on sculpture and public and private spaces throughout Washington, Idaho, Alaska, California, Oregon, and Montana.

“Each exerted enormous influence in their fields, but more powerfully, throughout their 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 its 2010 Balazs solo show, featuring more than 100 sculptures, drawings, and other pieces—including the artist’s workbench. When each man died—Autio in 2007, Balazs in 2017—they 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 tending an artist’s collection, their own works left behind, and these 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 splendiferous. The success of the artist’s last exhibition in 2017. Like others before—he exhibited at Center of the Arts, Spirit Gallery since 1997—it virtually sold out.

“T’s not that much [of Harold’s artwork] to sell,” says daughter Erika 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.

Then, to put together an August 2019 exhibition of the two men’s work, titled Northwest Monumentality, Art Spirit Gallery pulled from secondary Balazs markets or found people willing to loan items. What the family has in abundance, however, are artifacts. Rarely one to stop working (except for hunting and fishing), Harold instead gave people money to bring back things from their travels and pieces by artists whom Harold admired, including Rudy. The collection covers nearly every inch of wall space in the family’s Mead-area home, spilling onto the grounds and outbuildings.

“I counted once and there were over 100 [artworks] on the walls and 70 just sitting,” says Erika. “The Autios’ challenge is similar, about magnified. Daughter Lisa Autio figures she and brother, Chris Autio, have catalogued some 2,000 pieces. In addition to their father’s drawings, early watercolors, and maquettes, it includes artworks by people the Autios knew, such as Peter Vossok, Rudy’s contemporary and cofounder of the Archie Bray. Initially, the collection fell under the purview of Rudy’s wife, Laura Autio, a respected artist, teacher, and art advocate who helped found the Missoula Art Museum.”

She passed away in 2016, her last journal entry asking, “What am I going to do with the artwork? To sell,” says daughter Erika Balazs, one of Harold and wife Rosemary’s three adult children. “He was never about inventory,” adds her sister, Andrea Balazs.

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She passed away in 2016, her last journal entry asking, “What am I going to do with the artwork?” Now Lisa is the point person amongst her three brothers. “T’ve swarmed, 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. Williams, a Coast of Maine local who attended college and started a career in Montana before returning to Idaho, wondered how the gallery might perhaps cultivate 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 grow.” She says she is thankful her mother left funds to care for the collection, which is nonetheless still huge. “I think museums are finding limits to transportation, insurance, and organization of a traveling show,” she says. “But we’ve been mindful of doing the best we can.”

So far, the family perseveres: two future exhibitions booked in Montana, ongoing donations to institutions—books to the Archie Bray for example—but still volumes of archival material to sort through, maintenance of the house, the need for good tracking software, and all the other tasks that must happen in order to preserve the Autio legacy.

The journey has been formidable, Lisa says. “But we’ve been mindful of doing the right thing for the folks, whatever the issue. They were good to us.”

by Carrie Scozzaro
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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.

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