

# Willamette.

THE MAGAZINE OF WILLAMETTE UNIVERSITY

SPRING 2024

**“It will cease to be a forest”**

**“There’s no historical precedent  
for what we’re seeing”**

**“Now I get to help make  
sure the acres that burned  
return to green forestland”**

## **THE NEW FORESTRY**

**We need to listen, experiment, and adapt in  
order to bolster our forests against bigger wildfires.**

11:08 a.m.,  
January 9,  
2024

### **Suitcase Sculpture**

The university's Hallie Ford Museum of Art put on a retrospective of works by contemporary Montana-based artist Willem Volkersz. Here, the museum's Fred Soelzer (left) and Silas Cook move the Volkersz sculpture *Immigrant's Dream* during the installation. Volkersz, himself an immigrant to the United States, has said that each suitcase depicts a scene of America "that immigrants carry with them." Another spring exhibition showcases the museum's collection of self-taught artists, considered to be Oregon's most extensive.

PHOTOGRAPH BY CHRISTINE DONG



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COVER PHOTOGRAPH OF ANDREWS FOREST BY CLAYTON COTTERELL. PHOTOGRAPH OF CAT ROSS BFA'18 BY NASHCO



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PHOTOGRAPHS BY CHRISTINE DONG (TOP), CELESTE NOCHE (BOTTOM); ILLUSTRATION BY STUDIO WYSE

**Willamette.**  
THE MAGAZINE OF  
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### PUBLISHER'S NOTE

**Beautiful things happen when we come together to tackle complex problems.**

That's the lesson I took from this issue of the magazine. Inside, you'll learn why government scientists sought out a multimedia artist as an unlikely partner. You'll explore the all-hands-on-deck response of timber executives, environmentalists, firefighters, and professors to the new realities of our forests. You'll learn how to talk with people whose beliefs diverge from your own, and how to be helpful to those who are grieving. These stories—in fact, every article in the issue—show how Willamette people, whether in the spotlight or behind the scenes, are thinking and acting with others to improve our world. Please keep the discussion going: send a letter to the editor, submit an answer for the next Question Everything, and, most important, engage in conversation with one another. We all benefit from your perspective.

TYLER L. REICH BA'06  
Executive Director,  
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**Image Projection**

**T**HIS ISSUE FEATURES artist Cat Ross BFA'18 and their work with the National Oceanic and Atmospheric Administration. For photos that capture Ross's artistry and range, we turned to NASHCO, a Portland-based creative duo made up of Leah Nash (the Nash) and Christopher Onstott (the CO). "We used Cat's art as a springboard for our shoot concept," the duo says. "Since Cat's work incorporates various mediums, we immediately thought of superimposing projections of her images from the NOAA project, basically making Cat the art." They also employed gels, colored lights, and glass. With Ross, they decided what poses and wardrobe suited each scenario. "The goal was to make Cat part of the process and create something collaborative that represented her."

**CONTRIBUTORS**



**Erika Bolstad**  
Writer, "The Interview," p. 16, and "Good Machines," p. 32

Bolstad got a crash course in artificial intelligence from the faculty of Willamette's new School of Computing & Information Sciences and an executive-level business seminar with former Deloitte Global CEO Punit Renjen MM'86. Bolstad says she's still a little worried about what AI means for her own career, but she's also hopeful that artists, poets, and writers have a place in imagining the worlds we'll inhabit next. Bolstad is the author of *Windfall*, a 2024 finalist for an Oregon Book Award.



**Christine Dong**  
Photographer, "A Moment," p. 1, and "The Interview," p. 16

Dong met up with Punit Renjen MM'86 while he visited the Salem campus in early March. As she photographed him in various locations,

they enjoyed chatting about Portland. "Going back and forth with Punit on our favorite places to eat in Portland was a special experience for me," Dong says, "especially when I found out he knew to preorder whole fried fish at Pho Van before coming in. It's one of the best, overlooked dishes in our city."



**Matt Jones BA'98**  
Writer, "Only at Willamette" crossword, p. 48

Jones started his early crossword-writing career back when he was at Willamette, writing for a syndicated group during his junior and senior years. "So it's an honor to bring this process full circle," he says. Jones writes the syndicated Jonesin' Crossword, which appears in alternative newsweeklies nationwide. And despite never having participated in a marching band, thanks to his Willamette degree in music education, he also wrote a band-themed crossword for the marching band education magazine *Halftime* until 2020.

**FEEDBACK**



Asha Solanky, daughter of Anna (Haley) Solanky BA'06, MAT'11, "reads" the redesigned magazine.

**The Redesign**

The new magazine is truly amazing. To everyone involved, you did great work! I loved the professor, student, and alumni highlights, and the way those individuals' stories were woven into larger narratives. It brought home what Willamette's motto and mission look like in practice. —Janelle Bovell BA'08 Studio City, Calif.

What a timely, uplifting, and forward-minded gift—congratulations on rolling out such an impressive product. I can only imagine the number of people and great effort required to relaunch this vital university communication. The color, graphics, and photos first caught my attention as I walked back to the house from the

mailbox. But the features inside were the real treat. Diverse, in depth, and of interest to anyone who might pick up the magazine off the living room coffee table and thumb through it, alumnus or not. And the best part: no commercial advertising! Of particular interest to me was the article "Bar None," about the law school class of 2020, slammed by COVID and left to drift until the administration and Oregon Supreme Court stepped in to apply equity to an unprecedented, inequitable set of circumstances. The Lisa Murkowski [JD'85] interview was in depth, not the type of softball piece that is too often written about alumni elected officials. I learned much more about the Alaska senator and have

**The new magazine is truly amazing. It brought home what Willamette's motto and mission look like in practice.**

—Janelle Bovell BA'08

a better understanding of her background and family history, which has been vitally and successfully tethered to Willamette for decades. Last, but not least, I have been inspired to keep on "aging well" by Jennifer Sasser [BS'89] and the folks, ages three to eighty, whose testimonials are featured in that piece. —Gary E. Rhoades JD'70 Portland

It was indeed a pleasure to receive *Willamette* magazine after its hiatus and makeover. The layout, format, pictures, and presentation, as well as the content, were a marked improvement over the previous magazine. I particularly enjoyed the interview with Lisa Murkowski, the articles on siblinghood and aging, and the "In Deep" feature. I think this was the first time I have read this many articles in the magazine and perused the entire magazine.

That said, I was quite disappointed to not see a class notes section in the magazine. In previous years, this was the first section I would jump to so I could get up to date with what my former classmates have been doing. I did see that class notes are available online. However, I strongly encourage you to revive this section in future print

editions, because it was such a quick, easy way to read personal alumni news. —David Ahlman BA'73 Berkeley, Calif.

Our neighbors in Alaska, natives of Houston, always used to shout, "Hot Damn!" when they heard something truly exciting and maybe even slightly shocking. For native Oregonians, it was always fun but a little disconcerting to hear them carrying on. But when I got my *Willamette* magazine and gave it a quick read, that was exactly what I said. Content, format, colors, and print styles were all terrific. Thank you all for a fresh, new look at WU! It makes you want to leave it on your coffee table in a sort of proud, modestly boastful way. Well done! Frankly, you had me at the crossword puzzle. —Lynne Saxton BA'76 Vancouver, Wash.

**Tell us what you think**

We welcome letters to the editor for publication. Please submit them to [magazine@willamette.edu](mailto:magazine@willamette.edu). They should be 250 words or fewer and should address the content in the magazine.

PHOTOGRAPHS BY NASHCO (BEHIND THE SCENES), LEAH NASH (BOLSTAD)

# Which twentieth-century invention has been the most consequential?

We asked faculty members across the university.



## Energy Storage Systems

Energy storage systems, i.e., lithium-ion batteries. Uncontrolled usage of Earth's resources has led the world to the precipice of catastrophic impacts of climate change. Avoiding such dire consequences necessitates a rapid shift toward clean energy. Technological advancements in energy storage systems offer a promising but sustainable path to quickly modify our energy use and extraction techniques. Not only that, they ensure grid reliability and offer fair choices to electricity consumers as well. Although building energy storage facilities has minor environmental impacts, their benefits, such as fewer emissions, outweigh the adverse impacts. This will not only benefit the environment but also provide us with a sustainable and secure energy future.

—Chinonso Anozie, Assistant Professor of Law, College of Law

## Art, Redefined

Digital technology, a pivotal innovation of the twentieth century, revolutionized the art world. It introduced novel forms like digital painting, 3D modeling, and animation, expanding the horizons of artistic creation. This revolution not only equipped artists with advanced tools but also democratized art, facilitating global distribution and connectivity. The fusion of traditional and digital techniques broadened creative expression, redefining art itself. Its impact extends to film, advertising, and video games, highlighting its role in shaping modern culture.

—Shauna Lipton, Associate Dean of Graduate Education, Associate Professor, and Chair of Critical Studies, Pacific Northwest College of Art

## The Democratic Camera

Although the camera was invented in 1816 as the heliograph, it was not until 1900 and the advent of the Kodak Brownie that ordinary folk had the freedom to photograph. For politics, the initial promise of the camera was wide access to an objective visual record. Of course, instead, it involved subjective control over frame and focus. Historically, the camera has had distinctive impacts, both malign and benign, on democratic inclusion. In the early 1900s, photography effectively popularized eugenics in Germany and the United States. Conversely, W.E.B. Du Bois and, later, Peter Magubane in South Africa used photos to capture humanity across color lines.

—Sammy Basu, Professor of History, Humanities, and Public Health, College of Arts & Sciences

## The Internet

The impact of the internet's enabling and accelerating the flow of information has been mind-boggling in its scope. And it's hard to imagine the internet becoming less consequential anytime soon. Just think of all the disruption it has facilitated already: in mail, education, shopping, media, and countless mobile applications, to name just a few examples. The internet has permeated the daily lives of nearly everyone on the planet, connecting "everything everywhere all at once" — for better or worse!

—Romana Autrey, Associate Dean for Academic Affairs, Associate Professor of Accounting, Atkinson Graduate School of Management

## The Car Seat

The first car seat designed for safety was invented in 1962 by British journalist Jean Ames. A Google search taught me that she developed a three-point harness system (since expanded to a five-point harness system) for use in the back seat of cars and designed to be rear-facing. According to data from the National Safety Council, the number of motor vehicle deaths for children younger than five peaked in 1965, with 2,059 deaths that year (very early

in the history of car seats, which were likely available only to those with sufficient money) and has steadily declined to 480 deaths in 2021 (the latest year for stats I found). I was born in 1961, and I remember my mom letting me ride unrestrained (no seat belt, car seat, anything) in the back of a VW hatchback. That thought scares me now!

—Meredy Goldberg Edelson, Professor of Psychology and Women's and Gender Studies, College of Arts & Sciences

## The Birth Control Pill

There's so much to choose from! The crossword puzzle (1913)? The Slinky (1943)? The portable chainsaw (1918)? The infield fly rule (1901)? That said, I'm going to go with the birth control pill (approved in 1960). The idea of women having control over that aspect of their lives was so revolutionary that people almost immediately tried to forbid it—*Griswold v. Connecticut* was decided in 1965—and a lot of people around the world are still either forbidding it or trying to. From family and courtship dynamics to career trajectories, religious teaching, and public policy around the globe (think about the one-child policy in China), it's difficult to imagine everyday life without it.

—Michael Chasar, Professor of English, College of Arts & Sciences

## The Transistor

It's got to be the transistor. It's mind-blowing that silicon oxide (i.e. sand), which in the nineteenth century was pretty much only used for construction and to make glass, can today be transformed into tiny electrical switches about ten atoms wide. Transistors are the heart of every integrated circuit and have enabled us to do everything from putting a man on the moon to making "smart" egg cartons. Computer processors, which contain trillions of transistors, have revolutionized every field of human experience; they play and will continue to play a central role in addressing critical problems like global warming.

—Daniel Borrero, Associate Professor of Physics, College of Arts & Sciences



NEXT QUESTION:

## What's the best advice you've ever received?

Send your answer to [magazine@willamette.edu](mailto:magazine@willamette.edu).

More answers

Read the cases for the automobile, water treatment, and the teenager at [magazine.willamette.edu](http://magazine.willamette.edu)

ILLUSTRATION BY HANNAH BROWNE/STUDIO WYSE; SOURCE PHOTOGRAPHS BY VISHNU MOHANAN (CIRCUIT BOARD), RYANLANEISTOCK (BIRTH CONTROL PILLS), LEA-KIM CHATEAUNEUF (CAMERA), EUGENY GROMOV/ISTOCK (3D FACE),

SCANDINAVIANROCKGUY (TELETERMINAL), MILAD FAKURIAN (DIAMOND), FCAFOTODIGITAL/ISTOCK (CAR SEAT)



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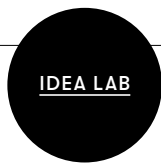
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## We Need to Talk

Real conversation is beautiful, necessary, and within our reach. And learning to hear all sides is one of the most important skills each of us can develop.



**W**HEN MIRA KARTHIK BA'24 first arrived at Willamette from her hometown in the San Francisco Bay Area, she had a goal to someday work in politics.

“But the only version I knew was filled with polarization,” she says. “I wanted to jump in and fight for what matters to me—and not have to understand all sides. I was interested in *my* version of the truth.”

Today, Karthik is president of the student body and a double major in politics, policy, law, and ethics and Spanish. She’s as interested as ever in politics, but she’s changed the lens through which she views it. Learning to understand all sides, she now believes, is one of the most important skills an aspiring public servant can develop. “The ability to have difficult conversations,” she says, “is at the core of strengthening democracy.”

Karthik came to this conclusion through her participation in “The Conversation Project,” a two-semester course for which she now serves as a research associate. The course was created by professors Wendy Petersen-Boring BA'89 and David Gutterman as a way to cultivate conversation across differences.

Petersen-Boring is an associate professor of history, religious studies, and women’s and gender studies. Gutterman is a professor of politics, policy, law, and ethics. Both had noticed a deterioration in conversation in the classroom beginning with the 2016 presidential election. Students seemed hesitant to ask questions and to engage with differing opinions. This mirrored the climate of the country at large during that election and in the years that followed. The divisiveness only deepened during the pandemic, giving way to a level of loneliness that most living Americans theretofore couldn’t have contemplated. Even when the worst of the pandemic subsided, for many people the loneliness and sense of divisiveness did not.

In fact, according to a July 2023 Pew Research study, when asked to describe the state of US politics, Americans chose words such as “divisive,” “polarized,” “broken,” and “dysfunctional.” Research from the

*Shelly Strom is a longtime Portland-based journalist.*

Carnegie Endowment for International Peace draws a correlation between polarization and a decline in democracy.

Kerry Tymchuk BA'81, JD'84, has witnessed firsthand a rise in polarization. His career in public service has included stints as director of speechwriting for US Secretary of Labor Elizabeth Dole during the George H.W. Bush Administration, director of speechwriting and legal counsel for then-US Senator Bob Dole, and Oregon chief of staff to then-US Senator Gordon Smith. He is now executive director of the Oregon Historical Society.

“Americans have always had differences and enjoyed debates,” Tymchuk says. “That’s part of what makes us Americans! What has changed, however, is the increasing vitriol and grade-school playground’s name-calling that has infested our politics. Civility and decency are almost endangered species in the public square. There’s a lot of blame to go around—social media certainly deserves a good share—but the reality is that we must expect better behavior from our elected officials, and from ourselves.”

Tobias Read BA'97 is treasurer of the State of Oregon and a candidate for Oregon’s secretary of state. He served five terms as an Oregon state legislator, and in 2022, he ran in the Democratic primary for governor—all to say he’s had his share of conversations in which not everyone agrees. When talking with voters, Read said he uses the concept of a tree to help ground the discussion. “We often get stuck on debates about individual leaves. I say, ‘Let’s start at the roots with our values and see whether we can agree on those.’ Then we get to the trunk: the trunk represents our goals. The branches are policies, and leaves are implementation of individual policies.”

Read doesn’t see it as inevitable that we are highly divided. “By showing up in uncomfortable places we can push against the results of being isolated,” he says, citing the 2020 bestseller *Humankind: A Hopeful History*, by Rutger Bregman, which suggests that, in Read’s words, “interacting with each other is the secret to our survival.”

For her part, Karthik noticed in her politics classes that students who’d taken part in “The Conversation Project” were able to “ask more questions, be more present in the space, and interact in ways that are more meaningful and fulfilling. It’s something you bring with you and use in everything you do.”



“We often get stuck on debates about individual leaves. I say, ‘Let’s start at the roots with our values and see whether we can agree on those.’”

Lake Charles, Louisiana, he took part in the dinners as a way to combat isolation. “My mom passed away recently,” he says. “She was isolated and by herself. If you have somebody to watch your back, it makes a huge difference. If she’d had somebody to check in on her every few days or so, it might’ve helped her.”

Rev. I. Pearl Player, who is chaplain, director of spiritual and religious life, and an instructor of religious studies at Willamette, is experienced with difficult and uncomfortable conversations. She’s found that a major barrier to having a lot of conversations—difficult and otherwise—is what she calls “our innate inability to actually listen to each other.” Instead of listening fully, she’s noticed, “we’re listening for keywords while simultaneously forming our response.”

Player advises a different conversational technique. “If we share in such a way that we say to each other, ‘This is my experience,’ then the listener is prepared. Keeping it very close to ‘I,’ as in, ‘This is what I believe,’ versus ‘This is the truth,’ makes it a much more welcoming space.” She teaches about deep listening, a practice of giving attention to one’s thoughts and reactions while staying focused on the meaning of what is being heard. This is in contrast to our default way of listening that is reactive and focused on formulating our response. “The conversation goes slowly, but it goes much deeper,” Player says. “This is where you give space for healing, agreeing to disagree.”

This is something each of us can practice, both for our own well-being and in the broader fight against isolation and polarization—one person to another, going beyond the usual circles and simpatico topics to where conversation is least anticipated and most uncomfortable, all in service to each other, and to democracy. ●

**b**EYOND POLITICS, THERE are important reasons to nurture conversation. Much study has been done on the crises of loneliness, polarization, and isolation in the nation today. US Surgeon General Vivek Murthy escalated the dialogue when he released an advisory last year calling on Americans to rebuild social connections. The advisory warns, “Loneliness and isolation represent profound threats to our health and well-being.” He wrote in the *New York Times* that “rebuilding social connection must be a top public health priority for our nation.”

At Willamette, work to build social connection is frequent and ongoing. Tommy Van Cleave, assistant dean for civic engagement, points to a partnership with the City of Salem’s Center 50+, in which student volunteers coordinate dinners between local senior citizens and the larger Salem community, including students. Terry Sherman BS'25 describes conversations he’s had during these dinners as life-changing. A biology major from



# Warming Up

*You've probably thought about how you heat your home. But have you thought about how Willamette heats its buildings?*

THE BOILER PLANT served the Salem campus well for many, many years, but over time, it became inefficient and ineffective. And, as Director of Facilities Gary Grimm points out, no one makes the parts to service it anymore. Now, Grimm and his team, along with private contractors, are in the midst of replacing and decentralizing the old boiler system.

This work is the most significant piece of a three-year, \$28 million overhaul of the

infrastructure in twelve key buildings on the Salem campus. Ultimately, the work will take the central boiler plant offline, replacing it with modern, efficient, localized boilers that are better for the planet and the budget. The annual cost savings from the new boiler system is estimated to be \$192,000.

Phase One of the decentralization is now complete, with new boilers up and running in Hatfield Library, Matthews Hall, and Sparks Athletic Center. Phase Two is in the works. Other aspects of the infrastructure project range from replacing obsolete HVAC components to installing new windows.

**1.** Director of Facilities Gary Grimm points out a steam valve for the old steam supply to Matthews Hall. "The old system dates all the way back to the fifties and sixties," Grimm says. "The boilers, the lines—the whole system was about forty-five percent efficient, with lots of leaks."

**2.** A collection of flanges, gauges, and pipe nipples. These are examples of the outdated, hard-to-find parts required to service the old boilers. "Not having to work on this old stuff is going to be nice," Grimm says. It will free up his team to respond to other types of calls.

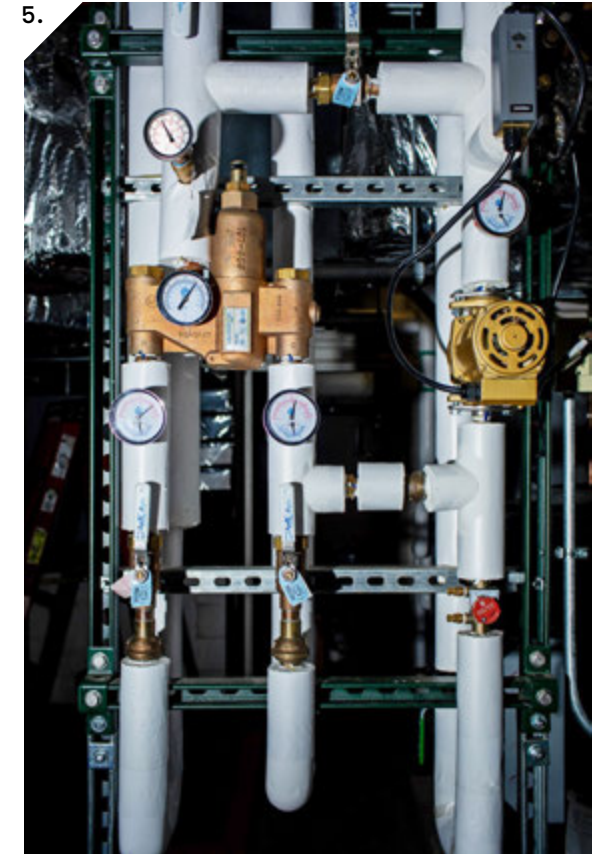
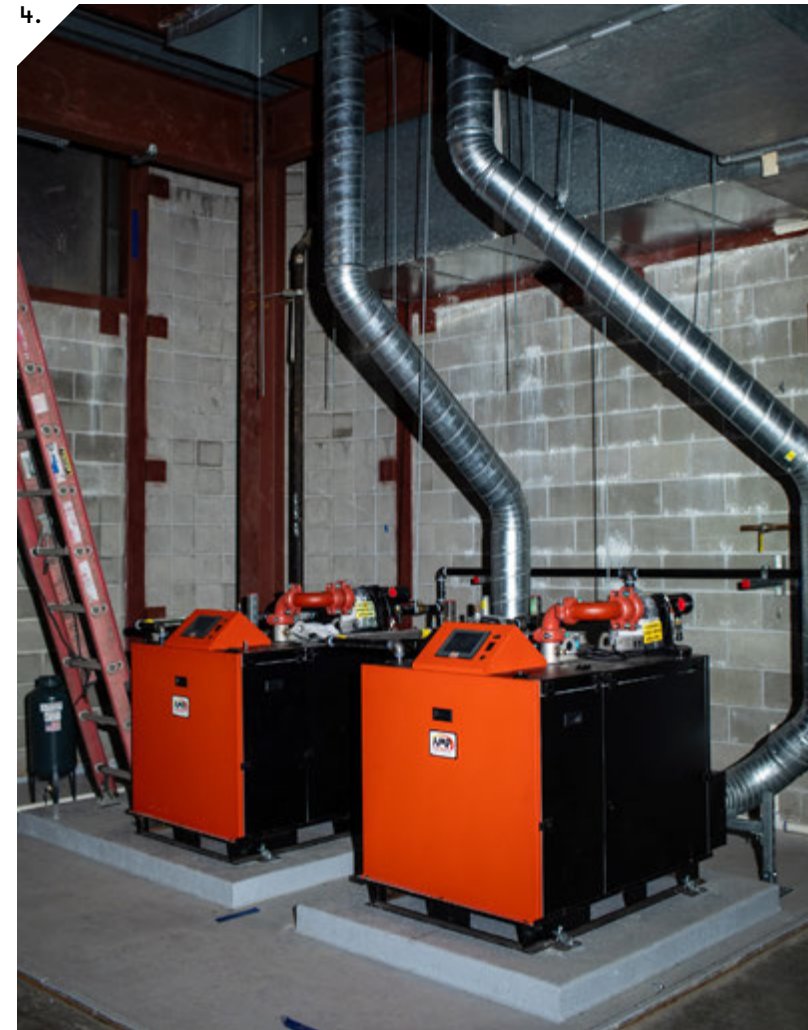
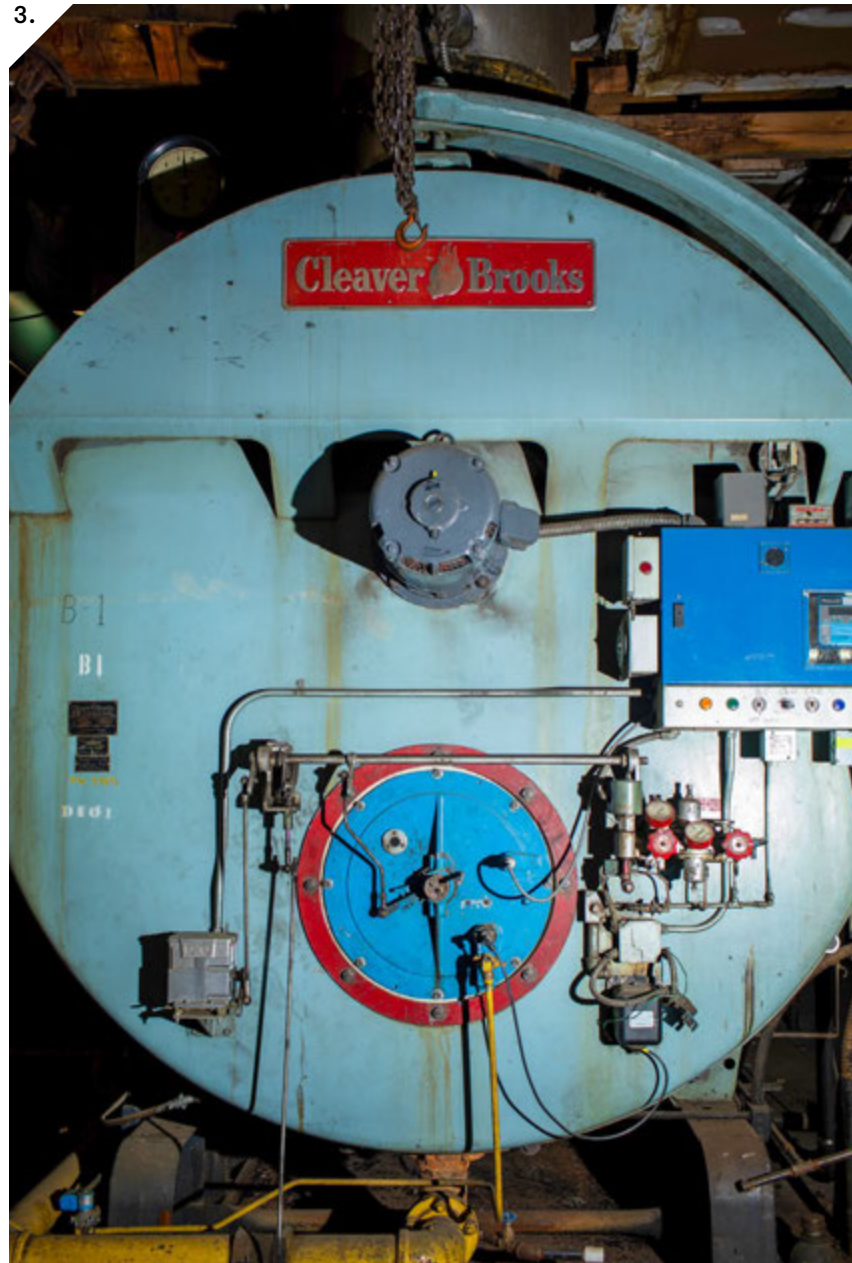
**3.** In its heyday, this 600-horsepower boiler, which stands ten feet tall, ran almost all the time. Dating to 1968–69, it is the youngest of the three boilers in the central plant. All three will be taken off line once the new, decentralized system is in place.

**4.** in the library's mechanical room, before the installation of pumps and piping. At four feet high and ninety-six percent efficient, and with digital controls, "they're quite a bit different from the old technology," Grimm notes.

**5.** The new domestic hot water mixing valve in Matthews Hall. As Grimm explains, these new systems improve the reliability and consistency of the hot water that flows into the faucets, ensuring that sinks and showers are not too hot and not too cold, but instead just right.

**6.** A contractor installs a sensor on one of the new systems. The overall project serves as an example of how to manage deferred maintenance in a way that saves energy, cuts costs, and makes life better for the people who live in, work in, and service the buildings.

By EMILY GOLD BOUTILIER / Photographs by CELESTE NOCHE



The new boilers are better for the planet and the pocketbook. They are more than twice as efficient as the old system.

# punit

THE INTERVIEW

“This is good business. This is not a nice-to-have.  
This is a must-have.”

Interview by ERIKA BOLSTAD

Photographs by CHRISTINE DONG

# renjen



Punit Rengen MM'86, photographed on the Salem campus, March 1, 2024 ↗

Punit Renjen MM’86 came to Willamette in 1984 on a Rotary Foundation scholarship. It was his first time out of India and his first time on an airplane. He went on to join the professional services firm Deloitte, from which he retired in 2022 as Global CEO. He will serve on the supervisory board of the business software giant SAP until May. At Willamette, where he is a life trustee, he and his wife, Heather, created the Renjen Center. It houses the Office of Intercultural Engagement and Inclusion and the Student Center for Equity and Empowerment. The university awarded him an honorary doctorate in 2019 and the Sparks Medallion in 2024. Renjen spoke to the magazine about business, philanthropy, and climate change—and their intersections—from his home on the Oregon coast.

**What was it like to arrive in the United States?**

I meandered into campus and there was Kappa Sigma, the fraternity house. I knocked on the door and said, “I’m an international student from India. Is this Willamette University?” The head resident said yes. I said, “I have no place to go.” And he said, “Well, come on in.” Americans are the most generous people. Think about this: somebody at the Portland airport pointing me to the HUT shuttle; the HUT driver saying, “I’ll give you a ride to Willamette”; and then the head resident of Kappa Sigma saying, “You can sleep on the sofa.” I mean, how wonderful is that?

**You’ve said that from an early age you bought into the American dream that hard work could change your circumstances. How did that idea guide you back then?**

When you leave the warm, knowing environment where you grew up and come to a foreign place, you are taking a risk. But you’re also giving yourself permission to be yourself. I knew that when I came to America, this was my big opportunity, and that I must do everything in my power to make it a success, because I did not, in 1984, want to go back to India.

When I was eighteen, my father ran into some financial difficulties. My peers were still at boarding school.

They went on to the top universities. I came to the local town, went to the local school. There were some stereotypical views. I could sense the whispers: what was going to happen to poor Punit? If you had lined up all the eighteen-year-olds, my peers, nobody would have picked me to be the CEO of a \$65 billion firm. Nobody.

At Willamette, there was no stereotype for me to live up to or to live in, and that gave me this opportunity to discover myself and be myself.

**Where is your focus today?**

I spent thirty-six years honing a craft, and because I became good at it, I got financial rewards. The twenty good years that I’ve got left, it is now all about giving back. My wife and I will give back all that we have made. We will give some to our son, but most of it we will give back to places like Willamette and others.

**One of your current projects concerns air quality in India. How does your business experience inform this work?**

Today, my hometown in India has the worst air quality maybe in the world: 561 on the AQI scale. It is almost poisonous. Fifteen million adjusted life years are lost; 200,000 people a year die [in that region of India] because of poor air quality. One of the reasons why there is poor air quality is that the farmers burn the paddy stubble. They do this because the span of time between when they harvest the paddy and when they plant the winter crop is only four to five weeks. But what it does is it puts nineteen million tons of carbon dioxide into the air.

We are now using all that I learned in thirty-six years of professional life to get 150,000 partners on an app that allows them to schedule equipment so that they can take the stubble, prepare the stubble, get it to ethanol plants, make some money processing it—and not put carbon dioxide into the atmosphere.

Four years ago, I visited my mom in October. The air was horrendous. I said, “My God, what the hell is going on here?” When I researched it, it was a solvable problem. And so, we went to the local government and asked to do a pilot in one district. Through that pilot we reduced stubble burning by sixty-five percent. In 2023 we expanded it to nine districts.

**Why is it important for today’s business leaders to think about climate change?**

When I ran Deloitte, I had 400,000 employees across the world. Over eighty-five percent were Gen Zs and Millennials. When we asked them, “What is the most important issue?” their top answers were: “What does Deloitte do beyond its core profit motive?” and “What is Deloitte doing for the climate crisis?” If I wanted to hire and retain the best individuals, I had to have a credible answer to those questions.

If you are thinking about profit and loss, this might not show up exactly on that profit and loss statement, but Deloitte has 100,000 employees in India. I could stand up credibly in front of them. Do you think that motivates them? Absolutely.

The climate crisis will only be addressed if government pitches in, the business community pitches in, non-governmental agencies pitch in, and the common individual pitches in. Everybody pitching in together is the only way that we will be able to address the climate crisis. This is good business. This is not a nice-to-have. This is a must-have.

**Do you have any overarching theories about how to increase opportunity in places that have never achieved the financial prosperity of the United States?**

Countries that are now developing, like India for instance, should not emulate the West. We have to define inclusive development in our own image. Places like India, Brazil, and South Africa need to not emulate the consumption habits of the West. We shouldn’t follow the same footsteps that the West followed, using coal and oil to pump carbon dioxide into the air. Can we leapfrog that? Can we go to renewables and use inclusive growth methods that are not what the West used twenty, thirty years ago?



**“Countries that are now developing, like India for instance, should not emulate the West. We have to define inclusive development in our own image.”**

**You express a lot of confidence. Have there been moments of doubt?**

Oh, every day! One of my colleagues told me that it only took me twenty-five years to become an overnight success.

**What would you say it does take to become successful in business?**

It takes plodding one foot at a time. Every day, every year, I’ve had to overcome and overperform. I can say with no arrogance, but with confidence, that I outworked everybody. It took me longer. But here’s the other thing: I ran a global company. It was in 150 countries. I never moved to New York. I never moved to London. I ran it from Portland, Oregon.

**What made you put down roots in Oregon, and why have you stayed?**

I fell in love with somebody from Oregon. She’s a native Oregonian, and that was part of the deal. Oregon is home. It isn’t perfect. It rains a lot. I have allergies. But it is home. ●

*Erika Bolstad is a journalist in Portland. She interviewed Senator Lisa Murkowski JD’85 for the last edition of the magazine.*

\_\_\_\_ Few people know what to say after someone dies. But it turns out that finding the right words is not what matters.

# Listening to grief

**T**HE SUN WAS setting, casting a pale orange glow over vast stretches of green farmland. I've come to relish this half-hour drive that takes me from my suburban home, across a busy freeway, through rural stretches of Oregon's wilderness, and into a charming small-town neighborhood. The shifting landscape and uninterrupted time help me prepare for a grief group I facilitate. On this particularly glowing evening, I was sure I'd found just the right metaphor to spark reflection. Inspired by the green stems bursting from the brown frosted ground, I wondered: *What grows out of our grief? If grief is our winter, what blooms in our spring?* We could talk about the weeds, the daffodils, the bulbs we forgot we'd planted, the perennials that loyally emerge.

When I arrived at the center, I realized our group would be quite small that evening. *No worries*, I thought. *My inspired question will give us much to ponder.* We followed our gathering rituals: sharing our names, with each speaker also naming the person who'd died and their cause of death; recalling our safety guidelines; and settling into our shared space. Then, I invited the participants to check in. As it turned out, the two weeks since we'd last met had been particularly challenging. So much so that our time together rapidly dwindled. From trembling lips, stories poured forth of how anticipatory grief was compounding feelings of grief over losses that were brought painfully to the surface by looming death anniversaries.

*What grows out of our grief?* That question first sitting on the tip of my tongue quickly flew from my mind. Following the details of the participants' stories,

connecting their concerns, and inviting reluctant sharers into our conversation demanded my full mental focus. That evening, I realized the group didn't need my inspired metaphors. They needed me to hold space for their conflicted feelings, suppressed stories, and pressing concerns. They needed me to listen.

I am learning to be a better listener. When I tell people about my volunteer work, or about the grief- and death-communication courses I teach at Willamette, they often respond by asking: "What should I say to someone who has lost a loved one?" People want to learn specific phrases of support that will "work," and they want to know which words to avoid. They want to learn how to ease another's pain and, perhaps, their own discomfort too. I get it. That's precisely what I had spent my

lost, and words rarely make our longing for them sting any less. I am learning, however, that the experience of being listened to helps most mourners.

In fact, the importance of social support for the bereaved is undeniable. Study after study links low social support with depression among grievers.

By MAEGAN PARKER BROOKS / Illustration by GRACE J. KIM

drive out to the support group that evening contemplating.

As I listen to grief—whether in a one-on-one conversation, or in facilitating a support group, or in the classes I teach—I am continually reminded that nothing I say is ever going to feel exactly right. The "right" words won't bring back the people we

Conversely, research indicates that those with strong social support networks are less likely to become depressed than those without support. Social support networks need not be vast. In fact, having just one trusted confidante has been shown to



reduce the risk of depression in studies of adults following divorce, job loss, assault, natural disaster, and warfare. Grief group models, like the approach Chaplain Rev. I. Pearl Player and I used to create the "Diversity of Loss" group at Willamette, are informed by this well-established research demonstrating the power of peer support—of listening.

If grief support is not about saying the right thing, but rather about listening, then how do we learn to listen? We live in a culture that is not only grief-avoidant but also listening-averse. Western cultures often celebrate speaking, writing, posting, and other forms of self-presentation, considering listening to be a passive position. The emphasis on self-presentation, combined with widespread grief taboos,

leave the bereaved to face awkward, unhelpful, sometimes even hurtful responses to their grief-sharing. Genuine, empathetic, and supportive grief-listening is sorely needed, but often difficult to come by.

We can all learn to listen better, as a crucial part of becoming a more grief-informed culture. Through dedicated practice, those who are sincerely willing

another's problem, give advice, shift the topic to their own grief, speed the storyteller along, and interrupt.

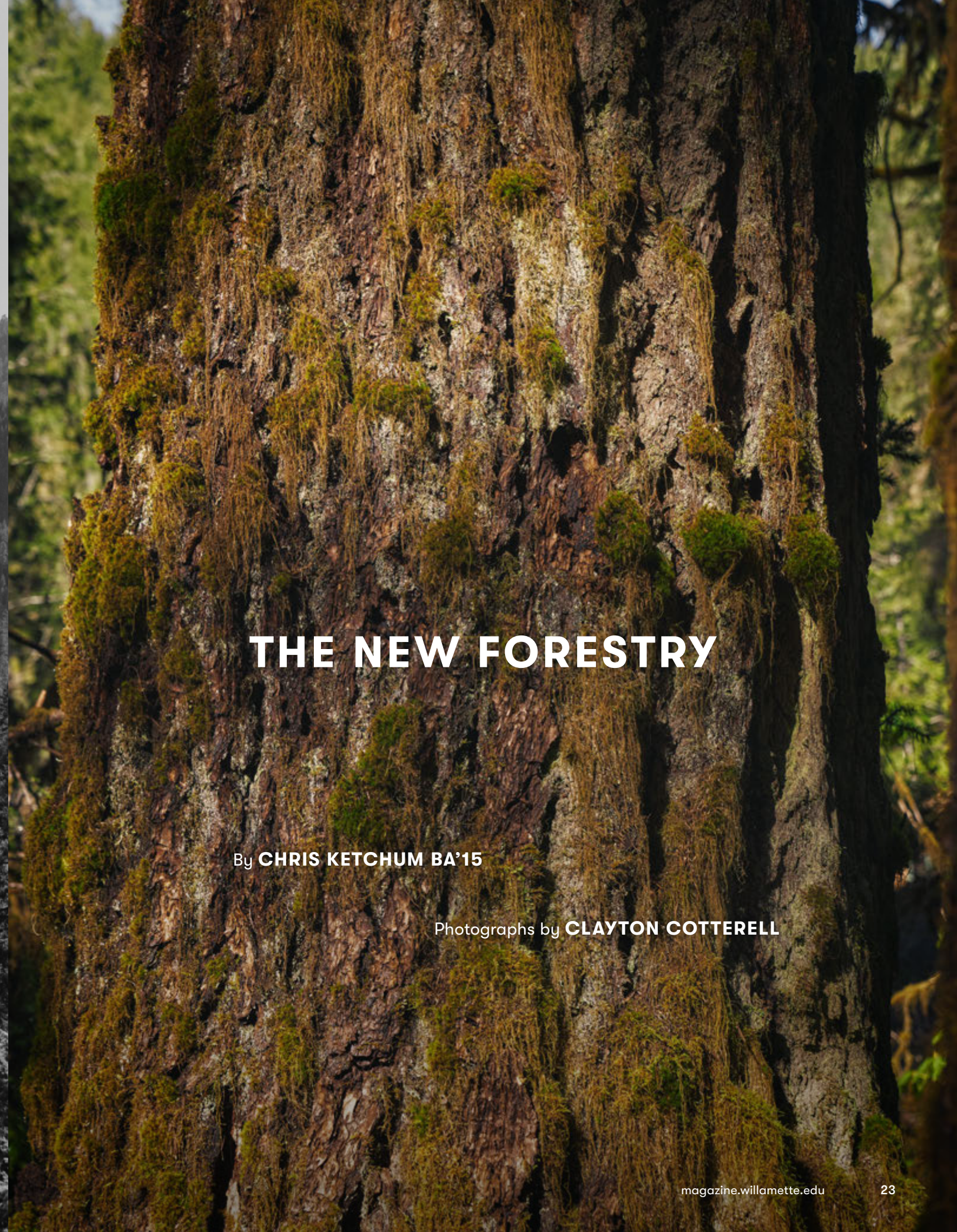
I encourage grief listeners to imagine that their verbal and nonverbal behavior is scaffolding supporting the bereaved as they talk about their loss. If a verbal or nonverbal offering that pops into the listener's mind will detract from, divert attention away from, or otherwise demolish the understanding that the bereaved is building, then I encourage the listener to practice self-restraint. Centering the intention that listening is scaffolding helps guide empathetic actions and responses.

Although listening to grief takes time, dedication, and practice, it's well worth the effort. When engaged in with care, grief dialogues help us all grow. ●

*Maegan Parker Brooks is an associate professor in Willamette's civic communication and media department and a facilitator at Dougy Center, The National Grief Center for Children and Families. She is also a co-founder of Willamette's Diversity of Loss peer grief support group. This essay is adapted from her forthcoming book, AFTER: Guided Communication Practices for Intentional Grieving.*



To bolster our forests, we need to listen, experiment, balance, and adapt.



# THE NEW FORESTRY

By **CHRIS KETCHUM BA'15**

Photographs by **CLAYTON COTTERELL**

# IN

2021, ALYSSA EKLUND BA'21 set up wildlife cameras at Lookout Creek in the H.J. Andrews Experimental Forest, an Oregon State University research site fifty miles east of Eugene. Eklund was studying interactions between wildlife and large

wood—deadfall complexes of logs, sticks, and debris, or sometimes a single fallen tree. Her footage revealed activity from bushy-tailed woodrats, great blue herons, black bears, and dozens of other species. Some animals used logs as bridges, while others, like belted kingfishers, used them as perches, diving into the water to catch prey, then returning to the log to eat. An especially stunning video shows a mountain lion springing several feet from a mossy boulder onto a suspended log.

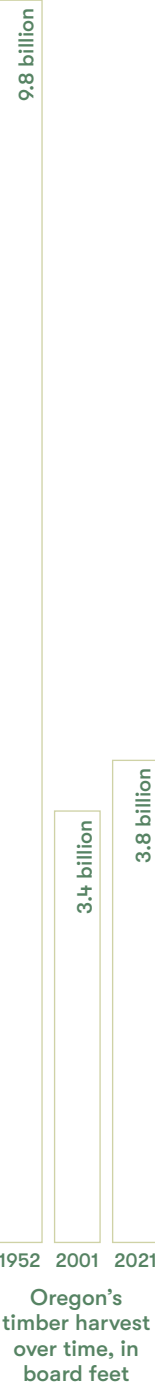
As Eklund and I spoke last summer, she informed me that the Andrews Forest was actively burning in the Lookout Fire. By late September 2023, more than 25,000 acres total had burned, including about 10,000 of the experimental forest—sixty-five percent of the forest. It is one of dozens of massive wildfires that have burned US forests in the past twenty years.

Megafires, as they're known, are defined by the burn area's acreage; while there's no consensus on the size that constitutes a megafire, one study defines them as any fire greater than 25,000 acres. In addition to drought, high temperatures, and extreme weather intensified by climate change, US government policies from a century ago have exacerbated the proliferation and frequency of megafires.

Forest management practices are adapting to a warming climate that threatens US forests. The issue is complex—until recently, little consensus existed on responsible management. In previous years, environmentalists often advocated for the preservation of old-growth trees and the animals that depend on them, like the northern spotted owl, by leaving the forests alone to self-regulate. Meanwhile, the US Forest Service sold lumber contracts to private companies that clear-cut large swathes of old-growth.

For decades, the Willamette National Forest yielded more lumber than anywhere else in the country. Oregon's timber harvest peaked in 1952 at 9.8 billion board feet. Since the interventions of environmental activists in the 1990s, harvests have diminished significantly. Between 2017 and 2021, the state average was 3.8 billion board feet, according to the Oregon Forest Resources Institute.

Decreased timber harvests created fierce—sometimes violent—political divisions between environmentalists and loggers. Oregon Public Broadcasting reported that a 1990 moratorium on federal timber sales closed sixty-seven mills in Oregon. More than 7,000 mill workers lost their jobs. President Clinton's 1994 Northwest Forest Plan reopened Oregon forests for timber sales, but at a reduced volume—about one-third of the pre-1990 supply. Since



it did not ubiquitously protect old-growth, environmentalists were as incensed as the timber industry.

In December 2023, the Forest Service proposed an amendment to the 1994 plan, one that emphasizes the need to adapt our forests for a hotter, drier climate. This proposal casts doubt on a strategy known as fire exclusion. A practice once promoted by the Forest Service itself, fire exclusion involves completely dousing all wildfires, even low-intensity, natural fires that would have regularly cleared the small trees and brush that now endanger old-growth.

“More than a century of fire exclusion and other management practices have resulted in overly dense and homogenous forest conditions that heighten the risk of large, high-severity fires,” the new proposal argues. “Such management practices have resulted in forest composition and structure that is more vulnerable to fire because forests often have higher densities of smaller trees and shrubs and a lower proportion of fire-resilient species than were historically present.”

While there's no perfect agreement between environmentalists and the timber industry, the dual failures of Forest Service policy—overharvesting national forests through timber sales and suppressing natural fire—have united small coalitions of environmentalists and timber officials.

In Oregon, John Shelk BA'67, managing director of Ochoco Lumber Co., has found common ground with environmental lawyer Susan Jane Brown, who needs Shelk to keep the mill open to process small trees felled to thin overly dense, fire-susceptible stands in the Malheur National Forest.

In Northern California and Southern Oregon, Galen Smith BA'06, who also works in the timber industry, devotes much of his time to restoring forests after high-mortality fires.

Ecologists like Eklund, and like Linnea Hardlund BA'13, who researches giant sequoias with Save the Redwoods League in Northern California, approach forest management from a different perspective, but often with similar goals: like timber executives, they work to bolster existing forests against wildfires of growing intensity.

For Willamette professors like David Craig and Joe Bowersox, and for their former students, including Liam Chambers BA'21, part of the job is imagining new responses to projected climate futures, such as reseeded forests with trees that will resist a warmer, drier climate better than their native counterparts.

These days, many conservationists and timber representatives agree that some trees have got to go. The sticking point is which ones, where, and how many. For environmentalists, old-growth is irreplaceable. Timber executives argue that lumber is a significant source of income for workers in the Pacific Northwest, that there's a housing shortage in the United States, and that demand for building supplies has surged since the pandemic. Most people on both sides agree that



high-intensity wildfire endangers old-growth trees, timber values, and communities in the wildland-urban interface—places such as Detroit, Oregon, which was leveled by the 2020 Santiam Fire. Most also agree that such a complex problem demands cooperation between conservationists and timber industry representatives to protect what's left of US forests and prepare them for a hotter future.

**W**HILE EKLUND was collecting data in the forest in 2021, Smith was watching 50,000 acres of company-managed land burn in the high-severity Dixie and Cougar Peak fires. Smith is vice president of resources for Collins—the first US lumber company to earn certification from the Forest Stewardship Council, which requires forest managers to “expand protection of water quality, prohibit harvest of rare old-growth forest, prevent loss of natural forest cover, and prohibit highly hazardous chemicals.”

After high-mortality, wind-driven crown fires, what's left is “a moonscape,” Smith says. “The only thing that will really come back without intervention is brush and grass. It will cease to be a forest.” At Collins, replanting involves clearing brush and dead vegetation to promote

“We're in this for the long term,” says Galen Smith BA'06 of Collins. “We want to make sure there's still forest land to manage in the future.”

exposure for sun-tolerant species like ponderosa pine. It involves the use of herbicides to reduce sun, water, and nutrient competition between vulnerable saplings and other vegetation. Once a canopy is reestablished, the forest becomes more capable of self-regulation.

These practices sounded similar to those used by Hardlund and Save the Redwoods, so I asked her to weigh in. “People don't want to think about doing site preparation to replant trees,” Hardlund said. “People don't want to think about reducing forest density. But we've put ourselves into a position by suppressing fire for so long that those are the tools that we have to use to get back on track ecologically. We need to re-establish forest cover after these high severity wildfires.”

I asked Smith to describe how it felt to return to the forest in Chester, California, after the Dixie Fire. “I mean, it kind of just takes your breath away,” he said. “I grew up going to some of these forests a couple times a year. My uncle and his sons lived in Chester. He still does. So it's a sense of grief, I would say, for what's been lost. And I think there's also a sense of hope that we're actively coming back from it, that we're replanting, that it's going to be a forest again. We're in this for the long term. We want to make sure there's still forest land there to manage in the future.”

My conversation with Smith revolved around the idea of restoring forests to their historic conditions. Before the twentieth century, Smith told me, forests contained “multi-age classes; there'd be some big trees, there'd be some saplings, some in between. Occasionally there'd be some disturbance like a fire, and the forest would somewhat self-manage. Certain Indigenous groups would do some elements of prescribed fire. There would be lightning strikes. The forest would self-manage the density that it could support.”

Because of ineffective forest management, including the total suppression of natural fire, what we're left with today, Smith says, are forests that cannot support their own tree density. Lack of sunlight, water, and nutrients, accelerated by climate change, result in excess vulnerability to catastrophic fires.

The story of the US government's forest management regime begins in 1910, when a wildfire known as the Big Blowup razed three million acres in northern Idaho and western Montana over just two days. Still the largest fire in US history, it killed more than eighty people and reduced small towns to heaps of ash. Wallace, Idaho, was leveled except for a few shells of blackened brick.

The Big Blowup threatened the credibility of the US Forest Service as an agency tasked with managing the ecological and economic health of US forestlands. Five years earlier, Gifford Pinchot had become the inaugural head of the agency. Under his direction, the Forest Service had solidified a practice of total wildfire suppression. This contradicted another main theory of forest management—which advocated for “light burning,” or small fires, natural or prescribed, that clear dry brush on the forest floor without damaging large, old-growth trees.

Total wildfire suppression had folk logic on its side: why set fire to a forest you aim to protect? After the Big Blowup, suppression advocates argued that light burning was “a deliberate continuation of the destructive surface fires which were steadily and irresistibly eating up the

CHART SOURCES: OREGON DEPARTMENT OF FORESTRY, OREGON FOREST RESOURCES INSTITUTE

pine forests of our western states,” as William B. Greeley, third chief of the Forest Service, put it in 1920.

The debate between suppression and burning culminated in the 1935 “10 a.m. Policy,” which dictated that any fire reported overnight should be contained by the following morning. Legions of young men enlisted in the Civilian Conservation Corps for work to improve national parks and public lands, fighting fires as part of the job. Housed in military-style encampments with barracks and mess halls, the men were offered job security during the Great Depression in exchange for going to war with wildfire.

As Phillip Connors observes in his 2020 *New York Times* article on the history of fire suppression, firefighting units even adopted the military tactics of paratroopers. The Forest Service emphasized the parallel with its 1944 Smokey Bear ad campaign. In the famous poster, Smokey points directly at the viewer, looming over the words “Only You” in bold—a callback to the 1917 Uncle Sam Army recruitment flyer.

The 10 a.m. Policy persisted until the late 1970s. That’s when a preponderance of research emerged to substantiate the benefits of light burning, and the US Forest Service switched to prescribed burns. But a half century of suppression had produced enormous quantities of dry fuel in unburned forests, making fires more difficult than ever to control. When the natural-burning Yellowstone Fire of 1988 scorched a million acres of the national park and its surroundings, public opinion swayed, again, in favor of extinguishing wildfires as quickly and completely as possible. Though scientists largely agreed about the benefits of mild fires, forest conditions were not conducive to low-intensity fires without reducing stand density. Foresters are making progress, but even today, prescribed burns are not yet ubiquitous.

**A** DIFFICULT QUESTION REMAINS: how do forest managers and ecologists ensure the future health of a forest that must withstand historically unprecedented heat, drought, and extreme weather?

“There’s no historical precedent for what we’re seeing,” Hardlund says of her work with Save the Redwoods. “We’re doing adaptive management, which is just you try something and see if it works, and if it doesn’t work, then you adapt and you fix it and you do something different.”

Some ecologists, including Willamette Professor of Biology David Craig, have experimented with replanting forests with non-native trees already adapted to regional climate projections, a practice known as assisted migration. Of historic replanting regimes, Craig said, “None of it is good enough for the climate forecast of forty to sixty years ahead. We’ve got to look at all the best climate models of the Willamette Valley: our holdings are going to look like the Sacramento Valley.” This means the existing forest composition in Western Oregon—for example, dense stands of Douglas fir—may not be able to withstand tomorrow’s wildfires.

Joe Bowersox, professor of environmental science at Willamette, noticed a surge of student interest in sustainable forestry around the early 2010s. With Professor Emerita of Environmental Science Karen Arabas and



The Lookout Fire severely damaged Oregon’s H.J. Andrews Experimental Forest.

Lookout Fire 25,000 acres

Andrews Forest 15,800 acres

Area of Andrews Forest burned 10,000 acres

Dean of the College of Arts and Sciences Ruth Feingold, he negotiated with Oregon State University to expand Willamette’s 3+2 Forestry program, in which students enroll in a master of forestry at OSU after completing a bachelor’s at Willamette. Bowersox says this uptick in interest seemed to coincide with Willamette’s 2008 acquisition of forest land at Zena, where students can experiment hands-on with tree cultivation, biogeography, and ecological forestry.

The topography and diverse composition of Willamette at Zena make it an exceptional resource for instruction in ecology and forest management. The 305-acre forest, located just west of Salem, contains stands of Douglas fir, Oregon white oak, bigleaf maple, ponderosa pines, and riparian ash galleries, all at varying levels of maturity. Some of its slopes are wet, shady, and north-facing, while south-facing slopes are dry and sunny. The range of forest conditions allows students to work on invasive species removal, density management, carbon-uptake monitoring, and seedling regeneration—skills that Hardlund and Smith use in their work today. Bowersox said students have also worked on evaluating “ecosystem



Examples of tree species that can be fire-resistant



Ponderosa Pine



Incense Cedar



Coast Redwood



Grand Fir

services,” balancing the forest’s habitat value and its economic value as a harvestable plot. (A recent gift from Shelk and his wife, Linda, is helping to fund an indoor/outdoor classroom at Willamette at Zena. The John BA’67 and Linda Shelk Educational Pavilion will serve students from all disciplines.)

During my conversations with foresters and ecologists, I was searching for answers about best forestry practices. I consider myself environmentally minded, and I wanted to know: what’s best for the longevity of our forests? When I asked Bowersox about ideal forest management, he reminded me of the issue’s complexity.

“There are many ideals,” he said. It depends on your objectives, the forest’s species composition, and the site conditions. It depends on the slope, the aspect, and the soil’s moisture content. If you’re trying to encourage natural regeneration, it might be necessary to cut down large trees to increase sun exposure for seedlings. Previous owners of the Willamette property at Zena planted ponderosa pine at about 450 to 500 trees per acre. To account for fuel build-up, Bowersox said, “We should probably take that down to between 150 and 180 trees per acre.” On the other hand, he told me, trees near rivers and streams shouldn’t be thinned at all.

To improve wildfire resilience, Willamette at Zena is undergoing a series of experiments. Two large, prescribed burns have reduced understory growth. In a recent timber harvest, Bowersox, students, and other faculty left oaks and maples to provide shade. They also left downed, woody debris to maintain the soil’s moisture content. And instead of replanting the stand with its original species composition—ninety percent Douglas fir and ten percent mixed hardwood—they replanted with thirty-five percent to forty percent Douglas fir and thirty-five percent to forty percent Willamette Valley ponderosa pine, with incense cedar, coast redwood, and grand fir for the remainder. It’s a lesson in adaptation: to survive a changing climate, the forest itself must change.

New forestry demands that land managers look simultaneously to the past and to the future. Our forests must be able to withstand megafires, drought, high winds, and periods of heavy precipitation. If we hope to continue using wood products, forests must continue to yield sustainable timber harvests. Decades of fire suppression, a kind of overcompensation intended to protect timber values and communities in the wildland-urban interface, produced vulnerable, high-mortality forests.

Now, we have to compensate again. Today, however, with difficult work ahead of us, we seem unlikely to overreact. Contemporary US forests require even more research and active management to maintain their longevity and health. Tomorrow’s forests will not—and cannot—look the same as yesterday’s. The climate equation, in which the ecological future is merely a remainder of the past, is something like the equation for hope: hope for what can be salvaged, rebuilt, and reimagined, minus grief, for what can’t. ●



## INTO THE WOODS

Environmentalists and timber officials approach forest management from different perspectives, but often with similar goals.



### Tracking bear cubs, barred owls, and pika in the Andrews Forest

► TO RECOVER ECONOMIC losses after a wildfire, windstorm, or insect infestation, timber companies sometimes practice “salvage logging,” assessing trees for cracks, fungal stain, and rot before extracting logs that can be milled for lumber. But some fallen trees serve a different purpose.

Looking for her niche in environmental conservation, Alyssa Eklund BA’21 took an interest in woody debris in western Oregon’s H.J. Andrews Experimental Forest. These complexes of fallen

logs, branches, roots, and sediment are known as “large wood”—natural structures you might use as a bridge to cross a forest creek.

Eklund’s research for her master’s in fisheries and wildlife administration at Oregon State identified wildlife interactions with large wood along Lookout Creek in the Andrews Forest. She placed motion-sensing cameras to record videos of animal activity at large wood sites. While previous research at Andrews Forest had focused on individual species or the impact of large wood on water flow, few studies had explored how wildlife interacts with deadfall complexes writ large.

Eklund anticipated certain behaviors caught on camera, such as the black bear lumbering across a log with a cub in tow. Others surprised her, such as the barred owl fishing a salamander from the creek with its talons, then perching on the roots of a stump to pull it apart.

She was also surprised to see pika—which are known to inhabit rocky, high-altitude mountain

environments without much vegetation—using the large wood. For Eklund, their appearance raises two questions: “Have they always been here, and we just haven’t been looking for them? Or is this more recent—like, what’s going on with the pika, and what are they doing down by the stream?”

Two years after she finished collecting data, a lightning strike ignited a wildfire that burned more than sixty-five percent of the Andrews Forest in 2023. In forests that grow hotter and drier each year, “every study is going to be a pre-fire study,” Eklund says now. “It’s pretty much a given that, eventually, it will burn from a wildfire.”

Future research may focus on the effectiveness of post-fire restoration efforts, which could include rebuilding large wood structures lost in the fire. These efforts, Eklund says, are understudied and require deeper analysis.

“Every study is going to be a pre-fire study.”



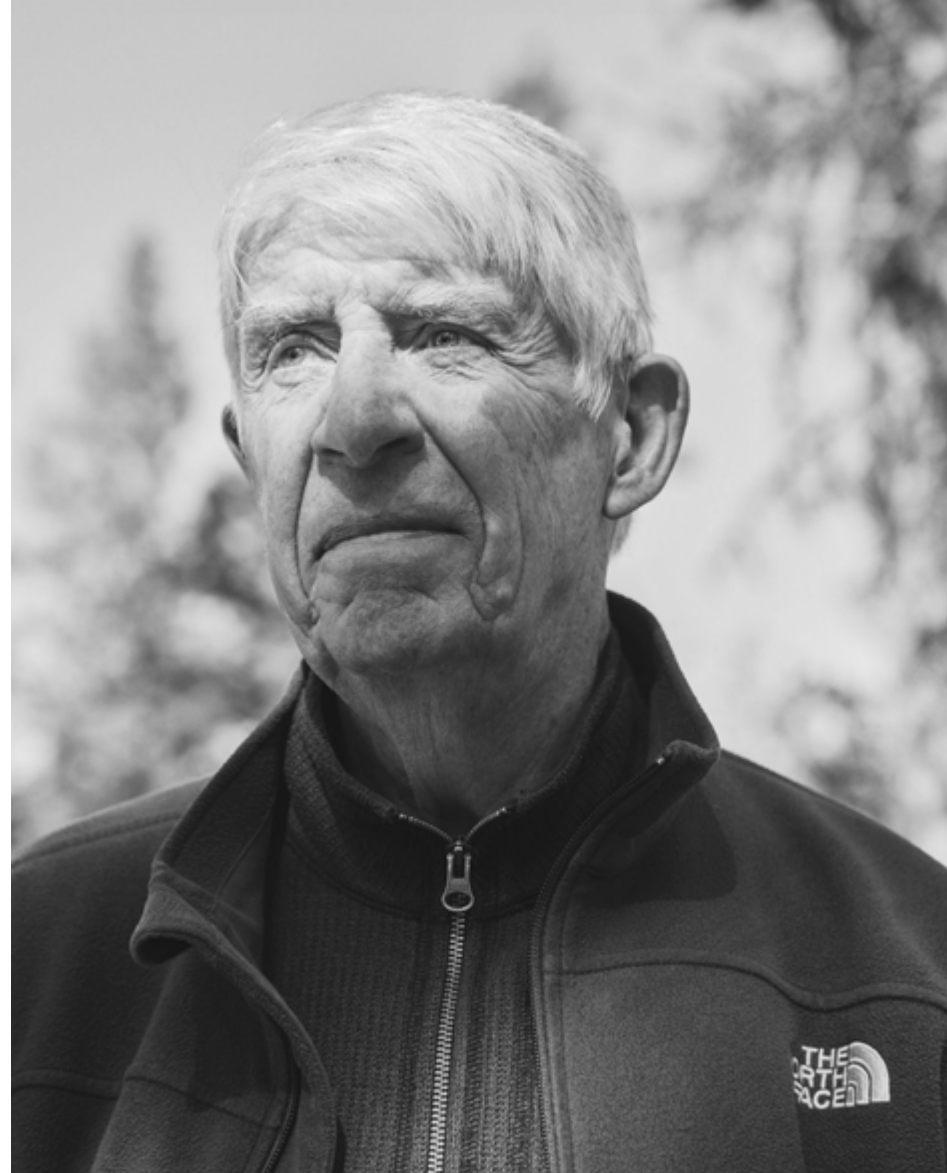
## Cutting down some trees to save the others

► **JOHN SHELK BA’67**, managing director of Ochoco Lumber Co. in Prineville, Oregon, is a leading voice in the collaborative efforts between environmentalists and timber industry leaders in the Pacific Northwest. A firsthand witness to the timber wars of the 1990s, Shelk guided Ochoco through the industry’s economic collapse from Idaho to the Cascades.

In the late 1980s, environmentalists were galvanized against the decimation of old-growth forests. West of the Cascades, clearcutting a specified area of a forest was relatively common at the time, and was sanctioned by the US Forest Service, which sold timber from public lands to the forest products industry. “The directive was to harvest all of the trees on that forty acres and then replant them,” Shelk recalls. “Environmentalists were concerned about clear-cutting and taking all the old-growth trees out and replacing them with small, second-growth trees.” This differs from the single-tree harvesting practices east of the Cascades, where ponderosa pines were marked for removal on an individual basis.

When the northern spotted owl was designated as “threatened” in 1990 under the Endangered Species Act, everything changed. As reported by Oregon Public Broadcasting, the evolutionary biologist Russell Lande showed that a landscape must comprise about one-quarter old-growth forest to sustain a population of spotted owls. No protections existed for the old-growth itself, but logging operations could be halted if they threatened an endangered species. Because of the northern spotted owl, the Forest Service halted timber harvesting across thirteen national forests in Washington and Oregon.

As a result, Shelk weathered a storm of sawmill closures across the Northwest. “We went from close to forty sawmills east of the Cascades in Oregon to maybe eight or ten sawmills,” he says. “We continued to reduce until at one point we had three or four sawmills east of the Cascades.” The downturn in logging towns was dramatic: more than 7,000 mill workers lost their jobs between 1990 and 1992. “About all that was left in the community was the retired contingent,” Shelk says, “plus the few people that then ran, say, the local hardware store or a gas station or grocery store. The economic



devastation was much as you would expect from a town in West Virginia where the coal seams ran out.”

Preserving the habitats of spotted owls incited a series of lawsuits, congressional hearings, and protests in which lobbyists pursued litigation against environmentalist groups to reverse the moratorium on logging in the Pacific Northwest. One of these arguments emphasized the role of loggers in responding to wildfires. In Shelk’s view, loggers were often the first to discover an outbreak of wildfire. “They would rush their equipment over to that fire and, with a combination of manpower plus larger mechanized equipment, put the fire out when it was in its very early stages,” Shelk says. When loggers left the forests in the 1990s, small fires “would escape that initial attack and . . . grow into multi-thousand-acre fires.”

Timber lobbyists saw an opportunity to leverage intensifying wildfires against environmentalist groups. “Someone had the

idea to pin the blame on the environmental community who were restricting vegetative management activity on the national forests through their lawsuits,” Shelk says. “A group of smart, strategic-minded environmentalists thought, ‘Maybe we ought to engage with the forest industry and see if we can reenter the national forests in a less intrusive way than in the past.’” Among these environmentalists was Susan Jane Brown, who agreed there was a need for forest management, which would remove small saplings and second-growth trees, to prevent catastrophic wildfires from wiping out old growth.

Shelk has collaborated with Brown and environmentalist organizations, despite the reproach of other timber executives. Shelk has called himself a pariah—during one forest meeting, he was accused of “sleeping with the enemy.” But he’s found productive experimental uses for sawmill waste and small trees that have helped him keep mills open in towns like John Day, Oregon. “We have hosted a plant on our mill site that was owned by a branch of the US Forest Endowment, which is a national nonprofit to render waste from the forest into charcoal that then can be made into energy briquettes, soil additives and amendments, and filter products,” Shelk says. Ochoco also makes other products from sawmill byproducts, including shavings for animal bedding and wood chips for manufacturing paper.

That doesn’t mean Ochoco has ceased producing two-by-fours. “There has to be an active management component that essentially spaces trees out in a forest, gives them maybe fifteen, eighteen, twenty feet between trees so they’re able to get sufficient moisture, nutrients, and sunlight,” Shelk says. This means cutting down larger trees

“You have a forest that can withstand a fire.”

in densely wooded forests and using prescribed fire to clear brush. “After you’ve done this thinning, you have a forest that can withstand a forest fire.”

For preservationists, this might seem like a compromise—some sizable trees are still being cut down. However, considering the Forest Service’s years of fire suppression, appropriate thinning in overly dense, dry-zone forests could improve their fire resilience and better resemble what our forests would have looked like if natural fires had been allowed to burn.



## Replanting where sequoias don't return on their own



“Many of them hadn't burned in a hundred years.”

► LINNEA HARDLUND BA'13 is a forest ecologist for the California nonprofit Save the Redwoods League and a graduate of UC Berkeley's master of forestry program. Hardlund, whose research focuses on giant sequoias, witnessed the consequences of a hotter, drier climate and more than a century of fire suppression after the high-intensity Castle Fire burned more than 175,000 acres of California's Alder Creek Grove in 2020. The Castle Fire killed an estimated ten percent to fourteen percent of giant sequoias in the Sierra Nevada, the tree's only natural habitat. In 2021, the Windy Fire and King National Park Complex Fire are estimated to have killed another three percent to five percent. In two years, high-intensity wildfires decimated thirteen percent to nineteen percent of the global population of giant sequoias—some of Earth's oldest and most massive trees.

Hardlund's research on giant sequoia mortality corroborates the need for management regimes that prioritize reducing fuel loads and forest density. Reinstating prescribed fire—fires started intentionally by firefighters to burn off a buildup of undergrowth and ground fuels—is the ultimate goal.

“We're trying to reduce tree density and fuel loads so that we can

reintroduce healthy fire into those groves,” Hardlund says. “They just burned in 2020 and 2021, but before that, many of them hadn't burned in over a hundred years.”

Though giant sequoias evolved to tolerate fire, the high winds and dry conditions sustained during the Castle Fire ignited the sequoia's crowns, often more than 100 feet off the ground. Sequoias need some wildfire to coax open their semi-serotinous cones and clear understory competition for sunlight, but high-severity fires decimate large swathes of mature trees and their seed bank.

While Hardlund and her team have observed some regeneration following recent wildfires in giant sequoia groves, if seedlings in large, high-severity patches do not survive, no natural seed source remains, putting those groves under threat of contracting. Hardlund and Save the Redwoods League have begun replanting in high-mortality burn zones to establish seedlings in areas where sequoias were not returning on their own at high enough densities.

“I was exactly where I needed to be.”



## Investing in green, thriving forests

► WHEN GALEN SMITH BA'06 was growing up, he and his family would visit the Almanor Forest near Chester, California, to check on the forest management activities of Collins, his family's Oregon-based timber company. Continuing his family's eighty-year legacy of forest management near Chester and Lakeview, Oregon, Smith has worked with Collins's forestry team in the Almanor, as a production supervisor in a Collins sawmill, and now as the company's vice president of resources.

Smith and his family toured the Almanor twice a year—once in winter, when the forest was blanketed with snow, and once in summer for the annual company picnic. He remembers the smell of milled pine, the heat of dry kilns, and the crash when a logger felled

a tree. Each morning, he and his siblings would walk down to the gas station for a newspaper and powdered donuts. They'd stop by the local arts and crafts fair and, after dinner, feed fish in the pond behind the Black Forest Lodge. “It was all part of our first lesson about the three-legged stool of community, environment, and economy,” Smith says.

Though Smith spent time in other jobs, he felt called back to Collins to manage the forests. Working for the family company isn't always easy—the personal and professional are inseparable. But after fires in 2021 scorched thousands of acres of the Collins-managed Almanor and Lakeview forests, Smith felt a renewed sense of purpose in his role. “I had this strong feeling that I was exactly where I was supposed to be,” he says. “Now I get to help make sure the acres that burned return to green forestland.”

Perhaps the greatest challenge Smith and the company face is improving the fire-resilience of its forests. One of Collins's

responses to increased fire danger is altering the tree composition of a given stand. After years of fire suppression, white fir has proliferated in Collins's forests. White fir is less drought-tolerant and needs more shade than ponderosa pine. Sometimes, Smith says, it's appropriate to remove white fir and replant ponderosa to achieve a more historically representative species mix.

No forest is an island. “One of the biggest risks is how our neighbors manage their land,” Smith says. “In the case of catastrophic fire, a poorly managed stand next to us is probably a bigger risk than any spot on our land.” Ultimately, Smith emphasizes the importance of viewing forest health from a collaborative standpoint: “I don't think anyone wants to see forest land with broad swathes of mortality from insects or drought impact or massive fire scars. We're all invested in having these be green, thriving forests.”

*Chris Ketchum BA'15 is a poet and writer from Moscow, Idaho. He is a PhD candidate in creative writing at Georgia State University.*

PHOTOGRAPHS COURTESY OF LINNEA HARDLUND BA'13 (LEFT), LIAM CHAMBERS BA'21 (RIGHT)

## Slowing the progress of wildfires and reducing their risk



“We're not fighting something inherently evil.”

► IN 2023, LIAM CHAMBERS BA'21 worked as a wildland firefighter and as a crew member of the Community Wildfire Protection Corps. A subsidiary of AmeriCorps, CWPC aimed to improve the fire resilience of homes in Lane County, Oregon, the epicenter of the 173,000-acre Holiday Farm Fire in 2020. Chambers and his crew went door to door, speaking to residents about wildfire risk reduction. If homeowners expressed interest, the crew would clear ignition zones around the structure for free, Chambers says, “thinning trees to be about eighteen feet apart.” To reduce the risk of catastrophic wildfire, the crew also removed “laddering fuels”—low-lying brush capable of carrying fire into a tree's canopy.

CWPC's practices look much the same as the tactics Chambers and his fellow firefighters used to contain the wildfire near Roseburg, Oregon, in September 2023. First, the crew removed all burnable material from a strip of land at the fire's edge. Then, they cleared a thirty-foot contingency line half a mile from the fires, removing laddering fuels that endangered old-growth cedars and Douglas fir. To offer further protection, the crew gave large trees a “haircut,” trimming their branches.

The title “firefighter” suggests an adversarial

role, but, as Chambers observes, fires can be healthy for an ecosystem. He describes the “beauty or ecological functionality of a fire that was not so much fought and put out but facilitated and mitigated by a containment line. There's a danger in fire, but . . . we're not fighting something inherently evil.”

Today's wildland firefighters imitate the ecological role of natural, low-temperature fires that regulated fuel loads in forests before timber overharvesting and urbanization. With the expansion of urban, suburban, and exurban zones throughout the western US, many communities now lie in the wildland-urban interface, where built environments commingle with natural ones.

The prospect that the healthiest approach to fire management is to let it burn can be “pretty despairing and scary news for communities when there's an active fire,” Chambers says. “I've even heard instances of suspicion of the wildland firefighting industry when a containment line isn't immediately built or there's not an immediate initial attack.” Communities like Lane County carry a collective trauma after megafires. To suggest prescribed burns in their area seems to many like a cruel irony—though it may be the most effective solution for mitigating high-severity wildfires in the future. ●

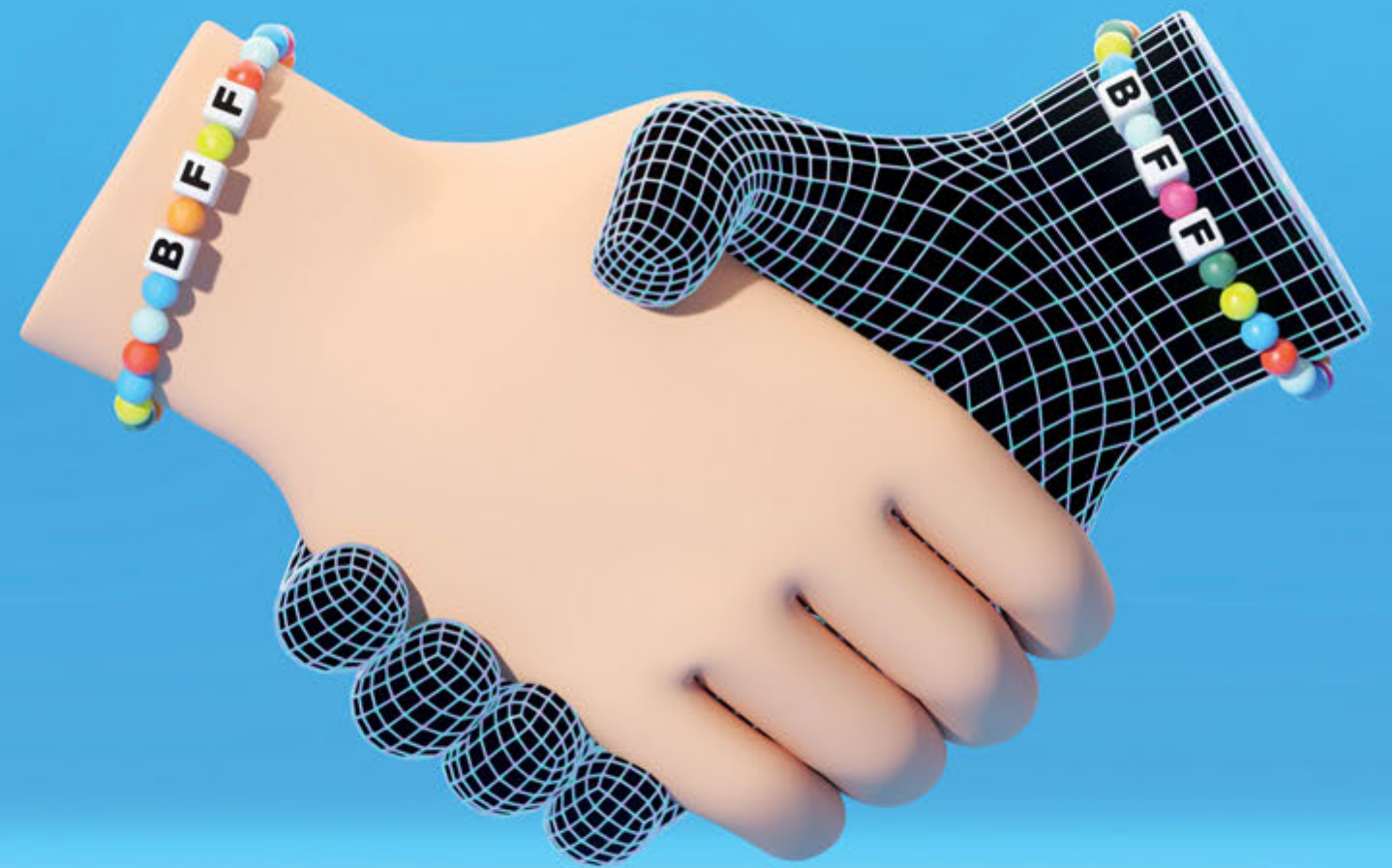
# Good Machines

WHETHER ARTIFICIAL INTELLIGENCE HELPS OR HARMS  
OUR LIVES WILL DEPEND ON THE PEOPLE BEHIND  
THE TECH. WILLAMETTE IS STAKING OUT GROUND

AS A LEADER IN PRODUCING COMPUTER AND DATA  
SCIENTISTS WHO HAVE THE SKILLS NOT ONLY TO DO  
THE WORK, BUT TO VIEW IT FROM AN ETHICAL LENS.

■ By **Erika Bolstad**

■ Illustrations by **Timo Lenzen**



# B

**BACK IN 2009**, the renowned science fiction author Ursula K. Le Guin appeared at an event in Portland to discuss her short story “The Ones Who Walk Away from Omelas.” In the story, the utopia of Omelas exists only because of the abject misery of one child kept in a dank basement closet.

Decades after its 1973 publication, Le Guin told the audience, readers continued to ask her about it. Each generation, the author said, found the story a timely vehicle to consider whether the happiness of the many can justify the suffering of a few—often through the lens of the technology or the moral crisis of the moment.

One earnest attendee jumped up. She asked for advice on how to act in response to the story’s meditation on utilitarian philosophy. Le Guin shrugged, abdicating follow-up responsibility to her readers. I don’t know, she said: “I just wrote the story.”

The audience laughed. Le Guin went on to suggest that there may not be one answer, but that knowing enough to ask questions is the start of establishing a personal framework of ethics.

Today, the Omelas story remains a powerful gateway for teaching ethics, particularly around the use of technology and whom it benefits. That’s why Calvin Deutschbein, an assistant professor of computer science at Willamette, puts the story on the syllabus of their “Ethics, Teamwork and Communication” class. The course is mandatory for undergraduates pursuing a degree in data or computer science at Willamette’s new School of Computing & Information Sciences. Graduate students in the school have their own requirement, a course called “Data Ethics, Policy, and Human Beings.” For Deutschbein, whose research focuses on computer security in hardware design, the goal is to help students develop systems of ethics that will guide their future careers.

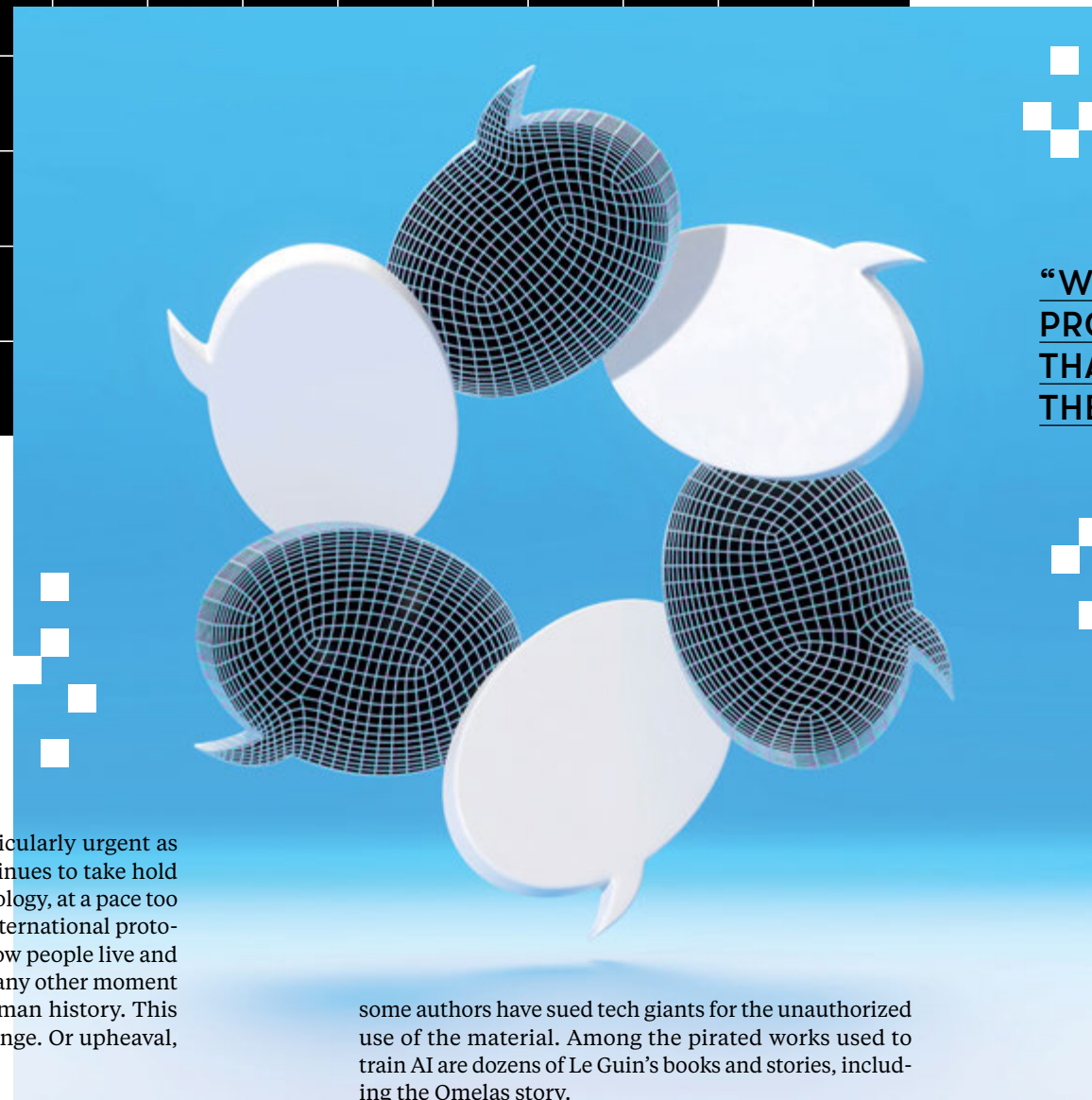
This is essential work, especially in light of the tech industry’s poor track record of ethical decision-making. Consider how the political consulting firm Cambridge Analytica acquired the private Facebook data of tens of millions of users and used it to send microtargeted ads to voters during the 2016 US presidential election. Or how faulty data storage again and again puts consumers at

risk for identity theft. Or how search engines enable hate and extremism by tuning algorithms or refining design features to either exacerbate or curb content. Or how, in 2023, forty-one states and Washington, D.C., sued Meta Platforms, alleging that it intentionally builds its products, such as Instagram, with addictive features that harm young users.

Ethical decision-making feels particularly urgent as generative artificial intelligence continues to take hold in our daily lives and power our technology, at a pace too fast for any emerging legislation or international protocol to govern its use. AI will change how people live and work—arguably more rapidly than at any other moment of technological advancement in human history. This will lead to transformative social change. Or upheaval, depending on your perspective.

**S**O, WHAT EXACTLY is artificial intelligence? It’s an all-encompassing term to describe a field that combines computer science and large datasets to build machines that are programmed by humans to do smart things. Among the smart things AI is now capable of is teaching itself to learn and adapt. It does this by using algorithms and statistical models to analyze large sets of data and draw inferences from them—a practice often known as machine learning. For example, ChatGPT is a form of artificial intelligence that uses predictive text to answer people’s questions or to assemble information from their prompts.

“AI is a tool, like a saw or a hammer,” says Deutschbein, who teaches students how the tools work and how to think about the ethical minefields they represent. To give one example: Many AI systems use large language models that were trained on nearly 200,000 pirated books;



some authors have sued tech giants for the unauthorized use of the material. Among the pirated works used to train AI are dozens of Le Guin’s books and stories, including the Omelas story.

Students discuss who controls the tools and who benefits—or fails to thrive—from AI. They discuss how to be responsible stewards of the immense trove of data gathered by governments, health care companies, cell phone providers, and even grocery store loyalty programs. They consider accessibility and affordability. And they study what happens when AI programs make up answers with false information, a predictive problem known as “hallucinating.” There’s also plenty to discuss around the mining of lithium and cobalt—the physical materials that create the technology—and the carbon footprint of data centers.

The School of Computing & Information Sciences came into being in 2023 to house Willamette’s existing undergraduate programs in computing and data science and master’s program in data science, as well as a new master’s in computer science. Its prevailing teaching philosophy is that big tech needs people who are comfortable asking and answering questions around ethics,

**“WE THINK OF THE MATHEMATICAL PROCESS AS BEING OBJECTIVE. AND THAT’S PROBLEMATIC, BECAUSE THERE’S A HUMAN BEING DECIDING WHAT QUESTION TO ASK AND HOW THE DATA IS GATHERED.”**

says Jameson Watts, its dean. Watts—who studies the intersection of marketing and computer science—champions the mandatory ethics courses.

For undergraduates, he says, the course is an introduction to ethical dilemmas likely to arise in their professional lives. As an example, Watts cites facial recognition applications that don’t recognize darker-skinned faces as well as they recognize lighter-skinned faces. Students learn to understand the origins of such bias and how developers can combat it. For graduate students, studying ethics allows them to explore issues they may already have encountered in their careers. Even if students don’t become experts on AI ethics, Watts says, they’ll be able to “elevate its importance within an organization.”

The school aims to produce computer and data science graduates who can not only write code, design

software, and analyze complex data, but can take a human-centered approach to such work. The school is positioning itself as a national leader in teaching ethics, a competitive advantage that Watts believes will set its graduates apart. And the curriculum is designed to make students highly employable at graduation, especially first-generation college students and others from backgrounds underrepresented in computer and data science. (Inclusion in the workforce is yet another ethical issue facing the industry.)

“If you want folks in the industry to be making decisions that are grounded in values of elevating diverse voices or addressing the issues of disadvantaged populations, then you have to make sure that diverse voices and disadvantaged populations get a seat at the table,” Watts says. “And the way they get a seat at the table is by getting this education and then getting into the job.”

There’s a breadth-versus-depth tradeoff to a mandatory ethics class. Because of the ethics class, students have time in their schedule for one fewer advanced technical course. But “we have consciously made this choice, and we think it’s the right one,” Watts says. “There are myriad opportunities for further technical development

after you leave our classroom, but almost no one out in the industry is asking you to think about or focus on ethics once you're on the job."

Discussions of ethics are central across the school's curriculum, not only in the mandatory classes. When Professor of Computer Science Haiyan Cheng teaches algorithms, she talks about how the equations that undergird artificial intelligence are often opaque. For ordinary people who don't know computer science, they exist in a black box. She asks her students: Can you justify what's in the box?

She wants them to think about what biases might be a part of the algorithms they're writing, and how their products will work in countries with different laws or cultures, including the European Union, which has stiff privacy constraints. Among other topics, her students also explore how an ethical approach may add to the cost of doing business. Cheng has designed a new course called "Computing for Social Good" and has embedded the lessons of that class in her other courses. "When I teach my machine-learning algorithm, it's not about just getting the result, it's about giving it justification."

Other professors, such as Hank Ibser, a statistician and data scientist, focus on ethics through a historical lens. He works with graduate students to look at how power structures evolve during the data life cycle—from how information is gathered, to the source of the information, to the mathematical models at the heart of generative AI.

"Every phase of that is subject to human bias," Ibser says. "We think of the mathematical process as being objective, and we feel like the methods are trying to uncover some truth. And that's problematic, because there's a human being deciding what question to ask and how the data is gathered."

This becomes particularly important as ChatGPT becomes a household name. One ChatGPT rival, Anthropic's Claude, shares a disclaimer with users that "it may occasionally generate incorrect or misleading information, or produce offensive or biased content."

If artificial intelligence is biased, Ibser says, that's because it's based on fallible human inputs at almost every iteration of the technology.

**FULL DISCLOSURE:** AI helped write this article. As a journalist, I record most interviews and upload them to an automated transcription service I've used for about six years.

The software has gotten much speedier in recent months, because of advances in predictive AI; it now transcribes my interviews within minutes. The transcripts aren't perfect—I must check the accuracy of each quote I use against the recording. For example, Watts told me that the university wants to cultivate "flexible thinkers," which the software interpreted as

"flexible fingers." But the software is very good, especially when the audio quality is high, and not having to transcribe a whole interview saves me valuable time.

Recently, the transcription software began offering to summarize my interviews. At first, I refused to click on the summaries, an AI feature made possible by rapid advances in predictive language models. The summaries felt like cheating, although I couldn't quite explain why. And I worried that AI might prove better than I am at summarizing my own interviews. Finally, though, I clicked, with the reasoning that if I was writing an article about AI, I should at least understand how it might affect my own career. The good news for me? The summary was mediocre. AI is not about to take my job—not yet.

I found the software far more skilled at generating a list of topics covered during the interview. This, I reasoned, could be useful as a reminder of topics to include in a story, or details to follow up on with my sources as I pieced it together.

I shared the summaries with the computer and data scientists I interviewed for this piece, something I wouldn't normally do as part of my workflow. But I wanted to talk through the ethical implications of using

AI in my own work, to better understand how students would study the issue. I also thought it would be interesting for professors to see my process and consider how it might apply to other knowledge-based or creative professions once viewed as relatively immune to automation, such as law, screenwriting, architecture, art, and software development.

I told them that the summaries of the interviews felt incomplete, a flickering facsimile of a human conversation with little bits and pieces floating away uncaptured, like digital motes of dust. The computer program, I realized, failed to understand what was going *unsaid* in each interview. The human brain naturally fills in all sorts of gaps in conversation, grasping the

**"ALMOST NO ONE OUT IN THE INDUSTRY IS ASKING YOU TO THINK ABOUT OR FOCUS ON ETHICS ONCE YOU'RE ON THE JOB."**

### Digital Ethics Conversation Starters

We asked Willamette professors in the School of Computing & Information Sciences to share ethical questions they might pose to students. How would you answer them?

1. How can AI make us happy?
2. What ethical considerations should be taken into account when creating an AI system for decision-making?
3. Who should own/have access to information about you (address, political party, search history, purchasing history, medical records)? What rules should exist around data storage for this information, and what should happen if there is a breach? Whose fault is it?
4. How can we promote positive behavior and discourage negative behavior in the AI age?
5. Who does and who should make ethical decisions about use and proliferation of AI?
6. If we slow down/regulate AI in the US in response to ethical issues, will other countries progress faster?



connections in the unsaid in a way that a predictive text machine cannot—at least not yet.

When I say this to Cheng, she nods over our Zoom call. "The machine literally is generating," Cheng says. "It's not writing with passion."

In fact, Sam Altman, the CEO of OpenAI, which developed ChatGPT, has said he has "deep misgivings" about a vision of the future where "everyone is super close to AI friends." It is among the reasons OpenAI made a deliberate choice not to assign a human name to its machine.

Cheng points out that AI can help us to replace or automate repetitive, mundane work so that humans can focus on more creative and more complicated matters. "I want to bring out the good side, how much technology has made our life easier and helped us to improve productivity and efficiency," she says. "The challenge is in balancing benefit and potential risk. I want my students to know not just, 'Oh, be very careful,' but also not, 'Oh, let's use it without any consideration.'"

As a science fiction writer, Le Guin predicted the consequences of technical advances that would change humankind. In an oft-quoted 2014 speech at the National Book Awards, she warned of hard times to come as big technology companies further commodified artistic aims: "We'll be wanting the voices of writers who can see alternatives to how we live now, can see through our fear-stricken society and its obsessive technologies to other ways of being, and even imagine real grounds for hope."

The same can be said for all of us, not just writers. We all benefit when Facebook hires data scientists who understand how to raise ethical concerns on the job,

when TikTok employs designers who've studied the consequences of the addictive nature of modern technology, when Amazon has software developers who think about the carbon footprint of their goods and how they're delivered, when YouTube executives consider how and why their recommendation algorithms direct people toward specific content, and when prompt engineers with Microsoft weigh the inherent bias within AI systems. Because if we humans are fallible, the technology we produce is, too.

But that technology also has the capacity to make the world a better, more ethical place—one that, to paraphrase Le Guin, envisions hopeful alternatives to how we live now. ●

*Erika Bolstad is a journalist in Portland. Her book, *Windfall: The Prairie Woman Who Lost Her Way and the Great-Granddaughter Who Found Her*, is a finalist for a 2024 Oregon Book Award. For the prior issue of Willamette, she wrote about the bar exam and Senator Lisa Murkowski JD'85.*

**An artist goes to**

**long beach**

*To reach people fishing  
for their meals,*

*a government agency  
turned to an unlikely partner.*

**By** **SHELLY STROM**

**PHOTOGRAPHS BY NASHCO**



**Meandering  
around the piers  
at one of the  
country's busiest  
heavy industrial  
zones chatting  
up anglers might  
not be what most  
people think of  
when envisioning  
a day in the life  
of an artist.**

That unlikely scene, however, is the basis for a collaboration between Portland-based artist Cat Ross BFA'18 and the National Oceanic and Atmospheric Administration. As NOAA's fourth Fisheries Art + Science fellow, Ross completed a six-week residency with NOAA Fisheries last summer, and then spent the following six months turning that experience into a creative multimedia project.

Ross (who uses she/they pronouns) is a researcher, creative technologist, and new media artist whose practice is centered in social and environmental justice. They spent much of the summer residency along the Los Angeles Harbor in Long Beach, California, searching out and interviewing people fishing for sustenance. Nearly three dozen fishers, representing a range of ethnicities and ages and in some cases including entire families, engaged in conversation with Ross. The objective was to help NOAA identify noncommercial fishing communities, specifically shore anglers and pole fishers, along the Long Beach coastline.

Ross explained the project to me as we sat in their creative studio, a room cocooned by the rest of the home, a 1914 bungalow in a



working-class neighborhood of southeast Portland. By then, Ross had settled back into life in Oregon after completing the immersive part of their fellowship, officially known as the AICAD/NOAA Fisheries Fellowship. AICAD is the Association of Independent Colleges of Art & Design, of which Willamette's Pacific Northwest College of Art is an affiliate.

Historically, sustenance fishers have been systematically excluded from communications around ocean and seafood safety. "They tend not to fit into mainstream channels where they might receive communication about fishing practices, and they are less likely to be involved in public meetings," Ross explains. "The limited

communication materials that do exist are sparse, outdated, and almost exclusively in English."

Ross spent late July and all of August living in neighborhoods near the southerly ocean edge of Long Beach, a city of 450,000 residents, more than half of whom are people of color from historically marginalized populations. "The majority of folks I met on the piers and along the shoreline were of lower socioeconomic status, some houseless," Ross says. "Most of the anglers belonged to BIPOC communities, and several had a first language other than English." Ross attempted to communicate with all of those she saw. (It helped that, in addition to English, Ross is fluent in Spanish and French and proficient in Portuguese and American Sign Language.)

She interviewed these sustenance fishers in tandem with a NOAA fisheries expert. "People we talked to seemed to appreciate having a representative of the agency there," Ross says. "They asked about, 'Why haven't I seen this fish around lately?'" and other questions that showed a lack of communication from NOAA and other agencies."

"When I told them I am an artist, you could tell they were really excited to talk. Many self-identified as artists," continues Ross. "I asked questions like: 'How long have you been fishing at this location?' 'What are you catching?' 'Are you cooking this at home?'"

**For Ross, interviews like**

those with the Long Beach fishers are fundamental to the artistic process. "My job is to humanize the people who need to be served," Ross says. "Ninety percent of my work is research and interviews—reading, writing, and then creating some sort of artistic expression based on all of it."

And the artistic expressions are varied and sprawling. Ross's proficiencies range from oil, watercolor, and acrylic painting; to live dance performance; to sound production. As a creative technologist, Ross melds artistic abilities with burgeoning technologies—think virtual and augmented reality, spatialized sound design, 3D environmental design and animation, and data visualization. For example, one of her upcoming projects focuses on the experiences of people living in South Los Angeles in neighborhoods disproportionately polluted by petroleum extraction. Titled *Gone to Water*, it is an immersive documentary co-created with the people it is about.

*Gone to Water* is a product of Love Death Design, a creative studio Ross co-founded with Marin Vesley BFA'18. The studio's purpose is to develop "immersive experiences to challenge systemic injustice and raise awareness around environmental issues." *Gone to Water* is scheduled to be screened in June at the Czong Institute for Contemporary Art's New Media Art Conference and Exhibitions in Korea. Ross's prior work includes

*Here are the fishers in their own words, from some of Ross's interviews:*

**"You can see when fish are contaminated. They look sick. Just look at these dark spots: that is the discoloration of their organs . . . And see how the scales are falling off?"**

**"I pay attention to what species are okay to eat off this pier, because I know that there is runoff, even sewage from the city, that ends up in the water."**

**"I'm a drifter, I guess you could call me homeless. The beach is my home. Forty-eight years I've been fishing for my dinner off this pier."**

**"Thirty years ago you would see so many barracuda and bonito out here. They aren't around anymore. It's like they disappeared."**

**"This pier is important to our family. We've been coming here for almost three generations."**



Images from two of Ross's other projects. At top is *Gone to Water*, an immersive documentary co-created with the people it is about. *Inter-* (directly above) is a performance work done in collaboration with a Newport, Oregon, dance studio. Ross co-founded the creative studio Love Death Design with Marin Vesley BFA'18.

collaborations with the Oregon Museum of Science and Industry, EYEBEAM, Portland Institute of Contemporary Art, Pacific Works NW, Center of Contemporary Art and Culture, Place Galley, and Indivisible Gallery, as well as virtual shows.

One of Ross's early wins was being selected, while a PNCA student, for a residency at PNCA with NOAA Fisheries, a precursor to the AICAD/NOAA Fisheries Fellowship. That opportunity took Ross to Newport, Oregon, out to sea to count fish with NOAA officials on commercial fishing boats, and into local seafood processing operations. For that project, Ross collaborated with a Newport dance studio on a performance for the community and made a series of paintings.

Ross sees origins of her artistry in her Pocatello, Idaho, upbringing: "When I was growing up, in our household there was always music and dance, and discussion about environmental issues." She describes passionate parents who came of age during the civil rights and Vietnam War eras. "My mom was a composer and creator. My dad was a lawyer working on behalf of several tribes across the PNW for land and water rights protections. It really shaped my sensibilities around environmentalism and social justice, as well as my capacity to use art as a tool for change."

As a teenager, Ross left home and moved to Oregon: "I saw it as more forward-thinking out here." But she wasn't looking to put down roots

and left to see the world, spending roughly fourteen years traveling, living, and working in twenty-five countries. At age twenty-eight, Ross came back to Oregon, this time to build a career as an artist: “It was an intention of mine to level up what I was doing by going to a fine arts institution. I chose PNCA because I wanted to push the boundaries of how my art would be perceived, and because it’s a prestigious, well-established art institution.”

### The work Ross has done

since graduation feels like a natural extension of their experience. The Long Beach fellowship, for example, presented an opportunity to work at the intersection of art, science, and environmental justice. “I saw this as an opportunity to engage with coastline communities most impacted by environmental racism and ocean toxicity, and to reflect the experiences they shared with me back to NOAA,” Ross says.

The shore fishers Ross met in Long Beach reel catches from water most people would bypass if they could choose water from which to catch a meal. “Heavy industry is all around, and it’s not invisible. You can see the markers, like the night sky lit with oil flares. Wilmington is a few miles away,” says Ross, referring to a neighborhood sandwiched between one of the country’s largest oil refineries and Interstate 710, the main artery for truck traffic into and out of the Port of Los Angeles. The port is the busiest in the Western Hemisphere. The *Los Angeles Times* has called the neighborhood “an island in the sea of petroleum.”

And the problems date back many decades. According to the Environmental Protection Agency, petroleum refiners, the military, and other entities legally dumped chemical waste, garbage, and even radioactive substances off the beaches of Southern California from the 1930s until the early 1970s. To this day, a huge concentration of chemicals rests in containers around Catalina Island, twenty-nine miles from Long Beach. When reporting in the *LA Times* spurred public interest in this, the EPA and other public agencies reopened investigations into the historic pollution.

“Everyone knows the water is contaminated,” Ross says. “Yet there are people fishing for sustenance off piers and beaches around Long Beach. It is due to both need and lack



Two oil paintings from the series Ross created from the fellowship. They are part of Ross’s larger multimedia project about people she met along the pier.

of awareness that some folks are consuming what they catch off this coastline.”

That fishing continues along the shoreline is evidence of an abyss between sustenance fishers and public agencies such as NOAA—an abyss Ross hopes to bridge. As the agency responsible for understanding and predicting changes in climate, weather, oceans, and coasts, NOAA plays a key role in communicating with people who rely on fisheries, whether commercial, recreational, or sustenance.

Ruth Howell handles communications and external affairs for the West Coast region of the agency. As part of that work, she hosts the Art + Science fellowship. “Within NOAA in the past five years,” Howell says, “we started to recognize that, even though as a natural resources manager social justice isn’t our mandate, we are managing a public resource. The way we had been managing, many communities were unaware of how to engage with us. There are many communities we weren’t serving well or weren’t aware of.”

“Fish are a source of protein and sustenance for this population; fishing is their recreation and provides mental health and wellness,” Howell continues. “No doubt they find community along the shore, make friends with each other. Many bring their families. There’s a lot going on there that [NOAA] isn’t aware of. And we’re positive their voice is not being heard by federal fisheries management officials.”

“Virtual reality and augmented reality aren’t really tools that we immediately reach for in a government agency.”



A field image Ross shot while along the pier in Long Beach, California



Finding that voice and giving space for it to be heard within the agency requires careful navigation. “Some of the people fishing on the docks may not be documented; they likely aren’t English-first speakers,” Howell says. “If agency officials were to go down to the docks with our NOAA logo hats and jackets, we might be intimidating. However, an artist approaching them is much less intimidating.”

According to both Howell and Ross, learning about the concerns and practices of the shore fishers can be the first step in building meaningful connections and valuing the fishers as stakeholders in managing the fishery. “For us at NOAA, success looks like advancement

Shelly Strom is a longtime Portland-based journalist.

of our knowledge of the community, having art pieces to help us reflect on what Cat has learned from being out there on the docks, and making new connections with the community of Long Beach’s shore-based fishers,” Howell says.

Bringing in an artist to help solve a bureaucracy’s challenges also allows that bureaucracy to apply new perspectives and technologies. “Virtual reality and augmented reality aren’t really tools that we immediately reach for in a government agency,” Howell says. “An artist lets us see how we can apply those to our work.”

The centerpiece of Ross’s deliverable is a web story to be rolled out this spring. (Find it at [catross.net](http://catross.net).) Web stories are an emerging type of art that usually combine visuals, writing, audio recordings, and interactive elements. “It incorporates my research—direct quotes and other findings from the interviews—along with a series of paintings that reflect my time on the waterfront,” Ross says. It also helps the viewer to visualize relevant data about the fishers and fishery. She crafted printed items—flyers, magnets, stickers—to share among the shore fishers with the hope they will engage with the information in the web story.

“We’re still figuring out how to do our work through a lens of social justice,” Howell says. “A lot of translation is needed for us to get there. And an artist is in a position to translate across cultures and across a bureaucracy and all its silos. We selected Cat because she could bring that to us and help us along that journey.” ●



# The Leaf Blower

Story by MICHAEL STRELOW

Illustrations by GEORGE WYLESOL

**t** HE TOWN IN OREGON was named Pierce at first. But 150 years ago, Pierce was pronounced purse and then some heard peace in purse. By the time it was incorporated there was one group who thought Peace for the name of a town was probably some corruption of an Indian word that was in turn misheard as a kind of place name like “wet meadow,” and when it was finally settled, the name of the town officially became Beneton, a word completely unassociated with any of the above. “Completely unprofessional,” one finger-wagging council member declared. And for a space of nearly two years, the unofficial motto of the town became “Completely Unprofessional.” All this is a concatenation of tales and slivers of hearsay that has as much claim on truth as any group memory. The Peace contingency comforted itself with the Bene part—the home of good. Close enough.

**i**T WAS THE third leaf blower in two hours, the third neighbor’s need to clean off sidewalks, blow leaves out from behind the shrubs, elevate into the air all the spores and dried animal feces and pathogens and micro-fine lead paint dust and bacteria. John thought: Nothing in nature produces two-hundred-and-forty-mile-an-hour wind right at the surface of the earth. The leaf blower does and STIHL even has a tag around the blower advertising that. Baden-Wurttemberg is the home of STIHL, thought John. I’m thinking of changing my name to St. Jude to engage more and more lost causes. The trigger finger yanks, and the wind increases, and the finger having yanked moves on. Zoom and zoom and zoom for all of us to breathe. He had—only once, though—while out walking stopped the blower guy from the yard service, tapped

him on the shoulder because the guy had on ear protection, and when he raised one earmuff, John had asked if he knew he was at risk of various lung conditions, and then rattled them all off for the stunned young man. At the end, the worker replaced his ear protection and re-wailed his machine up the walkway in the opposite direction. I am Cassandra, thought John. I too am wailing into the ears of an uncaring world. My wailing has joined the general woe.

He thought of himself as young, but he felt this island in the middle of his thirties was well downstream of youth. Herbicide residue, pesticide leavings, particulate matter from the searingly inconsiderate Dow and Monsanto abroad in the air. Weren’t they now the same company? Didn’t the German company Bayer AG buy them both? More and more Germans. Weren’t two world wars enough? Maybe Dow was somebody else.

John Wiltshire had arrived at his island by being circumspect. And rational. And careful. His hair never behaved, but he did. It was easier to behave—easier on everyone. His older brother had made a career from a young age of calling attention to himself by doing exactly the opposite of behaving: shoplifting things he didn’t need; pilferage on his job at the trucking company; petty larceny in the name, John supposed, of getting caught eventually and receiving all that attention. Such a waste, they would say. A good boy from a fine family, and he seems to do nothing but wrong. Bad companions some said. But John knew that his brother lusted for notice, any notice. And got it. Such a shame, they continued to say.

For John, the Wiltshire name was redeemable only by being reasonable in an unreasonable world. Not Mr. Spock. Not the obverse Hal, the mad computer of *2001: A Space Odyssey*. And not



the most recent but the most potent attack on reason, the pharmacological assault on the earth. No aliens seeking asylum for their children, water for their desert plants. Alas, thought John—often and thoroughly. Alas, indeed. Even the sound of alas seemed to encircle the globe, or at least his part of it. And back came the echo from the crevasses and interstices of regret. Alasssss, indeed.

John had tried what the barber had called “product” on his hair, but the result was sheen, not control. Each thick dark brown hair seemed to have its own agenda and operated independently of all the other hairs. Oh, there were groupings like accidental associations—strangers walking on a crowded street forming and unforming pods like terrestrial whales. John declared finally a truce of exasperation and allowed his hair to be its unspeakable self. That was the term one of the cleverest of his succession of girlfriends had invented. She ran her hand through his hair, and then she declared them to be anarchist hairs, each being its own unspeakable self.

John thought that if he could just gather around him a sensible set of provisions then, in time, maybe a lifetime, he could expand that circle of sense out into the world. And, at the end, there was the chance that the expanded circle would prove to be the beginning of—of something to hold off the chaos of . . . of . . . Well, anyway, something of value. John’s job was part of his plan.

He had taken his history degree from an inexpensive but adequate state university and launched himself into the publishing world. First as a proofreader for a small press, then as a trainee at what was essentially a phonebook publishing company. Then, as the phonebook world shrank, at a small press that specialized in government fisheries contracts, though he made his first mark as the lead editor on a compendium work dedicated to *Siphonaptera*—fleas. Only a few scientists suspected how many kinds of fleas there were, and no one had compiled such a thorough work before. John did the gathering of the science, and then he even began the book’s index himself before handing over that job to a professional indexer. John had loved the indexing work but realized very



quickly that there was a set of skills implied that he had only begun to appreciate. Indexing was like organizing his hair. And John realized quickly that when his hair was plastered to his head, his high cheekbones and the cleft on the end of his nose both disappeared because the plastered hair, product a gleam, overwhelmed all the surrounding features. Only with his hair unindexed, he thought, was there any completeness to his face.

The flea book led to more, and more led to better, as it should in a reasonable world. John prospered; his circle of sensibility widened. The world became a better place, if only where the world touched John. But there on that island in his mid-thirties something that began as an itch became a creeping sensation, then an aggravating, high-pitched noise, far away but growing closer and closer. And finally, it was right there behind John’s eyes like a headache but made of bright lights and sour smells. There was no reasonable solution, it seemed. He had read that children in the 1950s in Midwestern towns had ridden their bicycles behind trucks that were fogging DDT against mosquitos. Immediately he thought, I bet they had no fleas and very few outbreaks of head lice. And then a picture rose up, and John saw what saints must see, what dervishes whirled to achieve, what blows to the head sometimes produce: clarity. He saw those Midwestern families luxuriating in their mosquito-free backyards with tall drinks and amiable chatter while the fogger

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fogged and their children dipped themselves in DDT. He saw all at once the consequences and the insouciance and the chemical company salesmen and the year-end bonus checks and the self-satisfied burghers congratulating themselves on an improved existence all while the chemical concoction did its concocting for the children’s future: the chemo IVs, the lumps and tumors and raging wild cell growth. All at the same time—a saint’s vision and certainty. Who would stop the next iteration? DDT became tobacco became polychlorinated biphenyls. PCBs became glyphosates became the rattling snout of the leaf blower’s toxic storm.

When exactly does a reasonable man become unreasonable? John had given the world the still unsurpassed compendium of knowledge on fleas. Now he was finding a cacophony, a *mounting* cacophony crying out for him to be the next St. Joan, the next cry in the wilderness of self-satisfaction and backyard burghers without a clue. And unlike Joan of Arc, John did ask the essential question: Why me? Why not somebody else? Let my little lamp of reason shine as far as it is able to break up the night’s darkness. Must I burn and explode myself to shatter the night? And the answer more and more often came to him, yes. And again, yes. And yes yes yes yes. There were biblical robes to rend, King Ahabs to confront, flesh to flay. He must be unreasonable, John concluded, in the pursuit of reason.

He felt the cage of reason, too. Once you’re in, it’s reasonable to stay there. The hell of it is that it is clearly not locked, he thought. It would be easy to stay in, but there it is—the way out. And nothing stands in the way of a person wandering out for a while, having a look around. Just for a while, of course. John laughed to himself. That’s what they all say. Sure. They say that standing in the docks of Old Bailey. Hanging their heads at sentencing in the Ninth Federal District Court. Holed up in a farmhouse in Vermont while the police cars circle and wail in the barn yard.

John had read how important visions were to the world: Piers Plowman, Jean-Jacques Rousseau, Joan of Arc—and then there were the jailhouse versions of visions: Martin Luther King, John Bunyan, and

Thoreau, of course. Visions came and visions went, John thought. Why me? Why should I step out of the cage and mess everything up?

Out the window and down the street came the answer: a leaf blower fired up and assaulted the air, then spewed the air, then blew open the door of the cage. Start small, thought John. This will be a marathon, not a sprint. But then, reasonably, he thought that this business might not be an either/or situation but instead much messier, like life. Start with a sprint, then go slower for a marathon and harbor your strength for a while. Sprint, harbor, walk a little, maybe even sit on a bench for a while. The vision rolled on. The gift of reason was only a gift if it gave results you wanted. The French eighteenth-century Enlightenment thinkers were, to a man, thinkers of reason and its consequences, but in their lives they were various forms of mess and madness and warring parts. The social contract was a desirable end for reasonable humans. The way there was fraught with personal ogres and dragons.

John recalled reading in Ovid’s *Metamorphoses* that one of the three Furies, Tisiphone, to punish a particular murderer, flailed her snake hair at him and the snakes didn’t bite him but slithered over his body breathing out their venomous breath and driving him mad with depression and loss of the faculties of reason. Ah, but that was only the beginning of her punishment. She whirled her whip of flames in the air and so violent were the flames that even the flying pieces of flame caught fire again. Whatever the hell kind of logic that was, thought John, it was approximately right for the leaf blower: madness, then conflagration so fierce that the fire caught fire. His vision continued by the act of ruminating. The leaf blower down the street gunned itself and violated the air with its incivility. ●



#### More fiction

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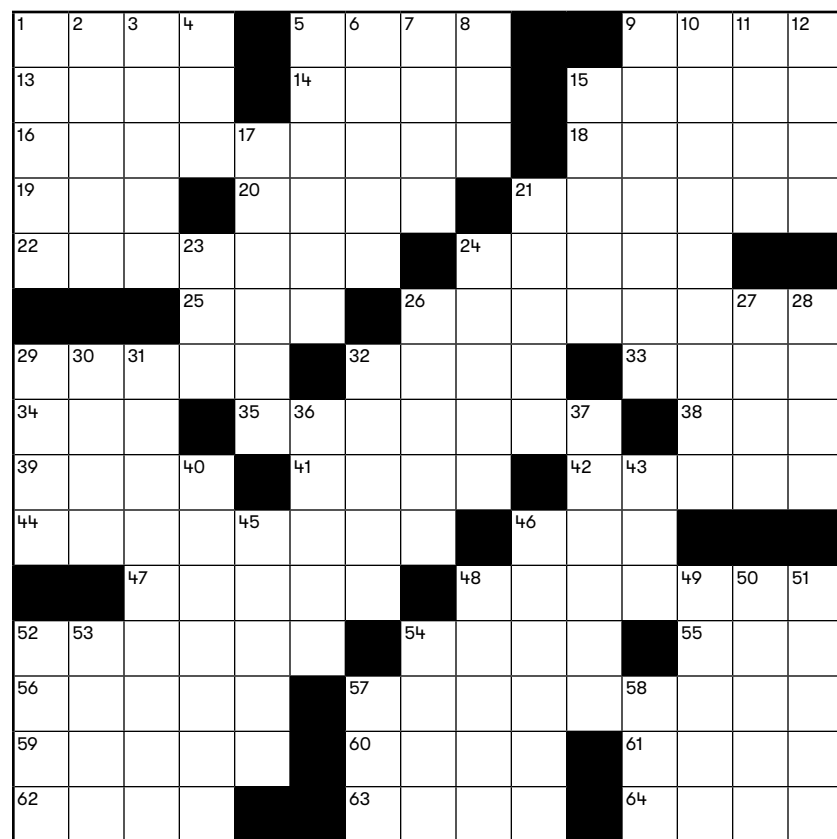
**Michael Strelow** is a professor emeritus of English at Willamette, where he taught from 1980 through 2015. This story is Chapter One of his novel-in-progress *John and Julie and Robert*, which follows the lives of three childhood friends as they engage the world, each in a different way. Strelow’s debut novel, *The Greening of Ben Brown* (Hawthorne Books), was a finalist for the 2005 Ken Kesey Award for Fiction. Strelow is the author of several other books of fiction and nonfiction, and his poetry, short stories, and creative nonfiction have appeared widely.

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### ACROSS

- 1 Acid's opposite
- 5 Variety of squirrel on Willamette's Portland and Salem campuses
- 9 Think ahead
- 13 Egg, to biologists
- 14 *Paris, je t' \_\_\_\_\_* (2006 movie)
- 15 Disney princess from *The Princess and the Frog*
- 16 Region for which Willamette was the first university
- 18 Atlanta's NBA team
- 19 Historical time period for Taylor Swift?
- 20 Bad guess in Battleship
- 21 Rushes toward
- 22 Nerve impulse transmission point
- 24 Hedgehog in video games
- 25 A *Christmas Carol* outburst
- 26 Rummager's outlet that's not quite antique-level, in the UK
- 29 Rib cage location
- 32 Robin Hood's Marian, for one
- 33 Hefty book
- 34 Aries, in the zodiac (and, with "The," restaurant across the street from Willamette's Salem campus)
- 35 Willamette grad Elizabeth BS'99, who was the first woman to play in a collegiate football game
- 38 Sean \_\_\_\_\_ Lennon
- 39 Operatic highlight
- 41 Boxing ref's decisions
- 42 Words for a maximum poker bet
- 44 "In that case . . ."
- 46 Seek damages in court
- 47 Belgian battle site of World War I
- 48 Western grouse
- 52 Low-humidity environment
- 54 Carve into glass
- 55 My Chemical Romance's music genre
- 56 Actress Kaley of *The Big Bang Theory*
- 57 The five giant sequoias on the Salem campus, planted in 1942
- 59 Turkish currency
- 60 England's national art gallery
- 61 With nothing to do
- 62 Signs on the dotted line
- 63 Like cheaper textbooks
- 64 Consonants for some fraternity and sorority names



### DOWN

- 1 Pitney \_\_\_\_\_ (mailing equipment company)
- 2 Animator Tex
- 3 "Notes on 'Camp'" essayist Sontag
- 4 Paramedic letters
- 5 Overly flashy
- 6 Step between lather and repeat
- 7 Aussie avifauna
- 8 Simple Magic 8-Ball response
- 9 Instrumentalist with a bench
- 10 Institute of which Willamette was the first in the Pacific Northwest
- 11 "(You're) Having My Baby" singer Paul
- 12 Cartoonist who caricatured Boss Tweed and drew Santa
- 15 "Who'da \_\_\_\_\_ it?"
- 17 Sci-fi mind reader
- 21 Blue \_\_\_\_\_ à la Turk (Dave Brubeck standard)
- 23 "Six-pack" muscles, briefly
- 24 TV show that Meghan Markle was on before marrying Harry
- 26 *Dune* and *Aquaman* actor Momoa
- 27 Prefix with present or potent
- 28 Lackey
- 29 "That really sticks in my \_\_\_\_\_"
- 30 Tortoise opponent in a fable
- 31 Willamette's first graduate (1859; a House on campus is named for her)
- 32 Creates
- 36 Old-fashioned anesthetic
- 37 All for \_\_\_\_\_ (in vain)
- 40 Llama relatives
- 43 Willamette House near the one mentioned in 31 Down
- 45 Some jazz combos
- 46 Venerable
- 48 Street on the north side of the Salem campus
- 49 Doesn't disregard
- 50 "Beneath Your Beautiful" singer \_\_\_\_\_ Sandé (whose first name sounds like 31 Down's)
- 51 Attendance count, informally
- 52 651, to Nero
- 53 Archaeological site
- 54 PDX predictions, perhaps
- 57 "Fifth Beatle" Sutcliffe
- 58 En-graved letters?

Matt Jones BA'98 writes the syndicated *Jonesin' Crossword*, as seen in alternative newsweeklies across the country since 2001. He studied music education at Willamette.

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**“Every study is going  
to be a pre-fire study”**

**“People don’t want to think about  
doing site preparation to replant trees”**

**“We’re not fighting  
something inherently evil”**

**“You have a forest that  
can withstand a fire”**