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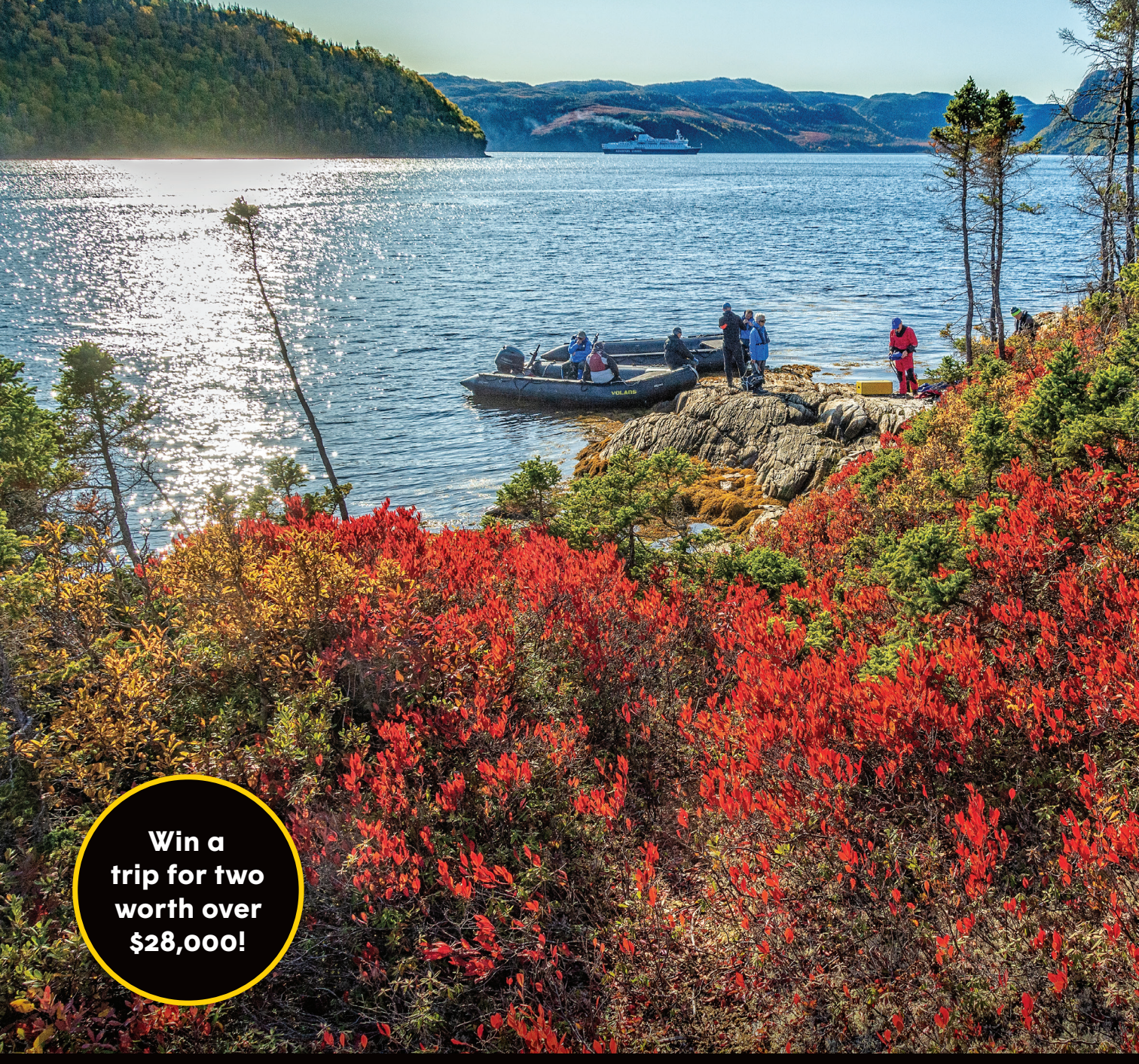

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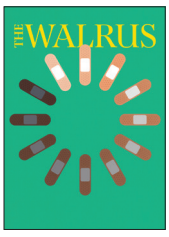
ESSAYS



ON THE COVER
Illustration by Pete Ryan

Pete Ryan's work has been featured in *Time*, *The New Yorker*, the *New York Times*, and *Mother Jones*.

FEATURES

THE ARTS

PHOTOGRAPHY (ABOVE) BY CHRIS DONOVAN

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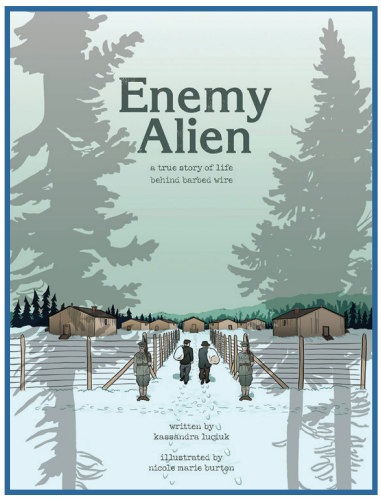
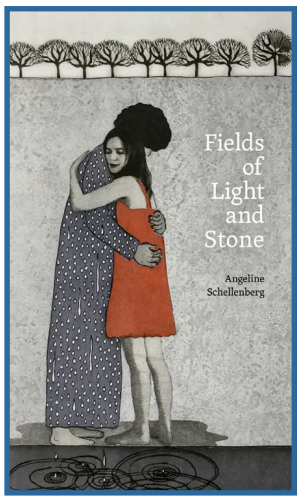


Enemy Alien: A True Story of Life Behind Barbed Wire
by Kassandra Luciuk
illustrator nicole marie burton
Between the Lines 2020



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Where magic happens

How a kids hospital is redefining possibilities for all children and youth

BY GLYNIS RATCLIFFE

If you've never known a child with a complex illness or disability, you might not have heard of a certain building on a side street in midtown Toronto, just south of Sunnybrook Hospital. But if you know, you know: Holland Bloorview Kids Rehabilitation Hospital is where magic happens for thousands of children, youth, and their families each year. The hospital has been leading the way with its innovative, and family-centred approach to treatment and rehabilitation for children and youth with medical complexity, injury or disability for more than 100 years.

What makes Holland Bloorview so special is its commitment to going beyond inpatient and outpatient care, with staff working tirelessly to help young people achieve their goals. This work includes not just physical and cognitive development, but also acquiring life skills such as employment readiness, transitioning to adult services and friendship. "Holland Bloorview feels strongly that you can't care for a child's health without thinking about their future," explains Julia Hanigsberg, President and CEO of Holland Bloorview. "We have an important role in driving social justice for kids and youth with disabilities and it's important that we help drive this change beyond our walls."

AN END TO ABLEISM

It's hard to put yourself in the shoes of someone facing the kinds of obstacles many of the young people at Holland Bloorview face, but for a moment, you can try. That's what the children and youth who are sharing their stories are asking you to do for this year's Dear Everybody campaign, which focuses on ableism.

Dear Everybody began as a movement spearheaded by clients and patients at Holland Bloorview, back in 2017, to raise awareness about the stigma faced by kids and young adults with disabilities. The campaign has grown over the years, and now receives national attention.

While ableism is a word that people are increasingly becoming aware of, few truly grasp its implications. In this year's campaign, you can hear how children and youth experience ableism, in their own words, through a series of videos and interviews on the website, *deareverybody.ca*. The concept of ableism goes beyond representation—it's about representing and accommodating both visible and invisible disabilities in all walks of life. Hanigsberg is excited for Holland Bloorview to demonstrate what allyship is, to the broader community.

"Everyone has a responsibility to understand ableism, seek it out, and work towards dismantling it so that children and youth can look towards a future where everyone belongs." ■

PHOTO CREDIT: HOLLAND BLOORVIEW KIDS REHABILITATION HOSPITAL

Where technology and inclusion intersect

The research happening at the Bloorview Research Institute is changing lives

Chances are you've recently had a moment or two of unmitigated anxiety in the past several years that might have interfered with your ability to function. Anxiety also impacts children, including children with autism. Many children may not realize their anxiety levels are building until it's too late to calm down.

Dr. Azadeh Kushki is a computer engineer turned scientist at the hospital's Bloorview Research Institute (BRI) who recognized an intersection between her research focus and a community need and started working on solutions. A senior scientist in the BRI's Autism Research Centre and an associate professor at the University of Toronto, she is developing technology-based supports for children with autism and their families, funded by TD through the TD Ready Commitment.

The BRI is an integral part of how Holland Bloorview employs the latest research to create more meaningful and healthy futures for children and youth with disabilities. Housed within the hospital itself, BRI is the largest hospital-based childhood disability research institute in Canada and is internationally renowned for its work.

"All aspects of our research are very much grounded in needs that are identified by families and the kids," she explains. "Our research is a partnership."

AN ANXIETY METER

To monitor anxiety levels in children with autism, Dr. Kushki created an app called holly™ that can be downloaded on wearable tech like a smartwatch. The app identifies rising anxiety levels early so that children, or their caregivers, can work to de-escalate their emotional arousal. Studies have found that 100% of children wearing holly™ were able to identify rising anxiety levels, compared to 30% of those not using it.

Technology like holly™ is an important step toward equitable access to and inclusion in everyday activities for children with autism, according to Dr. Kushki.

"Many kids with autism face barriers accessing and participating in the same opportunities that other kids do," she says. "We're hoping that holly™ can help by supporting kids with their emotion regulation, but also by providing a way for caregivers to understand the experiences of kids."

HELPING MORE PEOPLE

The BRI covers a wide range of research with the potential to impact as many as 200,000 children and youth with disabilities across the country. What's more, some of the supports in development can be beneficial to children beyond the hospital's purview.

Dr. Kushki and her research team are also developing two other technology-based resources supported by TD through the TD Ready Commitment: one is a virtual-reality experience as exposure therapy, to reduce children's anxiety when visiting the Holland Bloorview dental clinic, while the other is an augmented-reality app for tablets and smartphones to help children to follow a sleep routine.

"Everything from design to evaluation is based on our partnership with children and families" she says, "the feedback we get is essential to making sure that our technologies really reflects the needs and experiences of families and kids." ■

NEW FRONTIERS

Creating innovative tech to help kids communicate

Dr. Tom Chau, Vice President of Research and Director of the BRI, knows that non-verbal children have plenty to communicate, but without the means to speak—either due to degenerative health conditions, brain injury or other physiological challenges – they may be underestimated or overlooked. His work in the PRISM Lab, at the BRI, aims to overcome that.

"As human beings, so much of our identity is fixated on speech," he explains, "but, in fact, there are so many other ways we can communicate with each other—we just need the right tools to unlock them."

One of the ways Dr. Chau and his lab are using technology to help kids facing this challenge is with personalized brain-computer interfaces (BCI). Devices that can do this already exist, but they require a certain amount of physical dexterity or motor skills some children don't possess, despite their cognitive capabilities.

For the past 20 years, the PRISM Lab has researched and developed assistive technologies, with an increasing focus on the emerging field of BCIs. Now at its forefront, the lab is partnering with Alberta Children's Hospital (Calgary) and Glenrose Rehabilitation Hospital (Edmonton) to continue this innovative research.

Dr. Chau's latest interface prototype is a cap that shines light into the brain to monitor blood oxygenation to identify and harness specific patterns of brain activity. The cap can be worn and used to track and convert these patterns into specific actions, such as playing a video game using BCI technology—which some Holland Bloorview patients are already doing—or spelling words.

Over the next 12 months this prototype will move from the research stage into clinical practice, thanks to a generous donation. "The potential for brain-based control is actually huge. We're just at the tip of the iceberg."

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Editor's Letter

When many of us packed up our desks at the beginning of the COVID-19 pandemic, we thought the lockdown might last a few weeks. Instead, some of the most significant aspects of our lives went virtual almost overnight—and stayed that way. After almost two years of experiencing work, school, religious, and social events on screens, it's strange to think how many of these adaptations have become second nature, revealing the various pros and cons of the life they replaced. In hindsight, I can't believe how many forty-five-minute dashes I used to make across town to get to meetings and appointments and fitness classes. But I could live without ever celebrating another birthday over Zoom.

This fall, many of us were hoping to find ourselves going back to some kind of public life. With vaccination rates on the rise, there was room for cautious optimism even as the pandemic surged in Alberta and Saskatchewan and the Delta variant spread. Here in Ontario, which has experienced one of the strictest lockdowns in the country, we have learned to take a hesitant approach to planning. There were in-person events, but proof of double vaccination was often required. Kids were in school but sometimes back home in quarantine. Making any plans, there was a strong sense of inshallah—"if God wills it." We speak of the "before time," but what to call this limbo between the early pandemic and what comes after?

In this issue of The Walrus, we take stock of some of the technological changes the pandemic has furthered—in some cases, the switch to remote communication may have been inevitable, but that doesn't mean the transition has been smooth. In our cover story, "Doctors on Call," Carine Abouseif, a features editor at The Walrus, reflects on the rise of virtual health care: while remote appointments have benefited patients and health care practitioners alike, incompatible privacy legislation and mismatched technologies can create barriers to effective virtual care by restricting the sharing of health records. Abouseif's story also demonstrates that, while virtual solutions may promise improved access to health care, sickness doesn't respond to a one-size-fits-all approach.

Meanwhile, advocates for sexual assault survivors have long called for reform to the justice system, where tradition dictates that complainants must testify in person, facing the accused. In "My Day in Zoom Court," a contributor writing under a pseudonym relates her experience within the virtual courtrooms made mandatory by the pandemic, arguing that preserving some elements of remote trials could improve the experiences of sexual assault survivors and the work of the justice system alike.

And, in "Neighbourhood Watch," tech writer Navneet Alang describes one gentrifying neighbourhood's increased use of community Facebook groups and personal-security cameras to keep "undesirable" people away from their deliveries. Obviously, as much as technology can bring us together, it has the power to split us apart.

It may be too early to know how much of the past two years' worth of change is here to stay. When an architect recently provided a floor plan for the head office of The Walrus (which has been closed due to Toronto public health guidelines and is now undergoing renovations), my colleagues and I scrutinized it. But it was hard to "see" the reality of postpandemic life. The pandemic has changed us—not simply the way we work together but how we might use work stations and meeting rooms. After many months of communicating effectively, if distantly, on apps like Slack, what will "working together" mean?

As with so many things, the most obvious place to look for answers now is yet another screen. I was recently so struck by a scene from *Ted Lasso* that I watched it three times. In the second season, an episode ends with one of the characters stumbling into a nightclub. It took me a while to figure out why watching somebody dancing after an aggravating day was so affecting: the experience used to be common. And that's just it. Right now, with danger still lurking in every face and invitation, we don't have the luxury of losing ourselves in the crowd. Waving our arms in the air like we just don't care—that's one step forward I would welcome.

—*Jessica Johnson*

ILLUSTRATION BY GRAHAM ROUMIEU

Contributors' Notes

CARINE ABOUSEIF
"Doctors on Call," p. 40

"I have a love / hate relationship with virtual health care. The first time I used it, to fill a prescription, I thought, *This was so smooth—Why weren't we doing this before?* But my experience dealing with a mild concussion a few months later was completely different. I first went to my local walk-in clinic in person, but they referred me to their virtual care portal instead. I was standing on the street for an hour trying to figure things out before I gave up and went to a different walk-in. The whole ordeal made me wonder how accessible virtual care really is."

Carine Abouseif is a features editor at The Walrus.

NAVNEET ALANG
"Neighbourhood Watch," p. 50

"I write a lot about technology and often get emails from readers about how they never use Facebook because they don't want to be tracked. What they may not realize is that the culture of surveillance is already built into day-to-day life. A perfect example is the dashboard camera, which is used to bolster insurance claims. People are often of the mentality that, if they're the ones using these devices, it's less of a privacy issue because it's about looking after themselves. But, really, they're just contributing to the normalization of surveillance."

Navneet Alang is a writer and critic based in Toronto. He is currently a contributing technology columnist for the Toronto Star.

CLARE FIESELER
"To Catch a Turtle Thief," p. 24

"The character at the centre of my story about turtle smuggling is someone I have a lot of compassion for. He and I are cut from the same cloth: we've both spent a lot of time at the Jersey Shore, we've both been journalists, and he loves wildlife as much as I do. In his case, that love took him down a dark path. But his story, which is a lot more complicated than many other true crime narratives, shows how easily people can be led astray."

Clare Fieseler is a journalist and ecologist who studies climate-threatened marine life and ecosystems. She has written for the Washington Post, National Geographic, *and* Vox.

MATTHEW HALLIDAY
"New Brunswick's Medical Mystery," p. 32

"This feature about New Brunswick's medical mystery originally started as a science story. I wanted to write about the collaborative effort between provincial and federal researchers to understand the unexplained neurological condition affecting people in the province. But health authorities wouldn't talk to anyone. It wasn't until I tracked down an anonymous source, who was able to share some insight into the way the investigation was being conducted, that I realized there was an even bigger political story unfolding behind the scenes."

Matthew Halliday is a writer and editor in Halifax whose work has appeared in the Globe and Mail, *the* Guardian, *and* Hakai Magazine, *among others.*

DALBERT B. VILARINO
Illustration for "Neighbourhood Watch," p. 50

"The inspiration for this illustration on neighbourhood surveillance came to me while I was walking around my own North York neighbourhood. I lived at a dead end of a residential street, close to a nice park with a lot of trees and surrounded by a mix of townhouses and rental apartments. What was weird, though, was that the lights in the area were very bright and stayed on at all times. It seemed designed to make everyone feel constantly watched, which was the exact atmosphere I wanted to capture here."

Dalbert B. Vilarino is a Brazilian Canadian illustrator based in Toronto. His work has appeared in the New York Times, The New Yorker, Wired, *and* NBC News, *among others.*

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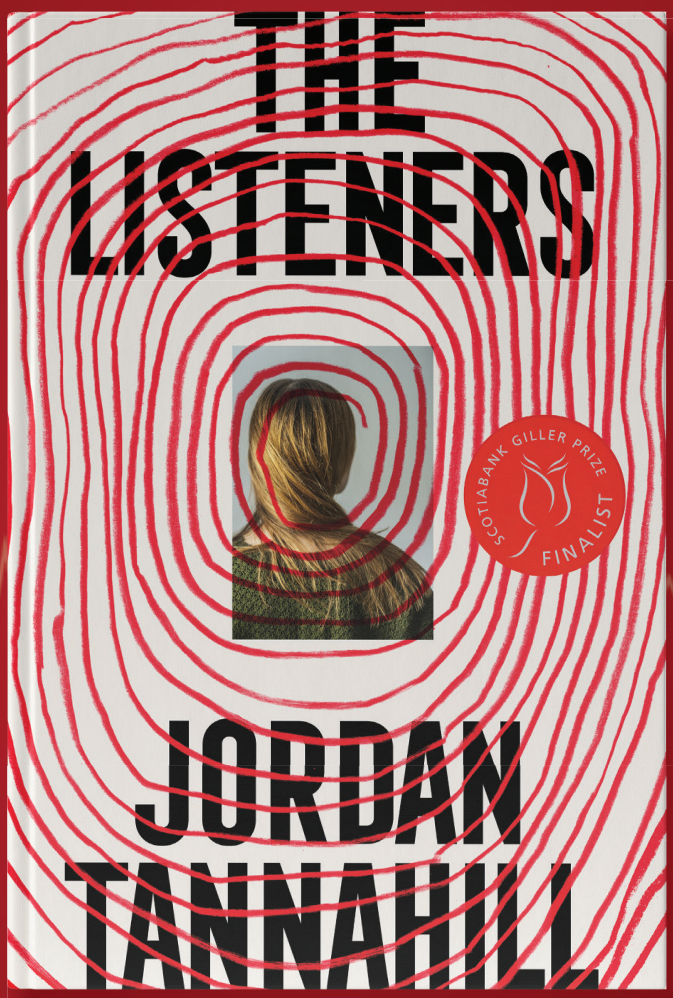

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Letters

LOUSY CONSERVATION

With "Salmon Sickness" (September/October), an investigation into *Piscine orthoreovirus* (PRV)'s spread from BC fish farms to wild salmon, Max Binks-Collier has started to clear some very muddied waters. However, PRV is just one threat to fish—sea lice can also be devastating. These lice occur naturally in wild salmon, but when the salmon return to spawn in their home rivers, the lice die in the fresh water. In saltwater fish farms, the lice multiply and spread. When migrating baby salmon pass by these farms, they become infested, which, given their small size, can be deadly. I don't think the earth can afford the loss of wild salmon.

Chief Don Svanvik
'Namgis First Nation
Alert Bay, BC

Binks-Collier explores apparent dysfunction in BC's salmon farms—and in the federal agency entrusted with protecting Canada's wild fish. Fisheries and Oceans Canada (DFO) is a global outlier in insisting that PRV poses little danger to wild salmon. Reams of documents, emails, and independent studies portray an agency shockingly bereft of scientific integrity. As participants in the Cohen Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River, my colleagues and I spent months submitting evidence that the DFO's stance on the effects of sea lice on wild salmon was biased to support industry. Like Binks-Collier, many ponder whether the DFO will lead BC salmon the way of Newfoundland cod. Here's hoping those in charge grow a spine and adopt a true conservation mandate.

Craig Orr
Watershed Watch Salmon Society
Victoria, BC

FORCED LABOUR

As Jessica Leeder illustrates in "Province of No Choice" (September/October), about New Brunswick's efforts to restrict access to abortion services, anti-abortion laws are not only cruel and unjust—they're ineffective. Federally, Canada has no legal restrictions, yet it has historically had a lower abortion rate than the United States because of programs like universal health care and eighteen-month paid maternity leave. However, there's still room to improve: we need universal contraception, affordable daycare, and accessible abortions in rural and remote areas in provinces like New Brunswick. If the goal is to reduce abortion rates, there are evidence-based ways to go about it—and enacting draconian laws isn't one of them.

Michelle Cyca
Vancouver, BC

BOOT THE REBOOT

In "I'm Sick of Reboots and Rewatches and You Should Be Too" (*thewalrus.ca*), Lisa Whittington-Hill examines why reboots have exploded during the pandemic. But reboots and remakes were popular long before COVID-19. After the 2008 financial crash, bankers started jumping on studio boards and applying the principles of risk management to creative projects. It's seen as less risky to remake an existing property with a built-in fan base than to gamble on new content. As a producer, I spend most of my days talking to amazing writers with fresh ideas that will never come to fruition. To reverse this trend, viewers need to spend more on original content and avoid flagship spinoffs. Make new stories profitable—that's the only way they'll get told.

Liz Hsiao Lan Alper
Los Angeles, CA

SECOND CLASS

In "Students for Sale" (September/October), Nicholas Hune-Brown chronicles the exploitation of international students in Canada, an issue I have been talking about for years. I once brought my students raw spaghetti and marshmallows as construction materials for a team-building challenge. After class, the international students took the spaghetti home to cook. Students have come to me unable to complete assignments because their landlord kicked them out, illegally, the night before. Female students have told me about sexual abuse from both employers and more established men in their communities. Students disappear from my class and I wonder if they are okay. As Hune-Brown's story reveals, many Canadian universities and colleges are failing our international students.

Rosalind Duke
Kingston, ON

"The time has come," The Walrus said, "to talk of many things." Send us a letter, email (letters@thewalrus.ca), or tweet, or post on our Facebook page. Comments may be published in any medium and edited for length, clarity, and accuracy.

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PHOTOGRAPHY BY MELISSA RENWICK

[1]2020 RIA Investor Opinion Survey, Canadian Investor Perspectives on Diversity & Inclusion, October 2020, Responsible Investment Association 2020-RIA-Investor-Opinion-Survey-Report_FINAL_Oct-15.pdf.

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NATURE

Pigeon Power

The sport of pigeon racing depends on the birds finding their way home — but nobody knows how they do it

BY TREVOR POPOFF
ILLUSTRATION BY KATHLEEN FU

NICK OUD KNOWS when to put his faith in a bird. As he clasps a homing pigeon between his hands, he looks for three things: curiosity, toughness, and stubbornness. A bird with these qualities is likely to go the distance. His benchmark is a remarkable hen named Lady Hearst, who won a mammoth 800-kilometre race in 2015.

The odyssey started in Hearst, Ontario, a town of about 5,000 people off the Trans-Canada Highway between Thunder Bay and Timmins. It began, as all pigeon races do, with a trailer resembling a wall of PO boxes. In it were 426 birds, ready to race the hundreds of kilometres back to their homes. For Lady Hearst, that challenge boiled down to an eleven-hour trailer ride northwest to a place she had never been before with seemingly no opportunity to get her bearings. Once released, she had to contend with the uniform terrain of rocks and trees that makes up part of the Canadian Shield.

Pigeon racing can be a brutal sport. Beyond the sheer length of the races, incidents of doping, mass deaths, and illegal gambling have detracted from what should be an exhibition of an animal's incredible skill. While the Canadian racing scene is lower profile than its cutthroat counterparts in the UK, South Africa, and the United States, the challenge for the birds remains the same.

Nonetheless, Oud's hen made the journey look like a cinch. She took flight from Hearst and made a beeline south to her home, just outside of Delhi, Ontario. After fourteen hours on the wing, she flew straight through the one-way door on the outside of Oud's loft, finishing in first place. From that point on, she was Oud's star hen.

Oud has had no shortage of practice selecting the perfect racing bird. One of his first memories after emigrating from the Netherlands to the township of Wainfleet, Ontario, was of nabbing a pigeon off of his roof and building it a loft out of the wooden crate that had carried his belongings to Canada. "We didn't know any better," Oud says. "We just grabbed the pigeon [and then realized] now we don't have a loft for it." Over time, he noticed that the pigeon would return to its crate-turned-loft no matter how far it strayed. That revelation changed his life.

While Oud, now seventy-five, knows when a bird is strong enough to make such a journey, he couldn't say why she does it—or how. From around 2000 BCE, when it's thought that ancient Sumerians discovered pigeons' amazing homing abilities, to now, we still don't quite know how these birds orient themselves in the sky. Scientists have various theories, but they have yet to fully understand the phenomenon. "It's a mystery," Oud says. "It's part of what makes the sport so interesting."

While Oud is content to live with that mystery, the stakes are much higher for bird researchers. Comprehending how these animals find their way home could help us understand more about the animal kingdom. "Animals are very similar, at least across vertebrates," says Elizabeth Gow, a migration scientist formerly with Birds Canada. "If you find something out about one group of animals, it could be the same across other animals."

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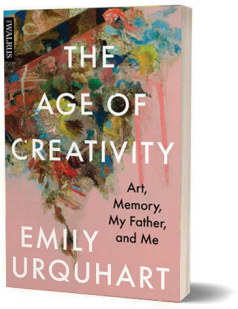

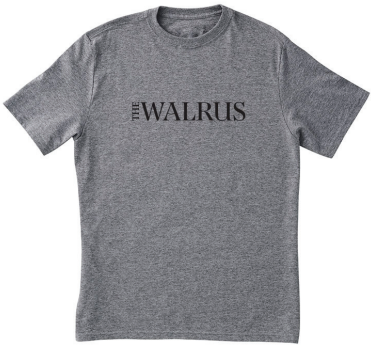

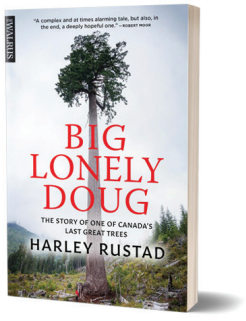

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CANADA'S CONVERSATION

For Charles Walcott, cracking the mystery of avian navigation has been a goal since the 1960s. Now a professor emeritus at Cornell University's department of neurobiology and behaviour, Walcott has been fascinated by homing pigeons ever since a graduate student approached him with a problem. The pupil had developed an attachable radio transmitter to track the movements of birds, but the seagulls he had been attempting to use weren't cooperating. They would take off with the contraption, fly to the city dump, and stay there. Walcott suggested he use homing pigeons instead of seagulls so that the student wouldn't keep losing transmitters. So intrigued was Walcott by the student's research project that he then took an extraordinary step. To track the pigeons while they flew in real time, Walcott learned to fly a Cessna 180.

"I have several thousand hours of flight time, all in circles following homing pigeons on their way home," he says. "Apparently [the pattern] is quite distinct on radar, so the air traffic people would know what we were up to and give us a hard time."

For scientists, there is no shortage of migration puzzles to be solved. "Monarch butterflies manage to fly all the way down [from Canada] to Mexico to spend the winter," says Walcott. "Then, the next spring, they come up and they go to Texas and have a brood, and then they go farther north and have another brood. By the time they get to Canada, they're probably three generations away from the ones that overwintered in Mexico. Suddenly, generation four turns around, and they're able to fly back to that one little spot in Mexico." Whales and caribou are two other species with lengthy migrations made possible by faculties still unknown to humans. "It's a general problem to which we really don't have a very good answer."

Walcott's work involves isolating the different "compasses" that pigeons and other species use to navigate. Three key types, he explains, are the earth's magnetic field, the sun, and the stars. These seem to generally occur throughout the animal kingdom, he explains, though pigeons do not rely on stars because they sleep at night. But then there are other mechanisms. Walcott says that salmon somehow know to return to the streams where they first hatched. Scientists have confirmed that the fish can sniff their way around their birth stream once they get there, but as Walcott says, "Do you suppose you can really smell the Columbia River out in the middle of the Pacific Ocean? Yeah, I doubt it. I think there's something else going on."

While most migratory birds use a variety of compasses, the feats of pigeons differ from, say, the biannual migration of the yellow warbler. For one, migratory birds use flight paths to travel north and south. Each year that they make the trip, they take a similar route. Racing pigeons like Lady Hearst don't have that luxury. They're transported to a completely foreign environment and still somehow find their way back home.

Even with many a day spent over Ithaca, New York, monitoring the travels of homing pigeons, Walcott is stumped. "If you take a pigeon someplace where it's never been before, the first thing it has to do is figure out what direction is home, and [how they do] that is still mysterious," Walcott says. Italian scientists say it's olfaction, but many German scientists believe it's the earth's magnetic field. "And then there's a fellow in California, Jonathan Hagstrum, who says it's low-frequency sound," Walcott adds. "My suspicion is that maybe it's all of the above."

Gow, the bird-migration scientist, says that all of these theories hold water. "Birds can hear much differently than we can: they hear much higher frequencies and much lower frequencies," she says. "The sounds emitted by the earth have very low frequencies, so the theory is that pigeons are able to detect those low-frequency sounds."

A long-held view was that birds were aided in their orientation by a cluster of iron neurons in their beaks, which interacted with the earth's magnetic field. "But, in the past ten years, people have begun to ask if maybe it's something else." Gow posits that this something could well be olfaction. "If you have a colony of birds," she says, "they can find their individual nest among thousands by smell."

We may consider them flying rats, but pigeons are smarter than many think. "A lot of these birds have developed a very large hippocampus, which is the part of the brain associated with memory and learning," Gow says. Although racing birds are bred to enhance their homing capabilities, Gow believes that even common street pigeons can find their way home. "If you were to take a pigeon off the streets of Toronto and take it 500 kilometres away, it could probably find its way back."

As the sun breaks over the horizon, casting its rays on the fields and forests of rural southern Ontario, Oud unloads four wooden cages packed with pigeons from the back of his silver hatchback. He has selected birds he believes have strong homing qualities and driven them two kilometres from home for their first test flight. He extends their range farther and farther until he feels that they're adequately prepared to race. "I can tell when they're ready," Oud says. "All of a sudden, one day I let 'em out of the basket, and instead of spending time circling and trying to figure out which way, boom, they're gone."

As for Lady Hearst, she moved to the breeding loft after her win in 2015. Since then, Oud estimates that she has bred two or three more race winners. She doesn't lay anymore, but Oud makes sure she remains comfortable.

When Oud walked out of his front door in Wainfleet in the early '60s, he let his pigeon out knowing it would return but not knowing why. At a time when we think we have it all figured out, it can be humbling to be so vexed by a quandary surrounding a bird that has been tamed, used, and studied by humans for at least 3,000 years. Reflecting back on six decades in the sport and why that first resident of his makeshift loft always returned home, Oud takes a less scientific approach. "It was just understood."

TREVOR POPOFF is a journalist based in Toronto.

PHOTO BY CHRISTINA GAPIC

IN MEMORIAM

Allan Slaight

1931—2021

Allan Slaight was a dedicated champion of the arts, music, and culture in Canada. An early friend and supporter of The Walrus alongside his son Gary, he was foundational in establishing The Walrus as a home for important, fact-based journalism through the Allan Slaight Writers' Fund and the Allan Slaight Prize for Journalism. He will be remembered at The Walrus for his philanthropic spirit, magical warmth, and faithful support of writers and artists.

The son of a newspaperman and radio station owner, Allan began his broadcasting career from a very young age, and his entrepreneurial journey led him to become the creator of Canada's largest privately and solely owned multimedia company. He has made an immense impact on virtually all facets of Canadian media, arts, and culture. Among his radio- and television-broadcasting endeavours, he was instrumental in the creation of the Toronto Raptors, in 1993, and played a key role in bringing SiriusXM to Canada. Allan was the Executive Chairman of the Board of Directors of Slaight Communications and an active philanthropist, serving as the founder of The Slaight Family Foundation. At The Walrus, The Allan Slaight Writers' Fund was dedicated specifically to writers pursuing reliable and significant journalism. This commitment continues to inspire The Walrus team to investigate stories with passion and intellectual curiosity.

A great personality who has left an indelible mark on Canadian arts and media, Allan Slaight is responsible for the breadth of important and insightful stories we read and hear in Canadian media. We cherish the magic he shared, and we are grateful to Emmanuelle Gattuso and the entire Slaight family for sharing him with us. ❦

Today My Task Is the Codicil

BY MOLLY PEACOCK

Contemplating life being over
in the panic weeks as the triage of the ill
sorted the ones like me to die…I accepted
being passed by: I've had my pomegranate life.
Seeds sluicing red…Rose affection.
Vermilion dread. The juice: friends of fifty years,
you in your sweatpants and virus mask.
Crisp gold type on a matte-black folder.
Like 81 percent of those over
the age of seventy-two, I have one:
will. Just one vowel away from being well,
as we are now. But today my task is the codicil
that designates the little stuff: a paperweight; a watercolour;
six leather volumes of Mrs. Delany's letters,
typed in a .docx to send to Wills and Trusts
so a healthy stranger, young and un-
known to me now, will see to what she must.

CRIME

To Catch a Turtle Thief

How Canadian and US officials blew the lid off an international smuggling operation

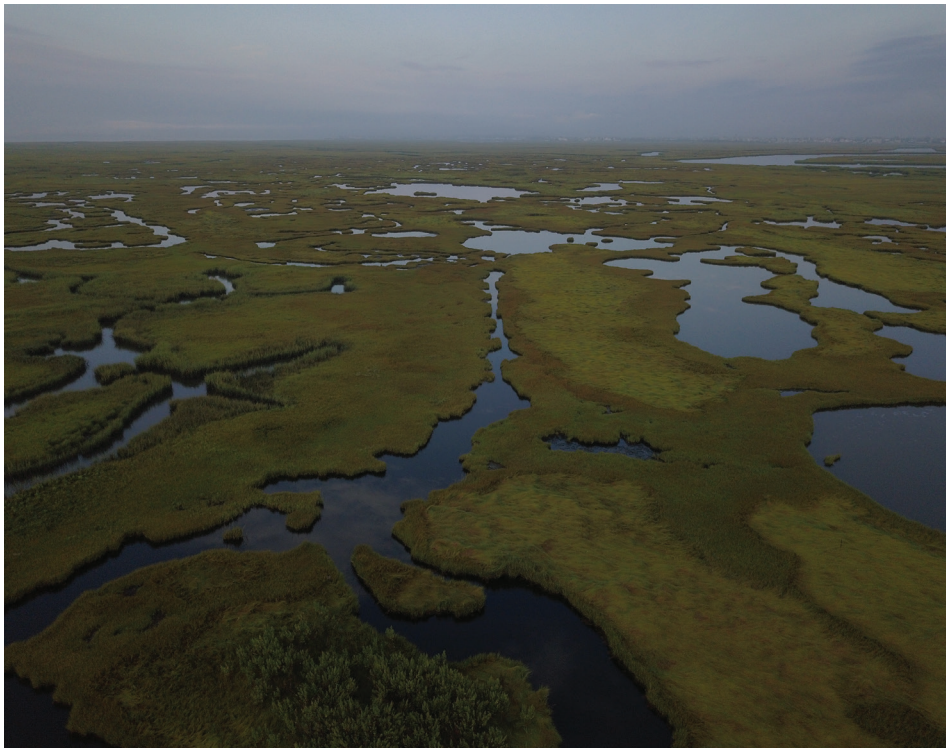
BY CLARE FIESELER
ILLUSTRATION BY NATASHA DONOVAN

IN AUGUST 2014, a padded FedEx envelope arrived at the Calgary International Airport. It had been shipped from an address in Levittown, Pennsylvania, and on the customs form it had been labelled "Book." As it was being sorted, a customs agent saw the package move. Inside the envelope was a slim cardboard box with holes along its sides. Inside that box were two small fabric pouches with duct-taped edges. An agent carefully opened

the pouches into a plastic mail-carrying bin. Golf ball–size baby turtles emerged, crawling toward corners, scrambling over one another's shells, and shuffling up the box's walls. There were eleven turtles in total. There was no food or water. Sheldon Jordan, as director general of wildlife enforcement for Environment and Climate Change Canada (ECCC), oversees all wildlife trafficking cases in the country. Everything about the package, he says, hinted at "just how big of a project" the investigation into where the turtles had come from and who had shipped them would be.

The hatchlings, all less than a year old, were *Malaclemys terrapin*, more commonly known as diamondback terrapins. They are native not to Canada but to a coastal fringe of territory along the Eastern Seaboard, from Massachusetts to Texas. Terrapins are hard to count, and no accurate population survey has ever been completed. Scientists say it is not possible to quantify the speed and scale of terrapin decline, but anecdotal evidence and small-scale assessments point to decreasing numbers. In 2019, the International Union for Conservation of Nature (IUCN) changed the species' status from "near threatened" to a more serious "vulnerable."

Canada and the US are signatories of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, which requires an Appendix



ABOVE Research scientist Brian Williamson releases a terrapin back into the New Jersey marsh. An antenna, glued to the turtle's shell, will allow its movement to be tracked.

II permit to ship live turtles both domestically and internationally. After the package of terrapins was discovered, the US Fish and Wildlife Service (USFWS) scanned its import/export database for the person named on the padded envelope as the shipper: Dave Sommers. There was no history of permits filed under that name. An anonymous informant—referred to in court documents as CPI-444—later called the Virginia-based offices of the USFWS's international arm and mentioned the name Dave Sommers. Not only was he shipping turtles illegally, reported the informant, Sommers was collecting them illegally too.

Shortly afterward, a formal joint investigation between Canadian and American authorities was launched, something Jordan says occurs only a handful of times a year in cases of wildlife crime. Previous joint efforts, says Jordan, have convicted poachers of Alaska's famous brown bears and a black-market importer of exotic Caribbean fish. The parcel of turtle hatchlings would come to reveal much more than just who had sent them: it would act as the first bread crumb in a trail from the Calgary airport to a New Jersey swamp to exotic pet collections in China, exposing a network far larger than one person and one padded envelope.

BEFORE TERRAPINS were poached for pets, they were eaten. They were a staple of the diets of some Indigenous people: *terrapin* is an adaptation of the Algonquin *torope*. Slaveholders in the American South once fed them to enslaved people. By the late nineteenth century, the turtles had become a delicacy, served at fine restaurants in a heady soup balanced with raisin-coloured sherry. President William Taft was known to enjoy the soup for White House dinners. Following centuries of sustainable turtle harvesting by Indigenous people, the young country's love of the soup almost did the species in. According to NPR, America's Prohibition era and the unavailability of sherry may have been the one thing that saved terrapins from extinction.

Symbolically, the turtle endured. In 1933, the University of Maryland informally adopted the terrapin as a mascot, named Testudo. Terrapins became a symbol of the Grateful Dead after their 1977 album, *Terrapin Station*. But terrapins themselves were in a sort of hiding. Roger Wood, professor emeritus of zoology at Stockton University, in New Jersey, describes how terrapins' biology and depleted numbers resulted in a whole generation of fishers and boaters rarely seeing the turtles. They lived quietly in New Jersey's pungent coastal marshes, burrowed in the java-coloured soils. A few females would appear on land in the summer, to dig holes for their eggs, but only after spending eight years growing into their egg-laying phase, which may explain why the terrapin rebound took so long.

Around the mid-1970s, Wood started seeing terrapins during his ecological studies. He was fascinated by their tolerance for both fresh and salt water, unique in the turtle world. Wood started the first New Jersey–based long-term study of terrapins and, in 1989, launched a roadkill tracking program with the Wetlands Institute, a local conservation organization. The institute rescues terrapins found in

PHOTOGRAPHS COURTESY OF CLARE FIESELER

distress and returns them to the wild. It also records deaths, often of turtles found crushed along roads as humans and turtles are pushed closer together each year by coastal development. "We usually average 500" deaths per year, says Brian Williamson, a research scientist at the institute. Since most terrapins wandering onto highways are females looking to nest, this tally is an imperfect pulse-taking of southern New Jersey's terrapin population. By 2019, the IUCN noted that the global population trend was "decreasing." Williamson says scientists aren't even sure how terrapins move around in coastal marshes, so he occasionally glues a temporary pencil-length antenna onto the shell of a rescued turtle to study its movement.

Baited blue-crab traps, which attract and often drown turtles, were once considered the biggest threat to terrapins. Wood invented a device to solve this problem, which New Jersey now requires when crabbing in certain areas. But there's little Wood, Williamson, or the institute can do on their own to address the rising threat of terrapin poaching. While some pet stores sell captive-bred diamondback terrapins, it is illegal in most US states to take them from the wild or disturb their nests. Prized for their unusual speckle patterns and colour variations—which are unique to each turtle, like a fingerprint—diamondback terrapins have a market price that varies based on their markings and where they are sold. At pet shops in Canada and the US, they often cost a few hundred dollars each. But, in parts of Asia, they can go for much more: in China, one terrapin with a particularly desirable shell pattern fetched $24,000 (US).

In China, one terrapin with a particularly desirable shell pattern fetched $24,000 (US).

The picture that has emerged of the terrapin black market resembles a sinister web, connecting the overlooked marshes fringing America's coastal vacation lands with buyers around the world. A series of recent turtle-poaching cases initiated a slew of laws in states across the Eastern Seaboard, including in New Jersey, which even shut down terrapin harvesting for subsistence food in 2016. In an article in the *Philadelphia Inquirer*, a New Jersey wildlife official referred to a 2014 confiscation of over 500 poached female terrapins as a "wake-up call." In the *Atlantic City Press*, local "turtle hunter" Frank Mazzeo made it clear that the demand was coming from abroad. "Just because nobody around here eats them [anymore] doesn't mean there isn't a market for them."

After the parcel of terrapin hatchlings was intercepted at the Calgary airport, Dave Sommers became the centre of a USFWS investigation called Operation Common Denominator, which ramped up in the summer of 2017. First, Sommers was duped into selling five different shipments of terrapins to undercover USFWS agents posing as out-of-state buyers. In an email to one undercover agent, Sommers warned that the terrapins were "kinda snippy." The turtles arrived stuffed in white tube socks and bound with duct tape.

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With a judge's approval, USFWS agents attached GPS trackers to the two cars parked in Sommers's driveway. Special agent Ryan Bessey tailed Sommers on trips into the lime-green marsh grass surrounding Great Bay Boulevard, a rare ribbon of coastal wilderness along New Jersey's postcard shoreline. One evening, Bessey counted fifty-two freshly dug holes after observing Sommers. The excavations seemed identical to twelve disturbed terrapin nests that Sommers had admitted to raiding three weeks earlier, when two New Jersey Division of Fish and Wildlife officers caught him red-handed in a nature preserve after dark. The officers had confiscated the eggs and given Sommers a citation. According to the agents' GPS tracker, Sommers returned to the very same spot two nights later. It was a break for investigators. "He's told, 'This is illegal—you can't do this,'" says Bessey. "Basically, he didn't skip a beat."

Bessey's information gathering culminated on July 15, 2017. Just after midnight, he crept into a wooded municipal park outside Sommers's home and watched him sitting in his garage, the door open, carefully pulling eggs from white buckets, holding each up to a flashlight, and checking for the silhouetted turtle embryo inside, like a jeweller inspecting the quality of a diamond. That night, Sommers "candled," as the process is called, eighty-five eggs. Three nights later, Bessey watched Sommers perform the same ritual, candling 188 eggs until 4 a.m. This time, though, the agent lying around twenty metres away caught the act on video.

On October 24, federal agents arrived at Sommers's home and executed a search warrant. Inside, they found 3,442 diamondback terrapin hatchlings crawling over one another in large plastic bins. Those hatchlings alone, the US agents estimated, would be worth about $32,049 on the illegal American pet market and upward of $427,320 on the global market.

According to court documents, Sommers walked around his kitchen, making a cup of tea and chatting with the agents while they sifted through well-organized papers. They found a FedEx shipping label for the 2014 package Sommers had sent to Canada. Sommers voluntarily spoke with the agents for over an hour. He described how he had taken all the turtles from New Jersey and stated that he knew he was breaking the law. (Sommers later requested the suppression of the evidence collected and his statements made over tea, claiming they were obtained in violation of his constitutional rights. A court denied his request.)

Twenty-four hours after Sommers was arrested, Bessey drove a trailer to the salty backwaters of a New Jersey marsh. Around midmorning, he met Williamson, a New Jersey state police officer, and the college-age son of a colleague in the USFWS. All three had answered last-minute phone calls to assist an impromptu return of animals to the wild. Bessey says a "love of wildlife" that began with Rambo, a childhood pet turtle, had drawn him to work in this field. After the seizure at Sommers's house, Bessey secured the necessary federal and state approvals to release the whole lot back into the marsh around Great Bay Boulevard.

Was Sommers simply poaching and selling to collectors or was he somehow connected to a larger organized network?

When Bessey opened the trailer door, Williamson recoiled. "Quite a cocktail," he recalls of the smell, like low tide infused with dog food. Squirming inside dozens of plastic bins were the thousands of hatchlings found in Sommers's home. "I had never seen that many turtles at once in my life," Williamson says.

The USFWS rarely returns poached animals to their habitats. Trafficked animals typically can't be released into the wild because of concerns about spreading diseases and introducing invasive species, so most find placement in zoos, sanctuaries, or aquariums—arrangements that are far from ideal. "It was the first time that I was actually putting wildlife back into the wild," Bessey says. Without expert guidance, he had assumed that the release would play out like the nature documentaries he had seen of baby sea turtles marching into the waves. He had envisioned "turning over coolers and letting them scurry into the marsh." Bessey laughs. "After talking with Brian, I realized that, yeah, no, that wouldn't be a good idea." Diamondback terrapins are not like the sea turtles popularized in *Planet Earth* and *Finding Nemo*. Williamson hatched a different plan: hour after hour, they hand placed each turtle back into the marsh from where it had come.

The eleven turtles that had arrived in Canada, however, had a markedly different fate—even with the close collaboration between ECCC and the USFWS on cases of animal trafficking across the border. The same year the terrapin package was discovered, a Canadian man was intercepted at the Detroit–Windsor land border with fifty-one baby turtles duct-taped to his legs. Twenty-seven-year-old Kai Xu admitted to shipping turtles to China to help pay for tuition at the University of Waterloo, according to the CBC, and was sentenced to fifty-seven months in US prison. Catching a thief with turtles in his pants was a win for both countries, but it was also very lucky. "Each country is the other's largest trading partner, and it's the same when it comes to wildlife," says director general Jordan, who collaborates regularly with his counterparts in the US. "The amount of work that is required to do an in-depth investigation is actually mind-boggling." Both countries are limited by staff and resources, with ECCC having around 100 agents to investigate, coordinate with other countries, and place confiscated animals in the best possible homes throughout Canada.

The hatchlings rescued at the Calgary airport were temporarily put in the care of the Calgary Zoo, where one of them soon died. The surviving ten were handed back into the care of ECCC, which placed them at Reptile World, a zoo then

based in Drumheller, an hour's drive outside of Calgary. But, less than a year later, Reptile World was shuttered after an investigation by the Society for the Prevention of Cruelty to Animals uncovered that the heating system had failed in the middle of an Alberta winter and many of the cold-blooded animals had nearly frozen to death. Authorities seized more than a hundred animals, including the trafficked terrapins, and placed them in the Greater Vancouver Zoo—on the opposite side of the continent from where they originated. Other facilities rejected the terrapins: as a non-native species, they held little educational value, and their story as the product of wildlife smuggling was not one many wanted to highlight.

In February 2019, Sommers pleaded guilty to the illegal smuggling of protected turtles, both within the US and to Mexico and Canada. He was ordered to pay $250,000 (US) and was sentenced to six months in prison. In court documents, the Department of Justice noted an estimate of how many terrapins Sommers had trafficked: approximately 13,000 hatchlings, which it clarified was likely a gross underestimation.

Sommers was once a newspaper reporter, and his familiarity with the press made him deeply cautious about what he said on the record pertaining to his case. He had worked at the *Trentonian*, a New Jersey daily, in the 1990s—he says he has interviewed both Bill Clinton and Mike Tyson—and then, after a short hiatus, again in the early 2000s, according to a profile the newspaper ran after his arrest. The newspaper quoted many former staff writers about Sommers's dogged journalistic style, using adjectives like *gritty* and *hard-nosed*. According to former colleagues, Sommers had been so committed to pursuing tough stories that they thought he would be glad to know his former place of employment was covering his indictment. "He would be disappointed if we didn't go after this story," said Jeff Edelstein, a former columnist.

His former colleagues also noted Sommers's "weird obsession" with turtles. Sommers says he sold terrapins in the pet trade for nearly fifteen years, and he claims that he has saved more turtles than he has sold. Perhaps, early on, Sommers's business operated in a grey space between legal and illegal, where states still allowed the taking of some turtles from the wild as pets while severely restricting small-scale sales. But the rules changed. The US government believes that the country is now the world's second-largest supplier of protected turtles to the illegal global market. A question has floated around Sommers since his arrest: Was he simply poaching and selling to collectors in the US and Canada or was he somehow connected to a larger organized network?

Despite Sommers's claims that he never sold anything to anybody in China, investigators recovered PayPal statements from his house that included transactions with buyers in Canada, Mexico, and China. His pricing also directly aligned with the demand of the illegal markets in Asia. New Jersey terrapins exhibit two colourings: lighter skin with bold markings on their heads or a more uniform darker-grey skin. Turtles with light faces, the "concentric phenotype," are worth more in the Asian markets. Sommers's prices reflected that distinction. Breeding produces a mix. Poaching, on the other hand, ensures an abundance of light-coloured turtles. "If you're out and able to selectively poach the individuals," says Bessey, "then your chances are greater that you're going to get the more desirable phenotype."

Furthermore, around the same time as Sommers's guilty plea, a team of Royal Malaysian Police and US federal agents intercepted a twenty-four-year-old medical student at Kuala Lumpur International Airport. Kang Juntao, a Chinese citizen, was accused of breaking US laws and international treaties related to money laundering and animal trafficking totalling $2.2 million dollars. He was extradited to the US. Trademarks of his operation included binding the hatchlings with duct tape and stuffing them into socks for transit. According to an affidavit written by Bessey, Kang

instructed go-betweens, including young Chinese nationals attending American colleges, to "conceal the turtles in socks and mislabel the packages to avoid detection by customs authorities."

On October 6, 2021, Kang was sentenced to thirty-eight months in prison. During his hearing, the prosecutor named one of his go-betweens as William Gangemi Jr., who was sentenced to two years' probation in early 2020 for his role in a US-based smuggling ring. Gangemi cooperated with authorities by offering information on people he bought turtles from—one of whom was Dave Sommers. "The box is 10" by 12" by 3" deep," Sommers wrote Gangemi in the winter of 2014, according to emails Gangemi shared with authorities and obtained through a freedom of information request. "That easily fits 40 of these large baby diamondbacks."

On the surface, Sommers was a solitary silhouette in the marsh, deeply knowledgeable of terrapin movements and the sandy contours of the best nesting spots; he seemingly poached by himself with efficiency and sold the turtles online as "Dave—PA." "Sommers was as close to a one-man shop as we ever saw," says Ryan Connors, a trial attorney for the US Department of Justice who was involved in both Sommers's and Kang's turtle-trafficking cases. But that doesn't mean the products of Sommers's shop didn't end up in other markets and other hands—as elements of an illicit global ecosystem that includes poachers, smugglers, pet owners, and collectors. "We saw all different sorts of buyers purchasing from Sommers," Bessey says, from "sophisticated, organized traffickers" to people who "just wanted a turtle." Sommers maintains that he has always been just a hobbyist who loves turtles.

"What is native and mundane to [some], like a box turtle that you see in your backyard, is exotic and interesting to people overseas," says Williamson, the biologist. "It has a certain allure." That allure can distract from much-needed conversations about an animal's conservation or welfare, as we've seen time and time again, from Barnum and Bailey's circus elephants to Netflix's *Tiger King*. The failure to fathom one's own disappearing wildlife—especially less glamorous or charismatic animals—may be explained by an inability to envision the script flipped. Perhaps that was behind Sommers's thinking too. He once expressed dismay about the plight not of terrapins but of a species exotic to him: the white rhino.

The last time I spoke with Sommers, before he declined to participate further in this story, his soft spot for journalists still showed in the jargon he used when asking about my reporting. In the *Trentonian* article about Sommers, a long-time colleague described him as a reporter who "didn't stop until he got every morsel out of" a story. I can't help but wonder if a part of him was rooting for me to find more morsels in this story. A few morsels still live in a wildlife sanctuary in Ontario.

I finally tracked down the turtles that Sommers tried to mail to a buyer in Canada. They had eventually ended up at Little Ray's Nature Centre, in the care of Paul "Little Ray" Goulet. Over the past two decades, Goulet says, he has cared for thousands of reptiles seized by Canadian authorities from the illegal pet trade. He has legally repatriated several trafficked alligators back to US soil, and he is trying to do the same with the marooned terrapins so "they can have educational value for communities within their home range." Because of international laws, this is an uphill mission, even with the unique collaboration between American and Canadian authorities to combat wildlife trafficking across the border. Most likely, the surviving terrapins will be with Goulet for the rest of his life. "Biologists don't know how long these turtles actually live," he says. "Some estimates put their lifespan at around fifty years. My three teenage sons will probably be taking care of these American turtles long after I'm gone."

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PUBLIC HEALTH

New Brunswick's Medical Mystery

Experts are accusing the provincial government of blocking the investigation into what appears to be a severe new brain disease

BY MATTHEW HALLIDAY
PHOTOGRAPHY BY CHRIS DONOVAN

In January 2020, Alier Marrero, a neurologist in Moncton, New Brunswick, began examining a patient he'd been referred—an eighteen-year-old woman named Gabrielle Cormier from Dalhousie Junction, a small town in the province's far north.

Her case was bewildering: as a high school student, she started to have difficulty reading, especially on computer screens, where letters appeared hazy and indistinct. By grade twelve, in 2019, her concentration flagged and she was losing strength in her lower body. A few months before graduating, she collapsed at school. An ER doctor chalked it up to a panic attack, but within weeks, she had developed tingling sensations in her legs; over the summer, they turned a sickly grey. In the fall, while studying biology at New Brunswick's Mount Allison University, Cormier felt her disorientation and mental fog worsening, and her exhaustion grew debilitating.

That winter, Marrero performed a gauntlet of exams: cognition tests, memory tests, blood tests, and scans including EEG, MRI, VEP, and SPECT (a nuclear-imaging test in which a radioactive tracer is injected into the bloodstream). By then, Cormier was having difficulty walking and her vision problems had turned hallucinatory—a fluctuating field across her line of sight that she compares to TV static.

On Valentine's Day 2020, Cormier underwent a spinal tap for signs of Creutzfeldt-Jakob disease (CJD), a fatal, swiftly developing disorder caused when brain proteins called prions misfold into an abnormal form. Cormier's spinal fluid came back clean for CJD, however, as did the other tests, with two exceptions: an EEG showing diminished electrical activity in the brain and a SPECT showing reduced cerebral blood flow. Both suggested neurological impairment, but neither pointed, by itself, to any known illness.

Baffling as it was, Cormier's condition was familiar to Marrero. A Cuban-born neurologist, he had worked in Moncton since 2012 and, in recent years, had seen more and more patients—often unusually young, equally men and women—displaying bizarre signs of neurological decline. In many cases, the symptoms developed with excruciating speed but began almost inconspicuously with behavioural changes, sleep disturbances, or inexplicable pain. Then came memory difficulties, muscle wasting, and difficulty balancing. Many patients experienced visual hallucinations—some relatively benign (Cormier's TV static), others unsettling (looming shadows), some nightmarish. There were auditory hallucinations: music, breaking objects, distant voices. Eventually, dementia appeared; even some youthful patients experienced a state akin to late-stage Alzheimer's. Some developed Capgras delusion, the belief that loved ones have been replaced by impostors. The only universal symptom was myoclonus: chronic muscle spasms so severe that spouses often couldn't share a bed. Some patients eventually progressed to akinetic mutism: they were unable to speak or move but still experienced spasms.

The symptoms, terrifying and incapacitating, appeared to be expressions of a sickness with no name and no known provenance. "It is literally something heartbreaking," Marrero says, "because you need to provide answers, and every time you go back, it's 'Okay, you don't have multiple sclerosis, you don't have Parkinson's disease, you don't respond to therapy.'"

Because they ticked so many boxes associated with CJD, each case was reported to the Ottawa-based Creutzfeldt-Jakob Disease Surveillance System. The CJDSS was set up, in 1998, by the Public Health Agency of Canada (PHAC) in the aftermath of the UK's outbreak of "variant" CJD—more commonly known as mad cow disease—caused by prion-tainted beef, which ultimately killed at least 178 people.

Most CJD, however, is of the so-called sporadic variety, in which prions misfold

RIGHT
Gabrielle Cormier near her family home in Dalhousie Junction, NB.

without warning in otherwise healthy individuals. It is incredibly rare, striking about one or two people per million. (Canada saw sixty-five CJD cases last year, a typical annual number.) The volume of referrals coming from a province as small as New Brunswick was surprising and led to a deeper look. Some patients did turn out to have CJD, and several more received diagnoses of other established brain conditions. But the majority, totalling forty cases mostly between 2017 and early 2021, stumped Marrero and his federal colleagues, some of the country's leading experts on neurodegenerative diseases. In the twenty-year history of the CJDSS, such a large group of patients in one small area—afflicted with a CJD-like disorder and seemingly impervious to diagnosis—was unprecedented. According to one senior scientist in the federal public health infrastructure, "Nothing like this phenomenon has ever been seen before."

In late 2019 and early 2020, as Marrero was working with Cormier and other patients, he and PHAC scientists came to believe that they may be looking at a distinct, previously undescribed neurological disease. They took the extraordinary step of grouping the undiagnosed cases together as the Cluster of Progressive Neurological Symptoms of Unknown Etiology in New Brunswick. On March 5, the province's deputy chief medical officer of health sent a memo to provincial physicians, urging them to watch for symptoms.

The cluster came to public attention that month, when the CBC reported on the memo. On March 18, New Brunswick's chief medical officer of health, Jennifer Russell, told reporters it was too early to venture a cause. With nowhere certain to settle, speculation found any perch: seafood contamination, old mine operations, well water, wild game, industrial herbicides, even pollution from a shuttered lead smelter in northern New Brunswick. By this time, the case count had risen to forty-three—eight in and around Moncton and thirty-five on the Acadian Peninsula, a rural francophone region of fewer than 60,000 people in the province's northeast, which appeared to be the cluster's hub.

In April, Michael Strong, a neuropathologist and the president of the Canadian Institutes of Health Research (CIHR), told the *Globe and Mail* that the medical mystery demanded "boots on the ground"—epidemiological investigators conducting in-person field research. And, later that spring, a concerted response started to coalesce.

As with most matters related to health, outbreak response in Canada falls under provincial jurisdiction, but in this case, New Brunswick asked the PHAC for help. Federal colleagues began assembling a nationwide working group, which eventually numbered about two dozen. It included Michael Coulthart, head of the CJDSS, as well as Neil Cashman, a University of British Columbia neurologist, and Strong. Across the country, consultations began with experts in prion disease, environmental neurotoxins, and food- and water-borne illness. According to documents obtained by a freedom of information request, the CIHR and the PHAC were meeting weekly, and a clinic was being put together in Moncton as a clearing house for patients, which would be partly headed by Marrero. By then, a posting on the Program for Monitoring Emerging Diseases—a global outbreak-monitoring system that publicized the first cases of SARS and Ebola—had brought the illness to global attention. Experts from Johns Hopkins University, the Mayo Clinic, and the Cleveland Clinic reached out. As rapidly as the cluster had appeared, so did the expertise to combat it.

New Brunswick has a long history of withholding information from its citizens.

Then, on June 3, New Brunswick abruptly changed tack. The province told the emerging national working group to stand down. The investigation "was pulled up to the highest levels of the New Brunswick government, and they took control," says the senior scientist, who is intimately familiar with the workings of the PHAC investigation and has asked for anonymity, claiming federal scientists have been "muzzled" by federal health authorities at the request of the province. Cashman declined to speak for this story, indicating that he needed clearance from the New Brunswick government. Strong was permitted by the CIHR to speak only if the conversation avoided New Brunswick and instead focused on cluster epidemiology in general.

The New Brunswick government didn't announce its suspension of the federal collaboration at the time. Instead, what the province *has* done is create its own oversight committee composed of six provincially appointed neurologists, none of whom appear to possess epidemiological experience in neuropathology—skills essential for investigating a cluster of this complexity. The committee mandate, according to a June 3 news release, is to "provide second opinions" on the files of affected patients in order to "ensure due diligence and rule out other potential causes."

In other words, rather than collaborating with the country's top experts in a methodical, robustly funded investigation aimed at digging into potential causes, the province has put its modest resources toward relitigating the question already addressed by PHAC scientists: whether this is a true disease cluster, linked by a common cause. Since June, a pall of secrecy has descended over the committee's work, and federal collaborators have been left largely in the dark. Right before the province unilaterally suspended its relationship with the PHAC, forty-eight cases were being investigated with thirty-nine confirmed—six of which had proven fatal. As of this writing, the provincial government hasn't issued any updates on current patients or provided information about additional cases under investigation. (I made multiple requests to speak to the province's chief medical officer of health as well as its health minister. Neither was made available.)

ABOVE
Alier Marrero at his home in Allison, NB.

This isn't necessarily unexpected. New Brunswick's provincial elite, in both government and business, has a long history of withholding information from its citizens. But some of the highly regarded epidemiologists and neurologists I spoke to for this story agree that, whatever the province's motivation, the cluster isn't being tackled with the urgency it deserves. "We have an unbelievably capable set of tools to look at biological and epidemiological and environmental characteristics," says the senior scientist of the expertise being inexplicably sidelined. "It's amazing, the potential that is not being tapped." By spurning that help, New Brunswick appears to be abdicating its responsibility to the sick, to the public, and to medical science itself.

NEUROLOGISTS and epidemiologists have long flocked to unusual disease clusters, drawn by the prospect of discoveries that can shed light on afflictions affecting millions of people, such as Alzheimer's or ALS. We know the devastating effects of these illnesses on the brain. But, as common as they are, they remain largely mysterious: we don't know why they develop or how to prevent or reverse their course. "Hyperendemic foci," as these clusters are called, promise something like real-world laboratories stocked with natural controls: a lot of sick people living in a similar environment, eating similar food, often with similar genetic backgrounds. Researchers hope to find causal patterns that may otherwise elude them.

For neurologists, the granddaddy of all hyperendemic foci—the most researched and among the longest lasting—occurred on Guam. Since at least the early twentieth century and probably long before, the Indigenous Chamorro people of the western Pacific island had been stricken, at extraordinarily high rates, by a neurodegenerative disease called lytico-bodig. (At one point, it accounted for 10 percent of adult deaths.) The mystery of lytico-bodig has never been solved, but other clusters have been cracked. In the 1960s, when American researcher Carleton Gajdusek went chasing reports of a fatal neurological illness among Papua New Guinea's Fore people, he found a disease very much like CJD, called Kuru. It turned out to be transmitted by funerary cannibalism: rites of mourning that involve consuming the dead.

Some clusters have persisted for centuries, such as Muro disease, an ALS-like condition afflicting residents of Japan's Kii Peninsula. Others are shorter lived, such as an outbreak of Progressive Supranuclear Palsy in northern France in the early 2000s, which was suspected to be linked to heavy-metal contamination. But most, even those that remain mysteries, have at least led to new knowledge and hypotheses about the function and dysfunction of our most complex, least understood organ—especially with

regards to how the brain responds to environmental factors.

That potential is also present, says Marrero, in New Brunswick. "We might actually have the possibility in Canada, with all our experts contributing, to better understand other conditions." Critical to developing that understanding, says Ralph Garruto, a former researcher with the US National Institutes of Health, is "shoe-leather epidemiology," in which investigators spend time in communities, gathering detailed information through careful exploratory work with patients. Garruto himself has spent years in the field, examining disease clusters in the US, Ukraine, and the western Pacific—including Guam. There, he says, community engagement led to discoveries that would have been impossible remotely. A casual conversation uncovered new leads, someone's stray limp became a diagnosed case, and so on. "You have to be on the ground to assess what's happening," says Garruto. "You have to move from one area to another, talk to people extensively and ferret out any cases which may not come to clinical attention."

New Brunswick, by contrast, is conducting its investigation behind closed doors, at a remove from the patients it's trying to better understand, and at what might be called a leisurely pace. According to Édouard Hendriks, one of the original two co-chairs of the provincial oversight committee, members are putting in "a few hours per week." (Hendriks retired in August.)

The purpose of the internal review is to test for what scientists call a null hypothesis: the possibility that the PHAC's experts mistook dozens of difficult-to-diagnose cases as representing a pattern that doesn't exist—the possibility that each case is a one-off. The committee, says Hendriks, is focusing on reviewing the cases with an open mind. "Perhaps what we think is unknown at this point in time, in six months, one year, depending on the evolution of the patient, we'll be able to see this is purely Alzheimer's, this is purely this or that, and so forth."

It's true that medical history is littered with unexplained disease clusters that turn out to be statistical blips mistakenly identified by overzealous investigators. But others have entered the annals of medical lore and literature. Experts I've spoken to believe that what is happening in the province is too big to be explained away as a statistical illusion—that the existing data simply doesn't lend itself to misreading. One example is the number of cases contrasted with total population. The Acadian Peninsula has seen at least thirty-five cases. That's an extremely high prevalence for an undiagnosable neurodegenerative condition. That the syndrome is affecting people in their twenties and thirties is another factor, argues Marrero, resembling clusters like those in Papua New Guinea or Guam.

One important part of the investigation is in place: a questionnaire, which the PHAC helped design before it was cut off. It focuses on patients' environments, job histories, travel habits, diets, etc. It was meant as a starting point, establishing common links between those affected—but, the senior scientist cautions, it's "not highly sophisticated." It not only appears to be behind schedule but is being conducted in secret, with some family members required to sign

nondisclosure agreements before participating. It's also being carried out by telephone rather than in person. Garruto calls that an amateur mistake, suggesting a "low-budget situation." (According to Hendriks, COVID-19 protocols haven't been a factor in limiting the investigation.)

"You cannot solve this with questionnaires," says Hermann Schaetzl, a Calgary-based expert in animal prion diseases who was consulted last year by the PHAC on the then burgeoning investigation. Months ago, he anticipated a research call centred on New Brunswick, bringing together experts in multiple fields. No such thing emerged.

Another aspect of fieldwork not underway is environmental testing for neurotoxins in food, water, and soil. "If we're going to do assays on the food web," says Susan Murch, a professor of chemistry at the University of British Columbia, "then we need to do it before people get sick, not after."

Murch was contacted by federal authorities this spring as a possible participant in the investigation. Her expertise lies in certain amino acids that are theorized to kick-start neurodegeneration. She was instrumental in suggesting a possible link between lytico-bodig (the Guam disease) and an amino acid called BMAA, which is present in the seeds of the island's cycad trees. BMAA can also accumulate in seafood and develops in the kind of blue-green algae blooms that are increasingly common in New Brunswick's lakes and rivers. (It's been tentatively linked to elevated levels of ALS in the United States.) Murch's lab at UBC's Okanagan campus is the only one in the country capable of testing for BMAA in human tissues. Initial discussion with the PHAC fell silent, however, after New Brunswick asked its federal counterparts to stand aside.

Maybe the most crucial aspect of this kind of investigation, according to experts, is open communication. This is a cornerstone of the approach recommended by the US Centers for Disease Control and Prevention in its step-by-step guide to outbreak investigations, which advocates transparency with media and regular information sharing with colleagues and the public on ongoing cases. This, too, is not happening. The province may even have fallen silent on news of additional deaths. On May 8, seventy-seven-year-old Sylvia Curtis—who, according to her daughter, was a confirmed case under Marrero's care—died after a swift three-month decline. If the syndrome is responsible, she would be the seventh death. The official number, however, still stands at six.

The total case number has also stalled, at forty-eight, though this, too, may change. "I've been required by public health not to update anything until we finish this initial investigation, because we have not diagnosed everybody yet," Marrero told me. But, "in the clinic right now, we have over 100 patients in different stages of investigation."

In the absence of information, rumours and anger have spread. Steve Ellis has had a front-row seat to much of it. On a Sunday night in June 2019, his sixty-one-year-old father, Roger, collapsed with a seizure. Roger spent the next six weeks in hospital. Within the first week, his muscles began to atrophy, his personality turned inexplicably aggressive, his balance faltered, and his

memory became hazy. As with Cormier, Roger's CJD test came back negative, and he was then transferred to Moncton's Dr. Georges-L.-Dumont University Hospital Centre. Test after test turned up nothing. By the end of September, he had lost sixty pounds and descended into a dense cognitive fog. Roger's decline was a rapid, catastrophic cascade from health to infirmity in less than four months. In June 2020, his case was counted as part of the New Brunswick cluster, and today he lives in long-term care.

As his father has deteriorated, thirty-nine-year-old Ellis has become an advocate for patients and families living with the condition. Last March, when the cluster was publicly announced, he made a Facebook page, hoping to find other affected families. It's since become a beacon for connection and commiseration—as well as grievance, frustration, and a fair amount of speculation.

Ellis tries to keep the page out of tinfoil-hat territory. (Everything from vaccines to electromagnetic radiation has cropped up.) But he empathizes with the urge to find answers, particularly as his father's health worsens and his frequent missives to government, when acknowledged at all, yield vague responses. "The less the government says and the longer it goes on," he says, "the more it looks like they're hiding something."

Lest that sound like conspiracy mongering, note that New Brunswick has long exhibited a penchant for paternalism and secrecy on matters of public health, and there's no shortage of high-profile examples. For years, Parlee Beach—a bustling summertime attraction near the tourist town of Shediac—was plagued by sewage dumping and high *E. coli* counts. The province eventually devised a unique water-testing system that undercounted fecal contamination. A 2017 CBC investigation revealed that the system was largely intended to ensure that the beach, and the Shediac-area economy, remained open and humming. In 2019, a Legionnaires' disease outbreak in Moncton sickened sixteen people and killed one. For sixteen months, health authorities refused to disclose its source, until another CBC investigation traced the outbreak to bacteria in a cooling tower at a cannabis plant owned by Organigram—a company that has received substantial government funding and supplies the government-owned Cannabis NB.

Maybe the most notorious recent example is the firing of the province's chief medical officer of health, Eilish Cleary, in 2015. At the time, Cleary was researching the human-health effects of glyphosate, a powerful herbicide (and potential carcinogen, according to the International Agency for Research on Cancer) used in abundance by NB Power and J.D. Irving, the forestry arm of the wealthy Irving family business. No reason was given for Cleary's firing, but environmental advocates and opposition politicians have suggested corporate interference. In 2016, Cleary received a $720,000 severance package in exchange for signing a nondisclosure agreement. Speaking to the CBC in 2017, Mario Levesque, a political science professor at Mount Allison University, called the payment "hush money."

Kat Lanteigne, executive director of BloodWatch, a Toronto-based group that advocates for a safe blood-donation system in Canada, is concerned that a large pool of possibly contaminated

people in an area will lessen the number of healthy donors available to give blood. She's also from the Acadian Peninsula and suspects that the province's ousting of national collaborators is in keeping with a longer tradition of shutting down chatter that could be politically or economically damaging. "I think what this points to is that classic nannyism of the government," she says, "putting profit and industry before public safety."

New Brunswick's northeast, in particular, where the majority of cases have been identified, is already struggling economically. Dark whispers about local food, water, or industry are not in anyone's financial interest. But that's the very reason we have a federal health minister, Lanteigne argues. "You need the lever to be from the federal agency, with the appointed leader from New Brunswick, and they all sit at a command table with a patient representative for the public," she says. "Otherwise, this stuff happens in a vacuum."

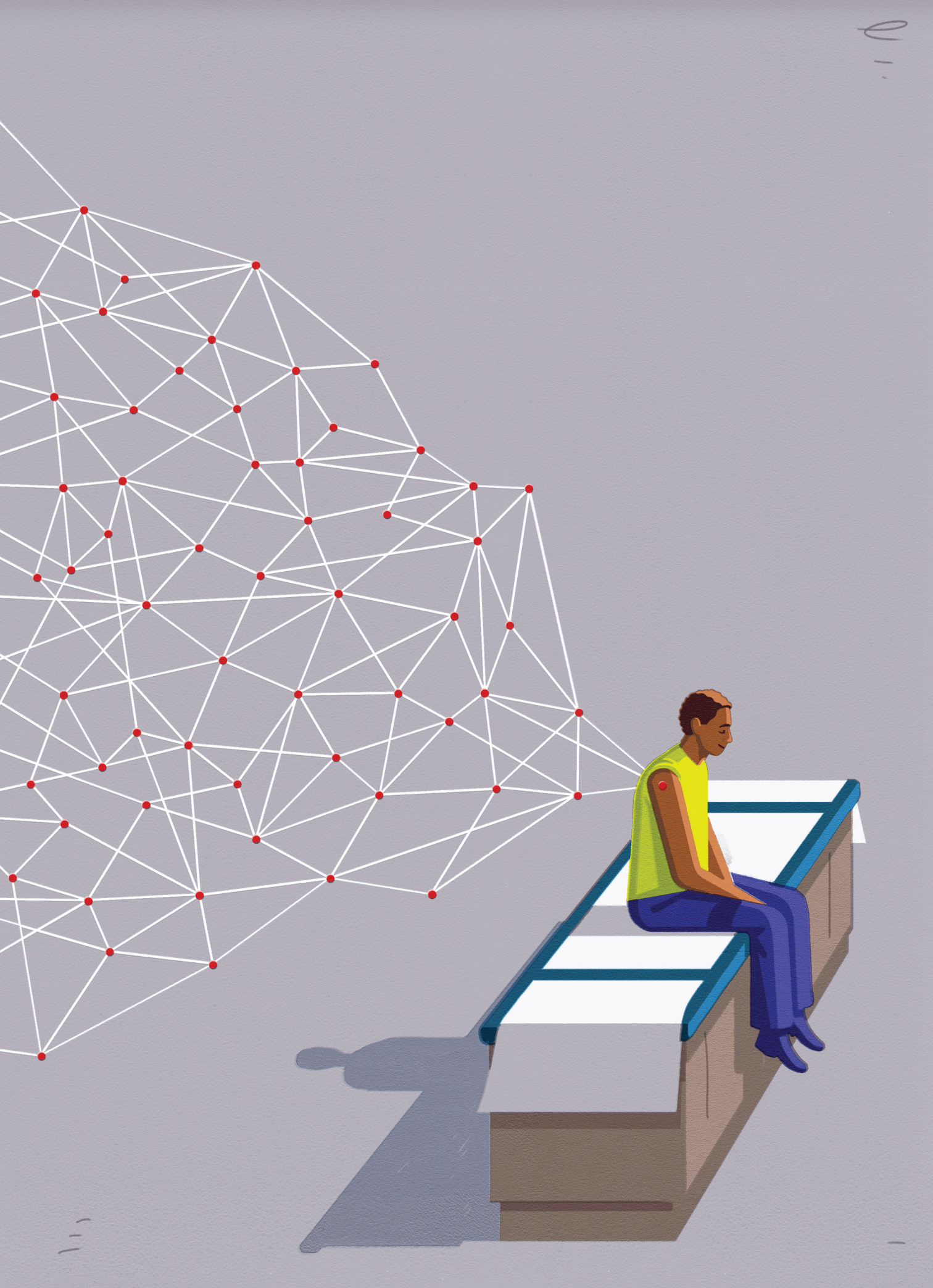
Hendriks, former co-chair of the provincial oversight committee, reassures me that the group was created, in part, to counter runaway speculation. "I think we're trying to calm the anxiety of people by saying, 'We're going to look into this and say, No, it's not related to, I don't know, the lobster in New Brunswick or anything specific.' Our hope is probably that, over time, we will realize it's part of the usual neurodegenerative pattern of all the diseases we see."

Hendriks is referring to the null hypothesis, which remains a possibility. It's also possible that, just as happened on Guam, an environmental trigger may elude detection no matter how much expertise is—or isn't—brought to bear. One out-of-province researcher, who was consulted as a potential collaborator on the suspended federal investigation (and requested anonymity, not wishing to compromise their reinvolvement should the federal-provincial collaboration resume), believes the province may already have an endgame in mind. "I think what might happen is they'll get to the end and announce that they have failed to find a clear diagnostic feature, or a link between the cases, so they don't really have problem."

Whatever the results, the secretive, expertise-eschewing nature of the process will for many be enough to cast doubt on its conclusions and leave open the question of political interference. Even if the province decides to reopen communication with its federal counterparts, months have now been lost, during which some of the country's—and perhaps the world's—most knowledgeable experts could have been trying to solve the deadly riddle.

In the meantime, New Brunswickers, especially those in the small communities dotting the province's far north, have been answered with silence. Few likely struggle with the uncertainty more than those who have to contend with the mysterious condition. "I still have hope that there will be a cure or a treatment or answers," Gabrielle Cormier said in late August. Her speech had become halting, and she needed time to collect her thoughts before each answer. "But I'm still realistic—it may not go that way."

MATTHEW HALLIDAY is a writer and editor in Halifax. He has written for the *Globe and Mail*, *Hakai Magazine*, and *Chatelaine*.



MEDICINE

Doctors on Call

Thousands of Canadians have consulted physicians via phone and video conferencing during the pandemic. Is it adequate health care?

BY CARINE ABOUSEIF
ILLUSTRATION BY PETE RYAN

If you were to walk into a doctor's office complaining of stomach pain, a couple of things might happen. First, your physician might ask a few questions about the location and intensity of the pain. They might also consider your age, diet, and lifestyle. Eventually, they will put their hands on your belly, press down, and feel for the source of the pain.

That last step—known as palpating the abdomen—might feel less familiar after nearly two years of COVID-19 restrictions. So might walking into a doctor's office at all. Since March 2020, in addition to popularizing remote work, online education, and Zoom celebrations, COVID-19 has brought a massive shift in the way we interact with our health care system. In the first days of lockdowns, clinics, medical associations, and governments across the country scrambled to minimize face-to-face interactions between doctors, nurses, staff, and patients.

The cumulative effect of these changes has been enormous. In 2018, only 8 percent of patients reported having had a virtual visit with their health care provider, according to the Canadian Medical Association (CMA). Since the pandemic began, that number has shot up to about half.

A virtual doctor's appointment typically takes only fifteen minutes, while travelling to a clinic, paying for parking, and waiting around can take hours. The shift to virtual care could lead to better access for people who don't have paid time off, people who live in remote communities, and people with disabilities. For residents of long-term care facilities, telemedicine and assessing early symptoms can decrease the chance of down-the-line hospitalization, which can be exhausting and comes with its own risk of catching a dangerous infection. Several virtual "emergency rooms" have also popped up in parts of the country. Patients worried about urgent but non-life-threatening issues, like sprains, stings, and sinus infections, can sign up online, get a link to a video call, and speak with an ER doctor the same day, without clogging up waiting rooms.

Many of these changes are here to stay. This summer, a survey by the CMA and Canada Health Infoway, a federally funded not-for-profit organization that works to accelerate the adoption of digital care, found that the majority of physicians plan to keep using this type of care once the pandemic has receded. In Ontario and British

Columbia, the provincial governments are negotiating the payment systems that will allow doctors to continue charging for virtual visits. Other provinces are expected to follow suit.

A future where you get to talk to your doctor on your lunch break instead of languishing in a stuffy waiting room, dodging the coughs of other patients, sounds convenient. But it also comes at a price: since the transition to virtual, some patients believe their quality of care has decreased. According to the CBC, the College of Physicians and Surgeons of Ontario and the province's patient ombudsman have both received complaints from patients saying that their doctors refuse to see them in person even when their illnesses are difficult to assess over the phone. One mother recently told the CBC that her one-year-old son had received a misdiagnosis after his doctor heard his cough over the phone.

For those who were studying virtual care long before the pandemic, this comes as no surprise. Finding the balance between convenience and improved access, and determining what must be addressed in person, will be among the biggest challenges ahead. "You cannot diagnose appendicitis or a mass over the phone," says Sacha Bhatia, former director of the Women's College Hospital Institute for Health Systems Solutions and Virtual Care, in Toronto. "If you have a patient with abdominal pain, you can get a history. But, at the end of the day, you do need to examine the abdomen for lumps and bumps." Experts say Canada has been lagging behind other developed nations on virtual care for years. If virtual care is going to be a more prominent part of our health care experience, they say, governments and health care professionals will need to have important discussions about quality of care, compatible technology across clinics and hospitals, and changes to workplace culture in the medical field.

The rise of virtual care has resurfaced old debates about how medicine operates in this country, including what exactly a doctor is paid to do, what quality care actually looks like, and how best to help those who have the least access to care. If governments, professional associations, and clinics can get it right, a digital approach could mean shorter wait times for specialists, identifying symptoms before they become serious, and easing the anxiety that comes with waiting weeks or months for a diagnosis. It could also give more Canadians access to a family doctor. In other words, it may be an opportunity to bring health care back to its true focus: the patient.

Canada was an early leader in offering health care from a distance. In the 1950s, radiologist Albert Jutras experimented with sending X-ray images between Montreal hospitals. Two decades later, Arthur Maxwell House, a neurologist at Memorial University of Newfoundland, used the telephone for consultations with patients in isolated parts of the province. The university also worked with NASA to launch Hermes, a satellite that allowed the Health Sciences Centre in St. John's to transmit audio and video to a hospital about six kilometres away.

Since then, the country has fallen behind. In a 2020 report by the Commonwealth Fund, which surveys patients and clinicians in eleven high-income countries, Canada ranked below average on all four global comparisons of quality of care. Compared with those in the US and Norway, Canadian patients were less likely to access their lab results online, email their physicians with questions, or book remote appointments. Norway has been in the process of digitizing its health care since the early 2000s. Today, despite a decentralized system where health care is managed locally rather than by the central government, the country has integrated virtual medicine into almost every aspect of care: any physician can log in to a universal electronic record system and see a patient's history even if it was taken at a different clinic, and electronic communications are used for referrals, requests for labs or radiology services, and sick leave. The US boasts the Kaiser Permanente system, which is considered a world leader in the virtual health field, though it is funded by monthly premiums. Kaiser covers 12.5 million people, many of whom can securely message their doctors about their concerns—a touchpoint many Canadian clinicians don't get paid for.

In Canada, a lack of information exchange and coordination within provincial health care systems has been an issue since well before the pandemic. Clinics and providers use different systems to store electronic medical records, which means a family doctor and a local emergency room may not have the same background information on a patient, including their history and a list of their daily medications. None of this will come as a surprise to anyone who has had to manage multiple log-ins to different online charting systems, repeat their history to yet another nurse or doctor, or call a clinic to ask whether staff received a faxed referral. The problem is further exacerbated across provincial lines. At best, this lack of interconnectedness leads to patients repeating their stories to each new professional they see or having to redo tests, which further burdens the system and increases costs as staff chase down records. Care is then based on incomplete information: patients try to remember which vaccines they received and GPs try to figure out what happened during an emergency hospital admission. At worst, serious symptoms or dangerous interactions between medications can be overlooked. On a larger scale, an absence of connectivity could lead to a virtual system even more fragmented than what we had before.

A report from February 2020 predicted that this kind of fragmented or "episodic" virtual care could wind up increasing visits to facilities where doctors still have to see patients in person, like emergency departments. While it hasn't been extensively studied, anecdotal reports bear this out. Physicians say they're frustrated with virtual care's unintended side effects, including incomplete or misleading diagnoses. Raj Waghmare, an Ontario emergency doctor, says more and more patients are ending up in his ER after being prescribed antibiotics or other drugs without an

in-person examination. When someone finally looks into their ear or palpates their abdomen, it becomes clear that the initial diagnosis was wrong. In September, the College of Physicians and Surgeons of Ontario confirmed that emergency departments have seen a "significant increase" in the number of patients who would normally have received care elsewhere, and that specialists are getting referrals for patients who never had a physical examination to determine whether they needed the referral in the first place. Outcomes like this can obscure the fact that virtual care was supposed to make our health care *more* efficient, not less.

For virtual medicine to be efficient—and safe—patients need to have a main point of contact, such as a family doctor, that they do visit in person from time to time. But, in 2019, 14.5 percent of Canadians didn't have a regular doctor, with the highest percentages in Quebec, Saskatchewan, and Alberta, according to Statistics Canada. Even for people who have a family doctor, there are limits to what can be diagnosed virtually.

As doctors and provinces continue to discuss what a more permanent virtual care model—a new part of our universal public health care system—might look like, pay-for-service apps have leapt into the fray. Canadian health care startups raised more than $300 million (US) in 2020, roughly double the amount they did in 2019, according to the *Globe and Mail*. While most people in this country rely on public health care, these services charge a premium to connect patients with clinicians, registered nurses, and pharmacists, as well as to access their own health data. Yanick Beaulieu, a Montreal-based cardiologist who has worked in the virtual care space for years, has decried the shift to a corporate-driven approach as the "Netflixization of health care"—where patients pay for a monthly "all-you-can-consume" subscription and access as much health care as they want. While it may seem counterintuitive, more medical attention can be harmful to our health, increasing patient anxiety, unnecessary scans and tests, and the use of medications that can stress organs or cause other issues.

Billing for services that would normally be offered for free, like medical notes or requests for lab tests, is even more troublesome, argued physicians and University of Toronto professors Sheryl Spithoff and Tara Kiran in an op-ed for the *Globe and Mail*. They point to some platforms that even include in-app advertisements for drugs while patients wait in virtual "exam rooms." (One example of this is Juno, an electronic medical-record system that is used by 376 clinics around the country.) Several studies show that advertising drugs directly to patients leads them to request and receive prescriptions that are either unnecessary or more expensive than the alternatives.

Then there's the question of privacy. While the technology companies that provide these virtual care platforms and apps won't sell sensitive personal information, Spithoff and Kiran write that they can hand over de-identified primary care records, information that pharmaceutical sales representatives can use to figure out which physicians to target to promote certain drugs. One such company, MCI Onehealth, estimates that de-identified electronic health records can be worth anywhere between $35 and $330 each.

The communities that virtual care was originally designed to help become precisely the ones left behind.

A two-tier model, where some with means pay for the care they need while others in underserved communities struggle to find a consistent doctor, goes against the very notion of equitable publicly funded care. Worse, the communities that virtual care was originally designed to help become precisely the ones left behind. Reports and surveys from before and during the pandemic have consistently found that people living in rural areas and those with lower household incomes face barriers to accessing online care. People in rural areas across Canada often do not have the same internet access as those in urban centres, for example, and a glitchy video call is far from ideal for showing a doctor a suspicious mole or talking about anxiety regarding a new medication. According to Infrastructure Canada, just 41 percent of households in rural communities have access to download speeds of at least fifty megabits per second and upload speeds of ten megabits per second—the minimum target set out by the federal government.

In Indigenous communities, which provincial health care systems have long underserved and discriminated against, some types of virtual care may not be reaching patients. In Nunavut, for example, the maximum internet speed currently possible is fifteen megabits per second, nowhere near the government benchmark. Researchers who study the uptake of digital health in Indigenous communities also suggest that simply applying the same technology to different groups likely won't result in the best care. Instead, they say, collaboration with Indigenous leaders and youth—and cultural understanding of each community—is what will offer patients a sense of safety and keep them coming back. "Indigenous ways of knowing and being are protective determinants of health," said Sarah Funnell, the founding director of the Centre for Indigenous Health Research and Education, in a September keynote speech on virtual care.

Even more basic than a reliable internet connection, access to a phone is often a prerequisite for virtual care. In the early days of the pandemic, when

most appointments were suddenly conducted over the phone, Surkhab Peerzada, former co-chair of a digital health equity working group at Toronto's South Riverdale Community Health Centre, and her team organized a drive to get cellphones into the hands of those who couldn't afford them. She worries that a more permanent shift to virtual-first health care will put lower-income patients at a significant disadvantage. Community centres can hand out only so many cellphones, she says. Many patients also don't have a private space to take a virtual call with a doctor: people who live in crowded or shared dwellings may worry about being overheard while having intimate discussions about their physical or mental health. Having new technological capacities to provide secure health care services over a phone or online—and even placing that technology in the hands of the people who need it most—doesn't solve the whole issue.

Beginning last year, the Canadian Medical Association's Virtual Care Task Force set out to identify the barriers to improving virtual care in Canada. "The horse has left the barn and we're scrambling to put on the saddle," said co-chair Gigi Osler in an interview with the *Canadian Medical Association Journal*.

With provinces and territories administering their own health care, each jurisdiction can choose to pay their medical staff in different ways. For example, in the Northwest Territories, doctors receive an annual salary no matter how many patients they see. In Ontario, on the other hand, physicians receive fees per service—for each checkup, each procedure, and, as of 2020, each phone or video call. But, if every service is paid differently, doctors must consider how they spend their time. How much is a video visit worth compared to a phone call? And how much is a physical examination worth? This, many experts say, is a vital part of our collective conversation about virtual care.

Ewan Affleck, Osler's fellow co-chair, says it's crucial to focus on these bigger questions around how we regulate health care, particularly the way it's broken up along provincial lines and the way legislation makes it difficult to share patient data. The task force envisions a pan-Canadian approach to virtual care—one where a patient in Yellowknife can share their data with a specialist in Calgary; one where that patient knows that their family physician, their radiologist, and the walk-in doctor they saw last week are all part of the same circle of care. True virtual care, Affleck says, would involve a whole ecosystem where the patient and all their medical professionals have access to scans, test results, prescriptions, and other data.

In British Columbia, Saskatchewan, and Ontario, a patient can easily go online and check the results of a blood test conducted at a LifeLabs clinic just a few days earlier. But what if they had one test done at a LifeLabs clinic and another at an emergency room? And what if they make a third visit to their family doctor for a diagnosis based on those results? They would likely have to call three different clinics to consolidate all of this information just for one medical issue. This is what Affleck means when he says that medicine today is largely practising "analog health care in a digital world." What governments have done, he says, is create fragmented sets of patient data that are designed around professional groups and geographic regions rather than around the patient, which has an immense impact on the quality of care a patient receives. While in the Northwest Territories, in part as the region's chief medical information officer, Affleck spent seventeen years rolling out a project to solve this issue: a single patient chart shared by all physicians and nearly all health care providers for its population of approximately 45,000 people distributed over thirty-three communities.

While ambitious, he believes a similar system could be implemented across the country. And some groups are trying: in 2019, Canada Health Infoway, the organization that has been working to encourage virtual care, launched Access 2022, an initiative intended to increase Canadians' access to their health information. There are also changes coming at the jurisdictional level. Alberta Health Services, for one, is in the process of deploying an integrated clinical information system called Connect Care for all its facilities and staff, which provide about 30 percent of provincial health services.

The Virtual Care Task Force made a number of specific recommendations. One suggestion is to create a nationwide patient registry, which could involve assigning a numerical ID to each Canadian, where all a patient's data would be stored, following them wherever they went—an idea simpler in theory than in practice. The task force is also encouraging provinces and professional associations to develop permanent fee schedules for virtual care appointments and create standardized recommendations around when and how to see patients remotely or in person.

For Sacha Bhatia, now an executive at Ontario Health, his favourite analogy about the future of virtual care comes from banking. If you want to pay a bill, he says, you know that you can do so on your phone or on your computer. But opening a mortgage, most customers understand, will require a visit to a branch. The key point here is that it's the customer who understands the guardrails of the system, not just the bank employee.

Patients are already beginning to grasp this. You may intuitively know that you can refill your prescription over the phone. You may also know that a lingering stomach ache means a medical professional needs to check your belly with their hands. But you should be able to trust that you can get that if you ask for it. In this scenario, the patient is no longer at the mercy of a health care system that decides for them. In this scenario, everyone gets to decide what they need to be well. ✚

CARINE ABOUSEIF is a features editor at The Walrus. Her writing has appeared in the *Globe and Mail*, *Maisonneuve*, and elsewhere.

I've Had a Good Life. I've Been Water-Skiing

BY BRUCE TAYLOR

For Richard, for all of us

I

I watched the grey whales breaching
and spent a morning on a crater's rim.
Once, I heard an eastern screech owl screeching
in the autumn forest, cool and dim.
I kept a vigil and I kept a snake,
I kept a lapstrake cedar skiff in trim.
What difference do the details even make?
Was all of this enough?
I won a game, I won a game again.
I lost all contact with a friend.
I wonder, sometimes, what became of him.
I bought a hat, I lost the hat,
I bought a different hat.
Three times I've watched as mini people
came through a tunnel in the one I love.
How great was that?

II

Over and over, I've seen this plot play out.
A self-supporting vine explodes
in perfect yellow flowers.
Then a crew of tiny
wonderstruck admirers
pollinate them with their feet,
and presently those flowers change
to something red and pendulous
and glossily improper.
The vine is soon too weak to hold them up,
their days too laden with the things they've done.
Now stalks and fruits are sprawling in the furrows,
spoiling in the summer rain and sun.
A slug glides up on gleaming rails of slime
and steals that swollen harvest. Every time.

III

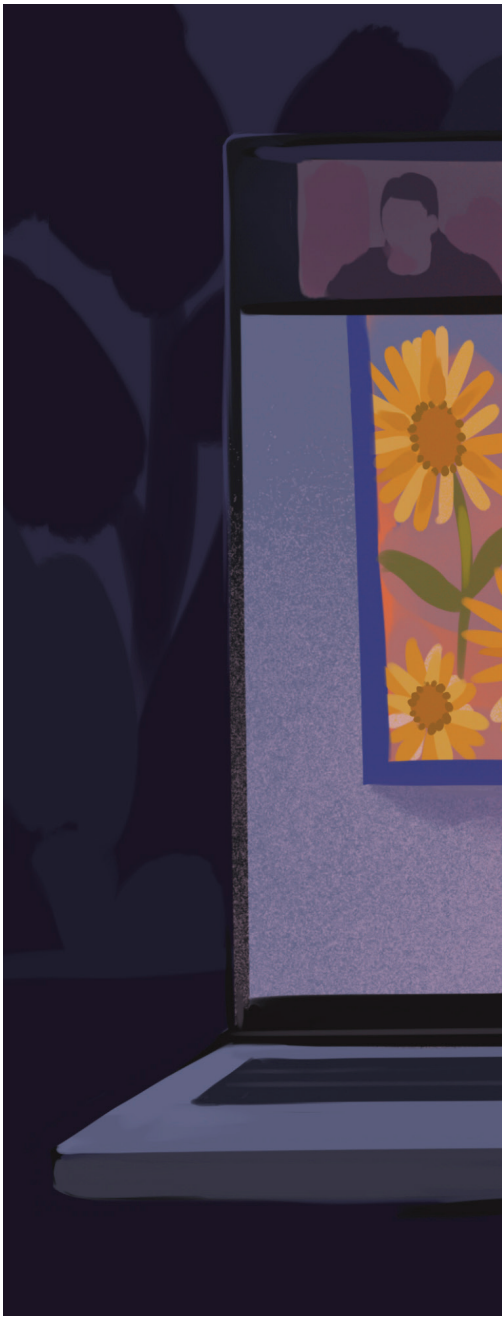
So, what can last?
Our house stays put, at least, cemented to the slope,
a hundred feet above the shore
but shaded by a taller pine.
Something has gotten into that tree, today.
A cold wind rushes through it like a rake
and branches thick enough to hold my weight
writhe like seaweed in a tidal surge.
The whole thing seems about to break.
I'm here at an upstairs window
where I watch a tattered outlaw-looking crow
contesting the weather with a kind of
reckless competence.
He tilts his glossy head to let me know
he sees how safe my roost is, yet
how miserably I cling to it.
Whereas he keeps his balance like a surfer,
lifting his wings a bit, from time to time,
to ride the branches as they flail and lurch.
I watch him battling to keep his perch
and suddenly it comes to me, how strange it is
that he should try at all.
As if a creature that could fly could fall.

JUSTICE

My Day in Zoom Court

Tradition dictates that perpetrators and victims of sexual assault must meet in court. COVID-19 showed there may be a better way

BY SOPHIA WATSON*, WITH MIRANDA SCHREIBER
ILLUSTRATION BY NICOLE XU



I AM ONLY twenty-six years old and have survived two separate rape trials. During the first, just before I started law school, I travelled more than two hours by train to a Toronto courtroom every morning to testify while facing my rapist. "He said he was going to kill me," I recalled. "I breathed in between him choking me." My testimony was punctuated by the rhythm of his head shaking in disagreement under the white lights—it was his choreography. During a break, we passed each other in an empty hallway, as if we shared an office space. When I ran into his mother at lunch, she called me a "fucking joke."

Like everything else over the past year and a half, the second trial happened virtually. Court online is less of a drama, more of a meeting. The lawyers, other witnesses, and I presented evidence from a grid of Zoom squares whose borders lit up when we spoke. The architecture of the typical courtroom produces relations of power: the gaze drifts naturally to the judge, who sits elevated above the gallery; the accused and Crown sit opposite each other, and the complainant has no formal place. But, on Zoom, the sunflower paintings hanging in my living room became the new courthouse backdrop. I didn't have to spend hours travelling back and forth or see the accused in person. Instead, I placed a sticky note on my laptop screen to cover his face. Courtrooms are cold and uncomfortable; at home, I wrapped myself in a blanket and sat on my couch. A second scene played out around me: my pets whining and meowing for food, the whistle of my teapot reminding me to stand up and stretch. When I wasn't testifying, I turned off my camera and vanished from the courtroom.

*AUTHOR'S NAME HAS BEEN CHANGED

Studies by legal researchers have consistently shown that testifying remotely reduces the secondary trauma victims of sexual violence experience when going through criminal trials. But my trial from home was among the first of its kind in Canada. For decades prior, the judiciary claimed that a transition to video testimony simply could not be done—it would be too complicated, too risky. Yet, when the pandemic hit, the purportedly impossible process was implemented almost instantaneously. Despite the tangible benefits of this distanced form of witness bearing, as the country reopens, trials have already started to resume in person. But my experience does not have to be a historical anomaly. Instead, it could be the beginning of a new form of testimony in cases of sexual assault—a precedent rather than an exception.

People often assume that the goal of the criminal trial is to address the harm caused by the crime—to give the victim closure through punishment and the pursuit of justice. But that isn't its function. Instead, a trial seeks to determine the truth with as much precision as possible, regardless of the consequences for its participants. "Overwhelmingly, our courts and our legal system are focused on denunciation and deterrence," says Kate Puddister, an assistant professor of political science at the University of Guelph. "The victim is not a big part of either of those functions. Our legal system is set up to oppose the perpetrator and the state. Repairing harm to the victim is not a focus."

Since the judicial hearings of ancient Babylon, it has been believed that, for the truth to be found, the credibility of those involved must be evaluated in person. Performance

was an imperative part of the process. In medieval Europe's trials by ordeal, which often involved water or fire, spectators observed an accused's body language to determine whether they were guilty. The accused was sometimes commanded to walk three paces over a red-hot ploughshare or retrieve an item from the bottom of a pot of boiling water. Successful completion of these tasks signified innocence. This system of justice was altered during the European witch hunts. For a woman suspected of witchcraft, trial by water was used to determine whether she was guilty: if she sank, she would be acquitted; if she floated, she would be burned alive at the stake. More than 2,000 years after the early trials by ordeal, the judiciary still believes that performance is the best route to truth.

As Angela Davis writes in *Rape, Racism, and the Myth of the Black Rapist*, rape laws in the United States were written for the purpose of fortifying the nation after the abolition of slavery: they were built around the myth that Black men pose a threat to white women. In Canada, abduction and rape were historically interpreted as theft from the victim's father or husband. It was the property of white men, not the victim, that was the central concern of Canadian sexual assault legislation, and marital rape was outlawed only in 1983. Today, the state still positions itself as the victim of violent crime.

All this made me wonder: What role, as the person who experienced the harm, did I play? When the first rape trial began, I thought that my place at the heart of the process would exhaust me. I imagined myself at the centre of a wheel of activity that would spin until arriving at a verdict. Instead, I was exhausted by my own adjacency to the courtroom's analysis of the most violent event of my life. The closed system of justice attended to a fixed number of variables, and how I felt during the gruelling process was not one of them. (I've written this piece under a pseudonym for a similar reason: I don't want the details of my trials to be permanently attached to my name.)

Elaine Craig, a professor of law at Dalhousie University, explains that, in court, survivors serve as witnesses to their assaults. "Sexual assault complainants—but for three exceptions related to production of third-party records, admission of private records, and sexual history evidence—have no unique role in the trial compared to other witnesses," she says. "Offences are prosecuted in the name of the public, not the survivor." In other words, the victim is considered no more than a bearer of evidence. They do not even have a lawyer. Instead, the lawyer who prosecutes the case represents the Crown.

If these are the conditions under which survivors testify, is it any surprise that the trial is often as traumatizing as the assault? In the decades before I went to digital court, there was already pressure from advocates to integrate video testimony into legal proceedings so that victims would not be made to sit beside their rapists. In 1988, testimonial aids—video testimony, a physical partition, or remote testimony—were legalized for minors in select cases, but since this excluded the bulk of survivors, lobbyists continued to push for better access.

When the Victims Bill of Rights Act passed, in 2015, conditions improved marginally. It promised victims access to information and protection from retaliation, but it left the structural processes of the trial unchanged. Up until the pandemic, it remained extremely difficult to maintain physical distance from the accused while testifying. The justification for mandated in-person testimony, just like in ancient Babylon, rests on the contention that the witness must be physically present in order for their credibility to be evaluated. In May 2018, when Canada's Department of Justice hosted a knowledge exchange on the subject of testimonial aids, a prosecutor told the department that the judiciary still believes it receives a more candid account of a testimony if it can see "the fear, tears, and anxiety."

Historically, victims have been granted a testimonial aid only if it's believed that its absence will interfere with their ability to communicate accurately. In a landmark 1990 case, a twelve-year-old child testifying against her mother's boyfriend requested to do so from behind a partition. She had been violently sexually assaulted multiple times by the accused and found it almost impossible to speak in his presence. While she was initially granted the aid, her abuser appealed the ruling and it was determined that the child would have to testify again—this time unobscured so that the court could better assess the legitimacy of her account. "An evidential base was lacking in this case," the second judge wrote while approving the appeal. "The judge went no further than to show [that the victim] did not feel 'comfortable.'" Not liking the accused, he added, was not a good enough reason. The comfort of the child was deemed legally irrelevant.

There are, however, ample psychological benefits for those granted the use of testimonial aids in court. Two surveys—one from 2002 and another from 2004—both found that victims who used testimonial aids were less likely to feel anxious or distressed in court. Some evidence also demonstrates that credibility cannot be discerned in person any better than it can on camera. Clinical psychologist Holly Orcutt writes that the "cues discriminating liars from truthtellers…are not signs of lying." A witness afraid of confronting an abuser may display similar behaviours as a liar afraid of being caught, she adds. And video testimony can actually enable witnesses to offer more candid accounts. As a 2014 study by researchers at Simon Fraser University demonstrated, a survivor is often more likely to divulge information when they aren't intimidated by the foreign environment of the courtroom or the gaze of their attacker.

But the Canadian judiciary is resistant to change. Today's trials are still full of rituals that reveal the persistence of tradition: participants in the courtroom stand up to signify respect for the judge; the witness is elevated above the gallery when testifying; and, until last year, paper and pencils were used in place of computers.

"Before the pandemic, if you walked into a courtroom, it would have looked largely the same as it had 100 years prior," says Puddister. "Canadian judges have been very conservative about the use of technology in the courtroom.... They're concerned about the serenity of the courtroom, courtroom decorum." To the judiciary, the courtroom is sacred. Judges have control over the administration of the courthouse and courtrooms in order to maintain that serenity. To change traditional practices, they argue, might engender a slippery slope to the loss of judicial independence.

So I found myself in a moment of historical strangeness when I was given technological access to the courtroom. This opportunity, which decades of advocacy had sought, materialized without my even asking for it. And, in my view, it preserved the sanctity of the courtroom entirely. Even without the elevation of the judge, she retained the freedom and authority to rule on whether the accused was guilty. I did not have to rise when the judge addressed me, but her words still carried weight. Electronic devices did not corrupt the courtroom. All these things made it easier for me, and my ordeal was much less trying than it could have been.

Despite all of this, these trials still do not seek to minimize harm. At my Zoom trial, a blood test confirming that I had a drug known to be used in date rapes in my system the night of the assault was never submitted as evidence. The judge ruled that the significant injuries I had sustained during the rape could be the result of consensual sex. The accused's attorney, who berated me with invasive questions, argued that I had cried after the assault because I had realized that I'd had casual sex with a man I'd just met, with no clear memory of it. "I can only imagine how upsetting that would be," he said to me. When I cried again during my testimony, he claimed it was because I remembered I actually *had* consented to the assault.

"Can we appeal?" I asked the Crown after the accused was acquitted. The Crown recommended against it. It was too late. The trial was over and I wouldn't get another day in court.

Even after the pandemic ends, plenty of institutions will continue providing digital access to their services, and remote work will likely become the new norm. Why should court be any different?

In March, a bill was introduced in North Carolina that would allow some victims of abuse to attend court virtually. It's a good start, but if passed, it would apply only to those reinstating restraining orders. No such proposal exists anywhere in Canada. Instead, courthouses across the country started to reopen this past spring, with many changing their physical architecture to accommodate pandemic protocols and preserve the serenity of the courtroom. In Nova Scotia, criminal trials resumed in March, with partitioned jury boxes and sufficient space for witnesses and those accused to physically distance. Three months later, trials in Ontario followed suit.

Minimizing harm should start inside the courtroom, but to create safer spaces for survivors, we must look beyond it.

Minimizing harm should start inside the courtroom, but to create safer spaces for survivors, we must look beyond it. For decades, restorative justice—which addresses the trauma caused by assault through meaningful reparations that happen outside of the legal system—has been praised as a victim-guided alternative to trials. "In the criminal justice system, survivors don't have the chance to ask questions," says Julie Schelter, a service coordinator with Community Justice Initiatives, a Canadian restorative justice nonprofit. "They reach out to us because they have questions only the person who harmed them can answer. One of the questions I hear most is 'I want to know why this happened? Why me?'" Traditional legal trials, Schelter reflects, cannot answer that.

During the pandemic, restorative justice practices also moved online, allowing survivors and the people who harmed them to be brought together into a facilitated dialogue on Zoom. There have been inherent challenges: not everyone has privacy at home, and access to this technology is not universal. But operating virtually offers increased access for victims in remote locations and, similar to Zoom court, a more comfortable space for the survivor to articulate the harm their attacker caused. Community Justice Initiatives will continue to moderate some digital restorative justice groups and facilitated dialogues even after COVID-19 restrictions are completely lifted, and it has integrated phone-in meetings for those who don't feel comfortable with computers.

"Justice is very deeply wound in our minds as punishment," says Sonny Dhoot, an assistant professor at Metropolitan State University of Denver. Restorative justice, on the other hand, is "a complex process of people unlearning. Restorative justice can be part of a larger reorganization of our society and relationships in a way that prevents people from being vulnerable to gendered violence."

After he was acquitted, I shut my laptop and the courtroom vanished. Unsure of what to do, I lit a candle. The flame forked upward, casting warm light on my yellow sunflowers. There is a record of every admissible statement made during my digital trial, but it is not a truthful account—it omits the misery. Our modern world is still ancient in secret, and the trial by ordeal persists, testing women with water and fire. 💻

SOPHIA WATSON is a law student and an advocate for survivors of sexual violence.

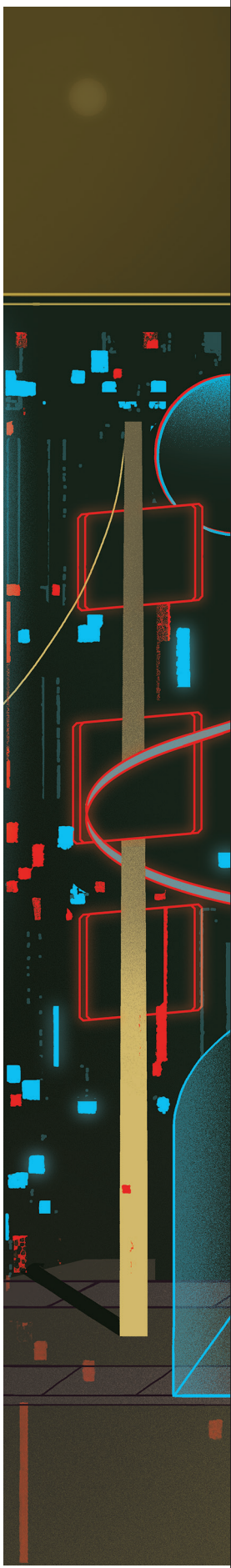
MIRANDA SCHREIBER is a Toronto-based journalist who contributed to the writing of this story.

TECHNOLOGY

Neighbourhood Watch

How porch cameras and Facebook groups are turning residential streets into surveillance states

BY NAVNEET ALANG
ILLUSTRATION BY DALBERT B. VILARINO



If one thing could turn me into a full-blown Marxist, it would be riding the Queen streetcar through South Riverdale. As the tram makes its way across the east Toronto neighbourhood, passing tony furniture stores, jewellery boutiques, and restaurants with $30 mains, I always share the streetcar with at least one or two people who seem to be struggling—with mental illness, with addiction, or just with the abrasions inflicted by poverty.

These are the contradictions of Leslieville, the neighbourhood I called home for over two years. Despite a wave of gentrification and a parade of million-dollar house listings, the area, once known for its working class roots, still has one of the city core's higher crime rates. Nevertheless, change has been creeping through its streets. Take the Maple Leaf Tavern, a 106-year-old restaurant once known as the "kick and stab," now a high-end gastropub that anchors the neighbourhood's northern edge. But, for all the area's pretentions of being a trendy place for wealthy new families, the men's shelters and retirement homes haven't yet decided to up and disappear.

Such contrasts produce real conflicts. In few places is this more conspicuous than the local Leslieville Facebook groups, where residents congregate and chat.

These spaces were a lifeline when I first arrived. My new neighbourhood's secrets—its best Americano, the ideal bar to read a book in late at night, the perfect breakfast sandwich for a winter morning—were eluding me. Then a friend recommended the Facebook group "I am a Leslievillian!" and I was able to discover all the gems that my regular walks wouldn't have revealed. Among its members, with all their tips and recommendations, I even found something akin to neighbourliness.

But, beyond the discussions of new restaurants and traffic annoyances, there was another, more discomforting side to the group: all the discussions around people deemed *suspicious*.

A common sight on the feed are the porch pirates—people who steal packages. As more and more people shop online, it has become common to see posts that not only bemoan the loss of purchases but also include photos or videos of the alleged culprits.

There is an ongoing fight here, ubiquitous in most cities, between the haves and the have-nots. Over the past year and a half, as more people stayed home and craved outdoor time and as homeless encampments grew around the city, that tension has only grown.

Such conflicts are born of borders, and in the twenty-first century, these lines aren't only legal or even metaphorical. They are barriers policed by technology—by a growing array of cameras, by an explosion of online groups where people of a certain class warn of the presence of another. All of it seems to run on an undercurrent, a simple but difficult question: To whom do our neighbourhoods belong?

THE IDEA OF homeowners safeguarding their property seems innocuous. When I had a delivery of wine stolen last year, my thoughts immediately jumped to installing a camera. But, the more I considered it, the more uneasy I became: Even if I could somehow catch an image of the thief, what then? Stalk the neighbourhood looking for both the culprit and a fight? There is something absurd about the idea that an invader of Leslieville like me might suddenly become outraged by the loss of a trio of bottles I couldn't really afford, but could also afford to lose, while every day near my home I see people who don't have the luxury of either my ill-considered indulgences or my indignation.

The shift to surveillance technology has arrived not only as a response to lost Amazon packages but through companies like Amazon itself—and whether this is actually ironic depends on just how insidious you believe these businesses to be. In 2018, Amazon acquired Ring, a maker of smart-home technology that includes doorbells featuring built-in cameras and microphones. The idea is for you to be able to see that your friend Nitesh or Jane is at the door when the bell rings, but it has also created the ability to track those deemed unwanted—not just on one's own porch but also on the street that falls in the camera's field of view.

The difficulty with technology is that it is almost impossible to opt out once it has arrived.

The technology, which has proliferated in the past few years, has found its natural home among the neighbourhood groups popping up on Facebook and community-oriented apps like Nextdoor. The conceit seems to be that, if a camera is present, one is at least doing *something*. Better to have this technology as part deterrent, part solution to thefts than to have one's packages lifted without proof—as if you were some kind of sucker. Online, the last thing anyone wants to be is a sucker.

Whether these products achieve that aim is much less certain. What seems more likely than these cameras leading to some semblance of justice is people posting these videos for the same reason we might relate the story of a lost package to a friend: to be heard, to achieve a sense of catharsis.

There is, however, another option, which an increasing number of Ring users are turning to: passing on the footage to the police in the hope that the authorities will do something. By 2019, over 400 US police forces had partnered with Ring to gather footage; users who opted in became part of a vast new CCTV array. While this kind of arrangement hasn't yet extended through Canada to the same degree, the phenomenon speaks not so much to the spirit of neighbourhood watch as to the logic of our modern era. Cameras are everywhere, and those with the means to own both the technology and the homes over which it watches can then surveil anyone, carollers and homeless people alike.

THE INTERRELATION of surveillance, technology, and justice is an issue that Chris Gilliard spends a great deal of time thinking about. By day, Gilliard is a visiting research fellow at Harvard University's Shorenstein Center on Media, Politics and Public Policy. On Twitter, under the handle @hypervisible, he criticizes the surveillance of tech companies.

When I told him about my little wine adventure and my subsequent impulse to buy a Ring, Gilliard laughed. He then offered his own story about having his car egged outside his Michigan home and the neighbour who offered to pass along Ring footage for the police.

"It's my pretty firm belief," says Gilliard, "that the police should not be called unless someone's life is in danger."

That can seem, to some, like a noble if naive thought. Yet Gilliard offers a retort. "The likelihood that it was a Brown or Black person who egged my car, based on where I live, is pretty high," he says. "When you call the police on a Black or Brown person, there's a good chance you are putting their life in danger. I don't think that is a thing one should do lightly."

Part of what is discomforting about surveillance technology is its easy

imbrication with the potential excesses of police action. Another part is the normalization of surveillance itself. "I don't want to sound too conspiratorial," says Gilliard, "but having something stolen off your porch and saying, 'I should get a Ring' is what Amazon wants you to do."

And, indeed, this idea seems far from conspiratorial. Amazon has gone out of its way to present itself as a defender of homeowners everywhere. In the recent announcement for its Ring Always Home drone—literally a small aircraft that flies about your house—the promotional video showed a would-be burglar scared off by the buzzing creature that rushed to the window.

According to Gilliard, that's not all. "For one, getting a Ring lets Amazon off the hook because they don't have to replace a package," he says. "But it's also a handy way for them to surveil their workforce."

The use of surveillance tech normalizes the idea that the world should be a place in which neighbourhoods are fortresses, with underpaid workers delivering goods to the relatively wealthy under an unblinking eye.

The question at the root of the issue is: Who watches and who is watched? Inevitably, in a place like Leslieville, those who for whatever reason end up stealing packages are very likely not rushing back to minimalist semidetached homes. Just as the trouble with calling the cops is the disproportionate rates at which marginalized people are harassed and even brutalized by the police, the use of surveillance technology entrenches the increasingly hard line between the haves and the have-nots. After all, you need a porch on which to mount a Ring camera in the first place. In a country undergoing a profound housing crisis, that alone is no small thing.

If posting footage of one's pilfered delivery doesn't actually have the power to prevent theft, perhaps the rationale of the neighbourhood Facebook group lies more in its delineation between *us* and *them*. At their core, online groups represent communities coming together to defend their own interests—not just from porch pirates but from developers, cities, or even those bars or restaurants daring to do wild things like open a patio.

Whose interests are actually served, however, is a matter of debate. While what is currently exciting the Leslieville group is whether transit should run above or below ground, across the city, social media groups have become a way for people to defend their idea of who should be allowed to join the neighbourhood. Consider the fight over a homeless shelter in Toronto's trendy Yonge and Eglinton area. The story sounds almost too on the nose: in response to the pandemic, the city leased an aging apartment building to allow unhoused people to live in safer, socially distanced spaces. Locals were furious. Some alleged that the shelters led to an uptick in crime, and after a city worker was stabbed—and a resident of the shelter was charged—tensions only grew.

On the resulting Facebook group, "Community Safety–Midtown Toronto," residents collectively gathered to resist the shelters and marshal their response to city councillors and others in power. One need only try to join the group to get a sense of its true purpose: you are asked whether you believe the area is now more dangerous than it used to be, you are asked whether you agree that supervised injection sites keep people with addictions marginalized, and you must agree not to share screenshots with outsiders.

It is hardly unique. In New York, an Upper West Side neighbourhood—wealthy, white, ostensibly liberal—banded together in a Facebook group called "Upper West Siders for Safer Streets" (now known as "Upper West Side Together"). Its goal? To push out a homeless shelter. The organizing, though it began online, morphed into an ad hoc residents' association, which even hired a lawyer who threatened to sue the city.

This is what the combination of money and social media savviness can do. In that sense, the online neighbourhood group is akin to a gated community within a community: an enclave for those with the time, means, and know-how to keep an area *pure*. There is an obvious logic to it. If you cannot put up literal gates, put up virtual ones.

Technology moves in a particular direction, buoyed by the currents of capital. Facebook groups cement neighbourhood divisions; Amazon turns porches into panopticons; credit assessments and job applications are sorted by inscrutable algorithms—and it amounts to more data for those in power, be they police or politicians. It all happens almost imperceptibly. At the start of 2021, Amazon announced it would be adding cameras to its delivery vehicles—ostensibly to ensure driver safety, but *come on*.

That is the thing about Facebook or Ring or any sort of new technology: once it exists, its particular affordances will beckon people to use it in particular ways. The feeling of powerlessness that comes from missing mail now has an outlet, a response. What was once impossible to address now has a structure and an incentive: comments from fellow neighbours bemoaning the riff-raff or encouraging vigilantism, a platform that nudges the most inflammatory posts to the top.

Last year, Facebook announced it was testing a hyperlocal Neighborhoods feature, formalizing—maybe entrenching—what was thus far impromptu and user driven. The location of its pilot program? Canada, whose highly online, highly affluent communities form the most profitable market outside the US and thus are the perfect test bed.

The difficulty with technology is that it is almost impossible to opt out once it has arrived. In instituting the logic of surveillance, Big Tech offers a compelling proposition: protect yourself by gathering with the like-minded. You ride a streetcar through a city and brush up against people of all types. But, when you arrive home, you can log on to a social network and warn others like you about signs of abnormality, crime, and misdeeds. All you need is a comfortable salary, a house with a porch, and a doorbell with a little camera hidden inside. It might not have been your neighbourhood before, but you have the power to defend it, to make it yours, to make sure it stays yours.

NAVNEET ALANG is a writer and critic based in Toronto. He is a contributing technology columnist for the *Toronto Star*.

FICTION

The Mission

BY NUPQU ʔA·KɬAM̓ / TROY SEBASTIAN

My hands gripped the wheel of the '65 Impala as we made it over Rogers Pass. The last of the gas station whisky passed between us. "Bah, that's not bad, huh," said Raymond, clapping. His mouth slipped at words with a hollow smile. He had lost his front teeth steer wrestling earlier that spring, and his speech was slithery and filled with saliva.

"It's all right," I said, my mind lost on the road behind me, my knuckles holding the road ahead steady.

The drive had been slower than expected. We had set out early that morning. Though the traffic was light and there wasn't too much snow to worry about as it was still early yet, the Impala was dragging. The drag got gradually worse the higher up the pass we got. Raymond had talked around the drag enough to boil my blood. He knew not to talk shit about my Impala. But the point was clear. The Impala *did* drag.

I had bought the Impala the week before from Raymond's uncle Les. Les assured me that there was nothing really wrong with it.

"Tires?" I asked.

"I got them last summer," Les said.

"The engine?"

"Sure. Fire it up and see for yourself."

"No drag?"

"No, not really," he replied, counting the cash.

The Mission was a red-brick building where I had once lived for most of the year. A series of smaller ancillary buildings reinforced the Mission, and broken, fallow farmland covered either side of the building. Saint Mary's River coldly wrought the edge of the Mission to the north, blocking the Mission's expansion toward the reserve's hoodoos, while to the south, the road to town led

PHOTO ILLUSTRATION BY THE WALRUS. PHOTO CREDITS: DIFFERENT BRIAN / ISTOCK, GOOGLE MAPS

to bedlam and Christian civilization. God and Jesus aside, the Mission was dedicated to the training and production of farm workers. Such dedication required much faith in ?amak?is Ktunaxa, where winter is present or promising at least half of the year, the other cut between seasons of heat, sun, rain, thunder, and the restless cold of late spring and early autumn. A symmetry of passing lovers, not a land of monotheistic agrarians. Yet we were the soil that the Mission ground down day after day, month after month, and beyond.

Though the Impala was pushing empty, the ride down from the summit gave us reason to believe we would make it to Revelstoke to gas up. To really know your car, you have to know the tank. It tells you things that aren't measured on the dashboard. What gas it likes, how close to empty looks like hope, how empty looks like a lost horizon. Somewhere before Revelstoke, I pulled over to take a piss and let Raymond drive for a bit. Back on the road, I rummaged around the car, looking for a map, and somehow got caught up in the various items from Les's glovebox: a few shells for the .30-06, some fishing line, two empty packages of smokes, a 1970 Eaton's catalogue dog-eared to ladies' fashions, and a Department of Indians Affairs pamphlet titled "An Indian's Guide to Farming." The pamphlet was more of a fragment than a cohesive work, the text stained from oil and coffee. One legible page read, "An inventory of farm tools and their purposes:

- auger, used for divination and fence posts
- small hammer, for fence repair and shed construction
- handsaw, for small woodworks
- scythe, for field harvesting"

Looking through the glovebox, my mind became a plate of leftover dreams and memories. Mostly of the old farm at the Mission. Farms teach a lot about pain, how much trauma a body can take before it succumbs, and the futility of a drawn-out death. We slaughtered animals at the Mission. And, for each task, we used specific tools. Each act posed limitations.

Reliance on an instrument makes the item too important, an invitation for fallibility. A rusted saw is no good. A hammer with a snatched handle, a fracture deep in the wood but oblivious to the eye, is trouble. Too many variables. It wasn't until I saw an eagle clutch a rabbit's neck with its talons that I knew my own hands offered the solution.

Brother Felix's body was in perpetual flinch. He was lean and sullen with a confused, homesick look in his eyes that really came to the fore when he smiled. That is when he looked particularly lost. When his face stopped smiling, it found that small space of emptiness it recognized as home. His shoulders had a strength commonly found in hay-bale cowboys. And, though he was not a small person, he moved around nearly silently, appearing without warning, with a persistent and foreboding calm, like a storm that never fully crested. His fingers were dark, dry, and cracked with bursts and breaches in the skin. I knew his knuckles well enough. Most of the boys did too. They were the first I met at the Mission.

"Do you remember what he looks like?" Raymond said as the headlights from an oncoming car framed his bandit eyes.

"Gupsin?" I said, jumping out of a dream with fists and terror.

"What if he had a beard now?" Raymond said, picking at the dash for his pack of Exports, his eyes on the road. "Would we even recognize him?"

"I know him to see him," I replied, my hands aching from their slumber of fists.

Raymond found the pack, one-handed a smoke to his lips, flicked the cigarette lighter, waited for the click, and put the hot cherry to the tobacco, drawing in the smoke with collapsing cheeks. I reached for the pack and followed suit as my ache of knuckles and drink woke up too. We smoked for a moment in silence.

"Ya, but it's been a few years," Raymond said. "And we was just kids…"

"Jesus, Raymond, I know him to see him, all right?" My words slapped at the Impala's dash.

The road was quiet. The only sounds were the grinding hum of the Impala's V8 and the slow, slurping breath Raymond took and released in syncopation. We took turns thinking on and forgetting the road in front of us. The road was downhill, the summit lost somewhere miles back. One smoke turned to another as the highway kept running beneath us. We carried on that way as I wound down the passenger window and flicked out another butt, the cherry sparking on the highway behind us.

"Jezzus," Raymond said slowly. "Ya, that's it, huh. Think about Jesus, huh. Would you know 'im to see 'im if he'd shaved?"

I looked back to the glovebox to check on the bullets. They were still there, rattling around.

"What the hell are you talking about? Jesus? Raymond! Christ!"

"Exactly, Christ, Christ Jesus. Our lord father." Raymond smiled. "Without a beard, you might not recognize him."

Raymond was a crazy Indian. Everyone knew this. Back at the Mission, he was always in a good mood, didn't complain about the chow, and was praised by Brother Felix for his folded clothes. He read everything at the Mission, from the Bible to the pantry's cookbooks, and it was Raymond who knew when bears were near well before the musk.

"If Jezzuz shaved, and maybe got fat like Uncle Les, he might not be easy to spot," he said with a grin of contentment offset by a hint of what-the-fuck-you-gonna-say-about-that in his eyes.

"Uncle Les," I sighed.

"He might have a beard. Nowadays, everyone's got one. Not just hippies," Raymond said, pointing with his right hand for emphasis.

"Hippies," I said.

"Ya," Raymond replied, his fingers fiddling with radio static.

"Hippies do have beards," I said.

"Ya, and hairy women too," said Raymond, laughing me into a good and necessary cry.

"Not that you'd complain," I said, shaking my head.

"Hell no! I like hairy women," he said. Raymond eyed the rear-view mirror as an oncoming semi overtook the Impala and flanked the car in a flash of consumer goods. The wake of the load shook his grip.

"Jeez, frigging semi trucks," Raymond said as he kept looking for a signal through the static.

I FOUGHT MY WAY into the Mission. Like everyone's before me, my first day of school was a shit kicking. Brother Felix got the older boys to beat up Raymond and me right after we got to our dormitory. We didn't see it coming. A door closed and the room became punches, kicks, and laughter. I worried that my pressed white-collared shirt would get stained. Ka titi had told me to keep my collar clean and dry at the Mission and I should be okay. After the first stain, I fought back. Raymond was turtled while I dragged my nails across ankles, faces, and the shine of the hardwood floor.

Every day, after morning prayers, Brother Felix would organize the punch up. This carried on for the first week until they made Raymond and me fight each other. I knocked Raymond out cold with one punch. He never held that against me.

I graduated to fighting older boys. Some were cousins from our tribe, others came from elsewhere. I got a reputation for being a tough kid. Tough enough to keep fighting even when there was no hope. There were these three brothers from Penticton who took turns beating me up. As I got older and grew into my body, they had to double team me to beat me until one day I brought the fight to them. They were swimming in Saint Mary's when I found them. I waited until the oldest came to shore. While he towelled off, I popped up and knocked him out quick. He was the toughest of the brothers, but he didn't know what hit him. The two others swam in to try to get me. I had a few good stones set aside, and I pelted them hard in the face and chest. By the time they came to shore, they were hoarse from shouting. I took a makeshift reed bullwhip and bloodied their backs until they were all at my feet, blubbering and knocked out. They never fucked with me again.

Felix was from somewhere around Enderby. As we drove closer to the town, Raymond and I didn't speak of him any longer. We spoke about horses, rodeos, and a woman out in Wardner who held

a special place in her heart and trailer for young bucks like us. We never spoke of our purpose either. The mandate was more than skin deep. It was in the blood.

From what we knew, Felix wasn't in jail. Not anymore. When you have someone in, you know who is out. And he was out. Jail stories arrive in letters and *didja knows* told between passing family. There was some chance he got killed shortly after he got loose. That happens just as much as going back inside. But Felix was a survivor. He adapted, no matter the circumstances.

At the Mission, when everyone else was asleep, Felix would talk to me. He'd tell me stories that held me in the dark long after he was gone. He said he was the youngest of ten. Most of his brothers were dead or nearly gone. He didn't know all their names or their faces, but he was going to go find them after the Mission. That's what he told me, anyhow. I never had any brothers except for those I found in the Mission. Felix had one brother who went up to 100 Mile to break horses. That made me admire him. I had always heard that the horses up in 100 Mile were too tough to break. As I got older, I realized that northern horses away are just as tough to break as they are to fathom.

In time, Felix confessed that he'd never had a younger brother. But, if he did, he would want a brother tough and greasy like me. That was the first night he called me Greasy. Maybe it was because of my hair. I never knew why. But, soon enough, he only called me Greasy, and others started using that name too. I gave enough shit kickings that no one called me that to my face. But that was what they called me in the Mission. I hated it. And I hated him for naming me so. For taking my name and my body and returning them to me as things that belonged to him.

The town had an empty presence, like a familiar graveyard that told us to leave soon or stay a long, long while.

We searched for him, for days, in a country I had only imagined. A country I could feel only in dying moments of summer, as towels dried riverside. A country he had told me of past midnight, when locations dream into spaces where horses live beyond the paddock. We hunted for him around Armstrong motels and Vernon campgrounds. Bales of hay, broken-down Fords, Lazy Susan diners—all were scuff marks on our quest to find him. We got as far west as Falkland, a week after rodeo ended, and found nothing but every reason to leave. The most dangerous place to be a Skin is in a nothing town a week after a rodeo. With no reason to stick around, there is every reason to go missing. Our search found rattlesnake needles, out of sync and restless. But no Felix. Each dream was yesterday's hangover, like a wall calendar falling to a previous month.

At first, we took turns sleeping in the back of the Impala. The steering wheel commanded the front seat like a roundabout steer who gave no quarter to slumbering knees. Raymond slept deeper than I, so he crammed into the front seat like a halfwit bandit while I reigned over the back. His slurping snores came quick. As much as I loved him, I hated him for his ease of sleep. I watched his stupid face, asleep, pressed into the nook of the front seat, a foal with a slipped lip. How easy it would be to place my hands over his mouth, to hold him there, to witness his awakening to the moment, to feel his shudder toward a permanent darkness, to inhabit his empty body afterward. His night farts were deadly to any dreams of murder I had. Naturally, I always slept with the window open. Only when the night was coolest could I find the space to allow my body to fully wake to its weariness. And, once there, dreams of the Mission would welcome me in fits and fidgets. No matter how dusted my denim was, I'd be sweat soaked by morning. Each night the dreams found me close to whole, I'd need a creek bath to wash the scent from my skin.

After missing the rodeo, we checked out every bar we could find. We found where Skins were gathered and where they weren't. The King Eddy, The National, The Branding Iron. They were all bars where we were welcome. Well, mostly. It didn't take much to feel unwelcome in them. A woman would like the wrong way I'd look at her and her old man would get pissed, or Raymond would tell a joke too bad to be funny and we'd have a fight on our hands. Sometimes we had to run, but mostly we'd stay, fight it out, and someone would buy a round after the bust up. Those beers were always best. Those laughs were always true. That's how it went after the Mission. It still goes that way.

One night we found Raymond's Auntie Lyla singing with a pickup band. She had taken up with a faller from Head of the Lake a few years back and looked good. We were down to our last few dollars and she could smell the road on us, so she brought us back to a lakeside spread for a few nights. Next to Lyla's cabin was an old grey shack that had been used for canning and smoking years back. We found a half-stunk mattress in there and a good view of the lake in that beautiful country. For a while, there, we didn't search for anything. We'd swim first thing in the morning, have some of

Lyla's coffee, and find ourselves helping around the farm with fence post promises and barbed wire postcards. It was good living, if fleeting and borrowed.

Lyla was the only family Raymond had who didn't ask him for money or try to stab him. That's what it was like then. Just nuts. Lyla had known Raymond when he was a baby and saw something good in him. She was always smiling at his stories and never asked him to explain himself. Lyla didn't say much to me, and I thought that had something to do with her knowing my old man.

She did ask to trade me her Chrysler for my Impala. Naturally, I said no. But she kept on about it with a purpose and sincerity I could not deny.

One morning, Raymond left with Lyla's old man to deliver hay to a ranch out past Lavington. I was replacing a spark plug in the Impala when Lyla came by with a cup of coffee and offered me a smoke. The car's radio was on, sending out a mix of static and faint signals.

"Nice car," she said, her smoke seesawing on her lips as she searched for a back-pocket lighter. I offered no reply. My hands were smudged and my throat was dry. It was the perfect moment for a coffee and a cigarette. Even if it was a Benson and Hedges.

"Does it drag?" she asked, looking at me over her Marilyn Monroe sunglasses as a willow of smoke carried her smile north.

"Does it d—" I started, getting ready to boil my blood. Shooting a look south at the lake, I said, "Only uphill."

Lyla laughed at me, and when she laughed, her right elbow kicked out from her body like a pitcher getting ready to strike. She had a red bandana wrapped around her head, a floral halter top, lime-green shorts, and bright-pink flip-flops. She was brown and relaxed, and she looked at the engine like a hawk over a field of mice. For a while, nothing was said. The song on the radio took my mind to someplace else as I grabbed a splash of coffee and enjoyed the smoke. Seeing the hillsides as though for the first time, I ran my mind across the horizon as far south as I could and came back again to the north. When my mind came back, Lyla was leaning against the car and looking at me.

"Did you find it?"

"Find what?" I said, looking back to the hilltops for some obvious formation or animal I had missed.

"Whatever you are looking for," she replied.

"I know what I'm looking for," I said, turning to put my face inside the engine once more.

"You do?" She laughed. "Well, let me tell you something. What you are looking for is older than you. And older than them hills or this car."

"Jesus," I said. She really was Raymond's auntie.

"Jesus's got nothing to do with it," she replied, sipping on her coffee. She turned toward the hills as the drone from an airplane far above crawled across the afternoon. Lyla looked into those hills for a moment and began to walk away but stopped and said, "What you are looking for is not something that can be found. It is something that can only be lost. And, when you lose it, let it go. Only then will it come back to you."

That night, Raymond and I started the drive home. Lyla gave us some preserves and canned salmon, but the Impala was low on gas and got us only as far as Enderby. We siphoned gas from a Ford pickup parked outside a diner after closing. The town had an empty presence, like a familiar graveyard that told us to leave soon or stay a long, long while. We had just gotten back in the Impala, set on making our way north to Sicamous, when a hitchhiker came into view.

"It's him," I said. "It's Brother Felix."

Raymond looked hard into the dark, saying nothing.

Brother Felix called out to us. He was moving slow, walking down the highway backward with his left thumb out in the wind.

"Jesus," I said.

"And Mary and Joseph," Raymond added.

It was Felix. We crawled up the road until the high beams caught up to his frame. He had turned his back and was walking up the road with a sluggish gait that suggested drink. But it could have been a fall from a horse. It was tough to say. He wore a green flannel coat too warm for the season and brown corduroy slacks. His head was low, as though he was laughing, coughing, or saying a Hail Mary. I stopped the car for a moment until he turned to look over his shoulder and gave me that empty smile from the Mission.

I drove ahead of him and pulled the Impala over. Raymond hopped out and opened the back door. Brother Felix got in without hesitation and said, "Thank Moses." Moses was the name of some other kid he'd taken to at the Mission. Moses had gone missing last summer, but Brother Felix must not have known that. Raymond closed the back door and got into the Impala as I turned onto the highway and headed into the night toward Sicamous.

Nothing was said. The lines on the highway were the only ones spoken. Soon, Brother Felix passed out in the back seat. He must have been drinking, though he didn't smell at all. Not that I could notice. My knuckles held the road as Raymond kept a steady diet of Exports burning away while Felix snored, sleeping soundly in the back of the Impala.

We drove this way for a time. I couldn't tell how long it was. Usually, Raymond would start on with some story I had heard about one too many times or we'd find some space on the radio to tell us stories we could hardly imagine—"Long Tall Sally," "American Woman," "A Horse with No Name." But, on this night, on that road, with Brother Felix in the back seat, I and Raymond were quiet, attentive, and nearly invisible.

A rattle from the back of the Impala took my mind off Brother Felix. My first thought went to Uncle Les and some sleight of hand he may have played. Raymond took to my shift in focus and turned his head to listen. The rattle continued as Raymond gave a "Huh." That was enough for me to pull the car over. "Go take a look, Raymond," I said. Raymond said something, but all I could hear was Brother Felix's breath. It sounded old, like the exhalation of the glaciers between ice ages.

Darkness held the western part of Three Valley Gap. To the east, only hints

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of dawn's truth could be seen. The sound of the roadside creek kept the night with us. In the back seat, the limp drunk body of Brother Felix remained. He looked a lot shorter than when I'd seen him last. Maybe it was his drunk slouch. Maybe it was the weight of the glacier on his flinched shoulders.

Silently, Brother Felix turned his head and said, "Raymond, check the gas cap." Raymond was bent over looking at the back tire. Hearing Brother Felix's voice, he popped his head up and looked into the back seat like a worried boy. I turned the car off, got out, and went to see what was going on. Sure enough, the siphon hose ran off the side of the car like a floppy arrow. Somehow, this blinded drunk knew what the story was. Raymond stood up, dusted off his pants, looked at me, and said, "Well?"

I watched him in the back seat. He didn't move. He hardly breathed. He was content, lost, and unaware. In a fluid motion, one learned by baling hay at the Mission, I flung open the Impala's back door, grabbed Brother Felix by the collar, and threw him into the roadside creek to sober up. His body hit the water with a clap that rang around Three Valley. For a moment, he floated on his back like the Nazarene. The body slowly turned and sank into the shallow water, finding a home among the reeds and muck.

"Fuck," Raymond gasped as we looked into the creek for an awakening. None was forthcoming.

"Ah, hell," I said as I hopped from the road into the shallow water below. My hands dug around for Brother Felix. I found his shoulders, grasped at his soaked flannel jacket, and pulled his head above water. I slipped my arm under his chin and dragged him to the creek's edge, gasping for my own breath in the cold muck.

Raymond leaned over the embankment, his hand on his knees. He looked into the darkness of the ditch to see if I was okay, for any sign of life. I looked up to Raymond, my arms around Brother Felix. In that moment, Raymond started to laugh. It was slow at first but quickly turned into a real belly laugh as he pointed at me from the embankment.

"Shit, you look like a damn steer wrestler," he said, his whole body shaking.

I looked up the embankment as the crazy Indian laughed at me, his face a flurry of lips and shaking cheeks. Then I looked at myself, my forearm under Brother Felix's chin, his body underneath me. And then I started laughing too.

"Well, Raymond, at least I still have my goddamn teeth!" I said as I released Felix and turned to lie flat on the embankment in a laughter of tears, cries, and deep sweats. Somewhere in that sound, I found I was the only one who laughed. Raymond had stopped and was watching again. Brother Felix's knuckles had gripped the earth of the embankment beside me, his shoulders slowly rising and falling.

I climbed up the embankment. Raymond gave me a once over as I walked past him and got into the Impala. My boots sloshed into the car, the muck of the ditch caked to my legs. Raymond took one more look toward the water and then joined me in the Impala. We left Brother Felix there, soaked but alive.

When we got home, we told everyone that we had kicked the shit out of Brother Felix. The truth was that he had nothing left in him. Felix was empty and long gone before we got there. Everyone said, "Oh ya," "That's good," and "Mmm hmm" when we told the story the first time. Later, some said they had forgotten Brother Felix. Others said he had died years earlier. Some found the tale an excuse to ask how much I'd given Les for that '65 Impala, then to say I'd overpaid for such an old and broken-down machine. A few tried to trade me for rusted pickups. Nearly everyone asked how Lyla was doing. Later that summer, Raymond got killed by a semi on a walk back from town, and come winter, I sold the Impala to my cousin, who said the best cars are the ones you leave behind.

NUPQU ʔA·KŦAM̓/TROY SEBASTIAN is a Ktunaxa writer from ʔaq̓am. He lives in Lekwungen territory.

The Walrus has a long partnership with Adventure Canada, an award-winning, family-run adventure travel company. As the new executive director, I'll be joining their **small-ship expedition** *Newfoundland Circumnavigation*, July 4–15, 2022.

My family has roots in Newfoundland, and I'm excited to return. This trip will start in St. John's and cover the island's northeast coast, L'Anse aux Meadows, Red Bay, Gros Morne National Park, Miawpukek First Nation (Conne River), as well as other beautiful spots. I'm looking forward to the colourful homes, whale watching, and breathing in the fresh, coastal air!

During this trip, I'll join you on our daily excursions and host a special dinner for supporters of The Walrus, where I'll share some insights from our work in 2022 to spark a conversation on the country Canada could be.

One of the things I've missed the most over the last year is exploring. Travel gives us a unique opportunity to **learn more about our country and ourselves**. I would love for you to join us!

Jennifer Hollett

Jennifer Hollett, Executive Director, The Walrus

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BOOKS

Long Story Short

Brief, provocative nonfiction once expanded the political imagination. One publisher is betting that pamphleteering can rise again

BY MARK ABLEY
ILLUSTRATION BY ALLY JAYE REEVES

It was only common sense, Thomas Paine believed, for the people of the thirteen colonies to declare their independence from Great Britain. And when, in 1775, he set out the reasons for his belief, he called the essay "Common Sense." For Paine, what also made common—or uncommon—sense was to publish his ideas as a forty-seven-page pamphlet. In so doing, he was tramping in the footsteps of Scottish philosophers like David Hume and French authors like Voltaire, Jean-Jacques Rousseau, and Denis Diderot. All of them had sought to influence their societies by producing short, hard-hitting texts to supplement their longer, more considered works. Paine's impact on American opinion was immense: in the early months of 1776, tens of thousands of copies were read and debated across the disunited states.

Dan Wells knows that history. Before he became the founding publisher of Biblioasis Press, in 2004—and long before the *Globe and Mail* named him one of its "Canadian arts heroes of 2020" for his bold editorial selections that proved smart, challenging books could still sell—Wells was a graduate student exploring the history of the Scottish Enlightenment. Back then, what excited him were those short philosophical texts about the failures of government, the need for religious freedom, and the rights of citizens.

Among the things that excite Wells now is the hope of reviving the pamphleteering tradition in present-day Canada. Biblioasis's *Field Notes* series, launched in the fall of 2020, consists of sharply focused works of nonfiction on urgent topics of the day. "The idea," he explains, "was to do short, fast books in as close to real time as possible." Traditional pamphleteers would set the type by hand and have it out almost instantaneously. "I thought we could emulate that kind of responsiveness." Wells initially hoped each would be as brief as 20,000 words (or one-quarter the size of many books). The irony is that Biblioasis is known for publishing the almost impossibly long *Ducks, Newburyport* by American writer Lucy Ellmann. Her novel required more than 1,000 pages, almost all of them occupied by a single unparagraphed sentence—scaring off many publishers. Wells was hesitant himself, suspecting the book was likely to lose a lot of money. But he believed in the text, and his bet paid off when *Ducks* became a runner-up for the 2019 Booker Prize.

Wells founded Biblioasis as a bookshop, then launched a literary press under the same name. Its first books were poetry, but, in recent years, nonfiction has taken up more and more of its list. Wells intends his new series to speak, as Paine did, to the present moment. "We have come to understand how important at this moment works of researched nonfiction are," he says, "whether these be history, investigative journalism, or other 'idea' books. *Field Notes* is part of how we're trying to respond to what we see as our role and responsibility." Each book aims to incite debate—not of the vitriolic kind so disastrously familiar from social media but based on an informed understanding of a particular issue or event.

At the front of each *Field Notes* book, Wells inserts a quote from Voltaire: "Twenty-volume folios will never make a revolution. It's the little pocket pamphlets that are to be feared." The quote serves as both a declaration and a promise. It suggests these are books that will command attention; it suggests these are books that will make a difference.

Despite the high ambitions of its publisher, *Field Notes* got off to a rocky start. Its first title, published in October 2020, was Mark Kingwell's *On Risk*. Kingwell is a consummate public intellectual and a fluent writer: he can wax eloquent about almost anything. Yet his strengths are not those of a pamphleteer. In his attempt to explore how societies aim to minimize and control risk, Kingwell meanders through childhood memories, ruminations on poker and Las Vegas, confused dismay at the COVID-19 pandemic, digressions on vintage Hollywood, and more. He scatters some provocative bons mots: "Conspiracy is a form of naïve theism: a belief that there is a controlling intelligence, albeit a cruel or deceitful one." But *On Risk* needed a stronger line of argument. For a pamphlet to succeed, it's not enough to pair a smart writer with a good topic: the author needs to have clear points to make.

The second title, Rinaldo Walcott's *On Property*, appeared in February 2021. It does exactly what *On Risk* fails to do: deliver an eye-opening sequence of ideas in coolly passionate prose. Walcott, a Black author and professor in the Women and Gender Studies Institute at the University of Toronto, is a twenty-first-century abolitionist: he believes that "something more radical than reform is necessary" to vanquish what he calls, in a terrific phrase, "the plantation's afterlife." It's not enough, he asserts, for policing to be made more humane; such half measures fail by their very nature. If Black lives really mattered in our society, police forces and prisons would be eliminated. Walcott then goes further. Writing in the wake of George Floyd's murder, he argues "Black people will not be fully able to breathe—a word I do not use lightly—until property itself is abolished."

This is not, you may say, a realistic call. But neither were *The Communist Manifesto* or *A Vindication of the Rights of Woman* on the days they were published. Authors have a right to dream—or, as Walcott puts it, "The first foundational step to embracing a newfound freedom is embracing the freedom to imagine it." Abolition of property, in his eyes, is not just a political step; it's a means of vanquishing the ongoing legacy of slavery that distorts and deforms our lives.

Andrew Potter's *On Decline,* released in August, strikes a different tone: sadder, more jaundiced, less rousing. Potter fears that the traditions we inherited from the eighteenth-century Enlightenment—notably a trust in logic and science—are now scorned by much of society and are likely to wither even further. *On Decline* is brimful of ideas: "What makes the present culture war so confusing, and so remarkable, is that it has seen the wholesale migration of countercultural thinking from the left to the right." In Potter's eyes, "The norm-flouting nihilism of the alt-right" has been met by a desire to impose rules from the left—and, instead of saying *woke*, he uses a brilliant alternative, "ctrl-left." Potter is deft at ending sections and chapters with swift, memorable kickers. His glum prediction is that, because of declines on several fronts—political, environmental, economic—and an ever-growing disdain for reason, "each succeeding year will feel like the worst year ever." Terse, direct, provocative, both *On Decline* and *On Property* shine as contemporary examples of the pamphlet form.

A year ago, when *On Risk* turned *Field Notes* from a dream into a sputtering reality, Wells expected that more titles would quickly follow. Instead, the series has developed slowly, with four books released in its first year. Why do so many authors find short books hard to write? An obvious answer goes back to French philosopher Blaise Pascal: "I have made this longer because I didn't have the time to make it shorter." Potter points to a subtler hurdle. Writing his 30,000-word book required him to wrestle with a new form, not the same as an essay or a long blog post. "It had to have proper chapters, which is a much different challenge," he tells me. "You need a structure for the book as a whole, and then each chapter has to have its own internal logic. In writing, structure is destiny."

The structure of the most recent *Field Notes* title is that of a nonfiction thriller. Elaine Dewar's *On the Origin of the Deadliest Pandemic in 100 Years: An Investigation* examines China's obfuscation about the vexed beginnings of COVID-19. "Elaine is," Wells says, "in real time, grappling with everything that's been going on. It's fascinating and terrifying." Her persuasive conclusion is that the virus almost certainly did not have a natural origin; it emerged as a leak from one of two laboratories in Wuhan.

As recently as May, Wells was unsure if Dewar's work would fit in *Field Notes*: at 121,000 words, not counting the copious endnotes, it's a long book by any standards. He eventually decided it belongs there because it "represents, in spirit and fact, what we aimed to accomplish with this series: we can't exclude it merely because it came in much longer than we anticipated." Wells shook off the usual timelines of Canadian publishing so as to get the work into the hands of readers as fast as possible: Dewar's final chapter refers to a statement published on June 22, and her book was in print by late August. In this respect, though not in its length, the work resembles a traditional pamphlet.

Field Notes arrives at a critical time. "More Canada," a 2018 report by a volunteer think tank of national publishers, found that "Canadian-authored books today represent only 13 per cent of total book purchases [in the country]....The creative side of Canadian book writing and publishing is in good shape. But the consumption side is in serious trouble. Supply is strong; awareness and readership are weak." In contrast to the free-falling number of newspaper readers, the number of people who read books has remained stable. It's the reading of *Canadian* books that has eroded. The report noted that smaller, independent presses such as Biblioasis "are the source of 80 per cent of the new books by Canadian authors published every year in English Canada."

How to address this issue is the perennial question. The generation that grew up reading *Harry Potter* has no fear of long fiction. In fact, many seem to demand it. But are readers willing to devour—and pay for—short nonfiction works?

Martha Kanya-Forstner, now publisher of Knopf Canada, edited David Chariandy's 2018 *I've Been Meaning to Tell You* when she was editor-in-chief at McClelland and Stewart. Chariandy's beautiful meditations on race and home take up a mere 128 pages, and Kanya-Forstner insists she had no worries that the result was too brief. Knopf Canada is the Canadian publisher of Chimamanda Ngozi Adichie's recent eighty-page *Notes on Grief*, and Kanya-Forstner waxes lyrical about its merits. "It's an intense, ferociously honest book. At greater length, it would have lost that immediacy. The space it occupies in my imagination and memory goes far beyond the time it took to read it."

For commercial publishers, however, such books are an exception. Wells believes that this country's larger presses no longer show much sense of public responsibility. "What Canadian nonfiction the multinationals are publishing," he says, "is largely made up of celebrity-authored titles, memoirs, and other pop-cultural works. Researched history, political or social criticism, makes up a minuscule part of their list—at a time when these books, as we reconsider our own troubled history and current practices, are more important than ever."

Can Wells meet the challenge he has set himself? "I have a habit," he admits, "of biting off more than I can chew."

"But Dan has a lot of things going for him," says Bruce Walsh, the recently retired publisher of House of Anansi Press. "He's considered 'hot' in the publishing industry, so he's going to get a lot of attention. And he trusts his instincts. You're a gambler when you're a publisher—and, if the gamble pays off, it's going to pay for everything." A few commercially successful titles can subsidize the many good books with disappointing sales. So far, the sales figures for *Field Notes* titles have been mixed. While Kingwell's *On Risk* faltered, Walcott's *On Property* raced through its initial print run of 4,000 copies within a few months, and Wells says the reprint has also done well.

With the promised appearance of 2022 books by Mireille Silcoff (on illness) and Deborah Dundas (on class), and with more women signed up for 2023, the initial gender imbalance of *Field Notes* appears to be correcting itself. What remains uncorrected is a bias toward Toronto authors. Biblioasis is proudly based in the unglamorous city of Windsor, Ontario, and over its history, it has published many writers from across the country. Yet nonfiction writers outside Toronto are largely absent from *Field Notes* and seem likely to remain so well into the future.

Now more than ever, publishing is an act of faith, a beacon in the night. "I had always harboured this desire to write a pamphlet," Walcott says. "I see myself as part of a Black tradition in the academy that doesn't always play by the rules." Books are central, he adds, to any good activist work. Wells too is a believer in books, "physical and otherwise, in their power and value. So it's only natural for me to want to engage with the world in this way." The experience of handling Dewar's study of the pandemic's origin has left him more determined to showcase investigative work with depth and lasting value. "There's a hole here which needs filling," he says. "Editing and publishing and promoting Elaine's book has been an education under fire, but it's made us more committed to this kind of publishing in the future."

Potter is no activist, but he likewise says that "I wouldn't have agreed to write the book if I didn't think it would find an audience and hopefully have an impact. I'm increasingly pessimistic about the online world and its effect on our lives—part of my argument is that the online world is making it harder to think straight about things, undermining our capacity for collective action. Maybe there's still room for books to counter that."

A frail hope, but one that informs the *Field Notes* series. To combine timeliness and permanence in a way that affects what Canadians think and believe: it may not be quite the revolution dreamt of by Walcott and Voltaire, but it's still a serious reform.

MARK ABLEY is writing a book about his travels from Istanbul to Kathmandu in the final year of the hippie trail. He lives in Montreal.

Coho

BY KAYLA CZAGA

Whenever I'm sad, I lift my fish book
off the shelf and let it fall open in my lap.
Today I got coho. I would've liked an eel
or even a smelt, but I only get one flip.
That's the game: one feeling, one flip.
Years ago, my father and I caught a salmon
so small we assumed we'd hooked weeds—
the bell he'd clipped to the tip of his rod
barely rattled. When we finally reeled in,
there it was at the end of our line, limp
and tiny, like an infant's filthy sock.
My father knelt down at the river's edge
to unhook it. He cupped it in his palms
and said, "I dunno. Might not make it."
Each syllable came out with a little cloud.
Then the fish swam away. I wish it would
let me go, this feeling, but I like its warm
hands, the way it wears my father's face.

SCIENCE

Ask a DNA Expert

Can we bring extinct species like dinosaurs back to life?

BY HENDRIK POINAR, AS TOLD TO ALEX TESAR

Earlier this year, scientists were able to create the first successful clone of an endangered North American species. Such advances in technology have led many to wonder whether we could do the same with extinct animals, even woolly mammoths and dinosaurs. We asked Hendrik Poinar, the director of the McMaster Ancient DNA Centre, what it would take to achieve de-extinction.

What's involved in trying to clone an animal? All living creatures are composed of DNA. When an animal dies, DNA remains in parts of its body, which scientists can extract and use heat to pull apart.[1] Those strands can then be divided and copied over and over again—like a genetic Xerox machine. An animal's genome, or the complete set of its genetic information, is made up of millions of DNA strands, and scientists must determine their exact sequence to make a successful clone. Being able to sequence to this depth and completeness is something that, in the late '90s or early 2000s, we never thought would be possible. In fact—and this is painful for me to admit—my entire PhD thesis would have been completed in less than thirty seconds on a current DNA sequencer.

If you're able to create a copy of the genome, you can then place the modified chromosomes into an egg cell of a very close living surrogate, which can carry it to term. A modified mammoth genome, for example, could be implanted into an Asian elephant.

What about really old DNA? Is it possible to extract it from ancient species? In the '70s and '80s, research suggested that DNA older than 100,000 years was beyond the limits of detection. But, in the decades since, we've discovered easily reproducible 700,000- and million-year-old DNA that's been pulled out of horse and mammoth fossils. How long DNA can last is completely relative to its environment. A mammoth that lived in the cold and dry north Yukon 50,000 years ago will be much better preserved than a fifty-year-old horse buried in Lake Ontario. It's just like with peas: the ones in the freezer are going to look more appetizing than the ones that have been left out in the backyard and exposed to humidity and precipitation.

Could we ever clone a dinosaur? My father led a research project in the '80s that inspired the science behind *Jurassic Park*.[2] After the movie came out, I was interviewed on NBC alongside Steven Spielberg. The host asked whether something like this could ever happen, and my response was no—the DNA is too degraded. When Spielberg was asked, he said, "This is the science of eventuality."

I never thought that I'd be taking scientific advice from a movie director, but to some degree he's right. I never used to think it would be possible to get genomes, but we now get genomes. I never thought we could actually reconstruct parts of those genomes, but we've done that too. Will we ever find a dinosaur that has viable DNA? I've learned to never say never.[3]

Scientists have warned about dangers associated with cloning. Should we be worried about de-extinction? There are species facing extinction because of climate change, and adding diversity back into an existing population can have value. Ancient species are different. I think bringing them back for the sake of fascination is a bad idea. Scientists may think they understand the behaviours of these animals, but no one left notes on a cave wall explaining their daily routines. Breeding can also lead down a dangerous path. Just look at dogs: we have all these purebreds with breathing problems, dysplasia, the list goes on. Around 99 percent of all species that have lived have gone extinct. We should leave them in the past.

1 In 2009, scientists came close to achieving de-extinction. They were able to clone a Pyrenean ibex, a type of mountain goat that went extinct in 2000, but the animal died from a lung defect within minutes of being born.

2 The groundbreaking research, published in 1982, examined DNA fragments in a fly trapped in 40-million-year-old amber.

3 Last March, researchers found evidence of preserved cartilage cells and DNA in a 75-million-year-old baby dinosaur fossil.

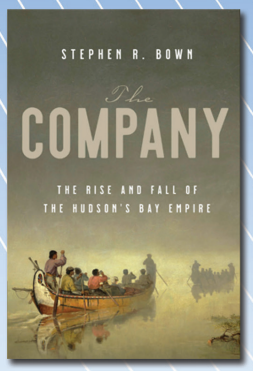
HENDRIK POINAR is a molecular evolutionary geneticist and biological anthropologist who loves all ice age creatures, big and small.

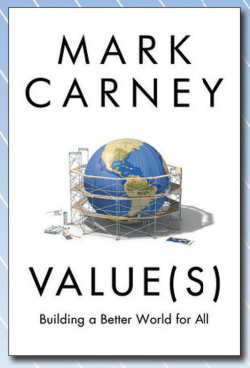
THIS INTERVIEW HAS BEEN EDITED FOR LENGTH AND CLARITY.
ILLUSTRATION BY IRMA KNIIVILA

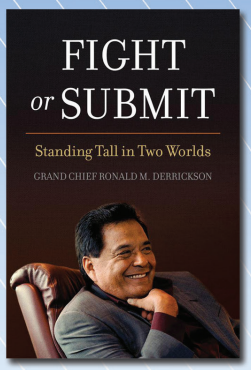
THE NATIONAL BUSINESS BOOK AWARD

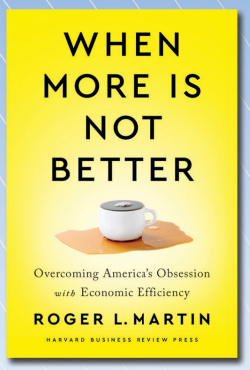
THE BEST OF THE BEST

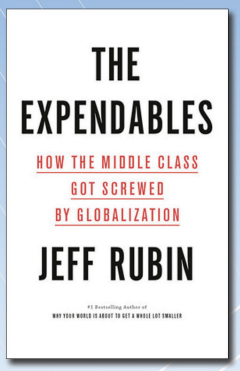
The National Business Book Award is pleased to announce the finalists for the 2021 Award for the best business book in Canada. This has been a truly blockbuster year for business books and these represent the best of the best. The National Business Book Award (NBBA) is Canada's most prestigious business writing award about business management and trends, history, biography or economics in or associated with Canada.











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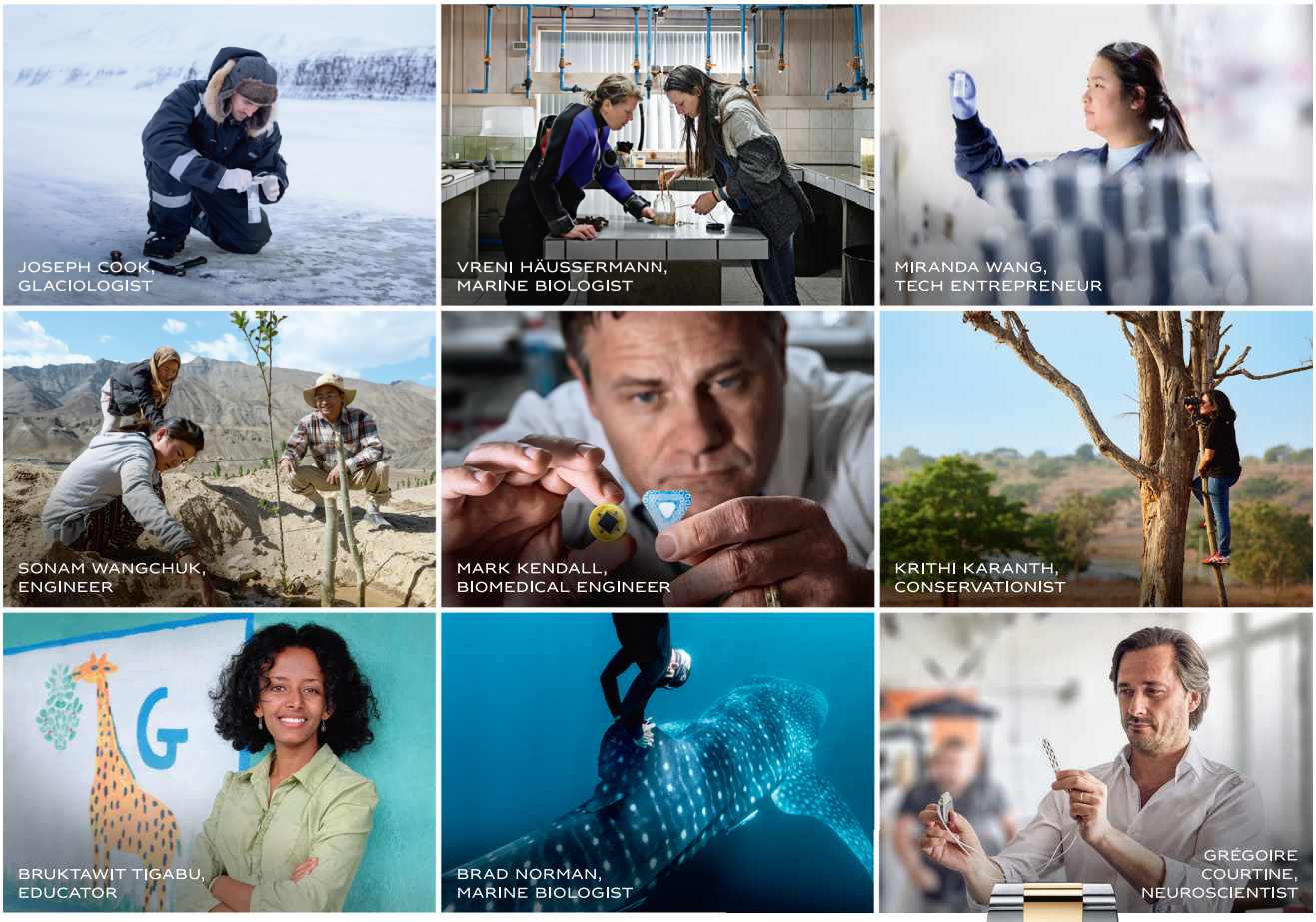

A FUTURE WORTH PIONEERING

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