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Vicky Lam's clients include Google, Amazon, and Etsy. Her work has been published in *Toronto Life* and the *Globe and Mail.*

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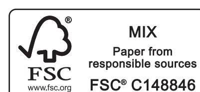

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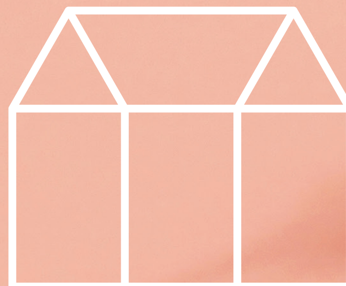

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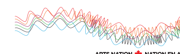

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For complete rules and submission form visit DaltonCampAward.ca

Editor's Letter

On October 29, obstetrician and gynecologist Jen Gunter spoke at The Walrus Talks in Toronto on the theme "Living Better." Gunter's seven-minute speech addressed misconceptions about the medical purpose of the hymen, which is culturally associated with virginity—but it also explored the role of cultural politics in spreading misinformation about women's health. The following week, a US rapper named T.I. made waves for revealing on a podcast that he shepherds his eighteen-year-old daughter to a gynecologist for annual "hymen checks." Gunter tweeted her rebuttal, which included the fact that human hymens (like those of elephants, cats, and dogs) exist for hygienic reasons, and the subsequent discussion went viral. (Gunter's talk, along with hundreds of others, can be viewed on The Walrus YouTube channel.)

Weighing in on public debates about women's health has become relatively routine for Gunter (often unofficially called "Twitter's resident gynecologist"), who writes for the *New York Times* and has a bestselling new book out, *The Vagina Bible*. The same day she spoke at The Walrus Talks, Gunter addressed the University of Toronto's Rotman School of Management about how opportunists can exploit gaps in health information to feed the growing "wellness industrial complex."

"The fault with medicine is that we didn't make it available [for patients] to have the conversation with us," she said, referring to conventional medicine's tradition of dismissing women's complaints—making way for entrepreneurs to step in with alternative solutions, as evidenced by the plethora of social-media influencers and health websites sponsored by wellness companies and lifestyle-cum-wellness brands such as Gwyneth Paltrow's Goop. It's become hard to separate fact from what someone's trying to sell you, and the task for wellness-seekers, said Gunter, is to question where their advice is coming from: "Why would you get your health information from a wellness company that's selling you a supplement?"

As Lauren McKeon reports in this issue, the thin line between health information, consumerism, and popular culture poses a real challenge for anyone navigating the now $4.2 trillion (US, as estimated by the Global Wellness Institute) wellness market, including the fast-growing cannabis niche. This spring, a deluge of new pot-themed lifestyle-and-wellness products will hit the market, a significant proportion of them aimed at women. McKeon's cover story, "New Highs," explores the range of products on offer—from luxury rolling papers to crystal pipes—and illustrates the challenge of remaining skeptical when faced with such attractive answers to insomnia, overwork, and, well, modern life.

Several writers in this issue address the intersection of health and technology. In "Hacking Diabetes," Jonathan Garfinkel explains how his experience living with the disease for decades led him to explore nascent but potentially life-changing hacks. In "All I Need Is YouTube," Michael Harris, who is becoming our resident loneliness expert, writes about how the digital era fosters superficial attachments—even as the intimacies offered by strangers on YouTube and Tinder promise to banish isolation forever. Meanwhile, in "In Deep," Hilary Beaumont dives into the reasons behind the ongoing water crises affecting many First Nations communities—in this case, it's a systemic failure to apply the solutions and technology we already have that is jeopardizing public health.

What emerges from the stories and conversations that make up this issue is a sense of how vulnerable we all feel—not just in the face of threats to our physical health but in our general quality of life, on that razor's edge between feeling "balanced" and out of control. It seems the road to wellness has never been easy, but it's obvious that the current landscape, which offers us the opportunity to be patient, doctor, and consumer all at once, can feel overwhelming. One of the factors that separates poor and good health, a life well lived and a life left wanting, is access to reliable information. In this season of New Year's resolutions, we hope these stories provide some perspective for your own transformations.

—*Jessica Johnson*

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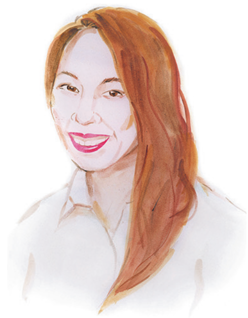
Contributors' Notes



VICKY LAM
Cover photography

"I'm not very familiar with cannabis products and paraphernalia, so photographing them for the cover was uncharted territory for me. Many of the items I came across weren't necessarily what I associated with cannabis: there was an anti-aging serum, a scented roller ball, and a steam facial. So I wanted to showcase that cannabis merchandise can be pretty—like luxury self-care products."

Vicky Lam's clients include Google, Amazon, and Etsy. Her work has been published in Toronto Life *and the* Globe and Mail.

MICHAEL HARRIS
"All I Need Is YouTube," p. 58

"As I dove into the world of imaginary romantic partners on YouTube, I realized we're confronting questions around intimacy more and more: Is a relationship with an avatar a real relationship? If it comforts you, isn't it real? How different is that connection from the one we have with the humans in our lives, whose minds we really can't enter either?"

Michael Harris is the author of Solitude *and* The End of Absence, *which won a Governor General's Literary Award.*

MEGHAN BELL
"Take My Money," p. 21

"People find it really hard to see themselves as oppressors or as villains in any sort of structural system. But capitalism itself can be an abusive system. Really buying into it and trying to raise your kids to be successful under capitalism may mean engaging in behaviours that are psychologically damaging to children. I believe capitalism is not healthy for us."

Meghan Bell's fiction and poetry have appeared in over a dozen literary publications, including Rattle, Prairie Fire, The New Quarterly, *and* Grain.

JONATHAN GARFINKEL
"Hacking Diabetes," p. 42

"Diabetes, for me, has always been a very private affair. I mean, who wants to talk about how sick they feel? But I think that's really changed in our discourse today, both in the way we talk about illness in general and with the way social media works. Things are way more out in the open. As I reported this piece, it was a revelation to be able to talk about diabetes with other diabetics. It gave me hope that teenagers today won't feel the same kind of shame I did around being ill."

Jonathan Garfinkel is an award-winning poet, playwright, and author. He is working on a PhD in the medical humanities at the University of Alberta.

HILARY BEAUMONT
"In Deep," p. 51

"Growing up in Halifax, I was always told that we had good tap water. I never thought about the history that made that possible. As I reported on the water crisis in some First Nations, I learned that the lands I lived on and their surrounding waters were chosen specifically for settlers during treaty processes. Less desirable lands and waters were set aside for Indigenous peoples. Access to clean water is a human right, and it's the federal government's responsibility to ensure that, in First Nations communities, people can turn on the tap without questioning whether their water is safe."

Hilary Beaumont is a freelance journalist based in Toronto. She has been reporting on the First Nations water crisis since 2015.

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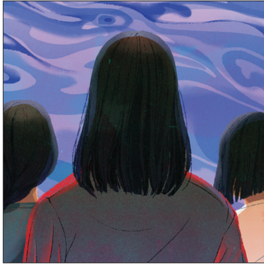

OUT OF PRACTICE

Kate Yoon's story ("Distant Relatives," November) is a telling portrait of Canada's immigration policy, because of which too many newly arrived people are divided from their families due to their professional qualifications not being recognized. As Yoon observes, though Canada's immigration system has formally evolved to give greater opportunity to more immigrants, many informal barriers remain, preventing newcomers from fully flourishing. In Nova Scotia, a province with just under 1 million people, more than 50,000 residents are without a family doctor. Meanwhile, there are foreign-trained doctors in the province unable to practise. In an effort to address this, the province is rolling out a new program to qualify more physicians. It's a small step, but it shows how Canada can better accommodate newcomers to everyone's benefit.

Robert Huish
Halifax, NS

GLOBAL WARNING

Chris Turner usefully examines the climate conversation through the lens of energy policy, yet his article ("We're Doomed. Now What?" November) misrepresents the urgency of this crisis. In calling Canada a climate pioneer, Turner glosses over the jurisdictional squabbles, climate-change denial, and carbon-tax backlash that still exist in this country. After all, Andrew Scheer's Conservatives won 121 seats (twenty-six more than they had at the start of the election) on an anti-carbon-pricing platform.

By demanding a "war response," climate activists are trying to push elected officials to cooperate across party lines and make the climate crisis a priority in all policy decisions. Turner criticizes these activists, arguing that they should advocate for a "Green Marshall Plan" instead. But governments are still not united in recognizing the need for substantial action. Turner's plan will be a fine idea once the war against the status quo is over, but we are not there yet.

Amelia Berot-Burns
Toronto, ON

While I agree with Turner's assessment that the carbon tax is a positive large-scale approach to our climate problem, I believe that each one of us must also justify their own lifestyle. For example, Why do so many of us insist on building monster homes to house only a few people? I cannot begin to imagine the amount of energy these devour with both their construction and their ongoing upkeep. Building so lavishly is simply wrong, and it's a glaring example of what a "collective-action problem" looks like at the individual and family levels.

Matthew Marosszeky
Aurora, ON

CONSTRUCTION CRITICISM

The trend here in Vancouver toward wood as the go-to building material seems in step with Viviane Fairbank's article about designers working to reduce the climate impact of the construction industry ("Greener and Cleaner," November). But the city has also just been through an unprecedented real estate boom, and thousands of older buildings have been torn down over the years. This has created millions of tonnes of demolished materials, most of which has ended up in landfills. Recycling construction waste remains an undervalued approach to greener, lower-carbon building.

Charles Leduc
Vancouver, BC

ON POINT GUARD FOR THEE

Troy Sebastian's "Raptors Revolution" (November) brought me back to Scotiabank Arena, moments before game five of the finals. Tipsy, I hollered "O Canada" along with over 20,000 Raptors fans.

Like the author, I am Indigenous and have struggled with "accepting" Canada as a part of my identity. But the notion that doing so is somehow a betrayal of our Indigenous Nation is flawed. This "new" nation Sebastian writes of will always be some version of Canada. The country is a mural, with sections as old as time immemorial and sections as fresh as last year's NBA season. That is what makes it a beautiful picture.

I am Wet'suwet'en and Canadian. But, in that moment, I and tens of thousands of other Canadians were Raptors fans. And that was all that mattered.

Trevor Jang
Vancouver, BC

"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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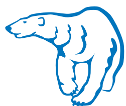
PHOTO: JESSIE EVANS

On the Front Lines of Climate Change in Greenland



As global temperatures rise, it is more important than ever to support scientific research and sustainable tourism in one of the most environmentally vulnerable areas on Earth

Amy van den Berg

It is still and silent along the secluded fjords around Greenland's southern tip; icebergs and "bergy bits" (small chunks of ice that have broken off from larger ice floes) dance slowly in the water, and calving glaciers spill out between the jagged mountains that line the waterways like sentries.

Stretching from the North Atlantic to the High Arctic, this ice-laden island is one of the most remote corners of the world, its sparse population scattered in isolated communities along the coast. Expeditions such as those with Adventure Canada are among the only ways to access these communities, and the only ways to reach them are by boat or plane. But travellers who have this opportunity are rewarded with not only breathtaking landscapes but also a look at a locale of utmost scientific importance.

Beyond the surface, Greenland is teeming with life. The tundra that stretches along the coastline supports a diverse ecosystem of plants and wildlife, and the frigid waters that surround the island are home to jellyfish, whales, and more than sixty species of bird.

Yet this environment's isolation does not spare it the effects of climate change. In fact, Greenland is a bellwether for researchers: the dramatic physical and ecological shifts happening there can be valuable bioindicators for the rest of the globe on the acceleration of the climate crisis.

Learning about these ecosystems and witnessing their transition firsthand is a crucial first step in understanding climate change, not only for policy makers and people in positions of power but for all of us.

Greenland is dominated by an enormous ice sheet that covers 80 percent of the island and contains 10 percent of the world's fresh water in its icy mass. It is up to three kilometres thick in some places and measures seven times

PHOTO: SCOTT SPORLEDER

the size of the UK. But, since 1993, this sheet has shed 5,000 cubic kilometres of fresh water into the subpolar North Atlantic. This melting portion of inland ice (which some call "ground zero" for climate scientists) has recently become the focus of scientific research as it acts as evidence of climate change's quickening pace.

In the summer of 2019, it was widely reported that Greenland's ice sheet is melting faster than ever—nearly 200 billion tons in July alone. According to current predictions, if the entire ice sheet were to melt, it could contribute to a global water-level rise of up to seven metres. The summer months usually see higher rates of melting, but this year's abnormally high temperatures contributed to a longer melting season. Stories quickly spread about the future of the island's ice and the need to cut back CO_2 emissions—a major contributor to global warming—alongside aerial images of clear-blue pools of meltwater gathering on the ice sheet's surface.

These changes are visible along Greenland's coasts, specifically in the glaciers that poke through the mountainous terrain. Glaciers are masses of layers: snow falls on their surface in winter and melts in summer. Until recently, this cycle has remained in check, but over the last three decades, Greenland's glacier has shrunk more and more each year. Navigating the coastal fjord by sea, you can hear the walls of blue-and-white ice creaking and groaning, occasionally punctuated by large sections breaking off and tumbling into the water below.

Peter Croal is a retired exploration geologist who has worked with Adventure Canada and other expedition-tourism companies in the Arctic and Antarctic. He has seen the impacts of climate change in Greenland firsthand: "It is happening," he says, "and it's changing things in quite remarkable ways." One of these changes, he says, is to the colour of the ice. Unlike the brilliant white of the picturesque glaciers on postcards, large swaths of Greenland's ice are marred by thin patches of grey and black. Croal explains that this is a combination of soot, microbes, dust, and carbon called cryoconite, which settles from the atmosphere onto the ice as a result of our increased industrial and natural processes. The microscopic layers of carbon and dust act as big solar panels, absorbing heat and accelerating melting. The pockets of melted ice also create nutrient-rich habitats for polar micro-organisms like algae, which thrive and spread, further darkening and thawing the ice. "It's definitely a major concern," Croal says.

Greenland's diminishing ice affects numerous ecosystems and species, the most familiar being polar bears, who are struggling to find enough food without the same amount of sea ice in their hunting grounds. Meanwhile, Arctic

Regenerative Tourism

This past July, on the *In the Wake of the Vikings: A Voyage from Iceland to Greenland* expedition, we sailed along the Tunulliarfik Fjord and visited the settlement of Qassiarsuk, home to fewer than 100 people. As we explored the town, including the original house of Erik the Red, church bells rang at the base of a hill. A wedding was taking place, the bride entering the small chapel in traditional festive Greenlandic dress of furs and intricate beading. We watched as she and her groom walked down the main street, two girls trotting beside them dressed in pink. It was a heartwarming sight, but we continued on our way, lowering our cameras to avoid intruding on their special day.

These moments are unique to expedition travel. Exploring some of the most pristine coastlines on Earth and having opportunities to witness the intricacies of everyday life in these isolated corners of the world are especially wonderful experiences. But, as responsible travellers, it is equally important to keep our distance and respect the dignity of the people and places we visit.

In 2015, the United Nations put forward its Sustainable Development Goals, a blueprint for global prosperity and peace with the aim of addressing inequality and promoting economic growth in every country (developed and developing) while tackling climate change. The list of priorities includes making cities and settlements safe, inclusive, resilient, and sustainable; protecting and promoting the sustainable use of ecosystems; and boosting local economies and increasing employment opportunities.

Adventure Canada knows that, in a new era of tourism, it is more important than ever to be environmentally and socially conscious. For travellers who want to explore the world with positive impact, the

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Expedition education programs offer our guests immersive and inclusive programs with top leaders in their fields. These enriching programs provide lifelong learners with opportunities to learn, share, and take action during and after every expedition.

PHOTO: JESSIE EVANS

PHOTO: DENNIS MINTY

UN guidelines can be used as a tool for selecting the best travel company. Adventure Canada believes that healthy cultures, ecosystems, and economies go hand in hand, and strives to address as many of these suggestions as possible.

- Expedition education programs offer our guests immersive and inclusive programs with top leaders in their fields. These enriching programs provide lifelong learners with opportunities to learn, share, and take action during and after every expedition.
- Adventure Canada advocates and provides opportunities for strong women in leadership, including offering professional development at Adventure Canada headquarters and on Expedition Teams.
- Adventure Canada purchases Inuit art and locally produced products from Arctic communities and sells them onboard, supporting economic prosperity and cultural preservation in the North.
- Our Taste of Place program features locally farmed, foraged, and sea-to-table foods.
- Scientists-in-residence and young explorers join Adventure Canada expeditions to further their research and share their findings on the impacts of climate change.
- Adventure Canada consults on policy developments throughout the regions we operate in, including the interim management plan for Tallurutiup Imanga, one of Canada's newest and largest national marine conservation areas.
- Through Fly it Forward, Adventure Canada carbon offsets staff flights, providing funding to the Groundswell Network Society for food, energy waste, water, and climate-education programs.
- Across Nunavut, Adventure Canada and Parks Canada are working together to develop sustainable and safe visitation guidelines to some of Canada's most isolated and sensitive areas, providing economic benefit to Inuit and protecting cultural and ecological integrity.

foxes, seals, walruses, and musk oxen are also suffering as a result of ecosystem disruption, as is the delicate food chain that supports whale populations.

On a larger scale, the influx of fresh water running off Greenland's ice sheet makes water at high latitudes less saline and therefore less dense, which has the potential to slow the ocean conveyor belt, whose deep-sea circulation helps regulate climates worldwide though a process called "overturning." Disrupting this process would have repercussions across the planet, most notably in Western Europe, where temperatures could drop as a result. The hitch is that scientists still don't understand exactly how ocean currents work, which makes measuring this process exceedingly difficult.

In the face of a rapidly changing environment, Greenland's many communities are changing too. Diminishing glaciers are opening new areas for fishing and tourism, yet for the country's 50,000 Inuit, traditional ways of life such as dog sledding and hunting are at risk. In August, the *Guardian* called Greenland's changing social landscape "the hidden frontline of the climate crisis," chronicling a mounting mental-health crisis directly connected to climate breakdown.

The immediate needs in the arctic and subarctic regions are more research and attention. These include better access, more Inuit participation and knowledge, and international cooperation. Ahead of UN talks in September 2019, the World Meteorological Organization warned that carbon-cutting efforts need to start immediately to address sea-level rise and warming global temperatures, and youth activists marched on the streets of major cities around the world, led by teenage activist Greta Thunberg. At the summit, Thunberg looked down at the crowd of gathered world leaders and said: "You are failing us."

With the stakes so high, Greenland has become the centre of many scientific efforts to track the ever-changing ice sheet, and Canada-based expedition company Adventure Canada is doing its part.

Since 2015, Adventure Canada has collaborated with the Mallory Lab at Acadia University in Nova Scotia, inviting ten early career scientists onboard to study seabirds. These student-scientists identify and count birds as the ship is moving, and the precise position of these counts is then entered into a multi-decade database. This allows researchers to determine where different species are found, at what times of year, and how these distributions are changing in response to environmental stress such as climate change. The data that comes from this collaboration fills the gaps in many coastal regions, where other types of ships generally do not travel and thus information on bird populations has been lacking.

"The opportunity to work with Adventure Canada, doing quantitative,

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structured surveys for marine birds and mammals, is filling in information gaps that we simply couldn't any other way," says ornithologist and environmental researcher Mark Mallory, who runs the Mallory Lab. "In turn, this is greatly improving our models and insights to how upper marine predators are responding to the environmental stressors they face."

In 2018 and 2019, Adventure Canada also initiated a new collaborative project with its scientist-in-residence program and Acadia University, sending two early career scientists to record plastic observed on the water during seabird observations or along shoreline stops as part of the development of a citizen-science protocol. This work provides a baseline for the current state of plastic pollution through much of the Canadian Arctic waterways as global concern over the extent of this type of pollution rises and new initiatives get underway in Canada and elsewhere to reduce plastic waste.

On top of the great work they're engaged in, these scientists and their projects have been popular with passengers, who are generally curious lifelong learners and see great value in supporting science during the expeditions.

By connecting climate researchers with open-minded travellers, Adventure Canada is helping form an educated and informed society and build empathy for the endangered environment and communities who depend on it. Getting to know the world is one way of becoming better global citizens, and there is no better way to understand its fragility than by travelling to these Arctic corners.

Supporting Emerging Journalists

Amy van den Berg is the author of this article and a former Adventure Canada Fellow at The Walrus. She joined Adventure Canada on the *In the Wake of the Vikings: A Voyage from Iceland to Greenland* expedition in July.

As an advocate for knowledge-sharing and responsible journalism, Adventure Canada sponsors an aspiring journalist each year to take part in the editorial fellowship program at The Walrus. During their six months at The Walrus, fellows are included in the magazine's day-to-day function and production and, among other things, are tasked with fact-checking every published piece.

We are proud to have been partners with The Walrus for over ten years and to support fact-based journalism that Canadians can trust and rely on to make informed decisions. We look forward to connecting more Canadians with the North on The Walrus' next expedition in the summer of 2020: *Heart of the Arctic.*

PHOTO: JESSIE EVANS

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SOCIETY

Take My Money

I'm part of the 0.1 percent and I want a wealth tax

BY MEGHAN BELL
ILLUSTRATION BY DANIELLE KRYSA

LAST CHRISTMAS, I gave my father a copy of *Winners Take All*, Anand Giridharadas's scathing critique of how the wealthy use philanthropy to reinforce their power. Giridharadas speaks as an insider: he is a former analyst for McKinsey & Company, a consulting firm that, as the *New York Times* reported, has both advised Purdue Pharma on how to "turbocharge" opioid sales and raised the stature of authoritarian governments. I picked the book because I'd spent the last half-decade having a back-and-forth with my parents about starting a charitable foundation only to realize that we had very different visions for what that charity might be. I imagined them donating a portion of their income, which would, in turn, award grants to local non-profits. My mother suggested they instead accumulate millions in an endowment and donate the capital returns annually.

Two months later, I was talking to my dad and he told me he had read it. "This doesn't apply to me, Meghan," he said. "Do I have a private jet?" No, I said, adding that the dozens of commercials flights he takes annually still leave an outsize environmental footprint. "Do I have a mansion?" he asked. Yes, I said, pointing out that the house he bought after separating from my mother had even been featured in an architecture magazine. "No, I mean, Do I have a mansion at the lake?"

"Dad," I said, "are you asking me if you have a mansion on your private island?"

"Yes."

"No." I carefully picked my words. "Neither of the houses on your private island is a mansion."

MY FAMILY is rich via a privately owned corporation founded by my maternal grandfather. In the last decade, we joined the elite ranks of Canada's 0.1 percent (in the top 10 percent of the 1 percent wealthiest in the country) because we, like many wealthy families, are only getting richer. I don't know how much money my family has, nor do I have any access to their wealth; they've identified me (correctly) as the leaky faucet of the family because of my feminist and socialist politics. I've encouraged them to share more than they currently donate (and to pay their 700 employees more).

As I see it, the ongoing conflict between me and my family is simple: they believe they are entitled to yearly vacations, two cabins, sports cars, a speedboat, lavish parties, and growing their own wealth despite already having so much more than most people. They believe that, because they are millionaires and not billionaires, because they are new money (my mother's father was the son of an Italian immigrant who worked as a produce driver; my father is the son of upper-middle-class Republicans), because they are generous with their many friends, and because they pay their taxes, they are not the problem. I believe, as A.Q. Smith put it in *Current Affairs*, that "it is *immoral* to be rich." All of which is why I want Canada to adopt a wealth tax.

The growing wealth gap, the impact of capitalism on climate change, and the question of what will happen when millions of jobs are inevitably lost to automation are just some of the many frightening issues younger generations are facing. Inequality, both within Canada and globally, has been steadily increasing since the 1980s. Canadian

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—Benoit Duguay, veteran journalist

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billionaires increased their wealth by over $20 billion in 2018, and bank executives from the top five Canadian banks pocketed $55 million in direct compensation. Meanwhile, according to an Oxfam report, the poorest half of the country holds only around 4.5 percent of its wealth. What's more, about 3.4 million people (roughly 18 percent of whom are children) live below the poverty line.

To combat and reverse this trend, progressive political leaders such as Bernie Sanders, Elizabeth Warren, and Jagmeet Singh have all proposed different versions of a wealth tax on the richest families in their respective countries. If enacted, Singh's plan would tax 1 percent of wealth exceeding $20 million (inclusive of real estate, investments, and luxury items), raising nearly 70 billion dollars in additional tax revenue over the next decade. I'd argue that a wealth tax, combined with other reforms such as capping executive pay, cracking down on tax shelters, and increasing the top marginal income-tax rate, has the potential to slowly erode the fortunes of the super wealthy and limit the amount of money individual families can accumulate. I began to see the idea of a wealth tax grow in popularity after French economist Thomas Piketty proposed a progressive annual tax on capital in his 2013 book, *Capital in the Twenty-First Century*. In Canada, a recent survey found that the majority of people, including conservatives, support a wealth tax. As Piketty explains (somewhat laboriously), a wealth tax "will make it possible to avoid an endless inegalitarian spiral while preserving competition and incentives for new instances of primitive accumulation."

I WAS RAISED by capitalists in a family culture of extreme competitiveness, and my early childhood experiences left me with a nihilistic worldview that held me in a deep depression until I was introduced to feminist and left-wing politics at the University of Victoria. Before that, I was a product of two years at a private school and two years at West Vancouver Secondary School, where one of my yearbooks boasted that the business program taught students to be the "next Donald Trump."

Two traits I sometimes witnessed in my classmates still jar me today. The first is a belief in determinism, specifically that the good fortunes they were born with and experienced were "meant to be." When we discussed the topic in class, I felt like one of the few who didn't find the idea comforting. Instead, I remember asking if children born into poverty or with incurable illnesses were also "meant to be." The question was hedged and the topic swiftly changed. The second trait I witnessed in my classmates is a belief in their own exceptionality—the idea that they could achieve whatever they wanted to if they just put forth enough effort. This isn't necessarily a bad thing, except so many of them also gave themselves credit for what they *could have* achieved if only they had tried.

I have heard multiple rich kids dismiss low grades or failures because they didn't try. I remember being ousted by my high-school friend group after one girl bragged that her Cs would be As if she'd just studied instead of partying in our first year of university, and I replied bluntly: "All you've proven is that you were stupid enough not to try." Similarly, I remember my younger brother basing his claims of genius on the fact that he put in a minimum effort but still passed his engineering classes, and I once heard an older cousin claim that the only reason he hadn't tried to join Mensa was that he was too modest. This attitude, I think, is a reason why so many privileged kids assume they could have bootstrapped themselves out of poverty if they'd only had the opportunity—and also why they seem to embrace victim blaming.

I wish I could claim that, on average, the wealthiest in society are thoughtful, compassionate, and generous when it comes to their money, but my experience has been the opposite. I remember watching an executive chase down a cab driver, after drunkenly handing him a $100 bill instead of a ten, to get his money back. I also remember a high-school classmate who grew up in a mansion with a pool and hot tub telling me, while we were eating at a Denny's, that he doesn't believe in

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tipping servers. When we visited other countries on vacation, my parents would teach me and my brother to haggle with street vendors and shame me for being gullible and too easily taken advantage of when I paid higher prices. This is more than just a selection of anecdotes. It's been well established that Canada's rich give a smaller percentage of their income to charity each year than do people with substantially less wealth—and, when they do donate, they are likely to give to organizations that appeal to individual responsibility over communal values, according to recent studies.

It's been said that it's easier to imagine the end of the world than the end of capitalism. I'm no utopian, but I know there are better ways for us to live. I believe that policy changes to limit intergenerational inequality, the exploitation of labour, and the exploitation of the environment will lead to happier and healthier outcomes for everyone, the children and grandchildren of today's "winners" included. They would free all of us to stop comparing ourselves to one another, to let go of mass consumption and the gospel of prosperity. It would make us all less lonely if we could abandon the cult of individualism to embrace mutual care over self-care, collaboration over competition, active change over positive thinking. For this, we need social services to ensure that the basic needs of all are met—for example, a universal basic income could empower workers to say no to exploitative and abusive employers as well as to jobs that are detrimental to society or the environment. How do we pay for all of this? Tax the rich. They might not realize it, but by taxing our billionaires and multimillionaires down to a more reasonable level of wealth, we would likely be doing them and their children an enormous favour.

RESEARCH HAS SHOWN that affluent children and teenagers are at high risk for anxiety, depression, and substance abuse (researchers suggest that this is a result of pressure to achieve and isolation from parents). The rich have been shown to be less empathetic, and narcissistic or "toxic" parenting can both cause narcissism in children and lead to significant emotional and physical health struggles for them. I've observed that wealthy men who identify themselves as "new money" can be contemptuous of "old money"—those who inherit their wealth instead of "earning" it. In my experience, this can even include contempt for their own heirs, which leads some children to compete with the family patriarch—to try to accumulate greater wealth and power than what they will already inherit, in an effort to prove themselves worthy of it. Many of the rich boys I went to high school with had identities tied to meeting or exceeding the wealth and success of their fathers. When I was younger, I remember hearing the romanticized story of my grandfather's self-made, rags-to-riches success (and my father's dramatic growth of the family business) and knowing, with remorse, that I would never have a similar sense of achievement.

Of course, the "struggles" of the wealthy pale in comparison to the struggles of those on the bottom half of the socio-economic ladder. My point here is not that we should pity rich children but rather that they do not seem to benefit from inequality either. In *Complex PTSD*, Pete Walker describes how children who experience emotional abuse and neglect often overdevelop one of four defence responses (fight, flight, freeze, or fawn). "Children who are allowed to imitate the bullying of a narcissistic parent may develop a fixated fight response to being triggered," he explains. "These types learn to respond to their feelings of abandonment with anger and subsequently use contempt, a toxic amalgam of narcissistic rage and disgust, to intimidate and shame others into mirroring them and into acting as extensions of themselves." I believe we see this in the contempt many successful capitalists have for people who claim victimhood or who come to rely on what Walker calls "freeze" (escapism and addiction) or "fawn" (people pleasing) responses to childhood trauma.

As Gabor Maté notes in *In the Realm of Hungry Ghosts*, money, like many other things, can become addictive. This is

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Eva Stenram, *Per Pulverem Ad Astra* (detail), 2007, chromogenic prints made from negatives exposed to dust. Courtesy of the artist, source image courtesy of NASA/JPL-Caltech

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not to say that wealth hoarders aren't responsible for their actions but rather that their hunger knows no end. The rich can chew up and spit out the most sensitive among them—here, I think of Donald Trump's older brother, who died of alcoholism; of the private older brother of Charles and David Koch, who fought legal battles against his siblings and tried to distance himself from them; and of the countless stories of hazing and sexual assault within the Greek system, as well as its connections to binge drinking. I've been joking for years that I cannot bear to be sober around my family. Sometimes, I suspect that drugs and alcohol are necessary for the rich to live with themselves and one another. We certainly consume more booze than any other demographic. In the words of Brett Kavanaugh: "I liked beer; I still like beer."

I DON'T EXPECT 0.1 percenters or their children to have sudden changes of heart. When you are the child of "winners," it is difficult to choose what feels like losing. A popular 2012 blog post, titled "Straight White Male: The Lowest Difficulty Setting There Is," compares privilege to settings in a video game. But, for people who grew up believing competition is everything, it is more humiliating to lose a game played on "easy" than on a more difficult level. So here, I speak to everyone else: the rich do not care about you (some might even hate you), and any rich person claiming otherwise is conning you. Call their bluff. The rich will not help you, will not save you through "job creation" or anything else. Corporate-tax cuts are associated with greater inequality, not more job opportunities. The average rich person is looking out only for himself. (I use the male pronoun because, according to *Bloomberg*'s recent list, only 13 percent of the world's 500 richest people are women, and the easiest way for a woman to rise to the 1 percent is still through marriage or inheritance.)

We live in a world where the purpose of many high-paying jobs is to maintain the bureaucracy of capitalism and the myth of meritocracy while jobs that are essential to a healthy community—care workers and hygiene and sanitation workers, for example—are overworked and underpaid. Private schools and the parents who pay for their children to attend them receive subsidies and tax breaks while teachers at public schools across Canada suffer underfunding and overcrowding. The gig economy is "disrupting" industries such as hospitality and transportation, undermining worker protections. As Jia Tolentino points out in *Trick Mirror*, under late-stage capitalism, "the model of business success in the millennial era is that of dismantling social structures to suck up cash from whatever corners of life can still be exploited."

I'm a child of the 0.1 percent, one of the thousands of children who, through no merit of our own, were born to potentially inherit a disproportionately large chunk of the world. While I am grateful for the financial resources my parents have invested in me, I want a more equitable world, one where every child is cared for and has the opportunity to nurture their talents. Bluntly, it is incomprehensible to me that we live in a country where some people have indoor swimming pools and others do not even have clean drinking water.

Dear Canada: for the love of humankind, the planet and its creatures, and the innate sense of justice I believe most of us carry, please support progressive tax changes (such as the wealth tax proposed by the NDP) and environmental action. We need to elect politicians who will tax the rich, eliminate unjust corporate-tax loopholes, and crack down on tax havens, not politicians who have been bought by oil executives and other wealthy donors.

And, to my family and to the other children of the wealthy who may be reading this: it's time to break out of our bubble and look at how much we consume. Wealthy children have a unique advantage in this fight: access to the sources of the problem. It's time to put aside our egos and listen to the people most affected by inequality and climate disaster, to follow their leadership, to put aside our obsession with individual achievement and work collectively for a better world. Who knows, we might even save our souls.

MEGHAN BELL's fiction and poetry have appeared in over a dozen publications, including *Prairie Fire*, *The New Quarterly*, and *Grain*. Her first collection of short fiction will be published by Book*hug in 2021.

THE WALRUS READS

Canadian authors pick the year's best books

I Hope We Choose Love
by Kai Cheng Thom

I want to put Kai Cheng Thom's magnificent essay collection in the hands of so many people: trans girls and queers who don't know what to make of their own brethren; straight people who are unsure of how to navigate particular strains of leftist thought that have permeated the wider culture. *I Hope We Choose Love: A Trans Girl's Notes from the End of the World* is full of honesty and generosity in the purest sense of each word. It reads like a gentle voice at your side saying, "Look, I know this is how it feels"— "it" being substance abuse, mental-health issues, intimate-partner violence, and supporting someone grappling with any of the above—"and I want to give you something else to consider." In a time of extraordinary trans books sweeping the world (Hazel Jane Plante's *Little Blue Encyclopedia (for Vivian)* being one of the latest), Thom's is a beautiful and urgent thing. I honestly can't think of a single person in my life I wouldn't give it to.

Casey Plett *is the author of* A Safe Girl to Love *and* Little Fish, *winner of the 2019 Amazon First Novel Award.*

Inclusion Matters

As our National Inclusion Partner, TD has been a proud sponsor of The Walrus Talks Inclusion across the country. Each event sparked essential Canadian conversations, bringing together a range of perspectives and experiences on how design, technology, and education can remove barriers for people with disabilities. Speakers focused on a shared vision for ability, accessibility, and diversity to make Canada a more inclusive society. Here are some of the highlights from the 2019 series:

"Three principles of inclusive design are recognize exclusion; learn from diversity; and solve for one, extend to many."

Ricardo Wagner,
Microsoft Accessibility Lead,
Microsoft Canada

"It's about developing a culture of belonging that values difference as a strength. It's about empowering the millions of Canadians living with disabilities to unleash their full potential."

Janet Austin,
Lieutenant-Governor of British Columbia

"People with disabilities are full rights holders and citizens, and as such deserve to have all the same rights and access as each individual in society."

Jewelles Smith,
Chairperson, Council of Canadians with Disabilities

"Special education evolved out of the medical model: something's wrong, you go to the doctor and then they fix you. But we're learning a lot of things about disability. First thing is, well, maybe we don't want to be fixed. **Maybe we need disability as much as anything that makes us diverse."**

Shelley Moore,
UBC Ph.D. Candidate & Inclusion Advocate

“I think it’s really important for us to realize that disability is a big deal. Stats show that 1 in 5 Canadians is living with a disability today.”

Rick Hansen, Founder, Rick Hansen Foundation

“The frequency of disability among Canadians is approximately 22 percent; **within the Indigenous community, it’s about twice that.** ”

Neil Belanger, Executive Director, British Columbia Aboriginal Network on Disability Society

”The goal has to be delight, not accessibility. Accessibility can be part of that conversation, but it cannot *be* that conversation. We spend all of our time talking about minimal access and, frankly, struggling mightily to get there, when it’s actually a very small subset of getting to delight. **The good news is organizations are really good about delighting people; they just have never thought about delighting people with disabilities.”**

Rich Donovan, CEO, The Return on Disability Group & author of Unleash Different

“The beauty of inclusion and access is then to struggle together to create spaces that meet the needs of everyone.”

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THE WALRUS | CANADA'S CONVERSATION

BUSINESS

New Highs

In the wake of legalization, a luxury cannabis industry has cropped up to cure us of, well, everything

BY LAUREN MCKEON
ILLUSTRATIONS BY CYNTHIA KITTLER

ONE EVENING a few months ago, I lit a joint of Granddaddy Purple. I had arrived home late—again—from work, anxiety knotting in my chest. There was still so much to do, and I couldn't seem to start on any of it. I needed to hustle, but first, I needed to relax. Introduced in 2003, Granddaddy Purple is now one of the most popular cannabis strains, largely for its ability to quickly calm users. Mine came prerolled, in recycled packaging printed with soy-based ink, from a Canadian company called 48North; according to the company's website, the strain is "best loved for evenings spent dreaming (without being asleep, that is)." Each strain 48North produces has a suggested situational pairing: tackling your to-do list, giggling with your best friend, enjoying your favourite meal. I just wanted something to make me feel better.

And it did. As I settled into the high, the tension melted away. I had what 48North might describe as the ideal cannabis experience: overwhelmed and overstressed, I used my weed as a supercharged piece of self-care. Like many modern cannabis brands, 48North appears to care less about getting customers stoned and more about aligning itself with the massively lucrative wellness industry. Valued at $4.2 trillion (US) by the Global Wellness Institute, the market encompasses everything from clean-eating methods and meditation classes to natural skin creams and immunity-boosting teas. It has also dialled into a very specific consumer: health-conscious women with disposable income and an affinity for aesthetically pleasing, eco-friendly products. Maybe you've seen this woman on social media. She wears a sports bra made from recycled bottles, pops vitamin gummies for her glossy hair, and eats from smoothie bowls lovingly arranged on marble countertops. She works out regularly, takes languorous scented baths, enjoys giant glasses of neon celery juice. She's more social-media spectre than flesh and blood: she is a #Mood. She's the consumer virtually every wellness brand wants—and the one they want the rest of us to become.

48North's Alison Gordon, one of the cannabis industry's few female CEOs, wants her too. Pot has long been associated with men: women, she believes, are a woefully underserved (and lucrative) demographic. 48North isn't alone in thinking so. Throughout nearly a year of reporting, I found dozens of cannabis companies in Canada and the US overhauling the stoner aesthetic into a high-end lifestyle that seems cribbed straight from mainstream women's brands like Gwyneth Paltrow's Goop. 48North's identity, for example, is built on being good: good for you and good for the world. The company grows its organic cannabis outdoors, under the sun, on 40.5 hectares appropriately called the Good Farm. Then there's Blissco, which bills itself as "the Canadian wellness brand" and whose website features a recipe for a cannabis-infused turmeric "golden canna latte" from a holistic nutritionist. Van der Pop, another brand, promises to help women explore weed "in a way that is nuanced and respects stigma free living." Its strains have names like Cloudburst and Eclipse. Alberta-based Sundial, meanwhile, reminds customers that weed is "a way for women to take wellness into their own hands, and shake some of the obstacles that can hold them back from living their best lives." Sundial divides its cannabis into therapeutic categories, such as "flow," "ease," "calm," and "lift."

Taken together, the weed rebrand is a masterclass in marketing—the transformation of a once illegal substance into a miracle remedy for the pressure, drudgery, and general messed-up-ness of modern life. This female-friendly makeover, as *Chatelaine* intuited back in 2016, in an article about what it called "the pinking of pot," could also prove an effective way of "normalizing cannabis within the broader culture." It's not a bad bet for companies' bottom lines either. In the first quarter of 2019, Canadians spent $377 million on legal cannabis, up 119 percent from the previous quarter. With the second wave of legalization, in October 2019, allowing for more methods of cannabis

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consumption, the market, according to the cannabis media company Lift & Co, is expected to gain as many as 3 million new consumers interested in edibles, extracts, and topical creams. Many of them will likely be drawn to cannabis for its health benefits rather than its high. Or, as one woman put it to me: "I went from seeing cannabis as this sort of sacramental mushroom-type thing to, like, kale."

Wellness advertising has primed women to respond favourably to such claims, in turn allowing many cannabis vendors to set up shop with bold promises. Namely, that cannabis is an answer to our relentless search for the right combination of products and practices to achieve balance and happiness. But a woman's own life is, ultimately, what sweetens the sales pitch. The American Psychological Association has consistently found that women feel more stressed than men do, and a 2016 study found we're twice as likely to suffer from anxiety. We're also more likely to say our stress is rising and to feel anxiety and psychological distress at work—all disparities that have contributed to the term "stress gap."

No wonder we're waiting for someone to sell us something that will help. If the old battle for cannabis was legalization, the new fight, post-legalization, is to make it both magical and mundane—a cure-all, but no more remarkable than oat milk, activated-charcoal water, or high-waist compression leggings.

I AM, IN MANY WAYS, the ideal customer for the new cannabis market. Before legalization, I'd barely tried pot, let alone purchased my own joints. But I care a lot about wellness—or, at least, about the idea of it in my life. I regularly eat hemp and chia, sprinkling the seeds on everything from salads to (sugar-free, paleo) pancakes. I drink hot lemon water mixed with collagen to improve my skin. I occasionally remember to take probiotics. I unreservedly love smoothie bowls and further love that, when I splurge on them, my breakfast looks cute. I do not eat red meat. I shop at Whole Foods. I go to the gym regularly, and I take sweaty selfies while I'm there. I've consulted my tarot deck about important life decisions. I have one evil-eye tattoo and two essential-oil diffusers. I continue to buy plants even though I can't keep them alive because I'm too busy to water them. Once, I went to a week-long silent yoga retreat, and I still meditate sometimes, clutching the rounded crystal the instructor gave me to better centre my energy.

What I'm saying is: even as an avowed feminist and skeptical professional in my thirties, I'm not above it all. If something promises to reduce my stress or improve my mood, and if it doesn't look harmful or totally bogus, chances are I'll buy it. Like many people, I am completely frazzled and completely reluctant to make any changes to my deadline-harassed, twelve-hour workdays. I am anxious about all the things I'm doing, all the things I want to do, and all the things I'm *not* doing. But I balk at slowing down. I don't want to curb my ambition. The extent to which this affects my health is not insubstantial. Last year, I was diagnosed with a rare dental disease that threatened to winnow my gums down to nothing—a condition First World War soldiers in the trenches often suffered from. Few things are more surreal than reassessing your work-life balance after a lecture from your dentist.

The reasonable thing would have been to do less. Instead, I wondered if I could keep doing the same number of things but also force my brain to take the occasional break—sort of like a neural pause button. My therapist suggested cannabidiol, or CBD, a supposedly nonintoxicating compound derived from the cannabis plant and purported to treat everything from acne, insomnia, and depression to epilepsy, diabetes, and cancer. (I've even seen CBD advertised to address anxiety in cats and dogs.) Meanwhile, my partner recommended cannabis's tetrahydrocannabinol, or THC, the active ingredient responsible for giving you a high. Overall, I found the idea of cannabis alluring but also slightly alarming. I was both curious and unsure. I was also hazy on how to use it and even hazier on whether it was a step toward genuine wellness or, like many wellness products, a surface

fix masquerading as something more. I wanted a shortcut to better health and hoped it would work.

Eventually, I tried some of my partner's weed. After months of bumming a joint now and then, I finally decided to visit the online Ontario Cannabis Store to supply myself. I ended up buying a lot, slipping into a sort of shopping mindlessness in which everything has the potential to drastically improve one's life—a therapeutic experience in itself. In the end, I purchased 3.5 grams each of Sundial's Lemon Riot and Citrus Punch for a total cost of $81.90. The latter strain was said to have "the smell and taste of fresh Florida oranges." (Mostly, it smelled like weed.) I bought one gram of Sundial's Zen Berry ($12.30), which fell under the "calm" series, advertised with: "Hit pause. Unwind. It's time to focus on you." And I also bought a $68 pipe made from crystal quartz to better connect with my "natural energy and transcendent vibes." (In a wellness-ruining moment, it arrived shattered.)

The rest of my haul included one $6 Solie Sense preroll (slogan: "find your moment"); a $16 six-pack of marble-patterned prerolled cones, from Accoutrements, made from palm pulp and edible hempseed ink (the women-fronted brand also sells a $725 fourteen-karat-gold-plated joint holder "to blend the space between cannabis and home décor"); my aforementioned $17.05 pack of 48North Granddaddy Purple prerolled joints; and an $8 bottle of something called Cloud Mist, a biodegradable spray meant to cover the smell of cannabis smoke. The scent, developed in partnership with Toronto perfumer Brennan Michael, has

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"notes of lavender, sandalwood, and lilac." It smelled expensive.

The federal government has strict rules when it comes to advertising cannabis. Much like alcohol manufacturers, which aren't allowed to make claims about the effects of their products, cannabis manufacturers can state THC and CBD percentages but are limited in depicting how stoned—or not—a product will make someone. These restrictions have frustrated brands unsure how far they can go in educating inexperienced consumers. A person who wants to try the latest smoothie trend isn't worried about whether they'll be able to drive to work later or carry on a conversation. Someone who has never smoked weed before, or who hasn't toked in years, wants to know what cannabis will do for them but also *to* them. "There's a lot of anxiety around purchasing cannabis products when you haven't tried them before," says Preety Keith, brand manager at Irisa, yet another cannabis company that focuses on women.

Wellness has been a godsend to cannabis brands, giving them a ready-made, promise-filled language to talk about weed without actually talking about it at all. Hence the intense focus on experiential analogies: *this* strain will make you feel like you're in a warm, candlelit bath, *that* strain will make you feel like you're cozily sipping coffee on a wood patio in the Algonquin. Irisa recently went even further, testing an in-store virtual-reality demo. Each VR world is meant to evoke a person's idealized experience with the corresponding cannabis product. Customers curious about a CBD oil's "serene and calming" effect can don VR goggles and find themselves in the middle of the ocean, watching a sunset, birds flying on the horizon. Those with questions about another CBD oil infused with THC are transported to a club: strobe lights, a disco ball, high energy.

Modern wellness, however, isn't only about how a person feels; it's also about how they look while enjoying that feeling. Pre-legalization, a cannabis user was expected to hide their stash: weed, papers, pipe, grinder. But, for consumers to believe in cannabis as a self-care tool, the entire experience—from shopping to consumption—must feel beautiful, satisfying, transformative. That seems unlikely to happen if you're in a dingy head shop furtively asking a sales clerk about a garish rainbow bong. According to senior brand manager Lauren Pryor, a recent Van der Pop survey of approximately 1,500 cannabis users in Canada and the US discovered that 63 percent of women still believed cannabis use carried a stigma—only a slight drop from the 70 percent who believed that pre-legalization. It also found that the number of women hiding their usage had barely edged down: 62 percent from 66 percent. "There's been a gradual shift," Pryor says, "but there's a lot more work to be done."

Sackville & Co, a brand founded by Lana Van Brunt and Hayley Dineen, makes "design-forward smoking accessories." The company is as far as you can get from that dingy head shop. Their gilded grinders resemble elegant paperweights, and their gold carry-case keychain, meant to house a single joint, is lustrous enough to wear as a necklace. And Sackville isn't the only brand offering eye-catching gear. "I want my products to have a timeless aesthetic," says Emma Baron, co-founder and co-owner of Canadian cannabis-accessories store Milkweed. "My grandkids will be equally happy to display my rolling tray in their home." Baron's online shop sells sustainable, locally made products that showcase a casual chicness. I purchased a $34 roll-on perfume stick called Post Sesh Scent to mask the smell of weed; a square, ergonomic $60 Kube grinder the colour of iridescent gasoline; and a $55 handmade ceramic rolling plate made by a Toronto artist (advertised as "equally suited to serve freshly baked cookies or tarts"). My order arrived with a handwritten note on recycled paper that could be planted to grow flowers.

When I asked Baron about her ideal customer—someone like me, I assumed, but with a little more money to burn—she quickly dissuaded me, emphasizing that she doesn't believe in "classing up cannabis" for the affluent. "That really gets under my skin," she says,

stressing that Milkweed is about "providing more options so people can see themselves in the product and in the lifestyle choice." The challenge is that smaller, independent companies like Baron's are still playing in the wider consumerist arena. And, in that arena, the conversation about mainstreaming cannabis is often really about making it more palatable—and covetable—to the users companies can actually sell to. It is *exactly* about classing up cannabis. That's not to say the people behind these companies don't genuinely care about stigma busting. But it's an unavoidable fact that only a certain set of the population can afford—or wants to afford—pretty things they don't quite need.

IN JUNE 2019, I attended the Lift & Co Cannabis Expo during the inaugural Canadian Cannabis Week. I wanted to see up close how brands were marketing their products to women, what questions they were being asked, and how they were answering them. To get inside the Metro Toronto Convention Centre, I walked past a sidewalk-deep crowd of smokers and vapers emitting a skunky haze. The expo featured more than 250 exhibitors showcasing a vast range of cannabis products and accessories. Visitors could spend hours looking at pesticides, soil, and industrial trimmers before ever getting near booths promoting anti-aging skin care and cannabis-infused mouth sprays. A person without much previous knowledge about weed could easily feel overwhelmed.

That's one reason helping women navigate the cannabis scene has become its own side industry. In person and online, many companies have adopted a cool-big-sis tone, a sort of casual invitation into a world you want to be part of but don't quite know how to join. They will offer an array of experts. They will calmly assure you that there are no dumb questions.

Tara O'Doherty and Monica Polo have perfected this tone. They decided to give tours of Cannabis Expo through their company, Voxie. A lifestyle-and-wellness platform, Voxie's tagline is: "hacking happiness." The website gives recipes, provides "mindful experience ideas," and recommends products. The tour I joined, dubbed "the Squad," is meant to give small groups of women a more intimate chance to speak to brands at vetted booths. The alternative can be intimidating. "You're standing next to a bunch of frat guys," says O'Doherty. "And you're just like, 'I have acne and I want to know if can I put CBD on it.' And it's awkward." Often, says O'Doherty, the Voxie tour guide will even voice the questions themselves, knowing the women may be too shy to ask—or may not even know where to start.

I joined a midafternoon tour, following my guide around the crowded floor. We visited a genetics-testing booth for a free on-the-spot swabbing to see how our body chemistry would react to cannabis. We also visited the Strainprint booth, where a representative taught us how to use the app to keep track of which strains we used to alleviate which symptoms (such as fatigue, joint pain, insomnia, and depression) and how well they worked. Co-founded by a woman, Stephanie Karasick, Strainprint wants to promote scientific understanding of cannabis through data and, in the process, destigmatize it; its app has already tracked more than 1.3 million "patient-report interactions," allowing users to crowdsource and compare their experiences with others'.

Every few metres, brand representatives offered me information and free stuff. Reps beckoned me to play Plinko for branded lip balms and Frisbees, spin a wheel for branded glass stash jars, stand in snaking lines for branded T-shirts, hold out my branded Lift & Co tote bag like it was Halloween. It didn't feel like we were being sold a drug as much as being recruited into a movement: wear our swag, feel proud of your cannabis use, spread the gospel. Brands wanted us to feel empowered. They wanted us to believe that, together, we were fighting sexism, getting assertive about our own health, and becoming one big team in the revolutionary pushback against a medical industry that has long ignored women's unique health needs. Beneath the marketing veneer, however, I found few answers about whether the plant at

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the centre of this crusade could, in fact, live up to all the hype.

It was partly to address such skepticism that Aliza Sherman co-founded Ellementa, in 2017, after a successful tech career. The company organizes sponsored meetings, in more than sixty cities across Canada and the US, to discuss things like CBD, destressing, sex, microdosing, and the nuts and bolts of cannabis use. Ellementa regularly hosts free webinars for those who can't make the gatherings, and Sherman herself recently launched a book called *Cannabis and CBD for Health and Wellness*. "We're here to be the trusted source," she says, "where women can gain better information, can connect with experts who look like them, who experience life like they do." Ellementa also wants to be a trusted source for brands looking to market directly to the so-called canna curious, offering services that include producing multimedia content such as podcasts, lifestyle articles, advertorials, and product reviews.

The idea for the company came to Sherman, in 2016, after she couldn't find the right forum to ask whether cannabis would help with her menopause-related insomnia and chronic neck pain. "I realized that cannabis is like the internet," she says. "It was complex, misunderstood, politicized, and, in some circles, vilified. And women were going to get the brunt of being left behind or getting bad information." That is, she adds, if somebody didn't do something about it. Like many brands, Ellementa has positioned itself as a do-gooder: both networker and educator. Its website emphasizes women's role in becoming the "driving force to bring cannabis wellness to the mainstream." Cannabis, it suggests, can help women become more effective caregivers: "We must also take care of ourselves so we can handle juggling the many aspects of our lives."

But there's also a less generous way to see the proliferation of women-focused cannabis networking and education groups. Namely, that they are capitalizing on the same pernicious notion that props up so much of the wellness industry: it's up to women to be better. Rather than focusing on the pay gap, the unbalanced division of caretaking and domestic labour, or sexism in the workplace, the wellness industry promises self-care solutions to complex systemic problems. Which is alluring, particularly when wrapped up in chic, community-building packaging. The lines between doing good and marketing are easily blurred, especially when brands themselves do the educating.

Take, for example, one posh event Van der Pop hosted in Toronto. Called Flora & Mama, it was held Mother's Day weekend and promised to educate women about cannabis "as a tool for self-care so you can offer your best, mom self to the people you love most." I brought along one of my best friends, a mother who had only recently started using cannabis. The event was scheduled for brunch and held in a minimalist white-walled space. We were greeted by a handsome bartender, who handed us mimosas garnished with fresh fruit.

The discussion was wide ranging. Mothers asked how to navigate friendships with those who judged them for their cannabis consumption. Others asked if using before bedtime would

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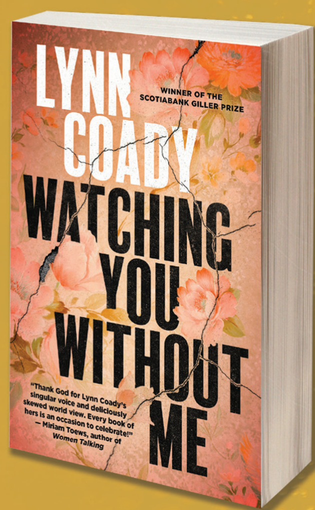

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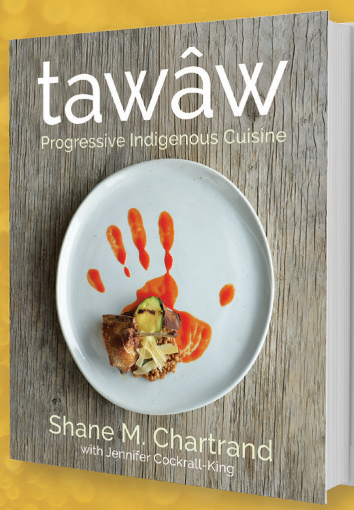

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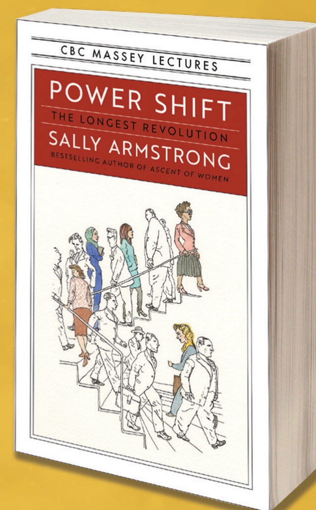

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make it impossible for them to wake up if their children started crying in the middle of the night. One mother, prompted by her adult daughter, shared a bad experience with cannabis-infused tea: she and her friends had gotten unintentionally wrecked. Another woman shared how her friend, a grandmother, took small doses to survive hours of *Peppa Pig* with her grandchildren. Many women shared stories of using cannabis for stress, CBD oil for pain.

At the end of the discussion, we gathered in another room, where dozens of fresh-cut flowers lay on two tables, resplendent. A florist gave us lessons on modern flower arranging. I learned how to hold a bouquet, how much greenery to use, what *balance* looked like. All around me, everyone praised one another's arrangements, including mine. I can't lie: it felt good to look the part of the effortlessly chill, competent woman I wanted to be. But, like so much of the wellness industry, it was an illusion.

Later on, at home, I looked inside my new Van der Pop tote bag and found more flowers: a tub of dried chamomile, peppermint, lavender, and other herbs that looked a little like weed. The instructions advised throwing a handful of the mixture into a bowl of boiled water for a relaxing steam facial. My friend and I decided we should plan a chill smoking sesh and use our new facials. But we never did. I wouldn't see her again for months and months. We couldn't find the time.

IN THE QUEST to rebrand cannabis, few things have been more successful than CBD, the cannabis extract widely touted as a panacea for a gamut of illnesses and conditions. In a 2018 article sponsored by investment bank Citigroup, the lifestyle publication *Well + Good* forecasted CBD as a top wellness trend of 2019, along with ugly dad sneakers, vagina care, and IV-drip bars that inject the tired and busy with instant vitamin-and-mineral infusions.

CBD's popularity has also cleared the way for interest in the bevy of edibles, extracts, and topicals made legal by the second phase of legislation, in October 2019, all of which are likely to become a direct answer to the lingering hesitation over cannabis use. Chewing a piece of chocolate is discreet. Swallowing a capsule in public looks no more remarkable than taking a vitamin. These products also tend to be relatively low dose, further helping sell the idea that they're not about getting high but feeling better. Data from Lift & Co shows that more than 60 percent of new consumers choose low-THC products. It doesn't hurt that these products also remove the smoking factor from cannabis, which is hard to promote as being that much healthier than inhaling tobacco.

A 2018 Deloitte report on the market potential of the second wave of legalization warned that the pharmaceutical industry should be worried. It points to the 45 percent of current consumers and 48 percent of likely consumers who say they see cannabis as an alternative to prescription medications. It's also telling that the lack of conclusive research on the exact health benefits of CBD and THC doesn't seem to have slowed the market's growth. The annual Canadian market for edibles and alternative products, Deloitte estimated, is worth $2.7 billion.

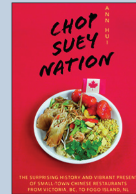
Wellness consumers are often drawn to the most far-fetched products because those products are firmly planted outside of the medical industry, offering answers traditional health care doesn't seem to have. Women hesitant to use pharmaceuticals for stress and pain still want relief; others may have been rebuffed by their doctors or may not have access to regular health care. In those circumstances, you have to find your own solutions. For a certain consumer, things like turmeric powder, mushroom elixir, or cannabis seem more promising and less scary than an unpronounceable chemical that comes with dozens of side-effect warnings. Sometimes, it's about returning to a traditional ethos. "Whenever I get sick, I take herbs. I don't like to go to the doctor," says Lula Fukur, who heads the cannabis wellness brand Cori. "I've always been like, 'What does my grandma use?' I'll use that. Cannabis is the same thing."

It also helps that cannabis products aren't totally bogus. Toronto-based Jacquie Court started her podcast, *Wine, Women & Weed* (tagline: "the dope on dope"), after a life-changing experience with CBD. In her forties, Court had given birth to her daughter, entered early menopause, and been in a cycling accident that injured her shoulder. She wasn't sleeping. Someone recommended CBD oil and, though skeptical, Court was desperate for help. She took it and slept well for the first time in a long time. But she was hesitant to tell anybody. She didn't want to them to know she was "doing drugs." She felt like a criminal. At the time, Court was also making videos

THE WALRUS READS

Canadian authors pick the year's best books

Chop Suey Nation
by Ann Hui



When Ann Hui's deep dive into the origins of the ubiquitous small-town Chinese restaurant first appeared in the *Globe and Mail*, it felt like a story I'd been waiting my whole life to read. The book-length version, which expands on Hui's original reporting, delighted me even more. *Chop Suey Nation* weaves Hui's cross-country road trip in search of the owners, cooks, and stories behind Canada's classic "chop suey" restaurants together with an unravelling of her own family's history. This is a book that thoughtfully explores immigration, familial bonds, and the power of food. I cried more than once, and Hui taught me much about the places and people that I have taken for granted.

Eva Holland*'s first book,* Nerve: A Personal Journey through the Science of Fear, *will be published in April 2020.*

busting stigmas around motherhood and menopause. The realization that she was ashamed to talk about taking CBD didn't sit well.

"There are all these benefits of cannabis beyond just recreational: health and wellness, anxiety, menopause, menstruation," she says. "But women don't want to talk about it. I thought, I'm going to start this podcast and I'm going to learn about it, and I'm going to take women on my journey and we're all going to learn about it together." Since she started, says Court, she has heard from many women. They email her. Mothers stop her on the street and ply her with questions. While Court is a subscriber to the "cannabis is about getting healthy" creed, she also believes that more research is needed. People should not, she says, pretend cannabis is the new kale. But it's also true that the cannabis plant has over 110 identified cannabinoids and that THC and CBD are only two of them. 48North's Gordon can envision a future in which cannabis compounds are added to products like cereal and bread in the same way brands now add vitamins to boost nutrition.

In early October, I visited Tokyo Smoke. It felt like an essential step in my cannabis pilgrimage. Founded in 2015, the company was one of the first Canadian retailers to try to take a swanky approach to cannabis, according to *Strategy* magazine. In addition to its store near Toronto's Yonge-Dundas Square, the brand has three locations across the downtown core. Inside the café I visited, stylish twentysomethings sat tapping on laptops. One or two people grabbed coffee to go. A giant pride flag hung on the wall, and the display pedestals had marbled tops. The lighting was soft, ready for selfies, and the wall art promised a perfect backdrop. Healthy plants trickled vines down shelves.

I bought an almond chai latte from a bubbly barista, as well as an activated-charcoal cold-pressed juice with milk thistle and nettle leaf. I had no idea what any of the juice's ingredients were supposed to do or whether they worked, but it tasted delicious. After zero consideration, I chose a sleek metal rolling tool by Van der Pop to help craft perfect-looking joints ($30) as well as some Van der Pop patterned rolling papers in a package sporting the season's it-girl fall colours ($4 a package). I spent an hour there, chatting with my "education specialist" (who was also the barista) and fantasizing about buying another crystal pipe, this one for $160. My rolling tool came in a plain bag, and before I could say anything, I remember the barista apologizing for the "boring" packaging, her frown legitimizing my unspoken wish for something prettier.

Back home, I rolled my perfect-looking joint. Smoking it did not erase my to-do list or make my deadlines vanish. It didn't make me feel like less of a failure for letting my laundry and dishes pile up. It did not help me feel any better about the state of the world or the planet's future. So long as I changed nothing else, my hand would still have persistent eczema and my digestion would still be terrible. So long as I didn't try for better balance, anxiety would still permeate all aspects of my life. The weed solved nothing. I knew it was a pretend solution, a product expertly packaged and marketed to give me what I thought I wanted. But, for a few hours, it was good.

LAUREN MCKEON is the digital editor at The Walrus. Her new book, out this spring, is *No More Nice Girls: Gender, Power, and Why It's Time to Stop Playing by the Rules.*

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Deep Religious Faith

BY SHANE NEILSON

after W. C. Williams

What can I tell you of the flowers?
I cannot know the flowers—I can tell you
I cannot know.

Once upon a time, I knew the meaning
of *immanence*. But now that word
is blankets and gauze.

Great poets, were you moved by the feeling
that roils through time, an invention
of the mortal for the gods?

Mortar for the mortal: *I don't know*.
How to summon one simple
flower? An image

of building blocks, image
of a stumbling man carrying a bouquet.
Or bouquets—what time do I have?

The listeners are too quiet to be the intended audience.
This great secret:

not love for one another,
nor even respect,
but the flowers occur and recur, are precursor and recourse,

are war, curse, core, scourge—and succour.
This is transformation.
This is the difference between truth and delusion.

This is the end of my life.
I grew in darkness
and a moral chemical let me respond to the light.

Did I grow toward it?

Let the icons fall on rosehips—
let the juries deliberate on orchids—
let the poets devote themselves to horticulture and metrics
and invent fascinating systems made of the old materials.
Go ahead, young one.
Describe.

Was I kind, as flowers can be a kindness?
Is the metaphor more camphor
than ichor, more metastasis

than electrophoresis, more thing than process,
more a religion of what is not (hate)
than what is (love)?

Or a balance of blankets and gauze? More apocalypse
than immanence? I do not know
one from the other.

Aroseisaroseisarose.
What is the oldest thing to say, the kindest,
and does it come as question or lullaby?

When I say *transform*, the outcome cannot be controlled.
Otherwise I would know too much—
nothing of flowers

or of worship, for the flowers
grow beyond the altar
and the stumbling man.

Please, I'm begging you—listen:
the image is a metaphor,
and the metaphor is a prayer

that transforms into
praying.

HEALTH

Hacking Diabetes

A network of amateur programmers is transforming the illness with a DIY app

BYJONATHAN GARFINKEL
ILLUSTRATIONS BY ZACHARY MONTEIRO

MICHAEL Riddell's lab is a diabetic's paradise. The large white room at Toronto's York University is dotted with treadmills and transmitters; there are tiny blood-testing strips, insulin-pump infusion sets, and hot-peach bottles of glucose tablets galore. I've come here, alongside a half-dozen innovators and keeners in the diabetes world, because it's said to be ground zero for a technological revolution. All of us are either diabetics or the parents of diabetic children and, as such, are equally obsessed with finding better ways to live with the disease. We munch on sugar-free cookies and sip diet cola, but when Riddell starts to describe the work he's doing, we stop and listen as though our lives are on the line. Because, really, they are.

Diabetes is a tricky disease, both to live with and to understand. It all comes down to the pancreas: in normal circumstances, the organ produces insulin, a hormone that controls blood glucose. Diabetics either can't produce enough insulin (which causes the more manageable type-two diabetes) or any at all (type one), so our bodies can't properly deal with the sugar we consume. When blood-glucose levels drop too low or surge too high, it can lead to serious health complications. One hundred years ago, children all around the world would slip into comas and die because of type-one diabetes. Then came Frederick Banting, who, in 1921, working out of a University of Toronto lab with his team, discovered insulin and its role in the body. He extracted insulin from animals and injected it into terminal comatose patients. Like little Lazaruses, the children came back to life. Banting's work has since been hailed as one of the great medical achievements of the twentieth century and has allowed type-one diabetics—myself included—the opportunity to live full, relatively normal lives.

Managing type one, however, is a full-time job—one where, if you don't do it just right, you'll feel terrible. Or get sick. People today still fall into comas because of diabetes. People today still die. And, though treatment has improved over the decades, the reality of living with the disease today isn't so different from living with it in 1921: diabetics must decide how much insulin to take when their blood glucose goes high, and how much sugar to consume when their blood glucose goes low, to try to get their levels as close to a non-diabetic's as possible.

The magic number for blood glucose is typically 5.0 millimoles per litre, and consistently hitting it is a challenge, even for those with the most up-to-date medical technology. There are insulin pumps that allow people with diabetes to forgo regular insulin injections: these devices, which look like pagers, hook onto belt loops and run a thin tube through a tiny hole in the abdomen to deliver a programmable stream of medication. There are also continuous glucose monitors (CGMs), sensors placed under the skin that can replace the old prick-and-drop test strips by sending updated blood-glucose levels to users' phones every five minutes. But diabetics still need to consider many factors and make many calculations to determine how much insulin they need to take: what they've eaten (and what they're going to eat); how much exercise they've done (and whether they'll exert themselves in the coming hours). Stress, hormones, illness, sex, weather—all can affect blood sugar. The trick is to think like a pancreas. The problem is that nobody really understands how a pancreas thinks.

This is where Riddell's research comes into play. His work seems personal: he's been living with type-one diabetes for thirty-five years and is the father of a teenage son who lives with the same disease. Riddell and his colleagues are working with Google's parent company's health offshoot, Verily Life Sciences, to study an activity monitor that can check blood-sugar levels during exercise. "We're hoping everyone will be able to afford this in the not-too-distant future," he says. "Paired with an artificial pancreas, it will be incredibly precise."

"Artificial pancreas" isn't a term I'd heard before. I ask Riddell to explain. "So, you have your insulin pump and your continuous glucose monitor," he says. "Great technology. But these devices don't talk to each other. You're the one who's still making the decisions. You have to interpret the numbers, analyze the trends, predict what you'll be doing later in the day, and figure out how much insulin to take. What if a computer could do that for you?"

Riddell explains that most major medical-device companies are now gunning for this kind of call-and-response system, where an insulin pump communicates with a CGM in real time to automatically adjust insulin according to fluctuations in blood-sugar levels. This is the artificial pancreas, also known as "the closed loop," and it's the holy grail of diabetes management. Ideally, the closed loop takes all the complicated decision making out of the hands of the patient and simply works in the background like any other organ.

As a lifelong diabetic, this kind of technology sounds like the stuff of science fiction. I ask Riddell how long it'll be before an artificial pancreas actually becomes available. "Well, officially," he says, "probably a few years. The challenge in all of this is getting federal approval, of

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course. Clinical trials can take years and cost millions of dollars. But, unofficially—"

Riddell gets cut off by one of the attendees beside me. "My daughter's on it," says a woman named Kate Farnsworth. "Mine too," adds Pina Barbieri.

Having lived through decades of glacial advancements in diabetes technology, I'm incredulous. Health care devices are notoriously slow to update and improve—my insulin pump feels a decade behind the customization and adaptability found in my iPhone—and what these women are describing is an incredible leap in treatment. But Farnsworth insists that it's true.

She explains that, a few years ago, a group of amateur coders, most of them type one themselves, were independently fiddling around with insulin pumps and CGM transmitters on their off hours, looking for ways to improve the devices. They eventually met, pooled their discoveries, and after a few more years of tinkering, created an iPhone program called Loop. It's not available in the App Store or through any official channels—no doctors will prescribe it. Users need to find the instructions online and build the Loop app themselves. This bit of free code, Farnsworth tells me, paired with a hacked-together insulin pump and CGM, *is* an artificial pancreas.

"Is this legal?" I ask, imagining some dark alley where hooded hackers hand out instructions and tiny radios to desperate diabetics.

"Of course," Farnsworth says, laughing. "It's open-source software. It's also a Facebook group. You can find everything you need online."

"Are you on this Loop?" I ask Riddell.

"No, but I'd like to try it," he says. "I mean, why not? Kate, want to host a build party for Jonathan and me?"

"Sure!" she responds.

I laugh nervously. I don't tell the group that I feel uneasy about entrusting my life to some homemade software thrown together by amateurs. What if the algorithm is off and my phone, instead of calling my mother, decides to give me 300 units of insulin, sending me into diabetic shock? The technology sounds revolutionary—if it actually works—but it also feels like giving up control. It's taken me thirty-three years to gain even a small amount of power over diabetes; I have trouble believing that a few lines of code can actually understand my body better than I can.

I WAS TWELVE when my immune system suddenly wiped out the insulin-producing beta cells in my pancreas. I was in Paris on a family vacation at the time, and the first symptom arrived when I started urinating like crazy, drinking litres of water each day to compensate. My memory of the Champs-Élysées is not the beauty of the architecture but the number of public bathrooms I had to duck into along the way, pissing accumulated sugar like a human glucose siphon.

Insulin is a life-sustaining hormone, taking food that's been broken down into glucose and transporting it to cells as energy. Without insulin, we wither away. I was told all this a little later during that same trip, shortly after we traded the streets of Paris for a London hospital room. It was 1986, a different era in diabetes care, and the doctors told me I could still eat whatever I wanted, so long as I injected enough insulin to compensate for the carbs consumed (advice that would prove to be *technically* true). I was told that diabetes is manageable, that you can live a good life with it—both correct—but my diagnosis still changed how I saw myself. I contained a flaw, my body now a series of problems that constantly had to be re-solved.

A nondiabetic's blood-glucose level stays relatively stable around 5.0 millimoles per litre. I soon discovered that mine could jump from 2.6 to 21.5 in a day. (It wouldn't be a good day, mind you.) This was the time of test strips where you dropped blood, wiped, and waited for the colour to change: green was good, brown-green higher, red too high. I'd read my results, draw back on my insulin needle, and plunge.

I was informed that these swings in blood sugar could potentially lead to serious health problems. If I took too little insulin and my blood sugar went high, I worried about ketoacidosis, which can trigger a diabetic coma, as well

as long-term complications including blindness, kidney failure, and neuropathy. When I took too much insulin, my blood-sugar dipped low, giving me mind-blowing munchies, as well as thoughts about how I was risking coma and death. Banting's discovery of insulin was not a cure, and figuring out the right amount of insulin to take involves sleuthing, scientific interpretation, and constant self-monitoring. As a teenager, I was shooting in the dark, trying to hit that perfect 5.0. It's a lot of work under the best conditions, and besides, I was a kid—I wanted to have a life.

Ten years ago, after over two decades of injections, I got an insulin pump, a newer device that changed my life. When injecting insulin, I often felt exhausted and generally unhealthy. I'd previously made lifestyle changes to try to get my blood sugar under control—I quit booze, started a low-carb diet, and exercised religiously—but found it was the constant flow of insulin through the pump that made all the difference. And, though I became ruled by the pump (one can't disconnect for longer than an hour), it was worth it. My energy levels improved, and I started doing triathlons, long-distance swims in open water, and cross-country skiing. My blood-sugar control also became better, which means a potentially longer life with fewer complications.

Even though insulin pumps have clear benefits, they are still uncommon. There are approximately 300,000 people in Canada living with type-one diabetes, and most reports peg the number of these people with pumps at less than 40 percent. Many are reluctant to switch because pumps are expensive (around $7,000) and aren't covered in some provinces. They also come with a steep learning curve, and properly programming them can be difficult for those used to the simplicity of injections. And, even with the technological help, there is still an element of guesswork involved: I can weigh my food on a scale, dial in exactly the amount of insulin that my diabetes team and I have determined necessary, and my blood glucose can still take off for unknown reasons—maybe it's the end of a bottle of insulin, or a kinked infusion set, or just a bad day.

The fact that so much can go wrong is frightening, and I'm not alone in feeling this way. In Riddell's lab, I speak with Farnsworth, who's in her early forties, about the fear she felt when her then eight-year-old daughter, Sydney, was diagnosed in 2012. "I looked everywhere for information," Farnsworth says. She describes researching all the promises offered by medical companies, hoping that some piece of technology would make managing the disease easier.

The first device that got her hopes up was the Dexcom G4 CGM, which uses a sensor to continuously check blood-sugar levels. In theory, this would tell Farnsworth whenever Sydney's blood glucose was high or low. But Farnsworth quickly discovered that the device was only available in the United States—Health Canada hadn't yet approved it. She fought her doctor to get a G4 and eventually won. (It finally became available country-wide in 2013.) "I thought, 'Awesome, this is going to solve a lot of problems,'" Farnsworth says. "But it didn't fix everything. For starters, we didn't have access to the information—only Sydney did."

There's something intimate about blood sugar: shame if you're too high; anxiety if you go too low.

The G4 had limitations that felt archaic in the smartphone era. Users could read blood-glucose levels only on a specific Dexcom-brand receiver—one that worked just up to twenty feet away from the patient without obstruction. This meant that, even when she and Sydney were at home, Farnsworth could have difficulty reading her daughter's levels.

These limitations became especially evident at night. Getting a proper sleep may be the single biggest challenge for people with type one, as a night with low blood glucose is disorienting and life-threatening. The problem is existential: If my levels drop, will I wake up in time? Before getting the G4, Farnsworth used to set three alarms throughout the night so she could wake up and prick Sydney's finger to make sure she wasn't falling too low. She found that, even with the G4, she'd have to wake up and get beside her daughter to check on her.

In May 2014, Farnsworth came across a blog post in which a parent of a child with diabetes mentioned offhand that they had managed to connect a CGM to a cellphone. Farnsworth was amazed that this was possible, and she was led to a Facebook group called CGM in the Cloud, an international community of 30,000 members with a do-it-yourself ethos, all of whom were interested in hacking existing devices to find new ways to manage the disease. Like Farnsworth, members felt that official health channels, with their long regulatory delays, weren't always working in the best interests of diabetics. They created a hashtag to rally around: #WeAreNotWaiting.

Through the Facebook group, Farnsworth followed a set of instructions offering an open-source hack for Sydney's G4. Suddenly, thanks to this free code and help from community members, she was able to pair Sydney's CGM with a regular Pebble smartwatch, giving her the ability to check Sydney's blood-glucose numbers wherever she was. She was even able to set up an automatic alarm to warn her whenever Sydney's levels were trending low.

After Farnsworth gained the ability to read Sydney's blood sugar remotely, she started wondering how she could get enough control over the disease to prevent the night lows from happening in the first place. In 2016, Farnsworth attended a Children with Diabetes conference in Anaheim, California, where she heard one of the participants talk about Loop. It was the DIY artificial pancreas. She knew that Sydney had to have it.

Loop is not a specific device or a ready-made product. Essentially, it's some lines of computer code that can turn a traditional insulin pump and CGM into an artificial pancreas. Its roots go back to San Francisco in 2010, when Ben West,

a software engineer and type-one diabetic, spent several years' worth of his evenings and weekends finding a way to remotely control his Medtronic insulin pump by exploiting a security flaw. Meanwhile, type-one diabetic Dana Lewis and network engineer Scott Leibrand were in Seattle, at work on an algorithm that could predict blood-glucose levels in response to trends compiled by a CGM. The three eventually found one another at a conference, shared their knowledge, and in doing so, created the first DIY artificial pancreas. Lewis and West tested it on themselves and posted their results and the instructions online. Other developers, including Nate Racklyeft and Pete Schwamb, found this work and, in 2015, simplified the user experience by making it able to run on an iPhone. This version was given the name "Loop," and a movement was born.

"When Sydney started on Loop, my entire role as a parent changed. It went from me micromanaging her diabetes to the system doing almost everything," Farnsworth tells me. She no longer needed to wake up in the night worrying about Sydney going low—Loop took care of that by reducing Sydney's insulin whenever her blood sugar began to dip. Farnsworth notes that Loop isn't perfect—the user still has to input the carbs they eat and can include the exercise they get—but it has made a remarkable difference in their lives. "Now that we've got the hang of it, every night she goes to bed, I sleep through the night, and she wakes up at the same number," she says. "It's amazing."

"Yeah, she actually gets some sleep," says Pina Barbieri.

Suddenly, an alarm goes off. It's Barbieri's Pebble watch. Her daughter Laura's blood sugar is 17.3, which is very high. Barbieri texts her: "You okay?"

Laura: "Yeah, taking more insulin."

Barbieri: "Good."

This exchange between mother and daughter floors me. I've always felt that there's something intimate about blood sugar: shame if you're too high; pride in perfect fives or sixes; anxiety if you go too low. It's like having a daily report card on how you're living your life. When I was thirteen, my father would ask me how my blood sugar was, but he didn't pore over my logbooks and analyze their trends; my mother weighed my carbohydrates on a scale and cooked meals without sugar, but in the end, managing the disease was down to me, and I'd tell myself that I needed the privacy. I've never even shared my numbers with anyone other than my doctor. As I listen to Farnsworth and Barbieri, I wonder if I've been thinking about diabetes all wrong.

I SPEND the next few months reading posts in the Looped Facebook group, which, at the time I join, has about 6,500 members from all over the world. Approximately 1,000 of them are "Looping" and come to the online community for practical tips and troubleshooting advice. Others, like me, are curious for more information. Everyone seems supportive, generous, and kind, which feels like a social-media miracle.

As I fall deeper into this online world, it becomes clear that the type-one community has been helped by the internet in ways that were unimaginable when I was a child. I wonder what kind of tips I might have picked up had I had such forums instead of relying on my twice-yearly visits to the endocrinologist's office, which lasted all of ten minutes.

The more I learn about Loop, though, the more hesitant I feel. For one thing, Loop requires having a hackable pump, and I discover that these are rare: when medical-device developer Medtronic realized there was a security flaw in its products, it changed its design to close this back door—its official concern was that hackers could remotely dose a user with a life-threatening amount of insulin. This change makes Looping with new pumps impossible, meaning would-be Loopers need to find old, out-of-warranty Medtronic devices. They also need to order a RileyLink from the United States—this small Bluetooth device is what lets an iPhone communicate with a pump. After all of that, they need to build the Loop app themselves. Making the switch from injecting to the pump was enough

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work; this feels like too much effort for an unproven payoff.

Still, I continue to correspond with Barbieri and Farnsworth. Farnsworth explains that, since Loop has given her and Sydney so much, she feels compelled to give back to the community: she's the creator of the Looped Facebook group and is one of the two volunteers who run the page, spending hours each week answering questions and offering advice. She even sets up a FaceTime conversation between me and Sydney so I can ask her if the DIY app is as good as everyone says. "Loop is as close to perfect as you can get," Sydney replies.

Then Farnsworth mentions something that surprises me: "At one point, she said she wouldn't be the first in line for the cure." Sydney goes on to explain that there are gifts she's gotten from diabetes that she wouldn't want to trade, like her friends at diabetes summer camp. I'm startled because, for me, diabetes has always been a daily gauntlet of decisions, something I associate with the constant stress of staying alive. When I was Sydney's age, I even kept my diagnosis a secret from my classmates, ducking into the bathroom to discreetly inject myself and quietly popping orange dextrose tablets as if they were cough drops.

One day, not long after this conversation, Pina Barbieri calls to say that she and Farnsworth would like to organize a Loop-building session with Riddell, myself, and a few others. Barbieri has an old, Loop-able pump that I'm free to use, and she says she'll also give me her daughter's extra RileyLink so long as I replace it. The entire cost of this life-changing artificial pancreas? $250. Amazed by the generosity of a virtual stranger, I thank her. But, when she asks me to commit to a date, I'm evasive. I'm still not sure if I want to be a human guinea pig in the diabetes revolution.

DAYS PASS, and the dream of the closed loop clings to my imagination. I call Health Canada and am put in touch with Graham Ladner, scientific evaluator of the medical-devices bureau. I ask him about the elusive artificial pancreas. I want to know how far we are from seeing an approved version on the market.

Ladner explains that an insulin pump is usually a class-three medical device, but once you "close the loop" by having the pump automatically communicate with a CGM, it becomes class four, meaning more restrictions and more difficulty getting approval. Ladner tells me that closing the loop is a big challenge for Health Canada because so much can go wrong, particularly in the over-delivery scenario.

That makes sense: if my CGM erroneously says I have a blood glucose level of 16.5, but I'm actually at 7, the pump will automatically give me too much insulin and I'll end up with severe low blood sugar and possibly lose consciousness. This heightened risk is no small thing—even in normal use, insulin pumps can be dangerous. According to an investigation published by the CBC in November 2018, more people have died because of insulin pumps than any other medical device on the market, with Health Canada concluding that they may have been a factor in 103 deaths and over 1,900 injuries from 2008 to 2018.

Ladner goes on to tell me that CGMs have been known to send incorrect blood-glucose measurements. "The [closed-loop] system relies on their accuracy. That risk exists now, with pumps, if you take insulin based on your CGM reading. But it becomes magnified when you let computer algorithms calculate things," he says. "The closing of the loop introduces new patient hazards, and we need to be convinced that it's safe."

When I mention the DIY Loop app making the rounds online, he says he doesn't know much about it. "Is this illegal?" I ask. "No one is making any money off this, so we can't really say or do anything," Ladner says. "But remember, CGMs aren't perfect."

After I hang up the phone, I head back to the Looped Facebook group. I'm not sure what I'm looking for—confirmation? A perfect solution? I read a concerned mother's comment about some of her frustrations managing her child's diabetes: a brilliant rant about the injustices of the universe. Fellow Loopers chime in with choruses of support and advice. I choke up, break down, and cry. Maybe it's the exhaustion of living with diabetes for thirty-three years. Chronic illness affects us in ways we're often not aware of.

I have cried only once before because of my disease. It was my second day in that London hospital, and I was learning how to inject insulin by practising on an orange. It was the moment

THE WALRUS READS

Canadian authors pick the year's best books

My Parents/This Does Not Belong to You
by Aleksandar Hemon

The title of *This Does Not Belong to You* — one of two books combined into this single volume, which offers a welcome double shot of Hemon — rests on the immigrant's paradox. The author evokes his past life in Sarajevo, in ex-Yugoslavia: all of it belongs to him, yet it does not, for it is no longer his life, and his country has disappeared. But there is plenty left within him, a powerful mix of comprehension of the past and skepticism of the present, which makes for some great writing.

In *My Parents*, Hemon does for his parents what he did for his own past, telling the story of how they rebuilt themselves in Canada after the Bosnian War. A typical question when his father met someone: "What bad happened?" His parents came from a land of catastrophe and inhabit it still. As for Hemon, he says of himself: "I am always absent somewhere."

David Homel's *latest novel, his eighth for adults and twelfth overall, is* The Teardown.

I understood that diabetes is a life sentence. My mother was outside my hospital room, and at first, I wasn't sure what she was doing alone in the hallway. It was the first time I saw her break down too.

As I read the various Facebook comments, I'm amazed by the care people take in volunteering their time, feedback, and insights. Which is why I decide to do it. Will the Loop be better than what I have? I don't know. But, for the first time, I won't have to do it alone.

It's a Saturday morning when we meet again, back at Riddell's lab. Riddell, Barbieri, Farnsworth, and I are joined there by Dana and Marley Greenberg, mother and daughter, ages fifty-two and nineteen, both type one. The mood is festive as Barbieri brings out gluten-free donuts and crullers. Farnsworth hands me an old purple Medtronic 554 pump, a rare commodity. Barbieri passes a white box the size of a lighter: the RileyLink. Once connected, these two devices will work alongside my CGM and the Loop code to create my artificial pancreas.

Dana Greenberg tells me she has been diabetic for forty-four years, a lifer like Riddell and me. She asks if she can help insert my CGM sensor and transmitter on my arm, a spot I can't easily reach. I nod and she swipes the back of my forearm with an alcohol swab, fans it dry, then slaps the needle inside me.

We gather at a lab table with our phones and laptops. Farnsworth leads us through all the steps of inputting the computer code. A message appears on my screen: "Please understand this project is highly experimental and not approved for therapy. You take full responsibility for building and running this system and do so at your own risk." I continue on.

By the end of the afternoon, I've built my first app and transferred it onto my phone. We connect finicky wiring to tiny battery packs and flick on our RileyLink switches. When I tap the Loop icon, I see graphs highlighting my glucose trends, active insulin, insulin delivery time, and carbohydrate intake. My CGM numbers appear on the top row. To the right, it shows how much insulin the algorithm is adjusting. To the left, a small circle glows green. The green means I'm looping. My artificial pancreas is alive.

In the days that follow, Barbieri and Farnsworth continue to guide our group through instructions and problem solving via group chat. At first, I feel overwhelmed and am constantly worried I'm going to forget something—there are so many moving parts. Sometimes the RileyLink craps out and the Bluetooth goes down, and I feel panic in the moments before it reconnects. There's no question that the system isn't perfect. But, after my first night's sleep, I wake up to a perfect blood glucose of 5.0. And then it happens the next morning. And the next.

A few days later, my insulin pump blanks out: the screen disappears. I try a new battery, but it doesn't come back on. In a panic, I immediately write to the group: "Does anyone have an extra pump?"

"You might want to consider looking on Facebook or Kijiji for a backup," Dana suggests.

Riddell joins in: "Dude, this is not a Medtronic hotline," he writes. "This is DIY!...Brave new world, my friend."

I imagine everyone laughing. But I'm worried.

Riddell gets serious and suggests that I twist the pump hard to the right—"Like you're going to break it."

I follow his unorthodox instructions, twisting and pressing down on the pump's electronics. For some reason, it works, and the pump is jolted back to life. In my personal narrative, this feels like an initiation—the moment I gain control over diabetes. But deep down, I understand that these things are fickle: the used pump can go down at any moment; the phone, the RileyLink, the CGM—all are vulnerable. Rather than letting it terrify me, though, I accept this new reality. Maybe that's the underlying story of any chronic illness: how close we all are to breaking.

I've now been on Loop for nearly two years. I wake every morning to near-perfect blood sugar. The burden of hours has lessened; life with diabetes has felt easier. And our movement has been expanding. In the months since I started, the Looped Facebook group has grown exponentially, surpassing 15,000 members. Earlier this spring, the Omnipod, another commercial pump, became Loop compatible, bringing in more diabetics who were keen to join this transnational experiment. We've been getting notice from other device manufacturers too. Medtronic recently released the MiniMed 670G, technically considered a hybrid closed loop, and the device has been approved by Health Canada. (Though, from what I've gathered, many Loopers still prefer the DIY system because it's more user friendly and customizable.) And, in a gesture that shocked many, Medtronic recently announced that it will work with the FDA and competitor Dexcom to let their insulin pumps and CGMs speak to one another via Bluetooth and an app called Tidepool—essentially Loop gone legit. Original Loop creators, including Pete Schwamb, are involved in the ongoing regulatory discussions, while others, including Ben West, are working on new-product development with various medical companies. It will still take some time for all of this to be approved—in the US as well as in Canada—but it feels like patients are finally leading the way.

Later, I reconnect with Kate Farnsworth. I want to know what's going to happen when a government-approved artificial pancreas as good as Loop—or better—is finally available. I ask if it will bother her to lose this close community she's helped create. "Honestly, I would love to be put out of my volunteer job," she says.

Lately, I've been thinking about how I will feel when that day comes. After all, Loop has changed my relationship with my health and with myself—life is more than just a report card, diabetes more than a mere flaw. I've become a man verging on cyborg, made up of skin and muscle, tubes and gadgets, all held together by an incomprehensible language. *What is this body?* I ask myself now. *And what could it be?* ✚

JONATHAN GARFINKEL is an award-winning poet, playwright, and author. He is working on a PhD in the medical humanities at the University of Alberta.

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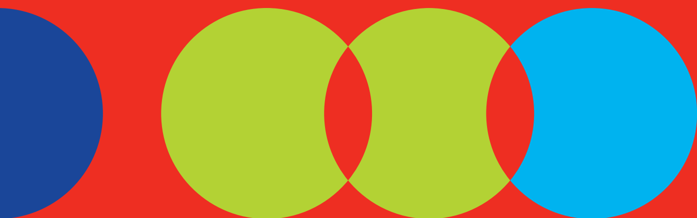

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PUBLIC AFFAIRS

In Deep

Why the federal government hasn't been able to solve the First Nations water crisis

BY HILARY BEAUMONT

ABOVE Nibinamik First Nation, in northern Ontario, has been under a continuous boil-water advisory since 2013.

"I REALLY LIKE the water from the tap," says Walter Oskineegish over the phone from Thunder Bay. "It's easier than getting water from the lake."

He notices this because it's so different from what he grew up with or has at home.

Oskineegish, forty-seven, is band manager of Nibinamik, an Oji-Cree First Nation in northern Ontario—accessible by plane and, in winter, an ice road. Flying over, the landscape looks shot through with tiger stripes, lakes and rivers created thousands of years ago by receding glaciers. Every week, whether it's sunny or raining or snowing, Oskineegish has to collect water for his family. He sets out in a boat, either a canoe or an aluminum dinghy with a motor, and stops in the middle of Nibinamik Lake, filling as many as four twenty-litre jugs with water for the six family members in his household. They drink it, cook with it, and bathe in it, and because that quantity of water doesn't last long, they reuse it for cleaning up too. When the lake freezes in the winter, he drives a snowmobile out and drills through the ice.

The water has an earthy taste, Oskineegish says. It is tinted yellow in summer; in winter, the ice makes the water a bit clearer. No one routinely tests the lake water to ensure it is safe, Oskineegish says, but he adds that it has never made him sick. He trusts the water because there's no mining or industry upstream, but he boils it and runs it through a Brita-like filter before using it, "to be double sure."

IMAGE COURTESY OF ED MIDDLETON/CBC

You might think Oskineegish and his neighbours have to go through all this because Nibinamik doesn't have any sort of infrastructure to filter and disinfect water. But that's not the case: Nibinamik has had a water-treatment plant since 1997.

Most Canadians have heard something about the First Nations water crisis: the outbreaks of rashes and gastrointestinal ailments, the boil-water advisories that go on for years or decades. Far fewer likely realize that much of this is happening in communities that have long had water-treatment facilities—government press releases and ribbon-cutting ceremonies promising relief that often turns out to be short-lived.

Over the last twenty-five years, the Canadian government has spent billions of dollars in attempts to address the problems many First Nations have accessing clean water. Despite these efforts, dozens of communities still cannot drink from their taps. The causes are manifold and the solutions complex and poorly understood, even by the very politicians who promise assistance. And the heart of this crisis is northern Ontario, the region with the most and the longest-lasting boil-water advisories, some dragging on for more than two decades.

The first time Oskineegish drank water from the tap was in Thunder Bay, when he was in grade nine; like other children from Nibinamik and surrounding communities, he lived there for high school. When Oskineegish arrived, in 1988, he found it scary and unfamiliar. The city had paved roads, concrete everywhere, and the clean water meant he was able to shower regularly. "I was sort of confused and puzzled and excited at the same time," he says, "seeing that these things existed."

Nearly a decade later, in 1997, Nibinamik finished building its very first water-treatment plant and wastewater-treatment facility—one of several systems built in northern Ontario First Nations during this period. The water was drawn from the Winisk River, which flows past the community: it entered an intake pipe, was gravity-fed to a wet well, then travelled through filters and was disinfected with chlorine before collecting in a reservoir from which it could be distributed to homes. The system pumped water to eighty of the ninety-four log cabins and prefabricated houses in Nibinamik, serving 304 of its 357 residents.

These water plants, along with those in many other remote First Nations, were the outcome of a 1977 federal policy commitment to expand infrastructure to meet the same health-and-safety standards that were in place in non–First Nation communities. That commitment kicked off a decades-long saga, one in which promises far outstripped results and which is still ongoing. In 1991, another federal commitment: First Nations water access would be equal to that in Canadian communities in ten years. And in 1995, a new promise to fix things by 2004—a pledge that came with $1.9 billion in funding over eight years.

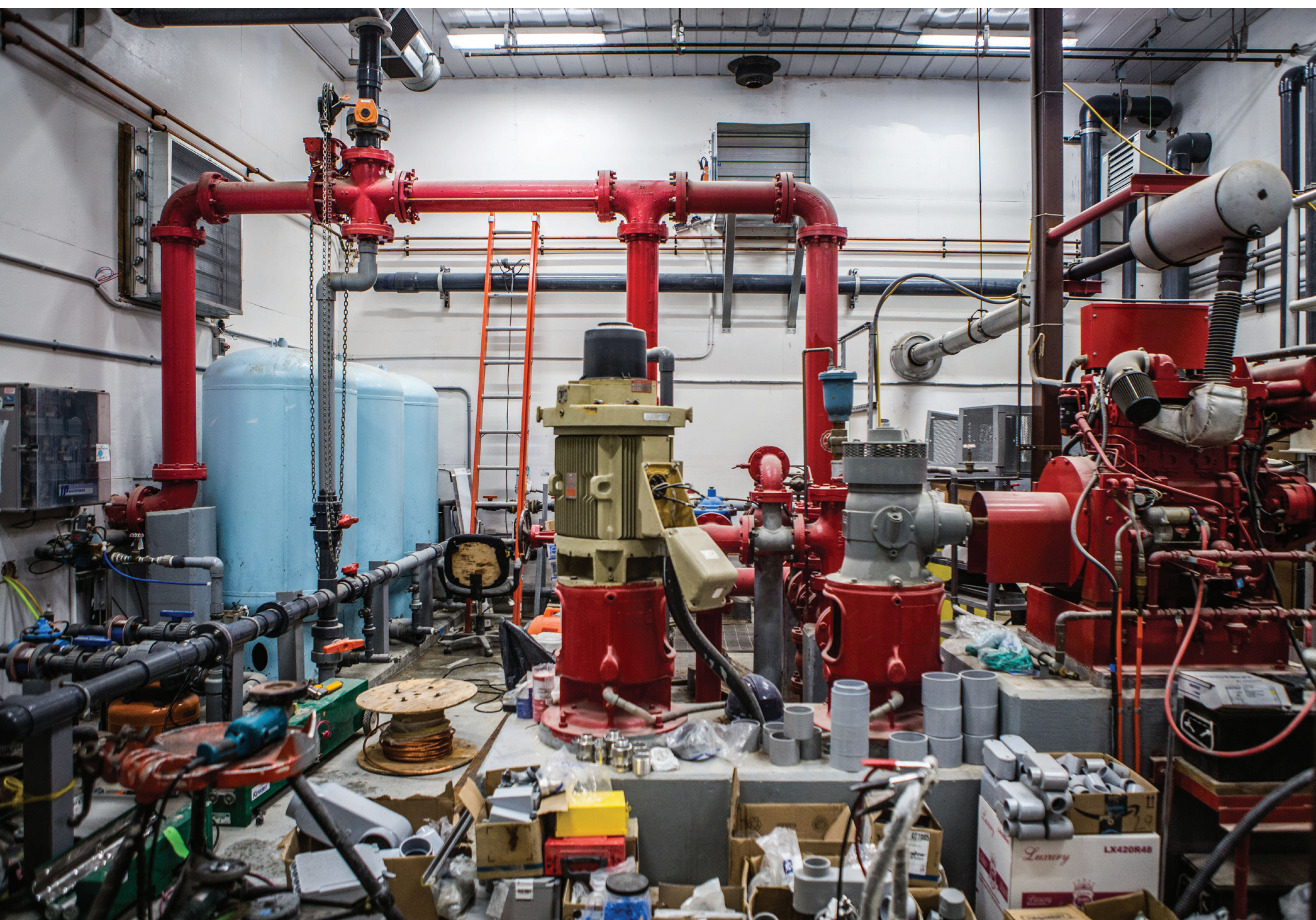
There are currently no enforceable regulations applying to drinking water in First Nations communities.

Dave Craig has nearly thirty years of experience working in water plants and training water operators in northern Ontario First Nations; he estimates that he has visited dozens of communities during that time. When the Canadian government doled out money to build water-treatment facilities in northern Ontario in the mid-1990s, Craig says, it would have made sense to build the same type of treatment system in all communities, so they could share spare parts and expertise. But, in the early days, he noticed that different water-treatment technologies were installed in each community—it seemed to him like the government was using the region as a testing ground. According to the ministry of Indigenous Services, these systems included "slow and rapid sand filtration; chemically assisted conventional filtration; and micro, nano, and ultra filtration."

Craig found that many treatment systems were poorly planned: he recalls a few plants had their drinking-water intakes downstream from their sewage-treatment facilities. Pilot projects—essentially miniature water plants set up to test various designs—either didn't exist at all or, where they did, were often not run properly, he says, leading to flaws in the fully constructed plants. To this day, Craig says, some First Nations still have rudimentary systems called stand pipes, which pump water with minimal treatment, such as only adding chlorine. (Indigenous Services was unable to share annual assessments of Nibinamik's water plant with The Walrus; the records and data they were willing to provide went back only to 2002. Records for other communities can be similarly patchy and inaccessible. On-the-ground workers like Craig are, therefore, often the most reliable sources of information about the situation.)

Many of these new plants experienced difficulties almost from the beginning. Over the years, Craig says, the government hasn't given communities enough money for maintenance, repairs, and upgrades. And there has been high turnover among the water operators, for reasons including low wages, hiring from outside communities, and unstable funding. This isn't just a staff-management problem: if a water plant doesn't have an operator, that's an automatic water advisory for the affected community.

Nibinamik's water-treatment plant was one of the facilities built during this period, opening in 1997. It had problems soon after; within a few years, the community had already set a temporary boil-water advisory. (These are issued whenever there is a known or suspected contamination of the water supply and call for boiling, for at least



one minute, any water that will be used for consumption—including drinking, washing fruits and vegetables, and brushing teeth. The Canadian government calls water advisories issued for less than a year "short term," while those lasting a year or more are deemed "long term.")

A March 2001 on-site inspection by a third party, the Ontario Clean Water Agency (OCWA), tells a frustrating story. Normally, a basic plant like the one in Nibinamik would have a wet well at a lower elevation than the source water, so water could simply flow in, but Nibinamik's water intake line was higher, disrupting service when water levels were low. "If the guy has to go and physically pump water into it, there would be some kind of a design flaw," Craig says. (Craig has never worked in Nibinamik, but a national assessment ten years after OCWA's inspection found that a design flaw was indeed to blame for troubles with the community's facility.)

There were other issues too. The water plant's back-up diesel generator, which was supposed to kick in if there was a power outage, wasn't working. There was no pump available for fire protection, and a leaky hydrant disrupted the flow of water to homes. Neither the raw water nor the treated water met Health Canada's guidelines for drinking-water quality. The author of the OCWA report was not able to review data on the water source's biological quality, which refers to bacteria, protozoa, and viruses. (The report mentions twice that the agency would have liked to conduct another on-site inspection but was unable to do so.) Physically, the treated water had "high colour, total organic carbon and turbidity," the report states, referring to its yellowish tint and visible bits of organic matter.

ABOVE The water-treatment plant in nearby Neskantaga First Nation

Unlike in Thunder Bay or Toronto, the drinking water in many northern Ontario First Nations does not come from the Great Lakes, where source water generally appears clear. Craig describes the lakes and rivers across northern Ontario as filled with "tea water": brown, murky, and loaded with leaves and other organic matter. When water with high organic levels is mixed with chlorine—which is used as a disinfectant in most water-treatment plants, including Nibinamik's—chemical compounds called trihalomethanes (THMs) can form. Experts suspect that THMs are correlated with an increased risk of colorectal cancers. (According to Canadian drinking-water guidelines, the acceptable limit for total THMs is 100 micrograms per litre of water. The

PHOTOGRAPH BY CHRIS DONOVAN

2001 assessment of Nibinamik's water did not include test results for THMs because the relevant vial was broken in transit.)

In Canada's cities and towns, day-to-day responsibility for water quality falls under provincial jurisdiction; on reserves, it is a shared responsibility between First Nations and the federal government. There are currently no enforceable regulations applying to drinking water in First Nations communities. Ontario updated its guidelines for water treatment in the wake of the tragedy that unfolded in Walkerton, in 2000, which saw thousands fall ill and seven die from water contamination. Those updated guidelines now state that surface water—the kind of water supply that Nibinamik uses—requires, at minimum, chemically assisted filtration plus chlorination. Nibinamik's facility would not meet these standards, nor is it required to.

Indigenous Services conducts annual inspections of water systems in First Nations and, based on its findings, assigns a risk ranking between 0 and 10. Systems at the low end of the scale (rated 4 and under) are considered to have "minor deficiencies" and "usually meet the water quality parameters"; those deemed medium risk (rated 4.1 to 7) have deficiencies "that should be corrected to avoid future problems." Systems that rank above 7 are those with "major deficiencies that may, individually or combined, pose a high risk to the quality of water."

Wesley Bova, manager of technical services for the Matawa First Nations (which Nibinamik is a part of) says he's not a fan of the risk-ranking system: "It's a very subjective risk analysis that the government uses." For example, he explains, having a properly certified operator in a very poor plant contributes to a lower risk score even though that scenario poses basic problems for water safety and could easily trigger a boil-water advisory.

In 2001, Nibinamik's system scored a 7: medium risk, right on the cusp of a high-risk rating. That number foreshadowed a bleak future of drinking water for the community.

The 2001 OCWA report made a list of recommendations to address Nibinamik's water problems, including investigating the boil-water advisory that had been set soon after the plant opened to make sure contamination was addressed; investigating the water intake problem; developing a program to regularly sample the water; and implementing a training program to certify the water operator—who was described in the report as having "some training." (The federal government had launched the Circuit Rider Training Program in 1996 to essentially provide travelling tech support for water operators in First Nations. Craig was among the very first Circuit Riders.)

Between 1995 and 2003, the federal government spent about $1.9 billion to improve water and wastewater infrastructure in First Nations. Despite this investment, a 2003 national assessment found that 218 of the 740 drinking-water systems on reserves were high risk, and a 2005 audit found that reserve residents still did not have the same level of water protection as Canadian communities. The latter also emphasized that there were no laws or regulations governing drinking water in First Nations, unlike in other communities.

After the 2003 assessment, the federal government promised to "address all of the high-risk systems by the end of March 2008," approving an additional $600 million over five years under the First Nations Water Management Strategy. Then, in November 2005, under Paul Martin's Liberals, federal, provincial, and territorial governments, as well as five national Indigenous groups, met in Kelowna, BC, to discuss details of the Kelowna Accord, a pledge to "close the gap" between living standards in First Nations and those in Canadian communities. Under the agreement, which was not legally binding, $1.6 billion would be put toward housing and infrastructure, including $400 million for water facilities. Four days later, Parliament was dissolved. Stephen Harper's Conservatives took power in the election that followed; under his government, the funding promised in the accord was drastically reduced.

Nibinamik had to keep setting water advisories throughout this period: one, in 2003, was lifted in 2004; another, in 2007, was lifted in 2008. And still another, set in 2009, lasted until 2011.

In 2011, what was then called the Department of Indian Affairs and Northern Development published a national assessment of First Nations water systems; it found the design of Nibinamik's water facility was what had caused it to fail both health and aesthetic water guidelines. It also found that the primary water operator had no certification (despite the previous recommendation that this be addressed) and that the source water was high risk. The facility's overall risk rating was 7.5, placing it in the high-risk category. More advisories followed in 2012. A suspected fuel spill in spring 2012 also led to a five-week-long "do not consume" advisory, which is stricter than a boil-water advisory. Finally, in 2013, the community set a long-term boil-water advisory that endures to this day.

Oskineegish became band manager of Nibinamik in 2005; over the years, he says, he received many complaints about the water from the treatment plant due to what residents describe as excessive chlorination. People still bathe and shower in water from the tap. They have reported rashes and sores to Oskineegish, although it's not clear if these are from the water. Bottled water is available at the community's general store but quickly sells out, Oskineegish says, leaving no choice but the lake.

BEFORE THE federal election in 2015, Liberal leader Justin Trudeau promised that, if elected, he would ensure all First Nations experiencing drinking-water advisories had clean water within five years. After he became prime minister, that commitment shifted: all long-term water advisories in First Nations would end, the federal government said, by March 2021. The 2016 budget included $1.8 billion in funding for First Nations water and wastewater systems—which sounds like a lot, until you realize the Parliamentary Budget Officer has since estimated it will take $3.2 billion to eliminate the advisories.

(In 2018, the federal government kicked in an additional $172 million to be spent over three years.)

There's no doubt that the Liberals have made some progress. When they took office in November 2015, there were 105 long-term water advisories in First Nations; at the beginning of November 2019, there were fifty-seven. Though these numbers suggest that the government has cut the problem in half, measured in terms of the number of people affected, it has made a smaller dent: the total number of homes on long-term water advisories has fallen from 5,400 to 3,800, a 30 percent reduction. And all of these statistics obscure the true number of people who don't have clean water—many homes in First Nations communities were never hooked up to water lines in the first place. Residents either use private wells, which are untested and do not fall under the government commitment, or they have to walk or drive to the nearest water source to fill jugs.

In May 2019, the government committed up to $6 million for the design and construction of upgrades to Nibinamik's water plant; it estimates that the community's water advisory will be lifted by spring 2021, making it one of the last in line. One complication is the difficulty of bringing in equipment and building materials: there is no all-season road, and flying in supplies is prohibitively expensive. The winter road is only available a few weeks a year, and climate change is now threatening all winter roads that First Nations in the region rely on, making them increasingly inaccessible. Other communities have received funding for brand new water-treatment plants, which usually cost about $13 million apiece and up to $20 million for larger facilities.

But it also may be the case that political rhetoric on the matter—this talk of advisories *ending*—is highly misleading. As of October 31, there were at least forty short-term drinking-water advisories in effect (that number does not include advisories in BC and within the Saskatchewan Tribunal Council), including many in First Nations that recently came off the long-term advisory list. The government says it has lifted eighty-seven long-term advisories since November 2015, but it has added another thirty-nine long-term advisories in the same period.

Isadore Day, a former Ontario Regional Chief from Serpent River First Nation, elicited the clean-water commitment from Trudeau in 2015 by challenging him and the other party leaders to commit to fixing the problem within five years. Four years later, he's impressed with Trudeau's progress. "I try to avoid partisan politics on the federal side, but I have to commend the Liberal government for the efforts that they've made," Day says. "Yes, there's a lot of work to do, but I believe the Liberals deserve a lot of credit for making a good run at this."

> *"If it were a municipality, there would be an uproar. There's no way people would stand for it."*

That's a far cry from thinking the crisis is nearing resolution, though. Day is concerned that no one is talking about long-term operation and maintenance of all the new infrastructure being built. This isn't, in other words, just about constructing the plants themselves: like any other basic infrastructure, these systems will need ongoing management. Government announcements, however, focus more on triumphant construction projects than on the daily slog of keeping things running.

Autumn Peltier, fifteen, is from Wiikwemkoong First Nation, on Manitoulin Island—the largest freshwater island in the world, in Lake Huron. In late September, she went to New York City to address the United Nations Global Landscapes Forum; she explained that her community is not on a water advisory but she had become an activist when she learned that other First Nations didn't have clean drinking water. "I was confused, as Canada is not a third-world country," she said. "But…in my country, the Indigenous people live in third-world conditions." Peltier's great aunt, she said, had taught her the sacredness of water. "For years and years, our ancestors have passed on oral traditional knowledge that our water is alive and our water has a spirit."

When I tweeted a clip of Peltier's speech, Jordan Smith, a volunteer water operator in a tiny BC community, commented that he is a white person who lives in a remote community that is also on a boil-water advisory. He raised geographic remoteness and the high cost of building and maintaining infrastructure as factors that limit both Indigenous and non-Indigenous communities. He's not alone in citing geography as a limiting factor in building water infrastructure. At a press conference during the federal election last fall, NDP leader Jagmeet Singh promised to ensure there would be no more drinking-water advisories in First Nations; two reporters asked him if he was "writing a blank cheque" for this and other Indigenous issues. Singh, who didn't elaborate on what his approach to the problem would be, replied: "If Toronto had a drinking-water problem, if Montreal had a drinking-water problem, would you be asking the same question?"

Even for First Nations like Nibinamik, whose location is an aggravating factor in attaining clean water, remoteness is not the root cause of the water crisis. Many First Nations located near municipalities are also under long-term advisories. (Wauzhushk Onigum Nation, to take one example, is ten minutes from downtown Kenora and is under two separate boil-water advisories, one issued in 2012 and the other in 2017.)

Boil-water advisories exist not so much because of distance but as a direct outcome of colonial conquest. Sean Carleton, a historian at Mount Royal

University, explains that, before colonization began in the sixteenth century, Indigenous peoples controlled all of the land in what we now know as Canada. That formally changed between the 1870s and 1920s, with First Nations leaders signing treaties in exchange for verbal and written promises to share the land and water with Canada. Instead, surveyors marked prime agricultural land for settler development and set aside small portions of land they didn't want as Indian Reserves—removing, at the same time, First Nations' ability to choose the sources of water that they would have access to in the future, and their ability to manage their own watersheds. If a source of pollution upstream from reserve land is contaminating source water, say, a First Nation does not have the authority to stop it.

First Nations downstream from the Alberta oil sands, for example, have noticed significant negative impacts to their water, fish, and wildlife over the decades. A 2014 report by University of Manitoba researchers quotes one resident who describes the situation there: "You go in the rivers and you see all that foam that's coming down, and it's all pollution." Another resident wondered if the filters in their water-treatment plant were adequate: "All the stuff from upstream is coming down, so we are getting everything from Syncrude....all coming down that river...And we drink the water from the lake here. And of course, sure it goes through a filter and it's going through that filter system. But how good is that filter system that they have here? We don't know those contaminants."

This is not a problem that First Nations have the autonomy to solve for themselves: the legal framework that removed First Nations from their territories, though it has been modified over the years, is still in place. In 1867, the British North America Act placed "Indians and lands reserved for the Indians" under federal jurisdiction; in 1876 Canada passed the Indian Act—a huge, complicated set of laws that oversees relations with First Nations. The Indian Act gave the federal government control over First Nations resource development and land use and deliberately subverted Indigenous authority to the Canadian government.

As set out in the Indian Act, capital and revenue generated from reserve land (known as band moneys) is held by the Canadian government in trust on behalf of First Nations. Every year, the federal government renews "contribution agreements" with each First Nation—arrangements to provide funding, which must be spent based on agreed-upon conditions. It's not clear how the government decides how to allocate money, or how much; often, communities end up moving money from other funds to continue meeting water-service standards.

As Day explains, this means an outside government controls First Nations' affairs, including their financial resources. Day says this paternalistic structure is the cause of delays and shortages in funding for water infrastructure. He also says the same structure means Canada has a fiduciary responsibility to ensure safe living conditions in First Nations.

NIBINAMIK has decided to build its new water system to meet the standards Ontario developed after Walkerton—it will have a proper intake line and will chemically filter out THMs—though it is not required to do so, and the $6 million in funding it is receiving may not be enough to cover the costs. In the long run, though, Bova is more concerned that the federal government will not provide enough money to operate and maintain all the new plants being built now throughout their twenty-year life cycles: the new plants being installed now are more complex, he says, so they will likely require a lot more money on an ongoing basis. Asked if he believes his community will have clean drinking water by 2021, Oskineegish says, "I'd like to be that positive guy, and I'd like to see it, but I don't think it will happen."

To get base federal funding for a water-treatment project, a First Nations community must first fund a feasibility study, either on their own or through provincial programs. Once they complete this, they can secure funding for a detailed design study and, eventually, move on to construction. The entire process can take five to ten years, with delays arising from changing seasons and governments. Craig first explained this to me over the phone in 2017, as he was in the middle of trying to fix leaks in another First Nation's new water-treatment plant. The contractor in that case was driving him crazy, he told me, and was later kicked off a different reserve because of delays in building their new plant. "If it were a municipality, it would be an uproar," Craig said. "There's no way people would stand for it."

Craig has since had to step back from some of his work in water treatment, mostly because of his health but also because of his frustrations with the engineering outfit and contractor that built the plant he was working on when we spoke. As in the old days, he says, the pilot project wasn't done properly: it was built in a narrow passage where the water is moving, but the permanent water plant was constructed about four kilometres away, on a dead bay with no water flow—a major difference that could lead to problems in the future.

I spoke with Craig again a few days before the federal election. Working inside the system for decades, he says, "you feel like such a small pebble on the beach that you can't do anything. It becomes so frustrating—it breaks your heart." He watched the English-language election debate, hoping to see the water crisis addressed. "But the section on [Indigenous] issues, people were more involved in slinging dirt at the other guy. There were no real answers given." His questions for everyone involved, from First Nations governance to Indigenous Services to elected leaders and voters: "Are we being diligent? Are we doing what we should be doing? Are we doing what's really needed? Or are we just making a show?"

HILARY BEAUMONT is a freelance journalist based in Toronto. She has been reporting on the First Nations water crisis since 2015.

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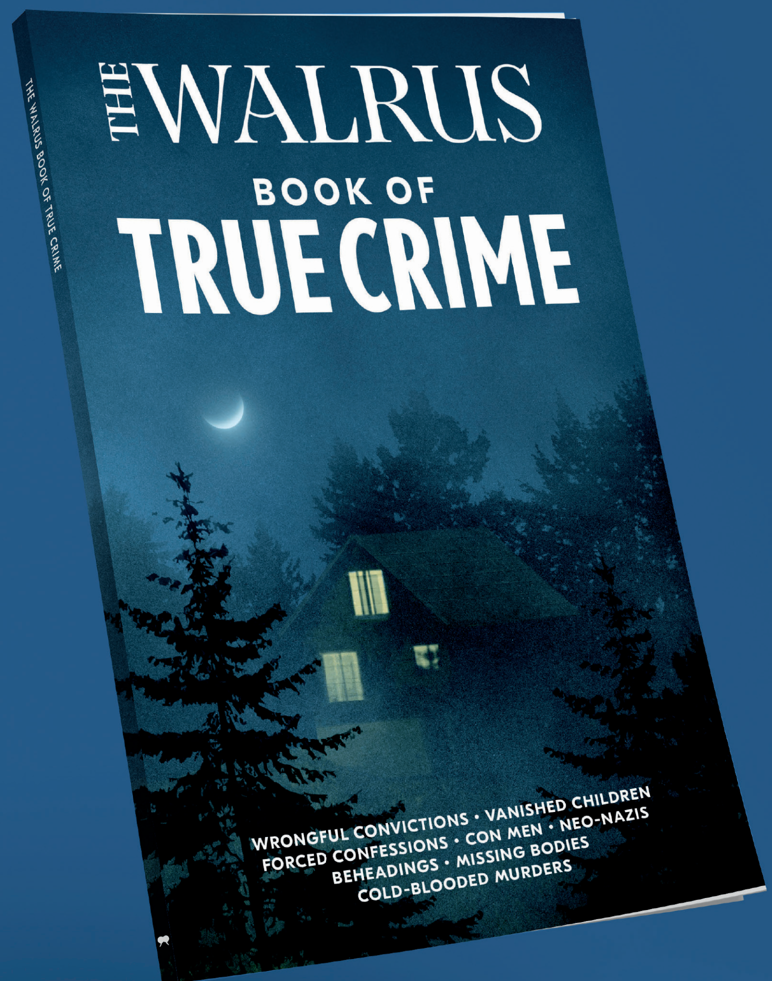

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All I Need Is YouTube

Meet the online community providing millions with illusions of love

BY MICHAEL HARRIS
ILLUSTRATION BY GLENN HARVEY

After a long flight to London, I lay awake yet exhausted on a hotel bed, my laptop resting on the other pillow. Sleep would not come, and I was scheduled to speak at a conference in just seven hours. So, alone and desperate for a soporific remedy, I did something out of character: I began cruising YouTube. "Help me sleep," I typed into the search bar. Soon, I was listening to a video that promised "late night pillow talk."

The video was a half-hour recording made by someone calling himself BF Barnfield. It showed only a static photo—a black-and-white image of a young shirtless couple gazing into each other's eyes. The lack of visual action let me focus on Barnfield's voice. His accent was studded with thick, sleepy consonants, and his whispers, exhalations, and sighs created an aural tide for my mind to bob upon. Barnfield cooed, "Let's go to sleep then. Okay, okay, good night, baby," and I briefly felt guilty about my husband in Vancouver. But, eventually, sleep pulled me under, my laptop watching me from across the bed.

The next morning, I blinked at the still-open YouTube page and found the rest of Barnfield's oeuvre. "Late Night Pillow Talk" is part of a suite of videos in which he pretends to be the viewer's boyfriend; for each, he records long, one-way conversations with questions and pauses—so that listeners may feel they're participating, almost speaking back, despite the fact they are (probably) alone. Never does Barnfield talk sex in detail or veer into the erotic; in fact, his role-play videos often border on the banal. In one, he picks you up from university; in another, he wakes you with cutesy encouragement; and,

in one of his most popular instalments, Barnfield spends nearly twenty-two minutes jealously reacting to the fact that you've been texting with your ex.

It was, for me, a wholly new idea of what our devices can deliver. I knew that online porn had become a fact in many people's lives, but I'd been slower to recognize a culture of autoromance. This burgeoning arena includes an army of chat bots trained to offer companionship and conversation. A service called Invisible Boyfriend (along with its sister service, Invisible Girlfriend) also offers text-based interactions with actors who pretend to be your romantic partner for $25 (US) a month. You never meet the guy, but you can choose his name, age, and the face that pops up when he messages. And a real, live person somewhere (presumably male, but who knows) will message you about how your day went, how good you look in those jeans.

Countless YouTube broadcasters offer "partner" videos with a variety of genders, moods, voices, and scenarios. The more popular video producers, with millions of views and thousands of comments, have sophisticated brands and deliver entire catalogues of experience. One YouTube boyfriend, for example, will care for you when you're sick, do your makeup, and give you a manicure. The appeal is obvious: who wouldn't like to slip past the messy experience of a flesh-and-blood first date and fall, instead, for a pleasing simulacrum—for the shape of a new romance? Viewers are deeply engaged. Some are self-critical too. One, echoing my own unease in that London hotel room, wrote under a romantic role-playing video: "Am I really this lonely?"

That some people have turned to artificial company on phones and laptops should be no surprise. The internet

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promised a world of connections, but it bent us inward, a self-interested turn that has coincided with a growing fear of loneliness and disenfranchisement. Governments and experts are beginning to treat loneliness as a serious health problem that could even lead to early death. In Canada, Andrew Wister, a researcher at Simon Fraser University, has said that one in five people suffer from social isolation. In the UK, a minister of loneliness has been appointed. And, in the US, Vivek Murthy, the former surgeon general, called loneliness an "epidemic" in 2018. A precarious economy and shifting social values could compound things, encouraging many of us to delay the most common form of companionship—marriage—until a much later date. (The most recent US census found that, in 2018, the median age at first marriage had reached its highest point on record.) Meanwhile, the number of American adults under thirty who aren't having sex has risen from 9 percent to 23 percent in just this past decade. With less marriage, sex, and stability—seemingly all the trappings of social life that girded previous generations throughout adulthood—we swarm to online platforms that provide at least the "feel" of intimacy, if not the substance.

Just as fast-food chains provided an easy substitute for home-cooked dinner and the porn industry offered tailor-made satiation for more carnal hungers, apps and videos have emerged to dish out romantic calories in the easiest, most hassle-free way. Videos like Barnfield's are joined by options that reproduce domestic affection, physical care, maternal attention; every category of intimacy is at play, reproduced for the lonely consumer. These services are addressing one of the most prominent problems of the century, but their solutions are superficial. They make it possible to live without ever facing the loneliness that makes up contemporary life, so we never discover what lies behind it.

AFTER SPENDING the last few years researching different kinds of loneliness in a connected world, I have come to believe that romantic loneliness leaves us the most vulnerable; we reach for quick fixes and easy comforts. Romance "comes out of one of the oldest parts of the brain," says Helen Fisher, a senior research fellow at Indiana University's Kinsey Institute and chief scientific advisor for *match.com*. "The pathway lies at the very base of the brain, very close to regions orchestrating thirst and hunger." In fact, just as thirst and hunger are designed to keep you alive, romantic feelings are a survival mechanism designed to drive your genes into the future. Ninety-seven percent of mammals propel their genes very well without this romance drive. "But," says Fisher, "our species evolved to tack attachment and love onto sex." Many researchers believe the romance bonus served to ensure the survival of infants. Without these romantic ties, male primates have a bad habit of killing their own offspring. With them, however, primate communities thrive and grow. The brain circuitry for these impulses has probably not changed in 4 million years. What has changed, though, is how easily we can sate that deep-seated hunger for intimacy.

Born in 1980, I'm part of the last generation to have had a childhood without digital interference, so I recall a world where the only romance available was the hazier sort, something less at the ready. Romance then meant confusion and silence, mystery and hunger. It was the opposite of my Barnfield romance: demanding and never on demand.

I remember, for example, sitting in my grade-four classroom and wondering whether a friend of mine might be my valentine. The previous weekend, we had been playing Nintendo in the basement of his parents' house when he'd shot his hands in the air, cheering because he had finished a level. Inspired by his excitement, his open-mouthed smile, I had embraced him.

"What are you doing?" he had shouted, shaking me off.

I had hardly known. And that confusion, for me at least, was where intimacy lived—in a furtive glance, a hesitant almost touch.

It seems utterly foreign, looking back—that marooned child with his empty hands. But this absence of

contact really was the norm. Even as I entered high school, the promise of "cybercommunication" was jokingly oxymoronic. Those who found solace in online "contacts" were laughed at or pitied. Who could have known that, in a couple of decades, the delineation of online spaces would be reimagined as the borders of a new romance; to go online suddenly meant blocking out the cold, physical world and living for some hours among signals of warmth, a million points of light. Eventually, "the personals" in newspapers gave way to the instantaneous appeal of *match.com*, in 1995, and eHarmony, in 2000. These romantic connectors were followed by social networks like Friendster in 2002 and, three years later, Facebook. Living without easy connections, without constant social grooming, became unthinkable. And today, of course, roughly half of us either met our partner online or know someone who did. Swiping through Tinder or Bumble is often done with no intention of an actual hookup—the point is to microdose personal attention. The endless string of meaningless *heys*, the sugary "super likes" and reassuring lists of "who viewed me"—they comfort and please without fully satisfying. But the biggest difference between contemporary patterns and older exchanges, of course, is that there's only one body. The user is lover, loved, and cupid in one.

I was alone in that hotel room where I watched my first Barnfield video. So why do I feel, looking back, like I halfway cheated on my husband? Perhaps because our hearts can now have affairs with our screens. The only cure for loneliness is to master the art of solitude—to lean into our isolation, in other words, and understand its depths. But loneliness can make us hold tight to sweet nothings.

PERHAPS THE largest bank of synthetic attention is the cache of ASMR videos propagating online—clips that help viewers experience an autonomous sensory meridian response (essentially a tingling feeling of low-grade euphoria). ASMR videos work by offering rhythmic sights and sounds—the image of soap being carved, say, or the sound of someone eating a pickle. (Videos displaying those two activities have each garnered tens of millions of views.) A crucial aspect is the performer in each video: almost invariably an attractive young person, staring into the camera's lens as though you, the viewer, are their beloved. One study found that these videos trigger a part of the mind that longs for attention—our world's most precious commodity—and some videos tap into that need more directly. They might feature someone pretending to cut your hair, say, or shine your shoes. We feel petted and calmed by their gentle repetitions, allowing intimate touch—intimacy itself—to be abstracted through the screen.

I'm reminded of the *mukbang* video phenomenon in South Korea, where millions of subscribers watch—on laptops, on phones—while strangers eat elaborate meals. Broadcast jockeys (as they're known) provide the comfort and ritual of a family dinner; they offer that comfort to, say, a lonely fellow eating takeout on his sofa. There is a neatness to the experience: the viewer doesn't take on food preparation, consumption, cleanup, or any other effort. Boyfriend videos like BF Barnfield's are much closer to these mukbang offerings than they are to pornography—what's on offer is not titillation but the easiest possible check to the loneliness that pervades contemporary life.

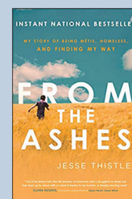
"It's amazing how the human brain can respond to inanimate objects," says Fisher. "Small children will love their teddy bears. We watch movies and cry when someone gets dumped. We're capable of responding to inanimate objects in very visceral ways. The brain can be tricked." Our technologies capitalize on the fact that we can see human faces in piles of pixels or that we can accept the replication of a lover's voice as the genuine article. These stand-ins are so common that we forget their strangeness. But perhaps we fool ourselves in thinking our desires for love, comfort, and belonging can be sated with an inanimate object. Instead of being satisfied by digital replacements, we may end up like shipwrecked travellers who drink salt water: growing thirstier the more we consume.

BARNFIELD (he stole the pseudonym from an actor in an American film) took my call from his home in Brazil. It had been two years since I discovered his videos, and I hadn't watched them in many months, but his voice was alarmingly familiar. It had a compelling, soft timbre. Yet, having listened to him online so many times,

THE WALRUS READS

Canadian authors pick the year's best books

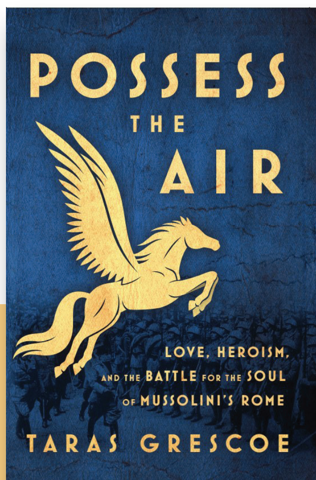
From the Ashes: My Story of Being Métis, Homeless, and Finding My Way
by Jesse Thistle



This memoir haunts, gnawing at the soul as we walk with Jesse through his many incarnations. Now a professor of Métis studies at York University, Jesse tells his truths with the eyes of someone who has seen and experienced more than what seems bearable from such a young age. I can't forget certain passages, such as when Jesse's father takes him and his brothers to their local corner store to shoplift for the first time — food and snacks stuffed down Jesse's pants — because they are starving. Or when the brothers hide from child-welfare authorities after being abandoned for days. If you want a glimpse at why some of our brothers and sisters wind up on the streets, read this book.

Tanya Talaga *is the author of* Seven Fallen Feathers *and* All Our Relations: Finding the Path Forward. *She is also the Indigenous-issues columnist with the* Toronto Star.

THE POET
VS
THE DICTATOR



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I now found a two-way conversation oddly off-putting. The whole point of boyfriend videos—and of ASMR, mukbang, and the rest—is to create a one-way interaction from creator to silent consumer. Now that we were both talking, the effect was shattered.

Barnfield's subscribers, though, remain in his thrall; he told me about fans who message him just to make sure he's eaten his lunch. By the thousands, they imagine themselves his one and only partner. "They want to feel like they have someone who cares about them," he told me. "I think 90 percent of my audience is single people." Barnfield makes a small amount of revenue from the videos, but most of his income comes from his day job as an IT educator at a private school. The videos are merely recreation; he finds it relaxing to be part of so many abstracted relationships. There's something attractive about the sheer ease of a Barnfield romance: "If they say, 'I love you,' I say, 'I love you' back." But what does he really get out of it? I asked.

"It helps me to be a bit less lonely."

I realized, the more we spoke, that this young man was also floating on the larger online tide. YouTube gave him a chance to feel loved by strangers. Many strangers. And then, just as smoothly, he could shut his laptop and walk away. He has a job, friends, a life. But, as Barnfield, he indulges in the same search for invincible intimacy that his listeners do. He, too, wants to feel close on his own terms. He hasn't told his friends or family about the videos he makes; he doesn't think they'd understand.

None of this is uncommon today, though it can feel unintelligible if you were born a few years too early. Romantic feelings are always composed, after all, in the vernacular of our time. When I was a child, I craved communion; I would lie for hours on a suburban lawn listening to cars whoosh by and thinking about what a friend had said the day before. When I was a teenager, we all had chunky cellphones, and my heart would race to see a certain boy's name spelled out in the grey-on-grey digits of my call display. And, now that I inch toward middle age, married and presumably done with the heart's shameless hunt, I find that even a stranger's video with a million views can evoke something I didn't realize was missing. We adapt old psychologies to new technologies. Sometimes it seems to be nothing more than that—just the same old stirrings in a new, silicone form. But, other times, I think the change is a qualitative one after all, that something fundamental has shifted. Were I a child today, I might miss out on the painful, mind-shucking loneliness that predigital life demanded. Were I a child today, my longing, from the moment it first stirred, would be satisfied by technology. So I would be deprived of deprivation.

Our new reality—omnipresent care—has a creeping price. ASMR viewers find themselves addicted to their videos, some unable to sleep without them. One mukbang video creator complained of diminished sexual appetite after days of force feeding themselves family-sized meals. The *hikikomori*, in Japan, are roughly a million shut-ins who eschew "real world" interactions altogether, preferring to live alone in their rooms, attended by computers that call forth food deliveries, entertainment, education, and friendship.

I had a small taste of these effects while researching this essay. I gorged myself on videos, testing the company of virtual hairdressers, virtual chefs, virtual boyfriends. A nauseous fog developed in my head—like the sickly sweet, looping feeling of playing a video game too long. I was watching a boyfriend video one day when a blur at the edge of my vision made me aware that my husband was heading out on a walk with the dog. It was a balmy spring day, the sidewalks flushed with cherry petals. And, for an instant, I was going to join him; I meant to shut the laptop, shake myself awake. But, instead, I gave myself another minute, then another. And, when I finally did look up, I was alone. ▸

MICHAEL HARRIS is the author of *Solitude* and *The End of Absence*, which won the Governor General's Literary Award. A faculty member in the Banff Centre's literary-journalism program, he currently lives in Vancouver.

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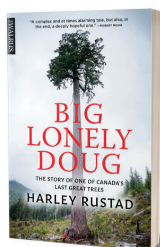

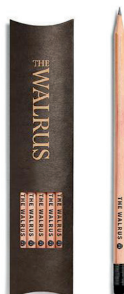

CANADA'S CONVERSATION

FICTION

Saturday Project

BY P. N. VAN DEN BOSCH
ILLUSTRATIONS BY ISABELLA FASSLER

GEOFF BELIEVED he had discussed "cutting the cord" with Laura, but when the UPS man delivered the brown boxes with their lopsided smiley-face logos, she had no recollection of previously asking her questions. Will they be able to watch the local news? Will it be possible to record programs? By the time they subscribe to all the channels of their cable package, how will they have saved any money? Then Indie, their youngest, reclaimed her old room for two months to recover from a failed relationship, and Geoff moved the partially unpacked boxes to his workshop. There they stayed—not the best of arrangements because they needed to be displaced whenever he had some fix-it job. Laura must have seen them too: the workshop competed for space with the laundry area. But she never mentioned the boxes. Geoff couldn't decide whether this was due to her patience—which, as the children could all attest, had its limits—or if she was punishing him with silence. Then, when Laura's employer authorized an all-day retreat for her department later that spring, Geoff found fresh determination and wrote on the kitchen calendar, "*L. Retreat/G. Sat. Dish.*" Geoff, who never records a dentist appointment before the reminder call.

"Be careful," she says in the garage. They are both still fresh from their showers; they've kissed goodbye; Geoff is not yet fully awake. "Please. Get Donald to help you with the ladder." Donald and Skye, their neighbours, got their own satellite dish a while back. Geoff promises he'll be careful, but he's already decided on a plan. He has determined that the dish needs to be mounted on the chimney of the living-room fireplace, which he can access by going through one of the attic's two dormer windows. When Laura's car has turned out of view, he gets to it. He could use a second cup of coffee but promises himself a break once he's carried up all the boxes.

The completion of a simple task seems to energize Geoff. He takes his refilled mug upstairs and notices all the bins and items that have collected in the attic like that expanse of trash turning circles in the Pacific. Much of it belongs to the children, who by now should be prepared to either store these leftovers in their own places or finally cut ties to these things left behind long before college. He shifts containers into clusters of individual responsibility: Thalia, Aiden, Indie. Laura's pile turns out to be smaller than Geoff's, a fact that surprises him. Hers would have been even smaller had he not assigned her several boxes of household goods, technically speaking a shared responsibility.

In a box of Christmas ornaments with sentimental value (but ill-suited for Laura's recent monochromatic decoration scheme), Geoff finds a packet of letters. At first, he assumes they are Christmas cards dropped in by mistake. Very likely, Laura searched for them in January, gave up, and eventually forgot these orphans. What a laugh it will be, he thinks, when he hands them over in the evening and says, "Guess where I found these?" As he begins to lay them aside, he notices that the one on top is postmarked June 7, 1978—three days before their wedding.

Dear Laura, (or should I say Dear Miss Macrae so that I can have the pleasure of starting my next letter Dear Mrs.—?) I just had to write immediately. In fact, I'm sitting in the airport, waiting for my plane to board, using the pen you

lent me, the one I neglected to return. Impertinent of me, that the first thing I did with it was write down the return address on the envelope sticking out of your handbag. Fortune smiled on me when she set me down at the table next to yours. I hope you, too, enjoyed our conversation.

The letter goes on about thunderstorms expected around Calgary and a *Time* article about hospice care. It ends with a plain *Marcus*, not a name Geoff can place. Geoff turns the envelope in his other hand. It was sent to Laura's parents' old address; Drew and Mary must have passed it along with all the other cards that she'd been sent around the wedding. The return address is in Okotoks, Alberta.

The next letter in the bundle—same return address—was sent to the West End condominium where they lived for two years until they bought this house in Coquitlam, which then felt like a distant suburb. Geoff flips through the eight remaining envelopes, all addressed in the same hand. He's curious to know what else Marcus had to say, but it's time he got back to work.

Much of what's left of the morning is taken up by mounting the dish. He installs the arm and tests the two servomotors. The thumb-sized joystick on the remote control and the click-whirr-click of the motors remind him of the model airplane he put together with all three children when they were between five and fourteen—almost too late for Thalia, but she got into it when he handed her the instructions. That plane, too, should still be in the attic somewhere.

The dish is heavier than its size would suggest, and even with his feet still on the attic floor, Geoff overbalances twice and nearly drops it. After that, he tries to move at all times with deliberation, sure of his footing before he shifts his weight. The only incident occurs when, after leaning into the window to pick up the dish and bring it outside, Geoff nicks a corner off one chimney brick and scrapes the knuckles of his right hand. For a few moments, he envisions the worst.

Geoff's blood sugar is low enough at this point to make any additional work unwise. He decides on a quick sandwich break and another coffee. This will be his third cup of the day, in defiance of indications that the second was less effective than the first. To compensate, he simply packs more grounds into the filter.

According to the manual, the dish now needs to be grounded and cable run to three outlets: rec room, family room, and master bedroom. He's never noticed this before, but the cable outlets are positioned almost directly above one another and, with a little luck, this means threading will be easy. Separate cables for each outlet, the instructions say, will provide better quality than a single cable with branches, but the manual is silent on the process of getting wiring through walls and floors. As for grounding, the manual suggests water pipes; though the idea of a lightning strike travelling through the same system that feeds the showers and sinks is unsettling. He turns to Marcus's letters rather than make too quick a decision.

April 20, 1980. Dear Laura, That little bistro could not have been more perfect! Do you bring all your conquests there for a tête-à-tête?

Geoff reads the line again.

I shouldn't have used up so much of our time talking about my personal life, but you do have the most attentive manner, and I guess I really needed to unload. Your Jeffrey and future children are fortunate indeed.

It's true: Laura listens well and says just enough at the right times. Geoff has even seen her do this for a man verging on tears and, at the time, thought nothing of it. Still, he senses an undertone in Marcus's gratitude.

I'm taking your advice, listening more to Dorothy, reading between the lines, as you put it, and doing my best to respond more appropriately. Oh, but I wish you could be next to me, whispering the right words in my ear.

The next letter, dated five years later, contains no hint that Laura and Marcus met up in the meantime. Maybe Marcus is someone she met through work, a regional-sales manager who only visits the West Coast once a year. Laura had moved into the low echelons of management at Babies-and-Tots by the time Thalia was born—she'd insisted on a desk job—but she was still responsible for fighting brush fires at franchises.

Dear Laura, I was so relieved to get your note. What a scare! The management insisted on not charging me for the meal, by the way. These days, I guess they worry about lawsuits—even nice restaurants must suffer from bad publicity—but I heard you tell the host that you didn't think it was the food. No, you absolutely did not spoil my day. These things can't be helped, and anyway, I had the most wonderful time before you took sick. Glad to hear you're fine, now.

Thank you for the picture of you with your family. Jeffrey looks like (and sounds like) a man I could happily be friends with. He has kind eyes. There's really no need, you know, to apologize every time you bring him into the conversation. Next time, if there is a next time, I must remember to bring along a picture of Dottie.

By the way, without Jeffrey in the picture I'd have guessed Thalia is an image of you at that age. Something that brings me back to the photo time and again is to imagine it is you side by side with your younger self.

Geoff knows the picture Marcus means. Laura had sold him on the idea of a personalized Christmas card the previous year and, with her usual good planning, got them an early appointment with a photographer. He'd carried one of the prints in his wallet for several years. Geoff glances back at the date. They would have been expecting Aiden by September.

Geoff lays down the letter and turns to the instructions. He decides to drill a hole for the cable in the dormer window's frame: if he fastens it on the inside, he won't have to make any holes in the shingles, and the short run of cable from the chimney will hardly show. He can patch the hole later.

While he's out on the roof, he sees Donald pruning the hedge between their properties, but Geoff has no time to talk, and luckily Donald never notices him. Inside again, he consults his home-handyman book on running cables in walls, and it becomes clear that this is a much larger job than he bargained for: he decides to run a single cable along baseboards and down inconspicuous corners.

He drills up from the walk-in closet next to the master bedroom into the attic, hoping to minimize debris. Still, as plaster and wood dust trickle onto Laura's clothes and shoes, he makes a note to clean up before she gets home. Laura said she wasn't sure if there would be a social hour after the workshop, but she didn't think she'd stay long even if there was. "Subject to change, of course," she added—a joke dating back to their second honeymoon, on board a cruise ship, where every day's schedule ended with "All Listed Events Subject to Change."

Geoff feeds all the cable down into the closet, a slow process, and he feels rushed. If only the instructions were clearer or houses came with detailed plans. The ceiling in the passage between the garage and the main entry hall is even more prone to crumbling. As he drills between this passage and the family room, he hits something metallic and backs out immediately. Sure enough, there is an outlet in the family-room wall, just about where his drill would have come through. *Measure twice, drill once*. An image of Laura coming home to find him on the floor drives Geoff in search of something to soothe his nerves.

THE WALRUS READS

Canadian authors pick the year's best books

The Testaments
by Margaret Atwood

Picking *The Testaments* feels a bit like picking the Beatles as my favourite band or Picasso as my favourite painter—Has there been a more ubiquitous novel in 2019? But it is an essential book for our times. *The Testaments* is also one of those rare sequels that burnishes the reputation of its predecessor rather than tarnishing it. Through three women's personal narratives, Atwood charts the rise and fall of Gilead, that theocracy formerly known as the United States of America. *The Testaments* is not subtle; it's not even particularly literary. And, for every horror that rings true, there's another that prompts incredulity. But it's Atwood at her best—bold, brash, and angry, full of vivid world making, caustic humour, and trenchant critique. The novel considers our capacity to both create and endure a brutal, morally bankrupt society, and the small miracles of imagination, tenderness, and resistance that constitute our humanity when we are otherwise stripped of it.

Jordan Tannahill *is a two-time Governor General's Award–winning playwright and the author of* Liminal.

THE LETTERS Marcus sent over the next few years are short and primarily cover family life. His first child, Alicia, is born a few months after their Aiden. There are still tremors in his marriage, but he hopes their focus on the children will settle those at last. "Now here's a chance at a closer bond between our families: in the ripeness of time we might play matchmaker between your Aiden and our Alicia." A son, Jordan, is born to Marcus and Dorothy in 1989, followed a little more than a year later by the birth of Indie to the Delisles. This time, there is no talk of matchmaking.

Geoff notes the time and reluctantly leaves the letters to inspect the rec room, below the family room. It has a tiled ceiling, which was there when they bought the place, although they did eventually paint it. A picture of the five of them sitting on drop sheets, wearing well-spattered overalls and having lunch among the paint cans, hangs on the wall. "*Le déjeuner sur l'herbe*," Laura had said as she started the camera timer. "Or whatever the French is for 'concrete floor.'"

In the photograph, she looks happy, but there isn't a photograph where Laura doesn't look her best. Geoff stares at

the picture, parsing the body language: he and Laura are bracketing the two eldest, but Indie is on the other side of her mother. Laura has an arm around Indie and is looking toward Thalia and Aiden, who are turned toward her just a little. Would she have preferred, even then, to be with Marcus?

There is no rec-room television set—subject to change—so Geoff leaves a length of cable rolled up in the ceiling.

The signal on the family-room set is disappointing, but the dish position still needs to be fine-tuned: another trip to the attic and he has the remote control. If nothing else gets completed today, Geoff intends to have the TV turned to the foodie channel that oddly excites Laura despite her preference for conventional cuisine. As he passes through the kitchen to pick up the manual, he notices the bundle of letters lying openly on the table beside it. Geoff sticks them in the tool box, which he now carries with him at all times.

After a small amount of fiddling, the signal slots in, but the food channel is not where it should be. A few moments of despair later, Geoff settles for the Women's Network. He can't remember if he's ever seen Laura watch the channel, but at least it will show he's not putting himself first.

It's now a little past four, and Geoff's remaining task is to connect the bedroom set. The only problem is that the bed is on the same wall as the cable, and the television is consequently as far as possible from the obvious point of entry. Geoff briefly considers turning the furniture around but thinks better of it. He measures out a length of cable to run along the baseboard and, having checked and rechecked for electrical hazards, drills into the closet. Cleanup is done by five. He'd like to complete a survey of the channels, perhaps fine-tune the dish some more, but there are still letters to be read.

Dear Laura, I'm writing this the first chance I've had since you left. It was so good of you to come all this way for the service, so very much more than I could have expected.

Alicia will certainly not soon forget. She keeps asking if the nice lady from the chapel will visit again soon. It started the day after. I think she understands that Mommy isn't coming home anymore and she's begun casting about for someone else to fill the role. I certainly am not ready for that and won't be for a long time, if ever.

It's not dated, but the postmark is legible enough for Geoff to be sure it's from 1992. He can't remember Laura going to Alberta that year or telling him that she was going to a memorial service. Of course, she was regional manager then. She still travelled for work on occasion, but for shorter periods. She could simply have told him she'd be away for a day or two. Would Laura have done that? Laura, so committed to telling their children no white lies, not even about the source of their Christmas presents?

November 1999. Dear Laura, it was good to hear from you. It has been a while, and I take the blame for that. At times, it must have felt as if you were writing to a ghost. Maybe you were.

We're travelling out your way over the holidays for a ski vacation in Whistler. Jordan is a snowboarder now because that's what his friends do, but Alicia is showing real form on downhill, so I'd like to bring her to a world-class facility, as your provincial government calls everything that side of the Rockies. I'm hoping to reprise that dinner with drinks at the grill. I can't remember its name, but I know exactly where it is. Any chance you and Jeffrey would spend a few days there? If you do, you know where to find me in the evening.

Geoff remembers a conference for franchisees that Laura organized at Whistler. He thinks he can date the dinner that Marcus is referencing to 1995—he knows because Aiden's ninth birthday fell on the Saturday of the event. Laura almost decided not to go for that reason, but Geoff persuaded her. He took responsibility for the party with all Aiden's friends at Barefoot Jack's, one of those places that take care of most of the arrangements, and said they'd celebrate as a family on Sunday, just the five of them. The kids' party went off well, he'd thought, although he was barely awake when Laura called later that evening, sounding wistful about missing it all.

She had told him the conference would wind down before midday, but there would be paperwork and she wouldn't be home before five. Geoff had planned dinner at White Spot for seven—enough time for Laura to change, maybe take a shower, before they left.

On that Sunday, Geoff didn't begin to worry until six. When he called Laura's cell, the message service came on. In movies, the phone is always the one thing that survives the crash intact, and the partner gets to hear their own cheery messages played back to them. Geoff, pacing the living room with its view of the driveway, wondered at one point where to find out about accidents on the Sea-to-Sky Highway. He settled on a call to the hotel.

The receptionist put him through to an event planner, who told him the workshop had ended at noon. All guests had checked out. No, there was no record of a Laura Delisle staying there. Geoff had him check again, under Macrae, her professional name, the one on all her diplomas.

That, too, drew a blank, but after a few minutes on hold, the events planner came back with the original conference booking. The primary contact was listed as Laura Macrae. "Ah. It appears Mrs. Macrae didn't stay with us," he said.

Thalia came in not long afterward to ask if he'd heard from Mom yet. Geoff was still listing all the innocent causes of delay he could think of when the garage door began to rumble.

Laura's explanations were all happily accepted at the time. There had been construction on the road down to Squamish and more construction just above Lions Bay. They'd always set an example by never using their cellphones while driving, and there had not been a good place to pull over until she got into town—by that point, it made more sense to keep moving. "I'm sorry," she said. "Of course you worried."

Geoff comes to the last letter in the bundle.

Dear Laura, I just wanted to leave you with an address in case you ever decide to take up contact again. Of course, I understand your decision to end, or as you put it, "tie up with a ribbon," our occasional connection.

The move to Minneapolis was not difficult as moves go, but I feel for Jordan: I know what it would have done to me to move so far away when I was fourteen. But he'll soon find new friends. Alicia, though, couldn't face the move and, as she was about to leave for college anyhow, I have allowed her to stay with her grandparents. We talk on the phone every evening.

One thing: I won't be travelling to the coast anytime soon. My job here keeps me at my desk, and any leisure trips will be to see Alicia. That may come as a relief to you.

I fervently hope that you and Geoff keep what you have, also with your children and, someday, grandchildren. God bless you, Laura. Words can't express what that chance meeting in a coffee shop has meant for me.

The postmark is ambiguous, either June 7 or July 6, 2003.

The family-room television is showing Oprah with someone vaguely familiar, and Geoff neither feels nor hears the garage door opening. It is only when the car door slams that he realizes he's surrounded by Marcus's letters, and for long seconds, until he hears Laura call, he fails to gather them up from the couch and check for strays. "I'm here," he calls back. When she looks in, he's just closing the tool chest.

"Oh, you did it!" she says after a hug. "Did it take long?"

"Longer than expected. There are still bits left to do. I hope you don't mind. How was the workshop?"

"Exhausting," she says. "But never mind. What do you want to do for supper? I'm in no condition to go out again."

THE LETTERS stay in the toolbox for just over half a year, but then the run of cable from the dish to the window frame comes loose in a storm and bangs accusingly all night. The next morning, Laura insists on coming up to the attic with Geoff to ensure he fastens himself securely with a rope belayed on a joist—rope she feeds grudgingly as he ventures out. Wind has evaporated some of the residual moisture on the roof, and what remains is frozen in thin patches, as invisible as road ice.

When he comes back to the window, Laura reflexively reaches out as if she can lift him through but, at the last moment, backs up. "I'm going to make us some hot chocolate," she says, not moving. "Do you want to take a warm shower first?"

Geoff says he'll be okay. "Go ahead. I'll be down soon."

As she turns to go, Geoff sees her notice the bin where he found the letters. "Are those the old Christmas decorations?" she says, almost without skipping a beat. "I've been meaning to look through those, maybe give them to the thrift store. You okay with me doing that?"

She reaches down, and Geoff, still a little numb with cold, reacts just quickly enough. "I can do that," he says. "No trouble. You go ahead and get the chocolate started. I'll put them in the office." When he hears her busy in the kitchen, he sticks the letters from his toolbox back where he'd found them.

THE WALRUS READS

Canadian authors pick the year's best books

Hymnswitch
by Ali Blythe

I find it difficult to explain why I like some collections of poetry more than I like others. There's always an ineffable feeling when one works for me, similar to how people immediately love certain song lyrics or chord progressions—it can be hard to tell whether it's because of the sound and rhythm of the words, a particularly tender or intelligent line, a certain playfulness with language, a surprising turn or image. Ali Blythe's *Hymnswitch* has all of those things. I kept handing the book to friends, saying, "Read this—it's so smart." When I finished the last page, I read it again, which is something I almost never do.

Zoe Whittall *is the author of three poetry collections and three novels. Her latest is* The Best Kind of People.

IT'S THE FOLLOWING October when Laura tells him she's finally sorted through the ornaments and divided them into a smaller bin to keep and a box to give away. Over the previous eleven months, they've planted and harvested; been on a trip to Ontario to celebrate their eldest grandchild's tenth birthday; and picked out, but not yet hung, wallpaper for the sewing room, formerly Thalia's bedroom. In recent weeks, Geoff has noticed sporadic bursts coming from the shredder in Laura's office. "You can take that one up again anytime," she says, motioning to the bin. "But no hurry—it's not in my way."

In the attic, the heat of summer still lingers. Geoff checks on the cable and reminds himself again to seal the hole. He trudges around the accumulated boxes—he hasn't yet reminded the children to pick up their old things. He's dithering because he knows what he'll find. Finally, in what looks like no more than an afterthought, Geoff places Laura's container on top of a stack of two others and pulls away the lid. It's mostly empty; its contents are orderly. The letters aren't there.

He takes one last look before telling himself a line that's been rising in him for some time: *the absence of evidence is not proof.* Downstairs, Laura is humming a tune he recognizes but can't name. It's time Geoff left the attic and joined her. ✉

P. N. VAN DEN BOSCH lives in the Lower Mainland of British Columbia. His work has been published in *Prism International*.

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BOOKS

After the Apocalypse

Climate fiction's unhelpful obsession with the end of the world

BY DAMIAN TARNOPOLSKY
ILLUSTRATION BY BEN CLARKSON

It is 2038 and Jake, a botanist, is guiding a group of pilgrims through the Greenwood Arboreal Cathedral on an island off the British Columbia coast. Tech giants, movie stars, and investment bankers flock to this exclusive ecological resort to see one of the last remaining old-growth forests on the planet and come in contact with a nature that's otherwise nearly extinct.

That's how Michael Christie's astonishing new novel, *Greenwood*, opens. After the environmental crisis known as "the Great Withering," much of the world is a dust bowl; climate refugees trek across the continent as children die of a horrifying new strain of tuberculosis called "rib retch." With aquifers drying up in the United States, Russia under totalitarian rule, and even New Zealand experiencing a coup, "water- and tree-rich Canada has become the global elite's panic room." The Canadian prime minister is the most powerful politician in the world.

We should be familiar with the general scene. Many of the best literary novels featuring climate change are apocalyptic, doom saying. Margaret Atwood's *MaddAddam* trilogy, the first instalment of which was published in 2003, imagines the human world ripped apart by ecological disaster, rampant inequality, and careening biotech; Omar El Akkad's 2017 *American War* is set in a near future where global warming has triggered a second civil war in the United States. In genre novels, meanwhile, aspects of climate change take on a monster-of-the-week quality: the Ross Ice Shelf breaking free in an ecothriller is a new version of the nuclear sub gone rogue during the Cold War or the Nazi on the loose in London.

Climate change presents writers with the opportunity to grapple with perhaps the biggest problem humanity has ever faced, but the books that have resulted, increasingly known as "cli-fi," have often been one-note, reluctant to move past apocalyptic dystopia. One reason might be that, almost by definition, the genre exists to scare readers into making meaningful changes to their behaviour or politics. It screams shocked portents of how bad things will get if we do nothing. Advocates for cli-fi, such as American journalist Dan Bloom, who coined the term, make jealous comparison to Nevil Shute's 1957 novel, *On the Beach*, in which a nuclear war wiped out most of the world. Selling more than 4 million copies, Shute's novel is credited by many for changing the way we think about nuclear weapons.

Morally charged fiction can be signally powerful, from Charles Dickens's *Bleak House* to Aleksandr Solzhenitsyn's *One Day in the Life of Ivan Denisovich*. But, in 2017, Matthew Schneider-Mayerson wrote that he was worried that climate novels may "hew too closely to established apocalyptic tropes that audiences easily ignore after decades of exposure." That is, trying to replicate the impact of Shute's book might not work because we've grown too familiar with the end of the world. It feels like just another story. A related problem is that most people don't like feeling hectored, being told what to do, or being told what's good for them. Researchers have examined ways that doom mongering can lead to depression and apathy. The standout climate-change novel, at least in terms of exploring our inaction, might have been written in the nineteenth century: Ivan Goncharov's *Oblomov*, the story of a layabout Russian aristocrat with two letters of very bad news to attend to, who may be able to fix the problems if he can only

THE WALRUS READS

Canadian authors pick the year's best books

Shut Up, You're Pretty
by Téa Mutonji

Mutonji had me at the title of this stellar collection, then she hooked me again with her first (excellent) story, "Tits for Cigs." The linked tales here follow a young Congolese woman living in Toronto as she navigates the fraught terrains of race, sex, female friendship, and family. The voice is intimate and dangerous, hilarious and wise—totally addictive storytelling.

Mona Awad *is the author of* Bunny *and* 13 Ways of Looking at a Fat Girl.

answer them. He knows perfectly well that it's time to get out of bed, decides to get out of bed, is about to get out of bed—but somehow hardly moves all day.

If, as Atwood says, climate change is "everything change," it requires a new lexicon and a new philosophy: a conceptual shift as large as the global transformation to a zero-emissions economy. Christie's novel *Greenwood* shows us one version of what this imaginative possibility might look like. Among much else, it's a thorough rethinking of the relationship between people and the natural world, tracing our changing involvements with nature, over time, as exploiters, protectors, and transformers. In particular, through an immersive, sensuous use of language and metaphor, it explores not only the ways people exist in nature but also the ways nature exists in us—a note that apocalyptic fiction sometimes overlooks.

A FORMER CARPENTER, homeless-shelter worker, and professional skateboarder, Michael Christie is the author of *The Beggar's Garden*, a 2011 collection of short fiction set at the margins of modern urban life, and *If I Fall, If I Die*, a 2015 novel about a sheltered eleven-year-old boy's relationship with his agoraphobic mother. *Greenwood* is Christie's most ambitious work yet, a densely plotted family saga told over more than a century. We follow the Greenwoods' changing fortunes through their ties to the trees of Greenwood Island: from lumber magnate Harris Greenwood, who burns down half the forest, in 1934, to spite a competitor; to his brother, Everett, who brings a baby to shelter in a cabin on the property; to Willow Greenwood, a radical environmental activist; to her son, Liam, who becomes a master carpenter; to Jake—Jacinda Greenwood—the young scientist who finds herself first working on Greenwood Island and then, as an unexpected heir, in possible possession of it.

The novel is not a tract, and that's part of why it works so well. Woven with subplots so rich that any one of them could be a novel of its own, *Greenwood*'s power comes from the unusual depth of its different characterizations of nature. Harris knows how to negotiate the sale of enough Douglas fir for Imperial Japan to build 70 million feet of railway sleepers, but wood, for him, is more than a commodity to be stacked and shipped. He sees a wooden house as a living, imperfect thing, "moving moisture through its capillaries. Breathing and twisting, expanding and contracting. Like a body." When they were boys, it was said, his brother Everett "could tell red oak from black oak or birch from poplar just by the music of their leaves."

Nature imagery seeps into sentence after sentence. Harris's assistant is described in arboreal terms: "Even after weeks abroad, the scent of the forest—fir sap and cedar tannin—still clings to Feeney." Everett mostly dreams of trees: "I think if you ever cut my head open, it'd be one big root ball in there, all tangled and grown together."

The characters are surprisingly unsentimental. One says that we shouldn't impose our stories on trees at all: "*They stand. They reach. They climb. They thirst. They drop their leaves. They fall. You see, Jake? We make them human. With our verbs. But really, we shouldn't. Because they're our betters. Our kings and queens.*" And the natural world is often presented as ruthless and unforgiving rather than mystical or consoling: "Mother Nature's true aim is to convert us people back into the dust we came from, just as quick as possible."

Christie seems determined to present, almost simultaneously, a spectrum of possible relations to nature. When we see them all laid out, we can reflect that any single notion about what "nature" is is partial. Christie's organization of the novel's contents suggests a related idea about time. Time is not an arrow, Liam Greenwood reflects. "It simply accumulates—in the body, in the world—like wood does. Layer upon layer." The book moves backward, stopping at different points as if travelling back through the growth rings of a tree trunk. Then, after reaching the centre, the heartwood, it starts moving forward in time again. Christie returns to the same characters at different periods, contextualizing individual passions and desires, such as Willow's love of the forest and Liam's skill and care as a carpenter, and rendering them as points in a repeating, shifting constellation. By decentring individual stories, *Greenwood* shifts away from human chronology into a broader one.

Paradoxically, what makes *Greenwood* an essential climate-change novel is that, rather than obsessing over a single, final apocalypse to come, it attempts something much harder and more ambitious: to transcend altogether the tropes of victim and antagonist. What climate fiction might need—what we all might need—is to get beyond the idea of humans as despoilers getting their comeuppance and to instead present humanity and nature as deeply, ultimately, endlessly interconnected.

OTHER WRITERS have arrived at this idea. Seán Virgo's short story "My Atlantis," published in the 2017 anthology *Cli-Fi: Canadian Tales of Climate Change*, edited by Bruce

Meyer, lays out what a different relationship to nature might feel like in fiction. The story, about an aging man who returns to his home island for his brother's funeral and encounters a landscape irretrievably altered, engages less with plot—the story of climate change and its effects—and more with the *mood* of climate change: "And out in the shrinking, occluded wild spaces, there is silence, and starlight and dreams, and the last of darkness." Harold Johnson's novel *Corvus* tries something similar, at least on the biotech side, when it describes its protagonist flying a bioengineered raven suit: he's at once human and animal and something else altogether.

The lesson from Christie and Virgo and Johnson to novelists who want to write about the spectacle of arid landscapes and poisoned seas seems to be: don't. Don't try to scare us into action—it just makes us want to put pillows over our heads. Rethink. Help us look more strangely at our current moment.

Greenwood even offers a rare sentiment in the climate emergency: hope. Not of a naive kind that says some technological or policy fix, right around the corner, will correct everything for us, but something harder, earned from past crises. Reading an old diary that belonged to a relative a century ago, a book that seems to tie together the various legacies around Greenwood Island, a character in 2038 imagines what its author is really saying about the Dust Bowl—a period of severe dust storms that destroyed crops on American and Canadian prairies during the 1930s, which remains arguably one of the worst environmental crises of the twentieth century. "*Take heart*, she seems to say. *The world has been on the brink of ending before. The dust has always been waiting to swallow us.*"

However much we may believe that the world is ending now for the first time, *Greenwood* reminds us that we have been somewhere like this before. Maybe that's one way fiction can face something unthinkably terrifying—even if, as a species, we can't.

DAMIAN TARNOPOLSKY is a novelist and editor in Toronto.

Seasonal Affective Disorder

BY CATRIONA WRIGHT

We answer winter
with more winter
and colder, snow
thicker, days shorter.
Driving north to good
trails, groomed
swerves through groves
of pine and silver birch.
Driving north to hoppy
ales, a wood-burning stove
awakened with iron blow
poke, grey embers flashing
orange, releasing sweet
smoke. We haven't awakened
anything this year or not
that thing I wanted most.
Someone to keep warm
with these rainbow mittens,
this nubby woollen hat,
ear flaps tied under chin.
Someone to wobble into
that sparkling white field,
follow those hoofprints,
heart-shaped, disappearing
fast beneath clotting flakes.

FIRST PERSON

Rules of the Game

In my family, euchre is the tie that binds

BY JESSICA MYSHRALL

MY GRANDMOTHER loved euchre so much that we dropped a deck of cards into her casket. "Deal us a hand, Beth," my grandfather said. In spite of our grief, we laughed. She would have laughed too.

Euchre—believed by some to have been introduced to North America by nineteenth-century German settlers—runs deep in my family's history. When I was growing up in New Brunswick, the only people I knew in the area who played were my mother, my grandparents, and the friends they had converted. In my grandparents' house, the twenty-four-card deck and scoreboard were brought out as soon as the dinner plates were cleared. We played over strawberry shortcake and wine, both homemade, wrapping up each evening around nine o'clock. Every second month, there was a similar scene in my grandparents' other home, in Toronto, where they had raised their family before moving out east. They drove back and forth between residences and, each Tuesday they were in Toronto, opened their home to friends and relatives for dinner and cards.

The game (pronounced *you-ker*) is a rite of passage for us. I learned to play through trial and error. Euchre has variations, but the central rules are simple. Four players split into teams of two. Everyone gets five cards, and a "trump" suit is determined. Each player throws down one card, face up, in turn. The team with the highest-ranking card wins the hand, or "trick." Points are earned by the team that wins the most tricks. The first team to reach ten points wins the game.

Euchre is addictive and fast-paced. Stuck with bad cards? You'll be dealt a new set soon enough. And, because games don't drag on, you can play for as little or as long as you like. It can be excellent for socializing—or, if you join our group, for friendly trash talk. At times, a ballsy move with no chance of winning will earn you a "Lord hates a coward"—a direct quote from my grandfather's late cousin, Aunt Elsie.

When my mother was battling breast cancer, my grandmother worried that the chemo would make her too sick for euchre. "Mom, I could be dying, and I'd still be playing," my mother told her. "Oh, me too," my grandmother replied. In the weeks before my grandmother died, some of us gauged whether she was having a "good day" based on how many games she could get in. The games transpired slowly. No one wanted them to end: we didn't know which one would be her last. She was eighty-four years old and had smoked for most of her life. Her radiation treatments were only to stop the bleeding in her lungs. We knew it was terminal, but we still couldn't envision playing without our matriarch at the end of the table.

Euchre night was suspended when she died, in 2014. For weeks, my family felt disjointed. The Tuesday-night crowd checked in on my grandfather and kept him company, but the deck and scoreboard remained in the cupboard. Having moved elsewhere by then, I dreaded coming back to the house. Not seeing my grandmother there was too painful.

When we finally played another Tuesday-night game, the whole euchre gang attended and took extra care to help set out dinner and wash the dishes. Then the cards came out, and I took my grandmother's seat—sitting there made me feel close to her. After the first few rounds, we began to ease the tension by imitating her. "Dammit," someone said when a play didn't work out in their favour. Everyone smiled. For the rest of the evening, we brought up our favourite one-liners of hers, including some she had coined, like, "Shit-a-God-damn."

It has now been more than four years since my grandmother died. Those who attend the Tuesday-night game continue to do so in the same way devout Christians attend service. We have played through illnesses, arguments, divorces, and death. Euchre has held us together and helped us heal. These days, my boyfriend joins us if he's free. When my mother learned he played euchre, she told me to keep him around. Just like that, the circle grows.

JESSICA MYSHRALL is a project-and-event coordinator in Toronto.

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