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MOST-READ
MAGAZINE

JAN/FEB 2022

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YOUR COMMON TOPICALS QUESTIONS, ANSWERED



Increased scientific evidence is establishing the efficacy of topicals – that is, lotions or oils applied externally to your body - in treating medical conditions.¹ For symptoms like chronic pain, patients are finding that topicals can relieve their suffering and improve their quality of life, however many of us still have questions. To help you make informed healthcare decisions, we reached out to ZYUS, a Canadian life sciences company based in Saskatoon that is developing cannabinoid topical formulations for patients. The company's Chief Medical Officer, Dr. Lionel Marks de Chabris, answered some common questions to guide us through a few fundamentals of topicals:

Q: What is a topical?

Dr. Marks de Chabris: Topicals are medications combined with a base substance, like a cream, that allows the medication to be absorbed through the skin. As stated in a study in the journal, *Molecules*, cannabinoids can be formulated as topicals for localized relief of pain, soreness and inflammation.² Because little is absorbed into the bloodstream, topicals are non-intoxicating, and are often chosen by patients who want the therapeutic benefits of cannabinoids, without the potential side effects.

Q: Will using cannabinoid topicals make me high?

Dr. Marks de Chabris: THC is the active ingredient in some cannabinoid formulations that can cause intoxication (a feeling of being "high") when it is absorbed and travels to the brain. While some topicals

do contain THC, according to a study³ in the *Forensic Science International Journal*, very little is absorbed into the bloodstream, so topicals are unlikely to produce the intoxicating effects that can occur with other delivery methods, such as smoking or ingestion.



FOR SYMPTOMS
LIKE CHRONIC PAIN,
PATIENTS ARE FINDING
THAT TOPICALS CAN
RELIEVE THEIR
SUFFERING AND
IMPROVE THEIR
QUALITY OF LIFE

Q: What are the active ingredients in a topical?

Dr. Marks de Chabris:

Cannabinoids are the active ingredient in cannabis-based topicals. All topical products in Canada are required to list the total amount of THC and CBD on each container. Research demonstrates that cannabinoid-based topicals have the therapeutic potential to provide relief of inflammation and neuropathic pain without unwanted side effects.⁴

Q: What is the difference between Oils and Topicals?

Dr. Marks de Chabris: Your skin is tough. It's meant to protect you and does a great job of preventing substances - like cannabinoid oils - from penetrating through. That's why you have to take cannabinoid oils by mouth so they can be

easily absorbed and available to work all over your body. Topicals, on the other hand, are designed to penetrate through your skin to work in a limited area and provide local targeted relief. This focused effect of topicals is what makes them so handy and useful. - Dr. Marks de Chabris

To learn more about ZYUS, visit us at [ZYUS.com/pain](https://www.zyus.com/pain) **ZYUS**

¹ Hammell, D C et al. "Transdermal cannabidiol reduces inflammation and pain-related behaviours in a rat model of arthritis." *European Journal of Pain*. Vol. 20,6 (2016): 936-48. doi:10.1002/ejp.818 ² Bruni, Natascia et al. "Cannabinoid Delivery Systems for Pain and Inflammation Treatment." *Molecules*. Vol. 23,10 2478. 27 Sep. 2018. doi:10.3390/molecules23102478 ³ Hess, C, et al. "Topical application of THC containing products is not able to cause positive cannabinoid finding in blood or urine." *Forensic Science International*. 2017 Mar;272:68-71. doi: 10.1016/j.foresciint.2017.01.008. ⁴ Supra, reference 1.

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Body Talk

Over the last two years, we've had no choice but to become experts at avoiding illness. The triple-filter masks. The hand sanitizer bottles stashed in our cars. The sixth sense on when there are too many people in an aisle at the supermarket.

Just as important is how we care for our bodies and minds. As health writer Lisa Bendall reports in this issue's cover feature on page 28, there's compelling new research showing that we can control how well our immune system responds to infections

and diseases. Instead of coping with pandemic stress by mindlessly snacking and excessively drinking, we need a healthy and varied diet. Instead of moping indoors about the state of the world, we need to nurture strong relationships with family and friends—even if it's only over a video call. Instead of worrying through the night, we need a solid eight hours of sleep. And instead of another trip to the fridge, we need to get outside for some fresh air and moderate exercise.

Most important of all for your immune system, you need to get vaccinated against COVID-19. In the latest data available at press time from the Public Health Agency of Canada, unvaccinated people accounted for 88.1 per cent of cases and 81.5 per cent of deaths from COVID-19. Fully vaccinated individuals, meanwhile, accounted for only 1.5 per cent of cases and 2 per cent of deaths. Getting vaccinated is the surest way to protect yourself and others—and to save us from another round of lockdowns.



P.S. You can reach me at mark@rd.ca.

Reader's Digest

PUBLISHED BY THE READER'S DIGEST MAGAZINES CANADA LIMITED, MONTREAL, CANADA

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CIRCULATION DIRECTOR Edward Birkett

CONTRIBUTORS: Anita Bartholomew, Lisa Bendall, Linda Besner, Robert Carter, Daniel Ehrenworth, Karolina Ficek, Emily Goodman, Michael Harris, Toufah Jallow, Richard Johnson, Susan Camilleri Konar, Vicky Lam, Emily Landau, Wendy Litner, Megan Murphy, Barbara Olson, Christina Palassio, Karen Pinchin, Darren Rigby, Luc Rinaldi, Chris Robinson, Graham Rournie, Brianna Roye, Julie Saindon, Lynn Scurfield, Courtney Shea, Beth Shillibeer, Fraser Simpson, Ryan Snook, Lauren Tamaki, Sarah Treleaven, May Truong, Gwen Tuinman, Conan de Vries, Anna-Kaisa Walker, Jeff Widderich, Raina + Wilson, Mark Witten, Victor Wong

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Print subscriptions, \$34.50 a year, plus \$8.99 postage, processing and handling. Please add applicable taxes. Outside Canada, \$53.96 yearly, including postage, processing and handling. (Prices and postage subject to change without notice.) ISSN 0034-0413. Indexed by the Canadian Periodical Index. Single issue: \$4.95.

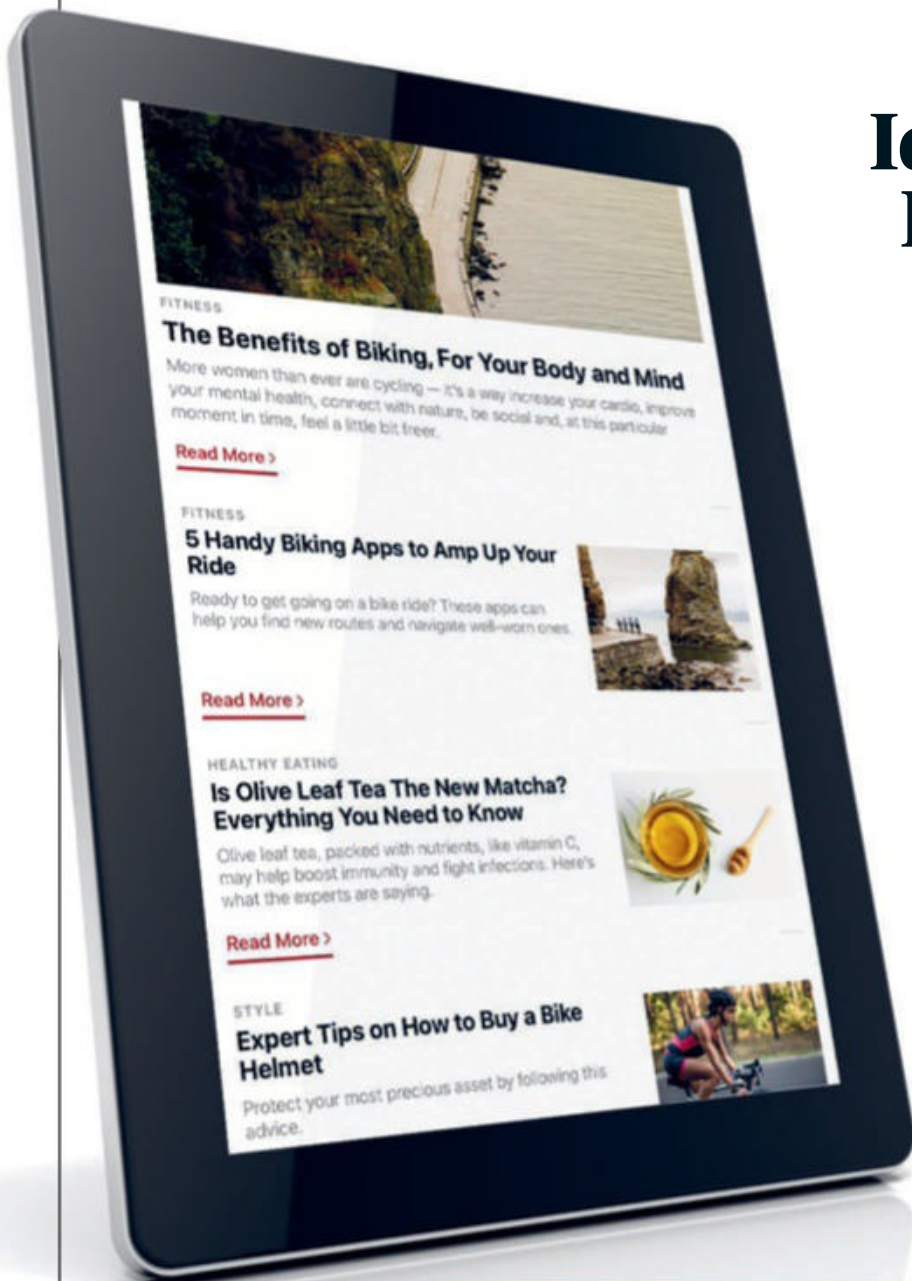
 We acknowledge with gratitude the financial support of the Government of Canada. / Nous remercions le Gouvernement du Canada pour son appui financier.



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READER'S DIGEST

Best Health



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LETTERS

ANOTHER OPTION

In “The Long Fight” (October 2021), the writer described two solutions for unexpected pregnancy: abortion in a hospital or clinic and abortion at home using Mifegymiso. Adoption was never mentioned. In the future, could *Reader’s Digest* also do a piece on the beauty of adoption and how challenging it can be to adopt a child in Canada?

— JOYCE STIGTER, *Medicine Hat, Alta.*

SHOCK WAVES

I just finished reading “The Earth Yawned Open” (October 2021) by Jon Mooallem, about the 1964 earthquake in Anchorage, Alaska. As a 10-year-old living in Fort St. John, B.C., at the time, I remember it well! Everyone was talking about it. Our public swimming pool even developed a very large crack in it—and we were located more than 2,000 kilometres away.

— VAL FIEBER, *Charlie Lake, B.C.*



IN MY SHOES

“Remind Your Manners” (October 2021) explains how, as the doors open to the “new normal” and we begin to emerge from lockdowns, people may lack the skills to socialize with ease again. As an autistic person, I would like to point out that the pandemic afforded society a unique opportunity to experience what, for many like me, is the minefield of social normality.

— NANCY GETTY, *Princeton, Ont.*

CONTRIBUTE

Send us your funny jokes and anecdotes, and if we publish one in a print edition of *Reader’s Digest*, we’ll send you \$50. To submit, visit rd.ca/joke.

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Reader's
Digest

Announcing our newest

Super Grand Prize Winner



At left is the smiling face of **CAROLE PERRON** of Beauport, QC, our \$100,000.00 Super Grand Prize Winner, along with Marisa Orsini, Reader's Digest Prize Award Administrator.

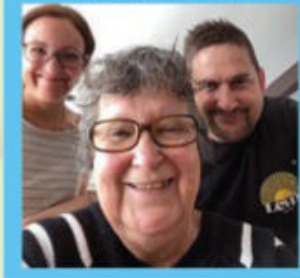


"It is really special winning \$100,000.00"

The Joys Winning Brings

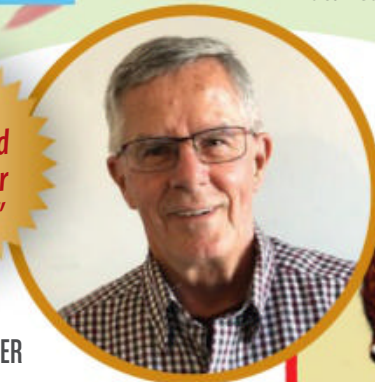
78th NATIONAL SWEEPSTAKES

For **Carole Perron**, winning the Super Grand Prize first means being able to spoil her 2 children and 6 grandchildren. Then she plans to invest some of the money and do needed home renovations. During their zoom meeting that kept Marisa Orsini at a distance due to covid restrictions, Carole said that now she is returning all her sweepstakes entries because she knows that people do win. Thank you Carole Perron and congratulations!



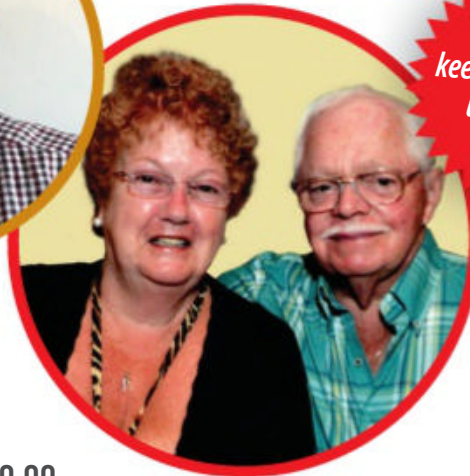
"We'll take a cruise and update our vehicle..."

\$40,000.00
THANK YOU PRIZE WINNER
Glen M. Klassen
Medicine Hat, Alberta



"I might keep the money under my pillow."

\$5,000.00
PRESTIGE PRIZE WINNERS
Judith and Gregory McHugh
Kanata, Ontario



"Thank you Reader's Digest!"



\$10,000.00
2020 EXPRESS CASH PRIZE WINNER
Penny Lee
Treherne, Manitoba

Prize awarded to the estate of the late Judith McHugh, which makes the happy quote by husband Gregory all the more bittersweet.

"Thank you...for your professionalism."



\$10,000.00
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Marjorie Slinn
Niagara Falls, Ontario

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*Break the Divide connects teens worldwide
to build empathy—and change*

Screen Pals

BY Richard Johnson

PHOTOGRAPH BY MAY TRUONG

FIVE YEARS AGO, Abhay Singh Sachal and a group of his Grade 10 classmates at Seaquam Secondary School in Delta, B.C., made their first video call to the Arctic. On the other end of the line: Abhay's 23-year-old brother, Sukhmeet, a volunteer teaching assistant, and his class at East Three Secondary in Inuvik, N.W.T. The conversation started with typical teen small talk—asking each other about TV shows, music and school life. But as the teens grew more comfortable, the chat turned serious. Students in Inuvik detailed the legacy of residential schools on their families, including stories of alcohol abuse and

suicide. Seaquam kids shared how they felt helpless to do anything about the threat posed by the climate crisis.

Soon after both groups said their goodbyes, the brothers had an idea: what if the conversation, meant to expand the students' perspectives about life outside their hometowns, didn't have to end? Students across the country, they figured, could continue to benefit from bridging geographical and cultural differences. They called their organization Break the Divide. Today, it facilitates conversations and coordinates community action between youth all over the world. "It all starts with empathy," Abhay says.



Break the Divide founders and brothers Abhay (left) and Sukhmeet Singh Sachal.

The students at Seaquam used social media to spread the word about their mission to create eye-opening conversations. Other schools began reaching out, and Break the Divide helped them to start their own chapters, providing resources, such as a list of guiding questions to get the conversation started, and technical tips for video calls. Individual chapters are encouraged to connect with each other based on common big-topic interests, such as mental health, truth and reconciliation actions, and climate change. There are now over two dozen Break the Divide chapters, located across Canada and at schools as far-flung as Taiwan and Bolivia.

A few years ago, students in Cape Town, South Africa, formed a chapter. They wanted to talk about their local water crisis, which had reached a critical level. Meanwhile, students at Abhay's school were interested to learn more. After their conversation, Abhay's classmates started a campaign challenging people to conserve water as though the Cape Town crisis were their own. "It goes from little conversations," says Sukhmeet, "to the big ones."

Maryam Haroon knows first-hand how powerful that change can be. She joined her school's Break the Divide chapter three years ago, as a Grade 10 student in Surrey, B.C. Haroon says talking to youth around the world pushed her to gain perspectives beyond those offered in a traditional high school curriculum. She eventually became her

school's chapter president and organized two mental health awareness events, focusing on the challenges of isolation and depression—especially relevant during the pandemic. Now 18 and a student at the University of British Columbia, she continues to volunteer for the organization. "I envision Break the Divide as a new kind of social network," she says. "It's a platform that empowers people to connect and then do whatever they're passionate about."

THERE ARE NOW OVER TWO DOZEN CHAPTERS, LOCATED ACROSS CANADA AND AROUND THE WORLD.

—

Last year, Abhay and Sukhmeet secured funding from Canada Summer Jobs to hire their first employees, enabling them to develop an app that will act as a social platform to connect Break the Divide chapters worldwide. Hundreds of conversations later, the brothers are still optimistic that the core principle of Break the Divide—empathy—can play a central role in how youth tackle the issues that matter most to them. "I hope that we can be part of creating a world where we are all listening to each other," says Abhay. "Listening with an intent to learn and to change." **R**



Mohamed Hage and
Lauren Rathmell
of Lufa Farms

GOOD NEWS

FIVE REASONS TO SMILE

BY Anna-Kaisa Walker

URBAN FARMING ON A GRAND SCALE

CANADA Imagine a city that grows most of its food on its very own rooftops, where tomatoes ripen on the vine year-round—even in the dead of winter. That’s the idea behind Lufa Farms, which operates four rooftop greenhouses in and around Montreal and delivers more than 25,000 fresh-picked vegetable baskets to its customers every week.

Founded in 2009 by Mohamed Hage and Lauren Rathmell, Lufa sprouted from the idea that urban farming could grow crops where people live, without using any new land, and deliver food without the carbon footprint of long-distance transportation. (In Canada, 92

per cent of imported produce travels more than 1,500 kilometres.) “When you buy a tomato in the winter, you’re probably getting one that’s been trucked in from California or Mexico,” says Rathmell. “We deliver ours right to you the day after they’re picked.”

Hydroponic technology helps Lufa’s greenhouses operate sustainably, recycling about 90 per cent of the water used by the plants. In lieu of pesticides, ladybugs and parasitic wasps devour aphids and other pests. Using residual heat from the buildings below, each farm requires half the energy of greenhouses on the ground. Meanwhile, the company’s programmers keep operations nimble

with greenhouse automation. Software manages delivery logistics while allowing customers to tailor their own baskets, choosing from 50 varieties of fruits and vegetables, plus other items, like bread and cheese from local producers.

Lufa Farms is one of many similar urban-farming projects around the world, with commercial greenhouses and gardens springing up in places like London, Paris and New York. Analysts predict city-grown crops could eventually make up 10 per cent of the global food supply.

Selling an Olympic Medal to Help a Sick Child

POLAND When Maria Andrejczyk captured the silver in javelin at the 2020 Tokyo Olympic Games, it was a triumph over the odds. Having missed a medal at the 2016 Rio Games with a toss that was just two centimetres short, she overcame shoulder surgery in 2017 and a bone-cancer diagnosis in 2018 to compete again.



So when the 25-year-old Andrejczyk heard about a fundraiser for an eight-month-old boy, Miloszek Malysa, who was born with a serious heart defect, she was inspired to help a fellow Pole beat the odds, too. His family needed US\$380,000 for a life-saving operation that would be performed in Barcelona. They had already raised half from their own campaign, and Miloszek was running out of time. “It didn’t take me long to decide,” said Andrejczyk, who chose to auction off her medal for the remaining funds. The winning bid of over US\$125,000 came from Polish supermarket chain Zabka, which later told Andrejczyk to keep her medal.

Greening the Steel Industry With Renewable Energy

SWEDEN When companies burn coal to produce steel, they spew carbon dioxide into the atmosphere—an estimated seven to nine per cent of all direct emissions from fossil fuels. That’s 2.6 gigatonnes of carbon dioxide—more than the combined mass of all animals on Earth.

But one Swedish steel company has figured out how to make steel without coal. Stockholm’s SSAB recently announced that it has produced the world’s first fossil fuel-free steel, using hydrogen and electricity from renewable energy sources. Automakers Volvo and Mercedes-Benz have signed up for the first deliveries, and SSAB hopes

to be able to produce the steel on an industrial scale by 2026.

A Family Reunites With Their Kidnapped Son

CHINA It took more than two decades, 500,000 kilometres, 10 motorcycles and a few broken bones, but Guo Gangtang's search for his son finally ended last July. Xinzhen disappeared in 1997, at age two.


In China, an estimated 20,000 children are kidnapped every year and often sold into adoption. Guo criss-crossed the country on a motorbike while flying a flag with his son's picture on it. Once found, police used a photo database and DNA testing to confirm the identity of Guo's son, now a teacher. A man and a woman were arrested for abduction, having sold Xinzhen to a child-trafficking ring that delivered him to his adoptive parents.

ACTS OF KINDNESS

An Innovative Pollution Solution

Growing up kayaking around the southwest coast of Ireland, 20-year-old Fionn Ferreira saw the devastating effects of ocean pollution firsthand. Shocked by the amount of plastic littering the shores, he began learning more about the estimated 300 million tonnes of plastic waste humans produce every year. The most dangerous form of plastic, Ferreira discovered, is the kind you can't see—microplastics, tiny fragments that can end up inside fish and our bodies. We ingest five grams of microplastics every week—about the equivalent of a credit card—from the food we eat and the water we drink. Even more microscopic plastic particles are shed from carpets and synthetic textiles.

After noticing that oil-spill residue on the beach attracted plastic particles, Ferreira set out to design a device that used ferrofluid, a type of magnetic liquid, to remove microplastics from drinking water. In 2019, his prototype—which removed 87 per cent of microplastics from a water sample—won him the grand prize at the Google Science Fair.

Now a chemistry student at the University of Groningen, Ferreira is working with an Ohio-based company to fine-tune his invention for use in homes and potentially in wastewater-treatment plants too. "I love the process of inventing and doing things for the planet," he says, "and there are many more ideas in the pipeline." 

COURTESY OF FIONN FERREIRA



ASK AN EXPERT

Do I Have Seasonal Depression?

We quiz Deanne Simms, clinical health psychologist

BY Courtney Shea

ILLUSTRATION BY LAUREN TAMAKI

January always inspires talk about seasonal affective disorder. But what exactly is SAD?

It's a kind of depression that is brought about by the changing of the seasons, most commonly the switch from long summer days to shorter, darker ones. About 15 per cent of Canadians will experience mild SAD in their lifetime, while two to three per cent will deal with more serious cases. Symptoms include feeling sluggish or low most of the day, and a reduced interest in activities they once enjoyed. Other signs are changes to appetite—often

eating more and craving carbohydrates—and oversleeping.

Sluggishness and sleeping a lot probably describes many Canadians at this time of year.

That's true, but there are differences between the more typical "winter blues" and SAD. When the symptoms I described start to interfere with a person's daily life, that's when I view it



as a clinical diagnosis. For instance, a person experiencing SAD might tell me they feel irritable and more sensitive in their relationships with others, causing them to withdraw socially. Severity is another marker. SAD is a type of depression and can become very serious up to and including suicidal thoughts—and sufferers are usually distressed that they can't get rid of the symptoms. For many of us experiencing a lower mood, we might reach out to friends or do something that brings us joy—but a person who's depressed often lacks the ability to do that.

What's happening in the brain when someone experiences SAD?

We still have a lot of questions, but what we know is that people with the condition have a disrupted circadian rhythm—your body's mechanism for regulating your sleep/wake cycle—and that may be partly related to less sunlight. Sometimes SAD also comes with abnormalities in the way our brains produce or transmit chemicals like dopamine (which is associated with happiness) and serotonin (which regulates mood)—which may also relate to a lack of sunlight.

Canada has dark winters. Do we also have more cases of SAD?

Yes, and rates do vary according to latitude, so places that are further from the equator tend to have more occurrences of the condition.

So could you treat SAD by booking a trip to a sunny locale in the winter?

I like where you're going with that—and if I could prescribe a trip down south, I would love to. Theoretically, going to a place where you're exposed to more sunlight and a change in scenery could be effective, at least in the short term—but again, it's important to remember that depression can take the enjoyment out of things a person would normally find fun.

SEASONAL AFFECTIVE DISORDER MAKES IT DIFFICULT TO ENJOY FUN ACTIVITIES.

What kinds of treatments have you found to be effective?

Light therapy, where you sit in front of a special lamp for 30 minutes a day every morning, can positively impact brain chemicals tied to mood and sleep—and so ease symptoms. In my practice, I've also found success with cognitive behavioural therapy, where I help clients create a better sleep schedule and to notice and shift unhelpful thoughts tied to SAD. The goal is to fight back against the urge to “hibernate” in the winter and to instead structure their lives and activities to increase their physical activity and social connection. **R**



POINTS TO PONDER

Do you not want to be entertained?

—**Hollywood Jade**,
CHOREOGRAPHER FOR CANADA'S
DRAG RACE, SHARING HIS
RESPONSE WHENEVER PEOPLE TELL
HIM THEY DON'T LIKE DRAG SHOWS

I'VE PROBABLY MILKED MORE COWS THAN MOST ECONOMISTS.

—**Nobel Prize for economics winner David Card**, WHO GREW UP ON A FARM IN ONTARIO

You go to work. You get married. And by the time you sit down and start to write, it's quite a gap.

—**Brian Thomas Isaac** ON PUBLISHING HIS DEBUT NOVEL, *ALL THE QUIET PLACES*, AT AGE 71

I couldn't have gone without this water.

—**Iqaluit resident Maye Malliki**, AFTER RECEIVING HER 16-LITRE RATION, DURING THE CITY'S WATER CRISIS IN FALL 2021

I HOPE I NEVER RECOVER FROM THIS.

—**William Shatner**, AFTER BECOMING THE OLDEST PERSON TO TRAVEL TO SPACE



It took a while,
but we got there.

–**Jyoti Gondek**, THE FIRST WOMAN ELECTED
AS MAYOR IN CALGARY'S HISTORY



**HE'S A LITTLE
WEIRD AT TIMES,
BUT HE WON US
A CHAMPIONSHIP,
SO HE KNOWS
WHAT HE'S DOING.**

–Raptors player Fred VanVleet,
SPEAKING ABOUT THE TEAM'S COACH,
NICK NURSE



**THIS PANDEMIC IS
NOT OVER—AND
NEITHER IS THE
SHE-CESSION.**

–a coalition of YWCAs, advocates and
organizations IN AN OPEN LETTER TO THE
ONTARIO GOVERNMENT

*There's nothing about me
that feels like I belong on a
raised platform, or that I
know anything.*

–musician Leslie Feist

The healing path
forward is not “kumbaya”
and “la la la” and “Let’s
walk this path together.”
It’s about reparations.
It’s about action.

–Assembly of First Nations National Chief
RoseAnne Archibald



Is Intermittent Fasting Safe?

This dieting trend is said to inhibit dementia and other age-related diseases.

Here are the facts.

BY Anna-Kaisa Walker

ILLUSTRATION BY KAROLINA FICEK

What is intermittent fasting?

Throughout the course of a 24-hour day, your body naturally cycles between feeding and fasting modes while you're awake and when you're asleep. People who practise what's called intermittent fasting attempt to extend the fasting phase in order to enhance the body's hormonal regulation processes that kick in when you're not eating. This way, say the diet's proponents, you can maintain a healthy weight and, therefore, avoid the risks associated with obesity, including Type 2 diabetes and heart disease.

Intermittent fasting can take several forms. Time-restricted fasting, also called the 16:8 schedule, involves limiting breakfast, lunch and dinner to an eight-hour window—say, 10 a.m. to 6 p.m. A more extreme schedule (which would require a doctor's okay, especially if you take medication) entails eating as you typically would for five days a week and fasting for two (when you'd still consume plenty of water, and optionally up to 500 calories).

What happens in the body when someone fasts? And what are the benefits beyond maintaining a healthy weight?

The diet's main benefit comes from

how fasting affects insulin, the hormone that regulates blood sugar—and which rises when we eat. Insulin allows our cells, including fat cells, to absorb glucose from our blood. When we're not eating, our insulin levels go down, allowing the fat cells to release their energy stores. And if those levels drop far enough for long enough, we lose weight.

FOR SOME ADULTS, AGE-RELATED MUSCLE LOSS CAN BE WORSENERD BY ANY WEIGHT-LOSS PROGRAM.

Research from the last two decades has also shown that intermittent fasting reduces blood pressure, cholesterol and markers of inflammation. Scientists aren't sure yet why this happens, but a 2015 study on lab mice suggests that when we switch from a fed to a fasting state, changes happen on a cellular level that can extend life, reducing rates of cancer and fostering immune system and organ rejuvenation. As well, researchers have found that intermittent fasting stimulated the production of a nerve protein that plays a critical role in memory, learning and the generation of new nerve cells—which could help slow age-related cognitive decline.

That all sounds promising, but are there dangers as well?

So far, studies on intermittent fasting have mostly been short-term—a few weeks to a few months—and observed adults under the age of 60, or lab animals. For older adults, some experts worry that the natural aging-related decline in muscle and bone health could be worsened by intermittent fasting—or any weight-loss program, for that matter. “Anything that extends your lifespan should also extend your years of good health,” says Stuart Phillips, a professor in the department of kinesiology at McMaster University. He suggests people who attempt fasting stay as physically active as possible, since losing muscle mass can make daily living much more taxing as we age.

And since the diet restricts food intake, intermittent fasting is not recommended for anyone with a history of disordered eating, or if you're pregnant or breastfeeding. Fasting for an entire day may cause some people with low blood pressure to feel lightheaded or unsteady on their feet, and diabetics may need more careful monitoring to make sure blood sugar levels don't drop dangerously low.

If I want to try it, how should I start?

Your first step should be to speak with your family doctor to make sure intermittent fasting is safe for you. If you get their okay, start slow, gradually narrowing your daily eating window. **R**



BY Mark Witten



MORE TIME OUTDOORS IS BEST FOR YOUR BRAIN

We know getting some fresh air can be a mood lifter, but now a German study gives us insight into why. When researchers scanned city-dwellers' brains, they discovered that those who spent more time outside had a larger volume of grey matter in the right prefrontal cortex—the area involved in planning thoughts and actions. Of course, the stakes for getting outside could be even higher than a mood shift: earlier studies have found that less prefrontal grey matter is linked to depression. If you're not naturally inclined to leave the coziness of your home, make it a goal to spend at least two hours per week outside.

A Nature-Inspired Wound Glue

Researchers at the Massachusetts Institute of Technology (MIT) were searching for a better way to quickly seal wounds in critical, life-saving situations. They looked to an unusual place for inspiration: barnacles, the small sea creatures that attach firmly to rocks, ship hulls and other wet, dirty surfaces. By mimicking the properties of the barnacles' sticky proteins, the MIT team was able to create a biocompatible glue that is able to adhere to human tissues even when covered in blood, forming a seal within 15 seconds. This is far faster than the several minutes it takes for either sutures or patches with blood-clotting features to do the same. After some more study, the product should be available around the world for first responders facing emergency situations.



A Deadly Spider Venom That Can Save Lives

Australian scientists have discovered a potentially life-saving treatment for heart attack victims from the venom of one of the world's deadliest spiders. Existing treatments reduce blood clots, but they don't block the "death signal"—what doctors call the body's inability to send blood, and thereby oxygen, to the heart after an attack. Due to its effect on cell acidity, a protein produced by the Fraser Island (K'gari) funnel web spider does block the death signal, allowing more heart cells to survive. As well as giving heart attack victims better outcomes, the drug now being developed could also extend the life of donor hearts that are used for organ transplants.

Fill Your Cup, Lengthen Your Life

In a recent European Society of Cardiology study, people who didn't drink enough fluids in mid-life were more likely to develop heart failure 25 years later—or if not failure, a thickening of the walls of the heart's main pumping chamber, an early warning sign. Based on their findings, the researchers recommend drinking two to three litres of water every day. To help encourage the habit, many people add a small amount of fruit juice to water to make it more appealing. Eating fruits and vegetables with high water content—tomatoes, cucumbers, melons, grapefruit and strawberries—also counts towards your hydration goal.



Exercise Builds Bones and Protects Against Cancer

While it may seem counterintuitive, a British study has found that people who suffer from osteoporosis—a condition that causes bones to become fragile and break easily—could benefit from exercising more. Moving your body, the researchers found, limits the progression of osteoporosis by prompting bone cells to accelerate the formation of new bone and removal of old bone tissue. Supporting bone remodelling through exercise may also help ward off cancer, as it's linked to the activation of a known tumour suppressor gene, which may leave little room for cancer cells to invade. Many hospitals already recommend cancer patients exercise for up to 150 minutes a week, as it also boosts energy and strength while reducing pain and anxiety.

Why You Need a Supportive Listener

You can get by with a little help from your friends, as the song goes, but it turns out that support might also keep your brain in better shape, too. A *JAMA Network* study found that people who had a good listener available to them throughout their adult lives showed greater cognitive resilience and were less likely to develop Alzheimer's disease.

Cognitive resilience is the term used to explain why some people stay mentally sharp—in their thinking, memory, attention and decision-making—even though their brain may show signs of physical aging or disease-related changes. Some things known to promote this resilience are exercise and mental stimulation, and now another is added to that list. In fact, people in the study who consistently had good listeners available when they needed to talk—whether it was family, friends or neighbours—had a brain that acted four years younger than would be expected based on their age.

While it's not known exactly why this works, the researchers believe the feeling of being heard stimulates new connections in the brain, creating backup pathways for information to get where it needs to go, despite age-related brain changes. Supportive listening may also lessen the effects of chronic stress on the brain, such as systemic inflammation.



Berries Promote Good Blood Pressure

A German and Irish study revealed that eating foods rich in flavonoids—such as berries, pears and apples—creates a virtuous cycle inside your body. These plant compounds increase the abundance and diversity of good bacteria in the gut, which in turn helps your body better metabolize the next flavonoids to come along, enhancing their natural, medicinal effects on blood pressure.

Another Reason to Mind Air Quality

Taking action to fight the climate crisis is vital for the health of the planet—and our brains. A University of Southern California study found that when people were exposed to fewer traffic-related pollutants, it lowered their dementia risk by 26 per cent. **R**

(WOMEN) LJUPCO/GETTYIMAGES.CA; (BLUEBERRIES) RED HELGA/GETTYIMAGES.CA

MEDICAL MYSTERY

Wrong Way Around

A woman's X-ray reveals the astonishing reason for her lifetime of stomach pain

BY Luc Rinaldi

ILLUSTRATION BY VICTOR WONG

TEREKA EANES CAN'T remember a time when her stomach didn't hurt. Growing up in Huntington, West Virginia, she constantly battled aches, cramps and diarrhea. And for most of her early life, doctors shrugged off her concerns. As Eanes entered her 20s, they finally began running tests, but nothing definitive came of them. Instead, specialists guessed that she might have a problem with her gallbladder, or irritable bowel syndrome. They recommended that she avoid certain foods and reassured her that nothing seemed seriously wrong.



But in 2001, when Eanes was 28 and working as a hairstylist, her symptoms worsened—she was spending countless hours on the toilet, hoping her abdominal pain would go away. Convinced that she was experiencing more than mere run-of-the-mill tummy troubles, she visited Cabell Huntington Hospital, where a doctor ordered an X-ray of her stomach. When the results came back, the technician seemed confused. She fetched a few more hospital staff to analyze the scan before she finally told Eanes, astounded, “Your stomach is on the wrong side.”

That wasn't all. When the tech ordered a CT scan of Eanes' abdomen, she found all sorts of other anomalies:

Eanes had multiple spleens, her colon was misplaced, her aorta was oddly shaped, her kidneys weren't where they should be, her intestines were out of rotation, and vital blood vessels were opposite where they normally are.

The news shocked Eanes; no one expects their organs to be out of place. The condition, situs ambiguus, is relatively rare and occurs in utero when a fetus's organs are developing. It affects only about one in 10,000 people, and Eanes had a more extreme case than most. Eanes' GP, a small-town doctor, had never seen anything like it. "My doctor was straight up with me," she says. It was clear that the condition was the source of Eanes' symptoms. But the doctor was flummoxed, and didn't have an easy solution.

Through her own research, Eanes learned more about her condition. The good news was that her organs, though disarranged, worked. The bad news was that one element of her diagnosis, the out-of-rotation intestine, could one day result in a volvulus, an intestinal block that might cause further stomach pain, severe vomiting or life-threatening complications.

Though Eanes didn't develop a volvulus, her day-to-day life became increasingly difficult. When she started working at a community college in her hometown, sitting down at her desk could trigger a sharp sensation just below her ribs. "It was like someone was stabbing me in my side," she says.

The pain was so unbearable that on multiple occasions, she had to leave work for the emergency room. "The pain was debilitating, and it was getting worse and worse," she says. "That's what made me seek out another doctor."

But the doctor Eanes eventually consulted, a respected leader in the field of gastroenterology, suggested that her stress levels were what was making matters worse. He advised Eanes to exercise and meditate regularly. "You need to get through your mind that there's nothing seriously wrong with you," the doctor said. Eanes was incensed—she knew it wasn't just in her head.

WHEN TEREKA EANES SAT AT HER DESK, IT FELT LIKE SOMEONE WAS STABBING HER IN THE SIDE.

In late 2020, one of Eanes' colleagues at the college suggested she look into getting help at the Cleveland Clinic, and on the hospital's website, she read a story about a baby girl who had an intestinal malrotation corrected. Eanes contacted the clinic, asking to see Dr. Kareem Abu-Elmagd, the surgeon who had saved the infant's life. During her consultation, Abu-Elmagd responded, confidently, that he could help. "He knew exactly what I was talking about,"

says Eanes. “And he never once thought I was crazy.”

Abu-Elmagd noted that intestinal malrotation on its own is more common than Eanes’ condition, and that he’s operated on about a hundred such patients. The intestine and liver of a fetus develop rapidly between eight and 10 weeks of gestation, he adds, which also normally includes a 270-degree rotation of the intestines. However, if something goes wrong during that process, the organ can settle in the wrong position. This sets off a chain reaction: when the intestine doesn’t develop properly, neither does the mesentery, the organ that connects the intestine to the posterior abdominal wall. One of the leading theories posits that this, in turn, deprives the intestine of blood supply, which leads to out-of-place organs and eventually causes symptoms like those that Eanes experienced: nausea, bloating, diarrhea and abdominal pain.

To help patients like Eanes, Abu-Elmagd advocates for two things: screening newborns for such abnormalities so that they can be corrected earlier, when the surgical procedure is simpler; and ensuring the condition is included in the curriculum at med schools. “Often, it’s misdiagnosed,” he

says, adding that doctors sometimes think their patients are experiencing psychiatric problems.

In April 2021, at the Cleveland Clinic, Eanes underwent a gut malrotation correction surgery (also known as Kareem’s procedure, given Abu-Elmagd developed it). After a week of prep—blood work, CT scans, tests that showed how food and liquid travelled through Eanes’ body—she went into the operating room. Over the course of six hours, Abu-Elmagd and his team rotated Eanes’ intestine 180 degrees, removed a part of her colon, and rearranged several of her other organs. The end result was a mirror image of a regular abdomen—unorthodox, but just as good as any other gut.

When Eanes woke up, she was in terrible pain. “I needed four people just to help me hold my head up,” she says. But it was a new sort of discomfort—the result of the surgery, not stomach problems. In June 2021, after a few months of recovery, she was able to return home and gradually get back to work, free from the discomfort that had plagued her for her entire life. “I almost don’t know how to act without the pain,” she says, laughing. “I thought I was going to have to live with that feeling for the rest of my life. I didn’t know I could feel this good.” **R**



Full Disclosure

People are a lot more knowable than they think they are.

SALLY ROONEY, *NORMAL PEOPLE*





COVER STORY



BOOST YOUR IMMUNE SYSTEM

EIGHT SCIENCE-BACKED SOLUTIONS
TO HELP YOU **FEEL YOUR BEST**

BY Lisa Bendall

ILLUSTRATIONS BY RYAN SNOOK
PHOTOGRAPH BY CHRIS ROBINSON



CHRISTINE WALKER always seemed to catch whatever cold germs were flying around. Now in her early 50s, she realized that if she didn't do something, her immune function would continue worsening with age. Her mother had never prioritized a healthy lifestyle and now has chronic illnesses and mobility problems. But her father, who'd exercised throughout Walker's childhood, is still active in his 80s and is rarely under the weather. "They're like night and day," says Walker. "I definitely want to age like my dad."

But Walker's lifestyle stood in the way. She clocked long days as director of a chef school, with little time left to be active or enjoy the outdoors. In March 2020, when the pandemic meant she

could skip her commute and instead work from her home in Whitby, Ontario, she found herself spending even more hours at her desk.

Walker's increasingly sedentary existence had repercussions. In addition to catching bugs easily, she didn't sleep soundly, her joints ached and her weight reached unhealthy levels. "I was worried about how I would react if I caught COVID," she recalls. "Would I end up in the hospital?"

One night last April, after Walker went to bed with the usual soreness from sitting all day, she decided enough was enough. She and her husband, Andre, began walking the perimeter of a small local park. As she grew stronger, her walks got longer; she used an app to find hiking trails several kilometres long. The couple also started biking—it was hard on her knees at first, and exhausting, but she gradually built her endurance. She tracked what she ate, making sure most of her calories came from healthy foods like vegetables and whole grains instead of chips and treats. She took online fitness classes and lifted weights.

Walker noticed changes within weeks. "I started to feel more alert, and it wasn't as hard to wake up in the morning," she says. She could cycle a 16-kilometre route without tiring, barely noticing inclines that, in the past, would have forced her to get off the bike and walk. Her knees hurt less on the stairs, and she wasn't taking ibuprofen for

pain as often. Her stress levels were also lower. “Stress is a lot harder on the body than people realize. I’m more patient now, less frustrated.”

THERE ARE MANY FACTORS affecting the immune system that we can’t do anything about—aging weakens our immune function, for example, and we have individual genetic differences that affect how we deal with disease. Malnutrition (from a dwindling appetite or a disorder like celiac disease) or physical immobility (due to bedrest, for example, or a temporary injury) also impair our immunity.

But Walker has reason to be hopeful that she’ll combat diseases better as she moves into her senior years. As scientists are discovering, certain lifestyle changes can improve the body’s ability to fight illness and infection.

Our immune function is incredibly complex. “We’re still struggling to understand it,” says Dr. Donald Vinh, an infectious-disease specialist and medical microbiologist at McGill University’s health centre. “We’ve made progress in the last 50 years, but it’s a young field.”

Compared to the cardiovascular system or respiratory function, the human immune system has a plethora of nuts and bolts. These include antibodies, organs, proteins and enzymes. There are also lymphocytes, a type of white blood cell, which include natural killer cells (these attack infected cells) and memory cells (B and T lymphocytes

designed to remember and do battle with a germ if it ever returns). Aspects of our immune system are found all over us, from our skin to our brains to our bone marrow. Even the mucous in our lungs and the acid in our stomachs are part of our body’s defences.

All of these moving parts complement each other. Some are tools we’re born with, already primed to recognize and attack certain invaders (this is known as innate immunity). Others are instruments for figuring out how to defend against bugs we encounter for the first time, called adaptive immunity.

THERE’S NO QUICK FIX TO IMPROVE IMMUNITY, BUT IT GETS STRONGER WHEN YOU WORK ON GENERAL HEALTH.

Because of this complexity, anyone seeking a quick fix or miracle pill is out of luck. “People think they can just boost the immune system as if it were a muscle, but it’s far from that simple,” notes Vinh.

But like any bodily function, immunity works best when we support our general health—and researchers around the world are getting closer to exposing more links between the choices we make and how well our immune systems work. Here are eight practical

approaches that are proven to show some results.

TAKE YOUR SHOTS

When it comes to powering up the immune system, vaccines are the most important breakthrough in history. Childhood vaccinations, for instance, have been a key factor in our longer lifespan today. “We don’t see polio, and kids aren’t dying from diphtheria, for exactly that reason,” Vinh explains. Even before COVID-19, vaccinations against diseases like flu and measles were saving four to five million lives a year, according to the World Health Organization. “Vaccines don’t fix all problems, but they’re profoundly effective,” Vinh says.

A vaccine provides a training session for our adaptive immunity, showing it how to fight an invader it’s never seen



before. Traditionally, a weakened or killed virus component that can’t make us sick is injected—but some modern vaccines instead contain instructions for our own bodies to make harmless proteins that look similar to the virus.

“After the vaccine, you’ll have antibodies already made, so when you see the bug, you’re pre-armed and ready,” Vinh explains, adding that researchers are developing drugs to try to boost innate immunity, as well. A natural infection may produce a similar effect as a vaccine, but it’s not as safe. “Polio is one of the best examples,” he says. “It might give you just a little bit of diarrhea, but some people will be paralyzed.”

WATCH WHAT YOU EAT

Inflammation, a chemical cascade that’s a critical part of our immune response, also has a dark side. When it’s helping, inflammation traps viruses and bacteria by triggering fluid and swelling. It also aids in healing tissues by calling for a cleanup crew of specialized white blood cells called phagocytes. But inflammation is also triggered by glucose and fats, and if it’s constant, it can wreak havoc on your body—causing health problems such as diabetes, liver disease and cardiovascular disease.

Refined carbs, like white flour, and sugar-sweetened drinks, such as pop, have long been linked to higher levels of inflammation in the body, even if the mechanisms aren’t fully understood.



“A cookie or a piece of candy or cake once in a while isn’t going to impact the immune system,” says Maryam Naslafkih, a registered dietitian in Saint John, N.B., with a background in biochemistry. “But if highly processed foods have a bigger place on your plate than whole foods like fruits and vegetables, then honestly, you won’t feel good.”

Many studies draw a connection between nutrition and immune function. In 2021, Harvard researchers rated the eating habits of almost 600,000 people and found that those whose diets placed the most emphasis on plant-based foods had a 41 per cent lower risk of getting severely ill with COVID-19 compared to those with the worst diets.

Should we use dietary supplements? “People say ‘I’m going to take minerals and vitamins and boost my immune

system,’ but loading up doesn’t make you superhuman,” says Vinh.

For most of us, even as we age, a balanced and varied diet gives us most of the nutrients and micronutrients we need. Taking megavitamins, herbs or other products will only bruise your wallet, with no evidence they’ll help your immune system ward off disease. On the contrary, many supplements—iron, zinc and vitamins A, C, D and E, to name a few—have side effects or are toxic in high doses.

In rare cases, vitamin deficiencies can interfere with immune function. If you’re vegan, you should take a vitamin B12 supplement, and if you aren’t getting a lot of sun exposure, you may require vitamin D. To determine if you have a deficiency, ask your GP to send you for a blood test.

GET MOVING

It’s been established that people without much mobility, or those who never exercise, have less resistance to bugs. Regular moderate physical activity, on the other hand, optimizes immune function. And it doesn’t take much. A U.S. study of almost 50,000 people with COVID-19 infections found that those with inactive lifestyles had a higher risk of hospitalization, while people who exercised, even a bit, were more likely to get better on their own.

In an experiment published by Duke University’s School of Medicine

in 2018, inactive seniors with rheumatoid arthritis improved their innate immunity and lowered inflammation by adding 30-minute exercise sessions three times a week. Researchers are still looking to explain this effect, but last year a paper in *Nature* revealed a clue, showing that walking and running stimulate the production of B and T lymphocytes in the bones.

Avoid going to extremes, though; some research shows that prolonged, marathon-style physical exertion may disrupt our normal immune function. Aim for 10 to 30 minutes of exercise every day to get the immune benefits. If you have a chronic condition that makes this amount challenging, just do as much as you comfortably or safely can.

“Every minute really does count,” says Mary Jung, associate professor at

the University of British Columbia’s School of Health and Exercise Sciences. “If you feel as though you’re not doing enough, you won’t stick to it, because you’ll think there’s no point. In fact, there are exponentially greater health benefits for those who are doing very minimal amounts, compared to doing nothing at all.”

Jung says it’s often helpful to write down on a calendar exactly where, when and with whom you exercise, because you’ll see how it can fit into an already busy schedule. Having a walking partner can be motivating, as can registering for online workouts.

Walker fits much of her activity into the morning hours before she sits down at her desk. “I follow a fitness trainer on YouTube, so I get up early and do whatever she’s doing for the day,” she says. “Then I walk the dogs for three kilometres.”

DRINK LESS ALCOHOL, AND MORE WATER

Alcohol negatively affects the immune system in a variety of ways, according to the Canadian Centre on Substance Use and Addiction. Excessive drinkers, for example, can have a higher risk of pneumonia and other lung illnesses. They also take longer to recover from injuries and infections. Researchers point to many areas where alcohol damages immunity-related body parts, from the tiny hairs in our airways that



(SHOES) ISTOCKPHOTO.COM/BENJAMAS SUWANMANEE



trap invaders to the cells lining the walls of our digestive system that ensure microbes don't escape. Furthermore, alcohol can often take the place of the water that helps our bodies drain waste and deliver nutrients; our immune system relies on both processes.

If you're a regular drinker, Naslafkih suggests sipping more slowly than usual, having a glass of water after each drink or increasing the ratio of soda water in your mix, noting: "Carbonated water is as good as regular water for hydration—even the flavoured ones, if they contain natural flavours with no added sugar."

HARNESS YOUR MIND POWER

When a burst of fear or anxiety does what it's designed to do, our bodies are

flooded with hormones that help us fight or flee—by raising our heart rate and blood pressure to circulate oxygen, for instance. This is called the sympathetic response. Afterwards, our parasympathetic response kicks in, slowing our heart rate and relaxing our bodies.

But chronic stress—from financial worries, from a loved one's health scare—means those hormones keep building and circulating, which is unhealthy. Chronic stress can sap our defences and destroy immune cells. A 2021 study at Western University, for instance, showed that one type of stress hormone, called glucocorticoids, can reduce the function of a class of T cells that fights cancer.

Psychology professor Steve Joordens of the University of Toronto Scarborough suggests that any break from constant stress will help. "Fill your life with opportunities to get away from anxiety, by pushing yourself into positive places," he says. "Sing, dance or laugh. Make Tuesday night a comedy night. Do karaoke with your family."

Another strategy is to take time out to feel gratitude for whatever you appreciate in your life: a cuddly cat, a good-news medical-test result, the view from your window. "It's a way of countering the negative things that jump into your mind with something more positive."

You can also train yourself to induce physical relaxation in your body. Try deep breathing or, better yet, do an online search for guided relaxation and

learn how to clench and release muscle groups. "It's a skill, and it takes a while to develop," says Joordens, "but if you learn what it feels like to be totally relaxed, then you can put yourself into that state when you're feeling anxious."

HIT THE HAY

A consistently good sleep of seven to eight hours each night lowers our risk of infection and chronic inflammation. On top of that, it even improves our response to vaccines: a 2020 study found that the flu shot produced higher antibody levels in healthy adults if they slept longer on the nights leading up to their appointment.

Just like exercise, sleep affects immunity in ways that are many and varied. One recent study at Toronto's Sunnybrook Research Institute found that seniors with more sleep disruptions scored lower on cognitive tests but

also had immune differences; on later brain autopsies, there were unhealthy changes to their microglia, immune cells in their brain tissue responsible for removing debris and battling infection.

Unfortunately, people tend to have more trouble sleeping after about age 55 because their body clocks don't work as well, and they may need to try harder to make improvements.

"Part of sleeping right is having a set schedule, at least five days a week," says Joordens. "If your sleep pattern is erratic, simply wake up at the same time every day—and you'll eventually want to go to sleep at a reasonable time."

Take steps to improve your sleep hygiene (ensuring your bedroom is dark, cool and quiet, for example) or investigate your options for help, such as cognitive behavioural therapy. This approach addresses the sources of your insomnia and can be highly effective after just four to eight sessions.

NURTURE YOUR RELATIONSHIPS

Positive social connections have been linked to reduced chronic stress, lower inflammation and a stronger resistance to disease, while loneliness and isolation have the opposite association. A 2017 experiment in *Health Psychology* found that when people were exposed to cold viruses, those who felt lonelier experienced more severe symptoms, perhaps because it was harder



for them to cope with the added burden of an illness.

But it can be extra tough, during a pandemic, to strengthen our friendships and cultivate supportive networks. Get creative: if you're not a fan of video chats but have safety concerns about indoor visiting, plan outdoor gatherings with your pals or have get-togethers that are snack-free so the masks can stay on. Positive interactions trigger the release of endorphins, which calm down the sympathetic nervous response; social connections also stimulate our natural killer cells.

Joordens also suggests doing some spring cleaning of your social media. "If people are putting things in your face that make you feel anxious, 'unfriend' them and get them off your news feed."

BREATHE FRESH AIR

Time outdoors gives you a break from indoor air, where infectious bugs may circulate, but it also has benefits for your immune function. A bout of sunlight during the day improves your sleep rhythm at night and allows your body to produce essential vitamin D. And it may do even more: in 2016, researchers at Georgetown University Medical Center demonstrated that the sun's rays increased the activity of T cells.

Going outdoors usually leads to getting some exercise, and it's even been shown that exposure to natural environments reduces stress and anxiety.

6 Signs You Need More Than a Boost

Sometimes a weak immune response is a red flag for more serious medical conditions or other problems. If you experience any of the following, speak with your GP:


- You get ill too often (the average working Canadian is off sick for eight or nine days a year).
- You have recurring digestive issues, like a sore stomach or diarrhea.
- You get unusual illnesses that your friends and family members don't catch.
- Scrapes and cuts take a long time to heal.
- You seem to catch new bugs before you've recovered from the previous ones.
- Your allergy symptoms wear you down more than usual.

A FEW MONTHS AFTER Walker started improving her immune function and overall health, she convinced her family to move to a rural property in south-central Ontario. "It forces me to be active outside," she says, adding that over the summer, she planted a vegetable garden and apple saplings while enjoying the country air. Overall, Walker is gratified with her new life. "I feel I'm a better person than I was two years ago." **R**





HEART



The fur coat
I inherited reminds
me of how I failed
her— and yet
I can't seem
to get rid of it

MOTHER'S MINK

BY Wendy Litner

PHOTOGRAPH BY RAINA + WILSON

M

MY MOTHER DIED when I was 23, some 17 years ago now, but it wasn't until being stuck at home during a pandemic that I finally went through the boxes of her things that sat piled in the corner of our basement. In them, I found a glass vase that was easy to give away and a scrapbook of the royals she made in the 1970s (an homage to her teenage crush on Prince Charles) that was easy to sandwich between two hardcovers on my bookshelf. Then there was her fur coat, her disgustingly glamorous fur coat. It's gorgeous. And horrifying.

As I ran my hand over the soft, brown mink fur, I wondered whether I should keep it simply because it belonged to her, even though I would never wear it. Like many women these days, I'm anti-fur. I've even signed petitions calling out companies for using real animal fur in their winter coats when, in my view, they could just as easily make them with faux fur. I avidly follow Esther the Wonder Pig—a 600-pound pet that two

Ontarians have made Internet-famous to promote veganism—and, along with my twin six-year-old sons, volunteer at their Happily Ever Esther Farm Sanctuary in Campbellville, Ont., where we shovel manure.

If my mother were alive today, she would also never wear fur. While she was drawn to high fashion—in the boxes I also have dozens of pairs of her high heels—she was progressive in her politics. And yet, although I never witnessed it, she obviously did go out in fur at some point. As I picked up one of the coat's heavy sleeves and inhaled its thick scent, I could imagine her as a young woman, dressed up for the theatre, complete with her tinkly earrings and red lipstick. I could see her date slipping the coat off her slender shoulders as she commanded the room with her laugh.

My mother was a lot like a fur coat: elegant, stately, at times controversial. Just about all of her jokes and iconic one-liners were “not safe for work.” I, on the other hand, am short, have never worn lipstick and don't like attention. When I was a teenager, my mother would encourage me to have parties at our house. Why didn't I invite the whole school over to our place, she wondered? Didn't I want to be the life of the party?

I really didn't, but I also didn't want to admit that to her. “What are you going to do when there are people smoking here?” I replied to avoid answering the question.

“I'll ask for one.”

I know she meant well, but sometimes it felt like she didn't see me, or didn't understand that I didn't have to be like her. Those of us who knew my mother all gravitated to her and orbited around her, but she made me feel as if I was never orbiting the right way. To her, my clothes were boring, my hair too curly, and my disposition overly anxious. I never felt worthy of being her daughter.

There was one exception, however, a personality trait we shared equally, and that was our ability to keep a sense of humour during difficult times. A month after my mother was diagnosed with terminal adrenal cancer, my two older brothers and I took her to a play—a last night out before she was to have surgery. In the bathroom before the performance, I heard her giggling in the stall next to me. When she came out, I asked her what was so funny.

“I put toilet paper down on the seat, like I might catch something!” We howled with laughter.

And as I tried to figure out what to do with my dead mother's fur coat, I couldn't help having some fun with it first. I slipped my arms through the sleeves and posed while my husband snapped pictures. (Look at me! I'm wearing a fancy fur coat!) Then I draped it around my cockapoo, Diego, because with his dark curls he looked just like the *Game of Thrones* character Jon Snow. After snapping some photos of the Lord Canine Commander, I was finally ready to part with the coat. But as I opened a garbage bag and got ready to stuff it inside, I noticed something. The coat fell open and there on the inside pocket her name was embroidered, all lovely swoops and curves stitched along the grey silk lining. I ran my fingers along the “P”



Wendy Litner
with her mother
in 1988.

and “L” of Patti Litner and stopped. Tracing the letters, I could suddenly see a softer version of my mother, perhaps a part of her on the inside that I never got to know.

I had hoped while my mother was dying that we would put our different personalities aside for our final months together. I imagined us whispering secrets to one another, holding each other's hands in the quiet moments. I pictured her pulling a specially chosen book from her bookshelf and placing it firmly in my hand. “I want you to have this,” she'd say. I would open the book and there would be a handwritten message to me on the cover page making it clear that she saw me not as she wanted me to be, but just as I am.

Instead, we argued as we always did, about all the things we had always argued about—small tiffs about my bent posture as I sat at her bedside, and bigger fights where I tried to convince her to follow the doctor's orders and she would refuse. At the end of it all, she never gave me anything special

or important. I was saddled instead with all the stuff she left behind.

And there I was in the basement, 17 years later, still as insecure and uncertain as ever. I could no longer bring myself to get rid of the coat because, if I did, all that would be left of my mother is me. I am not as glamorous as this fur coat, and I thought perhaps it's a better representation of her, a better legacy.

I put the coat on a hanger and squeezed it between my sons' snow pants. Eventually I know I will get rid of it, because I am my mother's daughter after all. And now that I'm a parent, I've seen my wit, pragmatism and strong sense of justice reflected in how my boys regard me. I know somewhere inside, there's a part of me that is as strong and decisive as my mother was. One day I will hear her voice say to me, “Why on earth are you holding on to that silly fur coat? I never even liked it that much!”

“I don't know,” I'll say, dumping it in the trash. “I don't like it either.” **R**



Solitary Thoughts

**I hold this to be the highest task
between two people:
that each protects the solitude of the other.**

RAINER MARIA RILKE

**The time you feel lonely is the time you most need to be by yourself.
Life's cruellest irony.**

DOUGLAS COUPLAND

LIFE'S LIKE THAT

Reduce, Reuse, Recycle



—[@JACKSL95](#)

Traffic Stop

The police pulled me over the other night, and I recognized the officer.

“Do you remember me?” I asked. “You used to play with my son.”

“I don’t remember you,” he said, “but I *do* remember you just

driving 65 in a 50-kilometre zone.”

— MISIR DOOBAY,
Scarborough

My wife: You’ll be so proud of me. I saved \$9 at Costco.

Me: How much did you spend?

My wife: \$600.

—[@XPLODINGUNICORN](#)

I witnessed a fellow walk into the library, wander around for a good while, then ask pleasantly, “What is this place?”

— ALIX HAWLEY, *novelist*

My mom has a great movie recommendation! She doesn’t remember the title, but she said it stars “Jake something.”

—[@HISAMWELCH](#)

Want a Piece?

Growing up, my family always had cake in case company came over.

Mom would make an announcement when she bought it: “Listen, nobody touches this cake. This is for company only. Those crappy muffins, those are for you. You better hope to God somebody comes over so we can cut the cake.”

— SEBASTIAN MANISCALCO,
comedian

Send us your original jokes! You could earn \$50 and be featured in the magazine. See page 7 or rd.ca/joke for details.





DRAMA IN REAL LIFE

The tractor-trailer crashed through the bridge's guardrail, leaving its cab dangling high over a river. Could they rescue the driver before it dropped?

OVER THE EDGE

BY Anita Bartholomew

ILLUSTRATIONS BY STEVEN P. HUGHES

The winds on the morning of April 13, 2020, gave Wayne Boone's tractor-trailer a good whipping. Boone, a 53-year-old driver for a paper-recycling company in Suffolk, Virginia, steered the empty 18-wheeler up Interstate 64 in Chesapeake toward Virginia Beach, about 50 kilometres away, where he would pick up his first load of the day.

He pulled into the eastbound left lane of the G.A. Treacle Memorial Bridge, known locally as the I-64 High Rise, a four-lane drawbridge that traverses the southern branch of the Elizabeth River. Up there, the storm let loose its full force. Rain hammered Boone's windshield. Winds grew fierce. Boone slowed, letting other cars pass. He needed to get to the other side.

At the bridge's crest, 21 metres above the estuary, the concrete road gave way to the steel decking grids of the mechanism that allowed the drawbridge sections to open whenever tall watercraft passed underneath. Even in perfect weather, it was easy to lose traction on the grids. Boone's front wheels met the slick surface just as a powerful gust blasted the driver's side of his truck.

To Boone, it felt like the wind lifted the truck clear off the surface. He could swear that, for a second, he was floating before being dumped into the right lane. He had no time to consider how such a thing could be possible. His cab barrelled into the guardrail on the far right edge, mangling the metal barrier that protected his truck from ditching into the churning water below. He struggled to regain control. His empty trailer, meanwhile, jackknifed to the left, skidding sideways at an angle to the cab.

Fighting both truck and weather, the steering wheel unresponsive, Boone was swept along for about 60 metres, unable to get traction. Just then, a final gust, raging more violently than the first, slammed into the driver's side of the cab while simultaneously shoving

it upward from below, blasting through the open mesh of the steel grid. It lifted the tractor cab, with Boone inside, over the edge of the bridge before dropping it again. If he felt any hope of survival before, it disappeared. The truck aimed straight down toward the grey-black water.

WITH A STORM rolling in, the men of Chesapeake's Rescue 15 began their morning by checking chainsaws, generators and other equipment. Trees would topple. Power lines would go down. Roadways would be blocked. They would be ready.

gets called in when the unthinkable happens: a building collapse, an earthquake, a bombing or any other natural or human-made disaster. Today, with the storm already battering the station house, they were certain their unique skills would be required.

WAYNE BOONE KNEW he should be dead. His truck had busted through the barricade and was now hanging precariously over the river. How was he still alive? Somehow, the back of his tractor cab had snagged on the bridge's edge before it could complete its descent. Still strapped into his seat, Boone

HE SAW DARK WATERS THROUGH THE CRACKED WINDSHIELD. IF HE PUT ANY WEIGHT ON THE GLASS, HE'D FALL.

The three-man rescue team—Brad Gregory, Justin Beazley and Mark Poag—had reported for their 24-hour shift at 7:00 a.m. Gregory, 57, had come to the fire department after a search-and-rescue career in the Coast Guard. Poag, 43, the longest-serving firefighter on the team, had been a professional basketball player. Beazley, 25, had joined up right after college.

Each had gone through hundreds of hours of specialized training to be certified as a member of the city's elite technical rescue unit, the team that

dangled at a 90-degree angle, swinging with each new gust. Whatever force held the cab to the edge, he knew it couldn't last. Gravity and wind would have their say.

Sticky red blood spilled into his eyes. He was injured, but his body had yet to fully register the pain. He forced himself to focus. If he had any chance of escaping the cab and surviving, he had to get out of his seatbelt. The position of the cab gave him little room to manoeuvre. The cracked windshield beneath him exposed the dark waters

awaiting. If he put any weight on the glass, he risked breaking through and falling the rest of the way. Under the howl of the wind, he heard voices from above: "It's about to go."

LIEUTENANT CHAD LITTLE, 49, of the Chesapeake Fire Department, was on his way to conduct CPR training when an alarming message popped up on his SUV's mobile digital terminal: truck hanging over the bridge.

The department gets lots of calls that turn out to be far less dramatic than the initial report suggests. But within

cab of a tractor-trailer had gone over the High Rise, leaving its trailer still on the bridge. The cab's heavy steel frame had folded. It faced downward, hanging over the river. Its engine, hood and fuel tanks had already fallen, leaving a slick on the water. The driver was trapped in the cab.

The complexity of the accident meant they needed Rescue 15. Little's next call was for a truck with a rotating boom crane that would be big enough to lift the tractor-trailer. After ordering in additional rescuers from the neighbouring city of Virginia Beach, he

WEDGED BEHIND THE DRIVER'S SEAT, HE HEARD SIRENS APPROACH. TO HIS EARS, IT WAS LIKE ANGELS SINGING.

seconds, several similar messages flashed across his screen. He was only a minute or two away, so he didn't wait to be dispatched. Flicking on his emergency lights and siren, he sped to the High Rise.

The traffic on the bridge allowed him to drive his SUV as far as the steel grid, but no further. The wind blasted him when he stepped outside, so he tucked in his chin and headed toward the Chesapeake police vehicles, which were about 68 metres ahead and had their lights flashing. He then radioed in his assessment of the situation. The

switched to another channel to request the largest available fireboat. Working over the water in this weather, he needed assets below in case something—or someone—should fall.

Meanwhile, someone had tossed a rigging strap and the kind of harness a roofer would wear over the edge toward the driver. Cops and civilians stood together, holding the rope in a line like they were in a one-sided tug-of-war. Little appreciated that they wanted to help but explained that if they pulled the driver out of that truck on an untested system, he was likely to



slid into the windshield. The glass shifted in its frame. He scrambled upward, doing his best to grab onto pieces of the shattered dashboard, aware that he was getting cut along the way. He slipped again. And again. Each time his feet met the windshield, the glass gave a little more. There could be no next time. Summoning all his strength, straddling broken bits of truck, he pulled himself between the seats and wedged himself back as far as he could behind the driver's seat.

A few minutes later he heard the approaching

tumble to his death. Once Rescue 15 got there, they would anchor their specialized system for a complex rope rescue before trying to move him.

The first ladder truck arrived, coming from the opposite, westbound, side of the bridge, where traffic was still able to move. Running chains over the concrete barrier that separated the eastbound and westbound lanes, the firefighters anchored the ladder truck to the tractor cab's back wheels.

UNHITCHING HIS SEATBELT, Boone tried to hang onto his seat but immediately

sirens. To his ears, the jarring wail could have been angels singing.

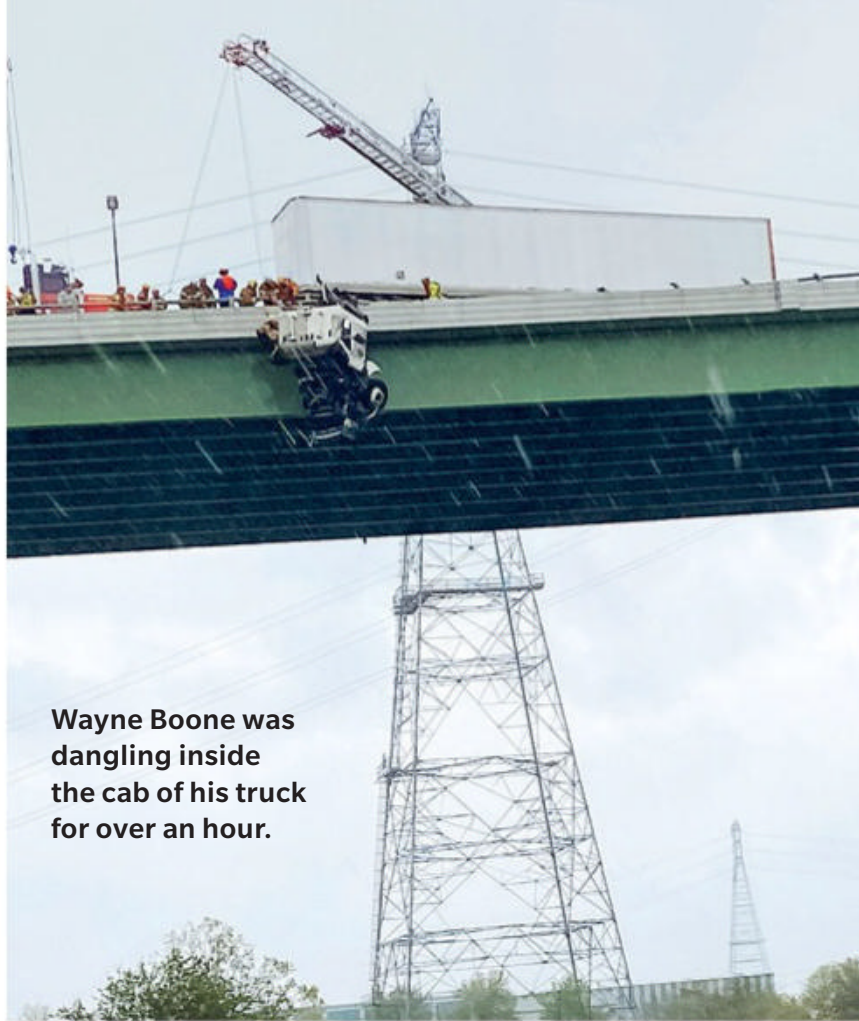
Somewhere in the cab, his cellphone rang. He would have given anything for the comfort of another human voice, but though he reached around, searching as well as he could from the cramped space, the phone eluded him.

From the edge of the bridge above, someone tossed a harness his way. He reached through his open driver's side window, grabbed it and got it inside the cab. That effort was all he could manage. Disoriented and weak, he couldn't figure out how to get it on.

A SEA OF RED brake lights greeted Rescue 15 at the bridge. If this were an ordinary road, vehicles would have made way at the first whoop from a fire truck, but the bridge had, at most, a half-metre shoulder. Cars had nowhere to go. Beazley jumped down, tapped on windows and got a few vehicles to edge over and give the truck more lee-way to pass. As they crept forward, the clock ticked on the dangling tractor. Traffic filled in behind them, cutting off the possibility of backing up and coming across from what were normally the west-bound lanes, which police had by that time cleared to allow rescue vehicles through.

A couple hundred metres from the accident, it was plain they would get no further. Beazley grabbed the harnesses, rope and other gear off the top of Rescue 15 and hitched a ride on Ladder 12, a fire truck headed to the scene in the cleared westbound lane.

Poag and Gregory gathered the rest of the equipment they expected to need: more rope, a pulley system called a set-of-fours, a belay to anchor equipment at the scene, carabiners, tech helmets and gloves.



Wayne Boone was dangling inside the cab of his truck for over an hour.

As they marched toward the crippled tractor-trailer, the wind grew more intense; rain and sleet battered them sideways, soaking them through to the skin. About a dozen bystanders had left their cars, braving the storm's fury to stand vigil at the bridge's edge.

Gregory, Poag and the crew of the ladder truck set the anchor for the haul system. The plan was for Beazley to rappel down to the driver from the extended ladder of one of the trucks. By now, sustained winds were approaching 80 kilometres per hour, with stronger gusts. Working shoulder to shoulder with the ladder unit and a second technical rescue team

COURTESY CHESAPEAKE FIRE DEPARTMENT



Justin Beazley, from the city's elite rescue unit, rappelled down to Boone.

from the nearby city of Norfolk, they had to shout to hear each other above the wind.

Beazley walked to the bridge's edge and tried to process how what he saw affected the rescue they were about to attempt. It was like nothing he'd encountered before. Spilled diesel fuel soaked everything on the ground, including their equipment. The cab appeared to be barely holding on. Getting into his harness, he checked the rope and rigging. He would be tied in with an elevated anchor, a system that ensured that if anything failed, the anchor would stop him from falling into the river.

Ordinarily, firefighters would not raise a ladder in such high winds. It could shake the truck. It could wear out the metal. In theory, the wind could even blow the truck over. But this was as far from ordinary as it got. The operator of Ladder 12 made it work.

The ladder operator positioned the fire truck's extended ladder over the top of the crippled tractor-trailer, then anchored it in place. It would not move for the duration. Poag and another firefighter had command of the attached

pulley system. Beazley, in his harness, was attached at the other end. Working the pulleys, they lifted Beazley up over the bridge's edge, manoeuvred him above the tractor and slowly lowered him down.

HALF BLINDED BY the blood pouring into his eyes and suffering from shock, Boone wasn't completely sure what he was watching. He knew there was a mechanism of some sort, and ropes. Hanging from the ropes, hooked up to the mechanism, was a young man in orange safety garb and a yellow helmet.

After dangling in the wind for an hour, waiting to die, Boone was almost



Of saving Wayne Boone, Beazley told Virginia's WTKR, "It all happened so quick. You train for this, but you just never expect it."

spent. Could this mean he was going to get out of here alive? Hope finally flooded through him as the young man descended.

The winds tossed Beazley like a child on a swing as he rappelled toward the truck driver. He grabbed on to the cab to avoid getting blown into the bridge. He'd planned to open the door to get the driver out, but any further movement risked putting more downward pressure on the vehicle. It would have to be done through the window.

The driver was clearly in shock, but the relief in his eyes at seeing Beazley was evident. "My name's Justin," Beazley shouted over the wind, hoping to set the man at ease. "What's yours?"

The driver replied, but Beazley barely heard him. "We're going to get you out of here," he said, handing the harness through the open window and giving the driver step-by-step

instructions for getting into it as he gripped the cab's side, attempting to stay as close to stationary as possible in the storm.

The man fumbled with the apparatus. He was trying to do as Beazley instructed but was clearly too disoriented to assist in his own extraction. The wind, meanwhile, wanted to blast Beazley off the cab's door. The rescue became more precarious by the second as gusts continued to pick up speed. As it lashed at both tractor cab and rescuer, Beazley realized there was no time left. He would have to get inside with the driver.

Pulling his torso through the window, Beazley worked as quickly and methodically as possible, getting each of the driver's arms and legs through the loops and securing him to the rope system. He spoke reassuringly as he worked. Once they were tethered

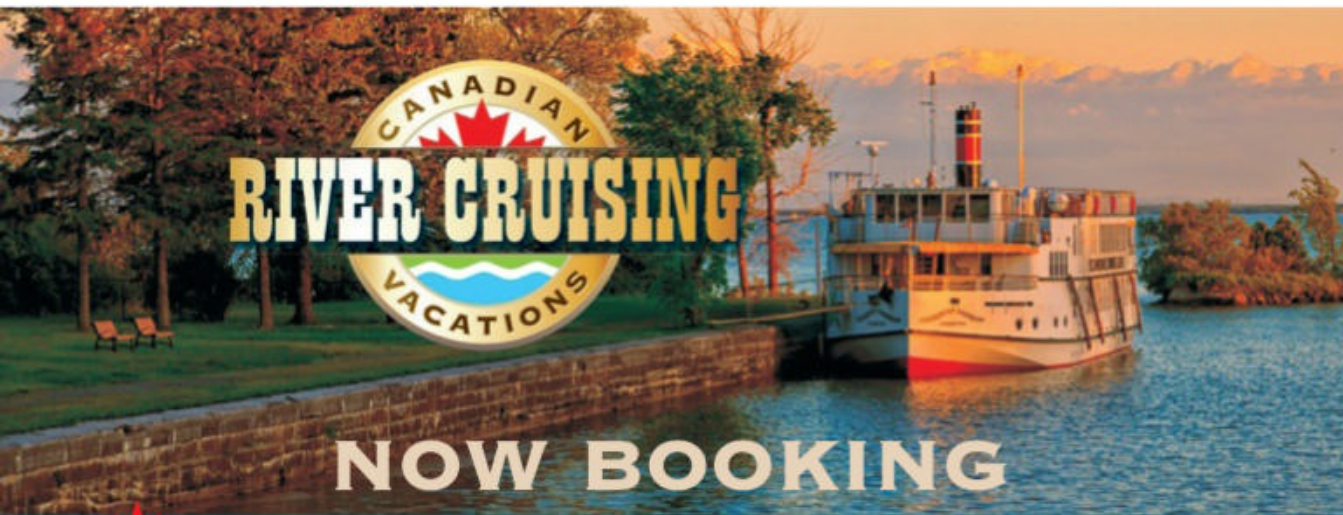
together, he pulled the bloodied driver through the window and fully into the wild weather. Then he shouted to his teammates above: "Let's go!"

Poag and a second firefighter worked the pulleys to haul them back up. As driver and rescuer cleared the edge, cheers broke out from the crowd on the bridge. Three first responders bear hugged both men and pulled them back over the barrier.

It was over. Despite hundreds of hours of training, nothing had fully prepared them for anything like this. Still, they'd done it. As Beazley untethered himself from the rope system, adrenalin still rushed through his veins.

WAYNE BOONE HAD never panicked. He had accepted his fate. He was ready to go if that's what was meant to be. But this stranger had risked his own life to save his. Back on the bridge, people shouted with joy as the firefighter delivered him to safety. Boone had lacerations and other injuries to his head, shoulder and knees. The worst damage was to his right ear, which was almost severed in the crash.

Boone was exhausted, but his heart was awash in gratitude. As his rescuer reached out to shake his hand, Boone could only hope that the young man understood all he wished he could say in thanks. For now, the handshake would have to be enough. **R**



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*How my Little Free Library
helped build a community*

Story Time


BY Gwen Tuinman FROM *THE GLOBE AND MAIL*

I FIRST DISCOVERED the Little Free Library concept while on a 2015 vacation in Santa Barbara, California. For a book lover, the idea of free literature-sharing boxes posted at the edges of parkettes and along sidewalks in neighbourhoods represented bliss. I fell in love. And because our home in Whitby, Ont., was already filled with mountainous piles of books, my husband wasn't the least bit surprised when I suggested starting a Little Free Library of our own. As a novelist and introvert, I

also relished the idea of saying hello to other book-lovers on occasion.

The following winter, my husband built a miniature version of our Irish garden shed, with its cedar shingles, timber frame and mortared walls dotted with outward-facing log pieces. He added a framed glass door and, in the spring, mounted the completed replica on a post in front of our house. We stocked the shelves with books from our personal collection and the offerings of enthusiastic friends. Over the



 LittleFreeLibrary.org
Take a Book - Return a Book
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next two months, strangers discovered our Little Free Library on their evening walks and through word-of-mouth. Visitors replenished shelves with literary fiction, romances, mysteries, sci-fi, cowboy westerns, young-adult fiction, poetry, how-to's, self-help and a range of non-fiction. I smiled when people met me in the yard and commented that our Little Free Library resembled a bird feeder. In a way, every book was a new seed for thought.

I SMILED WHEN PEOPLE COMMENTED THAT OUR STREETSIDE LIBRARY RESEMBLED A BIRD FEEDER



My love of reading harks back to 1970 and a three-room schoolhouse on a dirt road in Southern Ontario. One day after recess ended, the other first-graders returned to class, but I took an accidental detour to the basement library. The principal eventually found me there, blissfully leafing through picture books. Unfortunately, the books were later discarded when the school discovered the basement was full of mould.

Necessity, however, is the mother of invention. Weeks later, a purple transport truck arrived hauling a matching trailer—the inside of which had been

transformed into a bookworm's nirvana courtesy of our county's public library system. I remember the travelling bookmobile's floor-to-ceiling shelves and the carpet-covered benches inside the trailer where children sat for story time. Before disembarking, I wrote my name on several sign-out cards below graphite-scratched names of children from neighbouring schools. We liked the same books and, although we never met, I considered them friends.

AT THE BEGINNING of the first COVID-19 lockdown, our Little Free Library began to include children's stories. I imagined pandemic-restricted grandparents engaging their faraway grandchildren with these over Zoom. Or perhaps they read their own childhood favourites and enjoyed a moment of nostalgia. I witnessed mothers lifting their children for a peek into the library while they explained the take-a-book/leave-a-book concept—lessons in respect and sharing.

When safety concerns prompted us to wonder if our Little Free Library should close, we revisited our original motivations for hosting it: to facilitate the exchange of books, to create a sense of community. So many Canadians struggle with the depression and anxiety that come with social and physical isolation—or conversely with the lack of privacy from confinement with roommates, partners and family. Reading provides the escape necessary

to relieve the emotional crush. After the decision to carry on, we stocked the library with hand sanitizer and a written reminder to stay safe.


Throughout my teen years, reading transported me to other places and eras. I spent hours with characters, like the underdogs in John Steinbeck's *Of Mice and Men* and historical fiction heroines whose courage I reached for. Books exposed me to other cultures and perspectives, and taught me about life and how people overcame adversity. Even the inner lives of protagonists' enduring misery in tragic stories like *Flowers in the Attic* brought solace. Alice Munro's protagonist, Rose, in *Who Do You Think You Are*, made me feel less alone in the things I struggled against. Literature teaches us that self-esteem and empathy grow in equal measure as we come to understand ourselves and our place in the world.

Through the most trying decade of my adult life, from my early 20s into my 30s, I turned away from books and focused on surviving my circumstances. I missed the emotional comfort of reading although I didn't know it at the time. After 12 years of enduring domestic abuse, a book I read in secret about the psychology of my situation ultimately empowered me to leave. It was the first step toward reclaiming myself. When my life changed for the better, I returned to books and the relationship has blossomed, as have I.

Stories reminded me, and still do, of life's possibilities.

WHEN VISITORS STOP by our Little Free Library, we sometimes chat about books while I stand at a safe physical distance on my front steps. Walkers include our street in their route so they can check for new offerings. Some folks routinely drive from several blocks away to visit. The regular turnover of books points to the number of borrowers I never see, the birds who flit by quietly then disappear.

A fellow book-lover sent me this Virginia Woolf quote: "Second-hand books are wild books, homeless books; they have come together in vast flocks of variegated feather, and have a charm which the domesticated volumes of the library lack. Besides, in this random miscellaneous company we may rub against some complete stranger who will, with luck, turn into the best friend we have in the world."

We remain grateful that we kept our Little Free Library open. The experience has reinforced, for us, the importance of literature and reading to our health. The library will forever have a place in our lives. It's become an alternate means of creating a community of people with mutual regard for humanity and the written word. We are together even when apart. 

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AS KIDS SEE IT



"The water was too hot."

Currently my toddler is crying because I won't let him hit me with the mop.

—[@MARYFAIRYBOBRRY](#)

My kids love playing pretend. My nine-year-old pretends to be a dinosaur and my 13-year-old pretends she doesn't know us.

—[@MOMMAJESSIEC](#)

I asked my young son if he made the school orchestra, where he auditioned to be a viola player.

"There's no way they'd *not* consider me," he replied with confidence.

"Why so?" I asked.

"They needed two," he said, "and I was the only one who showed up."

—RUFO LAROCO, *Vancouver*

As we drove past a new home in the framing stage, my five-year-old exclaimed, "Look, Mommy! That house is made out of sticks."

—DARCY SORENSON,
Edmonton

You're ugly!

No, you're ugly! (My identical twins, fighting.)

—[@MAMANEEDSACOKE](#)

I was on a work call and my six-year-old daughter handed me a note that said, “I hate this stupid, dumb world. I want to be happy and I am not.”

She was angry because I couldn’t get her a snack.

—[@AMBERNOELLE](#)

My seven-year-old: Can I go to my friend’s house? He wrote down his address.

Me: He just wrote down his house number. He didn’t actually write down the street.

My seven-year-old: How many streets can there be?

—[@XPLODINGUNICORN](#)

One Sunday morning, my five-year-old son came to my bedroom, jumped into my bed and hugged me.

Afterwards, he said, “Mommy, your breath smells yucky, but I still love you.”

—ANA MACIAS, *Guelph, Ont.*

“Why are they stealing our trash?!” (My kid,

My six-year-old flatly refuses to believe paper maps were once a thing. “You mean, like pirates?” he asked.

—[@GREGOCEALLAIGH](#)

horrified that the garbage men are doing their job.)

—[@MOMSENSE_ENSUES](#)

I once had to shave my head because of a haircut mishap. When I came home, my kids went crying to mom asking why Daddy was going to prison.

—[@BLINDEYEHORUS](#)

I phoned my sister’s land-line number in Calgary. Her four-year-old answered. When I asked to speak to Mommy, he said, “She’s in the bedroom. Call on the bedroom phone!” Then he hung up.

—SANDY DOWNEY,
Bracebridge, Ont.

My eight-year-old was playing with a science-lab toy kit and spilled some concoction on the floor. Instead of wiping it up,

she made a sign saying “Caution: wet floor.”

—[@COPYMAMA](#)

Me: Why are you naked? You can’t be naked at school, you know.

My five-year-old: That’s why I’m naked *now*—because I’m going to miss being naked so much later.

—[@PRO_WORRIER_](#)

My son saw pictures of my fifth birthday party and asked why I didn’t invite him.

—REDDIT.COM


When my four-year-old gets mad at someone in our family, she draws a family picture without them in it.

—[@BUNANDLEGGINGS](#)

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SHELL GAME



A MYSTERIOUS PARASITE
IS KILLING CAPE BRETON'S
OYSTERS. NOW SCIENTISTS
AND INDIGENOUS HARVESTERS
MAY HAVE DISCOVERED A
SOLUTION TO SAVE THEM.

BY Karen Pinchin FROM *HAKAI MAGAZINE*

PHOTOGRAPHS BY DARREN CALABRESE

T H E

dead oyster falls from the plastic mesh bag with the hollow clomp of a horse hoof on pavement. Its shell gapes, innards rotted. About 100 more oysters—some living, some dead—quickly follow, falling on the flattened bow of Joe Googoo's dark-green metal johnboat. Clad in a jacket with blaze-orange sleeves and a ball cap, Googoo pulls a knife from his belt holster and taps the oyster shells with its curved tip as he sorts through the mottled pile. Counting them one by one, he tosses the lifeless shells aside and puts the living oysters back in the bag.

Robin Stuart, a large, curly-haired man in a tattered black-and-blue dry suit, perches on the boat's edge. Stuart, one of Nova Scotia's most experienced aquaculture experts, cracks jokes as he, too, picks around for "morts"—mortalities caused by the oyster parasite MSX. But as the long-time friends tally the dead, Stuart soon grows sombre. "There's almost as many morts as there are live," he says. "MSX is definitely doing its thing here."

Bras d'Or Lake, cupped within Nova Scotia's Cape Breton Island, is a sprawling, ocean-linked tidal network of bays, estuaries and ponds. On its muddy bottom, *Crassostrea virginica* oysters once grew as big as brunch plates, with frilly shells and deep, round cups: qualities prized by oyster connoisseurs.

Filter-feeding oysters grow in salty ocean waters and have hard, calcium-based shells that protect soft innards: heart, gills, stomach and other organs. For decades, Cape Bretoners picked oysters from public beds while commercial growers cultivated the shellfish in vast beds on the lake's bottom and transferred them onto floating rafts to await packing and shipping.

Many harvesting families, including Googoo's, are Mi'kmaq, and have lived near the Bras d'Or—which they call Pitu'paq, or "to which all things flow"—for thousands of years. Oysters are a fundamental part of Mi'kmaq food traditions and philosophy, with many families harvesting them year-round for personal consumption. So when the commercial oyster industry took off in the 1950s, many were well positioned to sell oysters for a living. At the industry's peak, estimates Stuart, more than 100 Cape Breton license holders—commercial and recreational, Mi'kmaq and non-Indigenous—had millions of oysters on their farms, collectively worth millions of dollars. Then it fell apart.

IN THE SUMMER OF 2002, a mysterious and deadly invasive parasite called multinucleated sphere unknown, or MSX, flattened Cape Breton's oyster industry. Within months, millions of oysters died, their internal organs devoured by the parasite. Mortality of infected oysters hovered around 90 per cent. Nearly all of Googoo's 400,000 oysters rotted.

“It was devastating,” says Anita Basque, who at the time was fisheries manager for Potlotek, a Mi’kmaw community on the Bras d’Or’s south shore. Growing up, she helped Googoo’s father sell shucked oysters, packaged in glass jars, at the Googoo family’s shop. Later, as a single mother, she supported her three children with money she made diving for and selling oysters, before she became a bank teller.

When Basque eventually took over as her band’s fisheries manager, she met Stuart, who was already well respected in Nova Scotia’s aquaculture scene and helped secure oyster leases for the band. A new oyster processing facility, initiated by Basque, launched in 2002 with

a grand celebration; within months, the industry collapsed due to MSX.

Cape Breton oysters are no longer sold commercially, and the industry has been essentially dead for nearly two decades. Now, in a last-gasp effort to revive commercial oyster growing in the Bras d’Or, a makeshift team of scientists, community members and oyster harvesters is fighting to understand and evade MSX. Coordinated by Cape Breton University biology professor Rod Beresford, theirs is a supergroup of sorts, relying on high-tech devices, traditional knowledge and elbow grease. It’s a collaboration Basque calls “true reconciliation,” with non-Indigenous experts helping their Indigenous neighbours



Googoo (left) and Stuart haul in oyster cages as part of an experiment.

confront a painful, concrete problem. And what they've found so far could bring the Bras d'Or oyster industry back from the dead.

ON THE GROUP'S SECOND DAY of fall sampling in October 2020, Beresford and his colleague, Sindy Dove, join Stuart at a chilly beach on the north side of the Bras d'Or, far across the lake from Googoo's leases. Stuart and Dove scramble along the beach toward a buoy marking the site's four cages: two floating near the top, two resting on the murky bottom. Beresford doesn't eat oysters and has never been particularly interested in them. But he *is* interested in solving scientific mysteries.

For decades, the behaviour of MSX and how it arrived in Canada have been a "real head-scratcher," says Beresford. Some biologists believe that the parasite first hitched a ride to North America in the ballast water of U.S. warships returning from Japan and Korea after the Second World War. Scientists first identified MSX in Delaware Bay, south of New Jersey, after it wiped out thousands of oysters there in 1957. Within decades, it spread, infecting oysters from Maine to Florida. On how the parasite made it to Cape Breton, Beresford says there are two theories: it arrived either in ballast water or via an infected oyster introduced from farther south.

Viewed under a microscope, MSX is "almost a perfect circle, like an emoji face," he says. When eaten, it's harmless

to humans. But once MSX infects an oyster, the parasite quickly starts to consume the creature's soft innards. When an oyster loses its digestive organs, it essentially starves to death. Because oyster immune systems don't have a "memory," a weakened oyster that survives its first MSX infection is more likely—not less—to die from a subsequent infection.

WITHIN MONTHS, MILLIONS OF OYSTERS DIED, THEIR INTERNAL ORGANS DEVoured BY THE PARASITE.

As Beresford pondered the puzzle of the oysters, eventually connecting with Indigenous knowledge holders including Googoo and Basque, he formulated his theory: perhaps the lake's muddy substrate is exactly where MSX lurks. And perhaps certain, specific salinity levels and temperatures, which vary widely, either help or hinder the parasite. If he could keep oysters alive just below the lake's surface using modern aquaculture gear, he speculated, maybe he could prevent them from catching the parasite in the first place.

With Stuart's expertise and cooperation from leaseholders who had held onto decades-old historic leases, Beresford and the team chose a dozen test sites across the Bras d'Or. Googoo, who,


after MSX hit, used floating mesh bags to grow thousands of his own oysters in a protected bay, grew 24,000 baby oysters for the project. In the late spring of 2019, the team packed each cage with 500 oysters, zip-tied temperature and salinity data loggers resembling large black glow sticks to the plastic mesh, and then, sank two cages to the muddy bottom and floated another two near the surface at each test site. They waited a year as the oysters grew.

STUART'S WORK COUNTING dead oysters and taking samples, on that misty morning with Googoo on the Bras d'Or, will provide the first glimpse of whether Beresford's theory holds. At two of the sites, oyster mortality at the bottom hovers between 40 and 60 per cent. Yet today, only around one to two per cent of oysters floating near the surface have died. The difference, Googoo says, validates what he's been insisting all along: that oysters *can* survive in the Bras d'Or when floated in the right locations.

Beyond the promise of reviving a culturally important Mi'kmaw tradition and a critical component of their lake's ecosystem, the project is also an act of amity. Basque and Googoo later tell me that working with Beresford's team has been refreshingly devoid of the condescension and sidelining they often experience from non-Indigenous academics and so-called experts. "They'll listen to me and my ideas," Googoo says. "I'm the one out in the field every day, not them."

Mi'kmaw fishers have reason to be wary. In late 2020, they were met by protests when they exercised their federally protected rights by catching and selling lobster outside of the non-Indigenous commercial season. On the province's South Shore, there were instances of violence and vandalism.

Frequently, Beresford fields questions about his work from other university researchers, who say they admire the trust and camaraderie he's earned from his Mi'kmaw collaborators. Basque often hears the same thing, but is baffled why others find the relationship so elusive. "It all comes down to respect," she says.

Although his team is behind on analyzing tissue samples—their testing is currently stalled by a lack of consumables needed to complete the research—Beresford says initial results show a "solid trend" of survival among surface-floated oysters. And as his team draws closer to pinning down the ideal temperature, salinity and depth for avoiding the parasite, one exciting prospect is that their findings could help other areas hard hit by MSX, including the eastern United States. Most importantly, Beresford says, it means they are finally getting closer to helping people like Googoo and Basque realize their long-deferred dream of reviving the Bras d'Or oyster industry—backed by science, and hopefully built to last. 

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GOOD IN A CRISIS

How to
prepare for
a natural
disaster

BY Christina Palassio

PHOTOGRAPH BY VICKY LAM

BRIANNA TOOR LIVES with her husband and dog in Oliver, B.C., a small town in the Okanagan Valley. A winemaker and viticulturist, Toor, 35, moved from Victoria four years ago for work. She knew that wildfires were a fact of summer life in the region, but she wasn't prepared for the sheer size and proximity of the Nk'Mip Creek wildfire, which blazed across the B.C. interior in 2021. Parts of her town, as well as nearby Osoyoos, went on evacuation alert.

Extreme weather events are on the rise across Canada, driven by the climate crisis. Last year saw record heat waves and rainfall reported across the country, as well as above-average hurricane activity in the Atlantic. And, according to the Insurance Bureau of Canada, 2020 was the fourth-worst year on record for

natural disasters in Canada, with floods, heat waves and storms causing an estimated \$2.4 billion in insured damage. Climatologists predict worsening disasters in the coming years.

And yet, a 2014 survey found that, while 98 per cent of Canadians had participated in some kind of emergency planning activity, only 69 per cent had an emergency contact list and just under half had a home emergency kit. Toor was prepared and had a bag packed for an evacuation, but she still felt shocked that they might be forced to leave their home.

By taking just a few preventive steps, you can alleviate the potential physical, mental and financial impacts of a natural disaster on you and your family.

KNOW YOUR RISKS

Consult your community's Emergency Response Plan to learn what risks you need to be prepared for and how you and the community can help mitigate them. "What we hear most often is, 'I didn't think this would happen to me, so I wasn't prepared,'" says Dave Fraser, an emergency-management responder with the Canadian Red Cross who has been deployed to many disaster sites, including wildfires in Saskatchewan and to New Jersey after Hurricane Sandy hit the state.

Fraser lives in Ottawa, where proximity to the Ottawa River and the Rideau Canal, combined with possible heavy rainfall, makes flooding a risk.

He takes preventive actions like making sure his eavestroughs are clean and that his downspouts carry water well away from his home's foundation. When there's a flood warning, he moves valuables out of his basement.

It's also important to familiarize yourself with the information sources and alert systems you'll need to consult in case of an emergency. Depending on where you live, those sources may include local media, weather apps and conservation authorities.

Understanding what the risks are helps you develop an appropriate plan of action and can also quell some of the stress caused by the unknown. "The best way to prepare mentally is to prepare physically," says Fraser.

MAKE A PLAN

Your emergency plan should lay out safe ways to evacuate your home, the spot where you and your family will meet if you need to evacuate while people are at work or at school, how you'll communicate with each other, and emergency contacts you can call.

Include two meeting spots: one nearby that you can go to in case of a localized event like a house fire and one outside your neighbourhood in case of a more widespread disaster. Don't forget to arrange for your pets, too. Some evacuation centres don't allow pets, so it's a good idea to have a boarding plan.

Once you've made your plan, practise

it! The Red Cross advises families to rehearse their plans twice a year, when the clocks change. These are also good times to test your smoke alarms and carbon monoxide monitor. Practising your plan will ensure that you and your family are better able to act when you have to.

COLLECT AN EMERGENCY KIT

In the event of a shelter-in-place order, you should be prepared to survive for a minimum of three days at home. Your home kit should include food, water, first-aid materials, medication and medical equipment, flashlights and a radio (plus backup batteries), spare sets of keys and any other supplies you need to survive for 72 hours.

The Red Cross also advises Canadians to have a “go bag”—it can be any bag that’s easy to carry—ready in the event that rapid evacuation is necessary. Toor and her husband’s go bag has copies of their passports, identification and important documents, plus cash, personal hygiene items, water bottles and extra clothes.

You can also include a phone charger, snacks, emergency contact lists, a back-up drive with photos and small items you can’t live without. Store your go bag in an easy-to-access location, like a closet near the front door. If you own a vehicle, it’s a good idea to have a car emergency kit in the trunk.

Fraser reminds people that in an emergency, cash is king. Ensure you

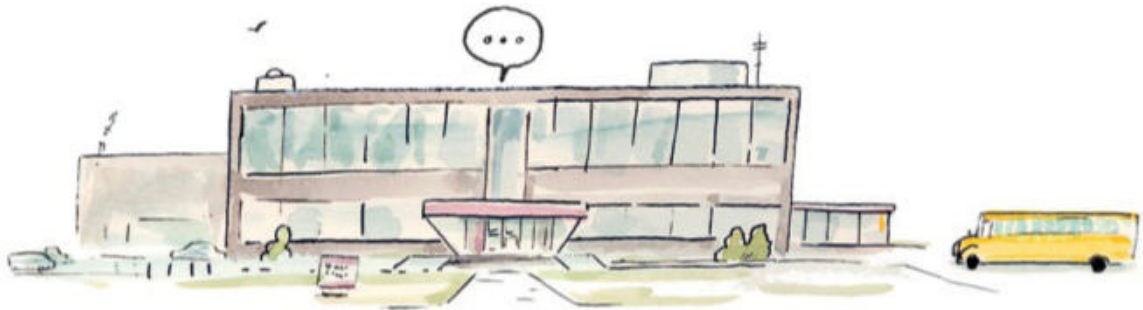
have enough on hand to cover immediate needs, such as gas and food.

DO YOUR PART

Last year, over 1,500 wildfires in B.C. burned more than 868,600 hectares—including the entire village of Lytton. By the end of July, the Nk’Mip Creek wildfire forced the evacuation of at least 248 households in Toor’s area. Luckily, she and her husband weren’t among them. Still, the stress of living under constant threat was exhausting. For a month, she could see the fire blazing around her every time she stepped outside. She frequently checked the evacuation alert online.

“It really affected my mental health,” says Toor, adding that one of the hardest things about living in a wildfire zone is feeling powerless in the face of climate change. She’s made more eco-conscious choices in her daily life. She cycles about six kilometres every day to the vineyard instead of driving. She’s smarter about how often she waters her garden. At the winery, she’s reduced water usage and encourages other growers and wine-makers to do the same.

For Fraser, taking action has meant sharing his emergency response plan with his neighbours. He recommends maintaining relationships with elderly neighbours and regularly checking in. These bonds can be critical in an emergency. Being prepared, he says, can go a long way toward increasing your resilience to natural disasters. **R**



Only the Lonely

*How Roy Orbison helped
me make a new friend*

BY Megan Murphy

ILLUSTRATION BY GRAHAM ROUMIEU

IN THE FALL OF 1988, when I was 10 years old, my parents moved us to a bigger house across Peterborough. I was forced to leave the familiarity of St. Paul's and become "the new kid" at St. Teresa's: a one hallway school with no gym where the other kids in my Grade 5 class had been together since kindergarten. I struggled

to break into the crowd and spent recesses playing hopscotch alone, gazing longingly at the other kids as they traded their Twinkies and Fruit Roll-Ups. I was lonely and desperate to make a friend.

One school day in early December, shortly after the move, I poured myself a bowl of Life cereal and headed to my designated spot at the kitchen table. The radio was tuned to a golden oldies station. The DJs, whose voices were the audio wallpaper of my youth, bantered between songs. "It's a sad day in the music world," I heard one of them say. "Mr. Roy Orbison has died."

Oh no, I thought, how sad, Roy Orbison has died. Wait...who is Roy Orbison? I didn't have a chance to ask. I had to get to school before the bell.

I was in Mr. Hutchison's class, but he liked to be called Mr. 83. He used to teach in Japan and his name sounded like the Japanese numbers eight ("hachi") and three ("san")—Mr. "Hachi-san." It seemed pretty clever to this 10-year-old. I think he felt sorry for me because I was struggling to fit in, so he gave me my own nickname, "Meggie McMuffin," and I loved it. Mr. Hutchison was in my corner.

Every day after the national anthem, Mr. Hutchison would ask if there was anyone we wanted to pray for, and he'd write their names on the chalkboard so we could keep them in our thoughts. That day, Johnny, with the gelled hair, asked us to pray for his grandfather

who'd just had surgery. Emily, with the long ponytail, asked us to pray for her grandmother who had pneumonia. Clare, the intimidating popular girl, asked us to pray for her dog, Sparky, who'd just had his manhood removed.

This was it. This was my chance to fit in! Before I had time to fully think it through, my hand shot into the air, and when Mr. 83 called my name I blurted out, "I'd like to pray for Roy Orbison!"

A hush fell over the room. The other kids looked confused, but Mr. 83 could see the desperation in my eyes. No one had ever been so excited to pray for anyone in the history of the Catholic Church.

"OK, McMuffin, Roy Orbison has been added to the prayer list." He winked.

I did it! This must be another way we Catholic kids make new friends: you just pray for someone.

I had never met Roy Orbison, nor did I have his album or know who his "Pretty Woman" really was. But I like to think we've played an important role in each other's lives. If there is a heaven, Roy is there because a Grade 5 girl prayed for him.

And because of Roy Orbison, a little girl named Christine came up to me during class and said, "I'm really sorry for your loss. If you're not busy with the funeral, maybe you can come over and play after school."

Thanks to Roy and Christine, I was lonely no more. **R**



There's Something Wrong With Omma

We weren't prepared for my mother-in-law's dementia—or the care that she truly needed

BY Michael Harris FROM *ALL WE WANT*

ILLUSTRATION BY LYNN SCURFIELD

In the winter of 2016, we were walking in a long, deviating oval around Trout Lake, on the east side of Vancouver, and Kenny said, "I think there's something wrong with Omma." He sped up.

"Wrong how?" I hurried to keep pace. We'd been together for four years at that point. He chewed his lip and squinted down at our dog padding between us. It was a gorgeous day, and there were dogs everywhere, chasing, yawping.

"Did she say something?" I asked.

"No. But you know how she's been calling. A lot."

I did know. Sometimes we woke to a dozen missed calls from Kenny's 68-year-old mom. The week before, they'd made lunch plans, confirmed the location twice, and she still wound up waiting at the wrong restaurant. This lost quality of hers had been coming on so slowly, though, that it seemed half-way natural. Then again, my take didn't count for much because, to me, Kenny's mom was always a little obscured by a

language barrier—her English was rudimentary and my Korean non-existent.

"Well, what are we talking about?" I asked Kenny as we turned off the path, onto the lakeshore. "Do you mean something mental? Like you think she's got dementia?"

It was so easy, then, to throw out words like that. They had no reality to them; they referred to an imaginary crisis you read about in newspapers, saying, "Just awful; must be hell"—something that dragged down a group of poor others.

Broaching the subject that day seemed to unleash her symptoms, like an incantation or a jinx. Soon, confusion and paranoia broke through the surface of her calm, cheerful demeanor, and it became impossible to deny that something had fallen apart in her

mind. Omma began complaining about a woman who lived in the bathroom mirror and emerged to steal her things. To thwart this thief, she would hide her favourite clothes in stashes around the apartment. She then forgot where she'd hidden them, or that she'd hidden them at all, and so her original delusion became a self-fulfilling prophecy—the woman in the mirror, who was herself, was indeed stealing her things.

Kenny's father, then 70 years old, took an old shower curtain and duct-taped it over the mirror. But this only bounced the confusion from one pane of glass to others: soon Omma's computer and phone became portals for her fantasies. She watched YouTube videos of Korean pop stars like Patti Kim and Moon Ju-Ran, insisting the celebrities were her intimate friends. She carried on conversations with the singers through the glass. When Kenny came to visit, she would sit him down and introduce her son to these famous friends, all of whom agreed: Omma had a beautiful singing voice. In fact, she would sing for them when they asked, conjuring hundreds of audience members in her two-bedroom apartment. The audience would disappear just as Kenny arrived.

We moved Omma and Appa into a retirement home where meals and laundry services were provided, but we soon realized Omma wasn't getting the care she required. The new apartment had a small kitchen and

bedroom, a living room with a TV, all the makings of a miniature home, and placing them there allowed us to fool ourselves a little longer into believing that a life, a mind, was not disassembling before us. I still had in my head a simple idea of dementia, where Omma would sit quietly at a window, perhaps work on a puzzle or flip contentedly through a picture book. I kept saying we should buy *Time-Life* volumes from the 1960s and '70s, books full of images that might jog her memory.

DEMENTIA'S ONSET IS SO IMPERCEPTIBLE, WE CANNOT SAY WHEN SOMEONE DISAPPEARS ALTOGETHER.

ACCORDING TO Alzheimer's researchers, someone on the planet develops dementia every three seconds. But what can that possibly mean? Dementia is not a lamp switching off. It is the evening sun, moving by degrees so imperceptible we cannot say when things are halfway gone or when they have disappeared altogether. It darkens, eats at, the corners of experience, first seeming like a trick of our perceptions but proceeding inexorably until at last we find ourselves swept past the warning stage and mired in the irrefutable night. And yet there must have

been some three-second period, I suppose, when one could say, "Now she has lost herself. Now we have lost her."

Kenny and I have parents at the oldest edge of the Baby Boom, which means we are harbingers of a sort. Our experience is common enough already, but caring for a parent with dementia is about to define my generation. Such care will explode in our lifetimes, will dominate our attention, bank accounts and—most painfully—our consciences. Only climate change—another reckoning with our ability to care—will rival it.

OMMA KEPT HER HUSBAND UP ALL NIGHT, YELLING AND RAVING. THEN SHE PULLED A KNIFE.

As Omma's illness became obvious, she joined 55 million other dementia sufferers around the globe. That number is expected to rise to 139 million by 2050. (The global senior-citizen population is, itself, ballooning.) The global cost of caring for all those dementia patients will grow to more than \$2 trillion by 2030.

Of course, even those trillions of dollars are only a mitigation, a fractional help. The lived reality is still chaos, still heartache. In the spring, only a few weeks after we moved Kenny's parents

to their retirement home, we got a call from his father, who had been pushed past his breaking point. Omma had kept him up all night—again—yelling at him, raving. She pulled a knife.

The previous day, they'd been to her psychiatrist, who warned that she must be admitted to a psych ward if these new, aggressive spells continued. And so Kenny and I drove over, packed his parents into the back seat and brought them to Mount Saint Joseph Hospital. It was a strangely simple act in the moment—as though we were all going out to dinner or on a slightly tedious errand. After Kenny buckled his mother in, she stared out the window; it had been months since she'd asked where she was being taken.

At the hospital, Omma was assessed by a psychiatrist, a gentle Patch Adams figure in his 50s who talked to her as though she were a child. Kenny noticed how effective this was, though it startled him, too. The psychiatrist asked Kenny whether Omma stumbled when she walked, whether she shuffled in place. He was trying to decide between two diagnoses, Alzheimer's or Lewy body dementia.

We were stunned to learn how nebulous, how shoulder-shrugging, dementia diagnoses can be. Despite those millions of people living with some form of this disease, there is no practical way to diagnose its most common form, Alzheimer's, until a pathologist can look at the deceased patient's

brain. And so treatment proceeds by guesses, by inference, by waiting and seeing. Things are thrown at the wall: drugs are tried, combined, doses increased, decreased, all in an effort to hit a constantly moving target that may or may not exist.

At last, Omma was laid on a gurney and taken upstairs to the psych ward, where she would spend the next three months. That first night, separation—from her husband, from her son—was nearly impossible. She shouted and reached for them, uncomprehending as nurses led her away. Kenny had taken the nurses aside and explained her love for old Korean pop stars, the only distraction he could imagine. And so those nurses sat with her for hours after she'd been left there, into the night, listening—without understanding—to songs from her youth.

Back at our condo, Kenny looked at me, and I thought he might vomit from guilt.

OMMA STAYED in the psych ward for those painful months, and then, when a bed became available in a long-term facility, we experienced another flush of naive hope that things could be improved. The nurses led Omma down a hall, and Kenny went behind a pair of code-locked doors with safety-glass windows. As he stood waiting for the elevator, Omma fought the nurses off and ran to the door. Pounding on the glass square with both fists, she shouted,

“Kenny, *gajima!* Kenny, *gajima!*” (Don’t go! Don’t go!)

He pretended not to hear her, and the nurses rushed to pull his mother away again. The elevator arrived and Kenny left. This would be what saying goodbye looked like for many months.

KENNY PRETENDED NOT TO HEAR HIS MOTHER POUNDING ON THE OTHER SIDE OF THE GLASS DOOR.

We developed a kind of routine where Kenny would visit Omma after work while I made dinner. We’d eat on the sofa and take stabs at discussing what was happening. I felt, during these conversations, as though I could only get a hold of the start or end of sentences, that words were failing me so that I babbled or murmured without saying anything helpful. And then, at other times, my words became too precise, too scripted, as though I were reciting a condolence I’d learned from a movie. And, just as I was never saying what I meant exactly, I also wasn’t hearing what Kenny meant, either—I listened to the edge of what he told me, afraid to let destruction, and the consequences for the man I loved, sink in.

There was never a time when speaking felt appropriate. It would usually

end, anyhow, with more tears and ultimately silence. I sometimes thought, then, how pitiful we would have looked if anyone had glanced up from the street into our condo's living-room window and saw us with bowed heads. But of course I also knew that nobody was going to pity us—because we were, absurdly, grown-ups now.

KENNY BEGAN TAKING his mother on walks in the neighbourhood around the care centre. She was no longer interested in the trees and flowers that had been objects of fascination all her life. Now she moved, head down, wrapped in scarves, asking where her husband was, where Kenny was—“Right here, Omma.”

OMMA DIDN'T KNOW THE NAMES OF HER GRANDCHILDREN BUT SHE REMEMBERED HER FAVOURITE SONGS.

In the absence of conversation, Kenny held his mother's hand. And one day, as they walked hand in hand, circling a block and going nowhere, Kenny absent-mindedly sang the first line of one of those Patti Kim songs she used to play on YouTube. (The new facility had no computer, so it had been weeks since she'd been able

to hear them.) As though someone pressed a play button at the back of her head, Omma looked up and sang out loud, in Korean, to the neighbourhood: “The deeper my love gets, the deeper my sorrow gets ...”

She knew the whole song. She did not know where she was, the names of her grandchildren or why she was being kept in an institution, but she knew the song once her son began it. She sang:

*“When your tears come to my mind, I close my eyes,
And the dreams lingering in my memory turn into countless stars,
Flowing in the dark night sky
Although spring is far away in my heart, my love aspires to be a flower.”*

LATE IN THE SUMMER of 2019, the family's “preferred facility,” the one that seemed best suited to Omma's needs, announced that it had a space for her. And so she was moved again.

Nurses would call Kenny when Omma fell, or if she accused other residents of stealing her husband, or refused to shower, or shouted for her father, her teacher, her anybody. And Kenny would visit, again and again.

After we moved Omma that fourth time, she began singing the old Korean songs less and less. It was as though each move shook another something loose, or perhaps it was merely the inevitable progression of her dementia, lurching downward in stages.

She held Kenny's hand less fervently when we visited; sometimes she would even blink as though to say, "What are *you* doing here?" It became easier to slip away and this ease was, in a way, painful too.

One day Kenny took her on a walk outside and, as they made their way past little houses with clean little gardens, she answered questions that had not been asked, or combined three thoughts into a sentence so that her words became riddles. They stopped talking. And then Kenny whistled the first few bars of "You Are My Sunshine." Suddenly Omma beamed and sang to the whole street:

"You are my sunshine, my only sunshine!

You make me happy when skies are grey!"

Kenny, delighted, began singing along: "You'll never know, dear, how much I love you."

But there his voice caught and he choked. He'd been working for years now on her behalf, waking every morning worrying, regularly weeping, forcing himself to be where and how she needed him to be. And she knew nothing about the care being offered. There is a selfless attention that only a caregiver knows, an attention that is not shared or reciprocated, or even acknowledged.

My generation, raised to chase the ease and transactional pleasures of

consumerism, will learn what it means to give and get nothing back. More people than ever will move beyond a this-for-that dream and toward one-way giving instead: giving of time and energy and heartache to feeble and vulnerable—and, by then, often infuriating—elders who, as they bend toward a medically prolonged chaos, will spit and scream instead of saying thank you. Meanwhile, lowering birth rates mean the youth of the future will be outnumbered by those they care for.

CARING FOR SOMEONE WHO CAN'T GIVE BACK DRAWS US INTO AN ENORMOUS NETWORK OF HUMAN CONCERN.



I'll make this pitch, though, to my future caregiver: it's more of a bargain than it seems. Caring for another, particularly one who cannot give back, draws us into an enormous, lasting network of human concern. What do we get for our trouble? We get the chance to contribute, for once; to give in a world that encourages such endless taking. Our true inheritance waits not in some oil field or trust fund but in our elemental bonds. And it's through our supposed sacrifices that we manage to finally account for our own lives.

AS I WROTE this story, Kenny's mother, of course, grew worse. Her frontal lobe, the seat of her reason and emotional control, failed far faster than other parts of her brain, and she began hitting her caretakers. She was taken back to the psych ward at Mount Saint Joseph, where she kicked one of the nurses, was held down by a team and injected with something to make her woozy. We sat on the edge of her hospital bed, in the emergency room, and listened to the kindly psychiatrist, the same one who'd handled her first intake all those many months ago.

Kenny's mother was still in the psych ward when her birthday rolled around. But what gift do you buy a woman who cannot understand where she is, let alone the value of a cashmere sweater or a hardback novel? Kenny bought her a glossy apple tart, which she looked at briefly before turning away. She couldn't seem to recognize that this might be something she wanted. He brought a little to her lips, and she enjoyed the morsel, but then immediately lost interest again. The dessert remained uneaten, a shining cipher.

The instinct to want something seemed to have drained away.

Weeks later, COVID-19 reached our part of the world. It shuttered the shops and restaurants, silenced the beaches and streets, swept us into quarantines. And it caused the care homes to ban all visitations. We could not know whether Omma would recognize her family at all by the time the pandemic had passed. There was nothing to do but hope that, somehow, enough had already been done. But what would "enough" even mean?

Shortly before the doors were locked against us, Kenny was sitting by his mother and she suddenly lit up, straightened in her chair. "Kenny," she said, "let's go buy some apples."

"Okay, Omma. Let's go buy some apples."

But they didn't head out to the shop, of course. They only sat and held hands. Shopping was a too-simple story from another, simpler life that barely made sense anymore. **R**

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Soap Operas

I've buried a lot of my laundry in the backyard.

PHYLLIS DILLER

I hate housework. You make the beds, you wash the dishes and six months later you have to start all over again.

JOAN RIVERS

LAUGHTER

THE BEST MEDICINE

A grandmother ran into an old friend at the supermarket. “My granddaughter said the cutest thing the other day—” But her friend cut her off.

“Before you start, I warn you that I demand equal time—and I have 16 grandchildren.”

—KATHY McBRIDE,
Hanover, Ont.

When I was 25, I made a document matching each of my colleagues to the Muppet they reminded me of the most. I meant to send it

to my work friend, but I accidentally sent it to the entire company.

My supervisor (Beaker) wanted to fire me, but the owners (Bert and Ernie) intervened.

—[@AERINCHEVYFORD](#)

While researching phobias, I was surprised to learn that the fear of long words is “Hippopotomonstrosesquipedaliophobia.”

—LENA DESJARDINS, *Oakville*

Microwave: Congratulations! Your bowl is now piping hot.

Me: Amazing! And the food, too?

Microwave: Slow down there, buddy.

—[@JZUX](#)

Sugar Check

While I was visiting my 89-year-old grandfather in the hospital, a nurse came in to check his blood sugar. “Which finger should we use this time that won’t hurt too much?” she asked him.

“Yours!” my grandfather replied.

—GCFL.NET

Send us your original jokes! You could earn \$50 and be featured in the magazine. See page 7 or rd.ca/joke for details.

THE BEST JOKE I EVER TOLD

By Nick Fernandes

I’ve spent far too many years of my life hopelessly confused by the term “nickname.”

Nick Fernandes is a Toronto comedian. Follow him on Instagram at [@nickfernandescomedy](#).







EDITORS' CHOICE



MY

AFTER THE PRESIDENT OF
THE GAMBIA RAPED ME, I HAD
NO CHOICE BUT TO RUN

ESCAPE

BY Toufah Jallow WITH Kim Pittaway FROM *TOUFAH*

PHOTOGRAPH BY BRIANNA ROYE

“THREE PEPPERS FOR FIVE DALASIS!”

“Get my onions for 10!”

“Hey, pretty lady, come buy my stuff!”

It's June 2015, and the air in the neighbourhood market in Yundum, The Gambia, is full of dust and exclamation marks as I hurry from one vendor to the next under the hot sun. Around me, sellers have spread their items over corrugated metal and cardboard balanced on wooden platforms: a display of fish in one place, salad greens at another, rice at another still. They flap fans back and forth to keep flies from settling on their goods.

The plan for my family's meal that day is a stuffed chicken. Covered head to toe in a black niqab, I look like many other women in the market, though I

wish for anonymity more than purity. Near the entrance to the market are the two men who have followed me on the 15-minute walk from my mother's home, and who now watch as I go from vendor to vendor.

I make my way to my destination, a shop that sells cooking oil. Tucked against the perimeter of the market, the store's corrugated side panel provides a place just out of view of the entrance. As the vendor passes me my oil, I tuck it into the basket at my feet and sneak a look at the entrance. I can't see the men, making it likely they can't see me. I know the oil seller will recognize my younger sister, Penda, or mother, Awa, when they come looking for me, and that the basket of food I am abandoning here will be passed on to them.

I duck out the back of the shop to where the taxi drivers gather. I slide into the front seat of the closest car. “I need to go to Banjul,” I tell the driver, handing him 500 dalasis, just over 10 Canadian dollars. I take the SIM card out of my phone and throw it away so I can't be tracked. My life now depends on me escaping The Gambia.

I WAS 18 AND IN MY first year at Gambia College when I decided to enter a national pageant sponsored by my country's president, an all-powerful dictator named Yahya Jammeh. The pageant, which was meant to commemorate the coup that brought Jammeh

to power, required each contestant to perform, speak on a topic related to improving life in The Gambia—mine was about eradicating poverty—and appear in our traditional tribal costumes. If I won, I was promised a scholarship to study anywhere in the world as my prize. I came second in the first round at my college, which qualified me for the final. Shortly after, in December 2014, I was crowned the winner.

At first, it was exciting. Jimbee, the president's cousin, became a frequent visitor and caller. She invited me to many public and private meetings with Jammeh. To my shock, however, after almost six months of what I later recognized as grooming, the president proposed. I told him I wasn't ready, that I was too young for marriage. But he was the most powerful man in our country, and he wasn't asking me, he was telling me. The choice wasn't mine; it was his. A few days after my refusal, Jimbee took me to a house that she promised would be mine—if I relented. My answer was still no.

After the visit to "my" house, Jimbee had continued to call me. "Hey, it's been a while," she said on one such call, in the casual tone of a friend. My stomach lurched. "There's an event at the State House on the day before Ramadan starts. You have the crown—you have to come." It was part of Gamo, a religious celebration of the birth of the Prophet Muhammad, and she said I couldn't refuse.

I dressed for the event in a gold floor-length dress and draped a scarf over my hair in deference to the religious holiday. Once at the State House, I saw guests gathered in the garden for the ceremony. Jimbee was waiting for me inside. I was led to another room, where she told me to wait before she made her excuses and disappeared.

And then Jammeh was there. I hadn't seen him since he had asked me to marry him. He radiated impatience, even anger.

I TOLD THE PRESIDENT I WAS TOO YOUNG TO MARRY HIM. BUT THE CHOICE WASN'T MINE. IT WAS HIS.

"There's no woman I want that I cannot have," he said, as he crossed the room toward me. My mind scrambled to find words that might placate him, but before I could speak, he dragged me to a bedroom next door. Terror gripped me as he struck me across the face with the back of his hand.

Then he jammed a needle into my right arm. I started to scream. His hands felt big and leathery as they covered my nose and mouth. I know that I struggled. I know that I begged for help. Eventually, I passed out.

There is no word for rape in my first language, Fula, or in Wolof or Mandinka, the other common languages of The Gambia. This isn't because it doesn't happen; it's because we are supposed to believe it is so rare that no word is necessary. If it does happen, we are not supposed to speak of it.

A missing word isn't the only barrier. English has the words and women still struggle to speak of rape—and when they do, they often aren't heard. And so, even as I speak in the language of the West, I struggle: to be clear, to be heard, to be believed. I'm not giving it words for me. I don't need these words to remember being raped, to feel it. I can't choose to turn off these words and forget. What happened next is with me always, whether I drape it in words of any language or not.

IT WAS 3 A.M. by the time I got home. As I passed the curtain that covered the

entrance to Mum's room, she peeked out at me, calling, "It's late!" That wouldn't have worried her so much, since Gamo celebrations often continue into the early morning hours. But if she had seen me fully, she would have known something was terribly wrong.

After the house went still, I went into the bathroom and turned on the shower. The water was cold, but I didn't care. I stayed in bed the whole next day, my body numb, waves of disgust washing over me, thinking of all the things I could have done differently. Why hadn't I left the country immediately after his proposal? What made me think life was going to just go on? What could I do now?

I couldn't tell anyone, especially my mother—not because she would blame me, but because she would fight back. She would not be quiet about it. She would tell my father and her family. She would tell her boss at the Ministry

of Education. That would be dangerous for us all because President Jammeh wasn't going to let anyone speak out about it. And she wouldn't be able to put him on trial or see him jailed. She wouldn't be able to do anything.

A few days later, Jimbee called, speaking as if nothing had happened: "Hey, girl, how are you? Are you feeling good?" She told me of another event. "All of the

A childhood photo of Jallow (centre), taken around 2000.



COURTESY OF TOUFAB JALLOW

pageant-winners will be there. A driver will pick you up.”

It was then that I knew for certain that the rape hadn’t been a one-time thing. Jimbee was going to keep calling me. This was going to be my life. This attack on my body would keep happening.

TO LEAVE, I HAD TO go through Senegal, which surrounds The Gambia on three sides; its fourth faces the Atlantic Ocean. As my taxi approached the ferry terminal in Banjul, where I would cross the river to Barra and then travel to the Senegal border, the smell of rotten fish discarded from boats near the dock filled my nostrils. The entrance area was crowded with cars full of people, trucks jammed with goods and pedestrians lining up for tickets. I was scared but focused: I had come this far.

If the men who had followed me to the market had reported me missing, I reasoned, the Gambia Ports Authority security may have been notified: the ferry was the obvious route. To get on, I’d have to buy a ticket, and they might ask me for identification. If I was caught here, maybe I’d end up in prison. Or worse. The official story would simply be that I’d disappeared. My family would never know.

My gaze swept past the terminal entrance, down toward a section of shore. Small, open fishing boats called pirogues bobbed in the water, and in one, a man with a green net appeared ready to set out. Judging by

his facial features, he looked Wolof, which was my mother’s tribe. Perhaps this was the solution to my river-crossing dilemma.

“Hey!” I called in Wolof as I made my way toward him. “Can you help me cross over?” I offered a substantial sum for a single passenger on a small motorboat.

IF I WAS CAUGHT TRYING TO FLEE, I MIGHT END UP IN PRISON. OR WORSE. THE STORY WOULD BE THAT I DISAPPEARED.

“Okay, okay,” he said. There were no life jackets. For 30 minutes, the small boat slapped across the Gambia River estuary toward the opposite shore, the sun beating down on us. As dangerous as it looked, the tiny boat still felt safer than the ferry. Finally I climbed ashore on the sandy beach close to the Barra terminal. Nearby, private taxis and passenger vans waited for fares. I slid into a taxi, and 15 minutes later, I was at the Gambia-Senegal border.

I COULD SEE THE chocolate-brown building that housed the Gambian immigration office, and just beyond it, the metal barricade separating it from the corresponding Senegalese immigration office. So far, I had made three escapes: from the market, across the river and

from the river to the border. Now I faced the most daunting barrier of all. Here I would almost certainly be asked for my identification, and if my departure had been noted, border officers would likely already have been alerted to watch for me.

Over to one side, I could see town-trip taxis—the kind you hire individually, rather than piling in with other passengers. I was certain these drivers would have other routes, as well: jungle roads and paths without guards.

WHAT HAD I DONE? I'D ESCAPED, BUT TO WHAT? I'D LEFT BEHIND EVERYTHING I'D EVER KNOWN IN THE GAMBIA.

I approached one of the drivers. “What would a town trip to the other side cost me?” I asked.

“Ten thousand dalasis,” he said. I felt deflated: it was so much more than I had with me that negotiating wasn’t an option. I thanked him and moved back to my perch by the side of the road.

I had enough money for a bus or shared taxi, but I could see that the passengers in these vehicles were being asked for their papers as they crossed. Still, not every vehicle faced the same scrutiny. I saw that the livestock trucks moved through quickly.

Those drivers didn’t even disembark at the crossing; the immigration guards just waved them through.

Nearby, a cattle truck had pulled over to a gas pump. This was my chance, I thought—I could see the driver was Fula. And so as I walked toward him, I slid into a new character: a more mature Fula woman with a dying relative in Senegal and no money to pay for a bus. I told him my tale, pleading for him to take me across. To my relief, he agreed.

Through the grimy windshield, I could see the checkpoint over the cars in front of us. The line seemed to have slowed, with officers checking every cab, every car, every shared vehicle, requesting paperwork for all the passengers. Still they seemed to be letting the trucks pass through with less scrutiny.

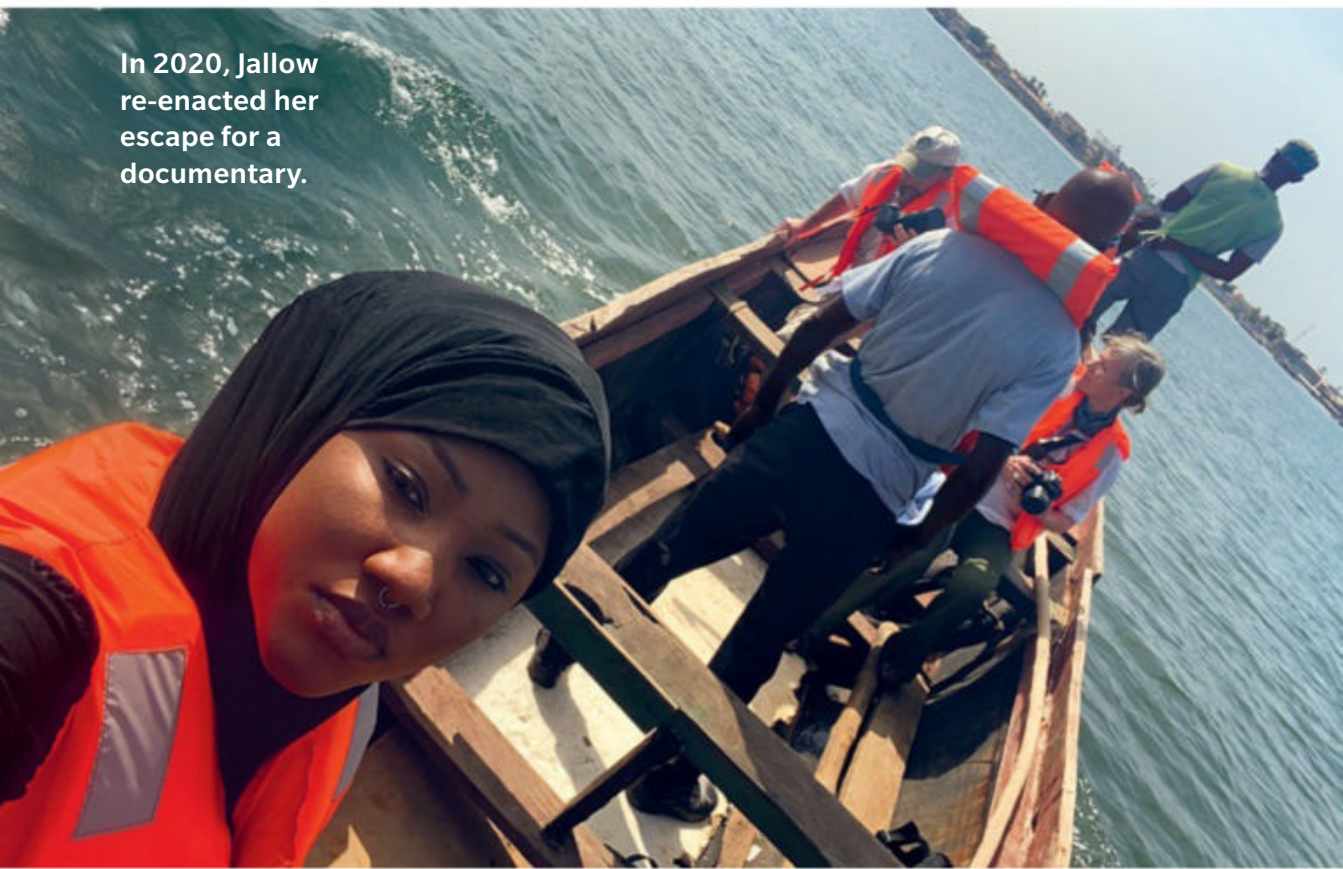
“Nakala,” shouted the driver in greeting to an immigration officer. As the word left his mouth, part of me wanted to reach into the air and grab it, suffocate it, but it floated away across the road. The driver waved. “How are you?” he shouted to the officer. My whole body shrank inside the niqab. I could hear my every breath, feel my gut dropping.

“Good, good, you know,” replied the officer with a smile.

And then he waved us through, past a tiny metal barrier and into Senegal. Away from a dictator. Into the unknown.

ON THE SENEGALESE side of the border, I was swamped by relief and regret.

In 2020, Jallow re-enacted her escape for a documentary.



What had I done? I'd escaped, but to what? I'd left behind everything I'd ever known in The Gambia. And I could never go back. Jammeh had been president since before I was born. I couldn't picture the possibility of anyone other than him in power. Robert Mugabe had ruled Zimbabwe since 1980—he was 91 and still in control. Jammeh was only in his 50s. I might be 40 before I could go home. Or 60. But it was too late to turn back.

Most of my money was spent on taxis and paying the fisherman. I used some of what I had left to buy a cheap SIM card for my phone. With the new card

in, I dialed Ahmad Gitteh, a schoolmate who now was studying in Canada. I hadn't spoken to Gitteh in months, but I knew he might have connections outside The Gambia. In my desperation, I hoped he would help me.

He was confused, but he agreed to text me the name and number of Ebrima Chongan, who had been a deputy inspector of police in 1994, at the time of the coup that put Jammeh in power. Chongan had tried to rally the police to help keep the democratically elected government in place, but Jammeh had Chongan and other police officers arrested and held in prison.



Jallow and her mother, Awa, in 2019.

Under Jammeh's rule, the prison became synonymous with state-sponsored torture and abuse of political prisoners. Chongan was imprisoned for 994 days. Upon his release, he went into exile in the U.K. After studying law, he worked as a policy adviser in the British Home Office.

I tried Chongan's U.K. number and got no answer, eventually deciding to try

him again when I arrived in Dakar, the capital of Senegal, which was about a seven-hour drive away. I used the last of my money on a shared taxi. During the ride, I sank inside myself, trying to disappear.

IT WAS ALMOST MIDNIGHT when I arrived in Dakar. I uncurled myself from the back seat, stretching the kinks and cramps out of my aching muscles. It would be 1 a.m. in England. Under normal circumstances, it would be too late to call anyone. But my circumstances weren't normal. As I looked at my phone, I hoped a man who knew what it was like to end up somewhere you couldn't come back from would be willing to help me connect with those who might protect me.

When I reached Chongan, he connected me with one of his trusted contacts: a man named Omar Topp. I met Topp the next evening, barely more than 24 hours after leaving my home. I wanted to

stay in Senegal, but Topp warned me that I'd never be safe there: Jammeh had contacts all over the country. He introduced me to a police chief who not only believed my story but convinced the minister of the interior that it was too unsafe to send me back to The Gambia; Jammeh was already looking for me. While the Senegalese wouldn't let me stay indefinitely, they did put

me up in a secure apartment at a secret location and told Topp and the police chief to get to work on finding a country that would accept me as a refugee.


I felt safe enough in Dakar to stop hiding under a niqab or hijab, but still I dressed conservatively: usually in a long skirt and a long-sleeved shirt, with a veil on my head. The human-rights organizations Topp and I visited were supportive but cautious. Some, like the United Nations High Commissioner for Refugees (UNHCR) and Amnesty International, said they would investigate my claims if I wished them to do so, but it would take time. The embassies were equally cautious: the Americans said that an investigation could take months or longer. The interviewer at the British embassy—a man named Nigel—was friendly and supportive, and I left that meeting feeling hopeful, even as he said he needed to send his report of our conversation to his superiors in order to move the file forward. I didn't hear from him again.

When the Canadian embassy called me to come in for an interview, it seemed like just another on a growing list of appointments. The interviewer's office was tucked in the back corner of the UNHCR's five-storey white office building. At the entrance, topped with barbed wire, a security guard swapped our IDs for visitor passes and waved us inside. The woman who met us was older and unsmiling. She took us to a conference room where she asked me

question after question, her face showing no encouragement or sympathy as she made notes of my answers.

As I sat there, all I could think was that my future was in this woman's control. Or maybe it was all pointless, and I'd have to go through this with someone else a week from now. The emotional ups and downs were flattening me. In that moment, though I knew that her questions were necessary and this was her job, I hated the power she had over me.

AN UNSMILING WOMAN MET ME AT THE CANADIAN EMBASSY. MY FUTURE WAS IN HER CONTROL.



Finally, she said we were done. As we left, she told me she'd get back to me, but I was certain I'd never hear from her again, either.

I SPENT THE DAYS that followed waiting—hoping and waiting. During this time, Topp was my closest friend and confidant. In my interactions with Jammeh, I had seen the worst of how a man could use his power: to degrade, to abuse, to harm. With Topp, I saw power used to help. He was under no obligation to listen to me; he didn't have to spend time with me, didn't have to

care. He could have turned his back on me and said, "Who cares? It's just some girl. Let her figure it out." Instead he helped me.

Then one day, Topp arrived at my door. I'd asked him to get me some groceries on the way over. "Guess what?" he said as he entered the apartment.

"What? There are no chickens at the market?" I joked.

His smile was wide. "They've transferred your documents to the International Office of Migration. You are going to Canada!"

Relief filled every cell of my body. I was going to be safe. I was going to Canada.

The next day, Topp took me to the International Organization for Migration in Dakar, where an immigration officer named Lamin greeted me. He gave me the details: I had qualified for an IM-1 visa that allowed me to enter Canada and become a permanent resident. But first I had to decide where I wanted to live.

He brought out a map and put it on the table between us. "Where in Canada do you want to go?" he said. He circled Toronto. "Toronto is diverse. There are Caribbean and Black people there and a great transit system and lots of industry, so you can find any kind of work. And it's close to New York," he said, pointing to the American city not far away on the map.

I put my finger on the map. "Toronto sounds great." 

In 2015, Toufah Jallow made it safely to Toronto, where she now lives. In 2019, she testified in front of The Gambia's Truth, Reconciliation and Reparations Commission, sharing details of her rape and, in the process, sparking West Africa's #MeToo movement. Today, she heads The Toufah Foundation in support of survivors of sexual assault.

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Tea Time

When tea becomes ritual,
it takes place at the heart of our ability
to see greatness in small things.

MURIEL BARBERY, AUTHOR

Drink your tea slowly and reverently
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without rushing toward the future.

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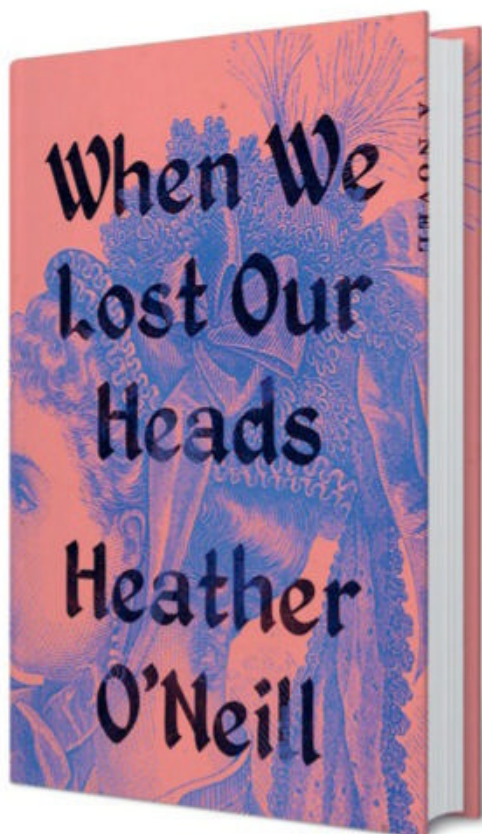
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—
BY Emily Landau

WHEN WE LOST OUR HEADS

by Heather O'Neill

(\$33, HARPERCOLLINS CANADA)

WHO WROTE IT: Like Mordecai Richler and Leonard Cohen before her, O'Neill has emerged as one of Montreal's greatest literary chroniclers. Her debut novel, *Lullabies for Little Criminals*, was a gut-churning coming-of-age story about a precocious teen who finds herself sucked into a vortex of drug use and sex work. The book won Canada Reads in 2007 and wound up on the Governor General's Award short list, shooting O'Neill to instant literati status.

Her last novel, *The Lonely Hearts Hotel*, took a turn for the whimsical, chronicling the love story between two waifs at a snowy Montreal orphanage during the Great Depression. One is a piano prodigy, the other is a charismatic actor, and both wind up lost in Montreal's lurid criminal underworld. The book was recently optioned for a film by the *Rookie Blue* producer Tassie Cameron. In each of her novels, O'Neill mythologizes Montreal as

a place both magical and murky, where starry romance and incorrigible grit dwell side by side.

WHAT IT'S ABOUT: Montreal is once again O'Neill's setting of choice, but this time it's 1873, among the gilded mansions and promenades of the Golden Mile, then home to the city's growing mercantile class. The novel follows the obsessive friendship between two teenage girls: Sadie Arnett, the daughter of a moralizing politician, is a burgeoning psychopath in petticoats modelled after the Marquis de Sade; Marie Antoine (you can probably guess who she's named after) is a pretty, spoiled sugar heiress who exudes a let-them-eat-cake superiority complex.

Sadie is both attracted to and repulsed by Marie's porcelain perfection, and Marie feels the same about Sadie's prurience. Cocooned in their own sinister fantasy world, the girls defy the expectations of traditional femininity and engage in ever-more-taboo behaviour, from reading lascivious poetry to murdering cats to an act of violence so heinous their parents are forced to keep them apart. The book then catches up with the pair nine years later, when Marie has transformed her father's sugar business into an empire and Sadie, true to her namesake, is living in a brothel, writing pornography—a work of which captures Marie's attention and reignites their destructive, seductive relationship.

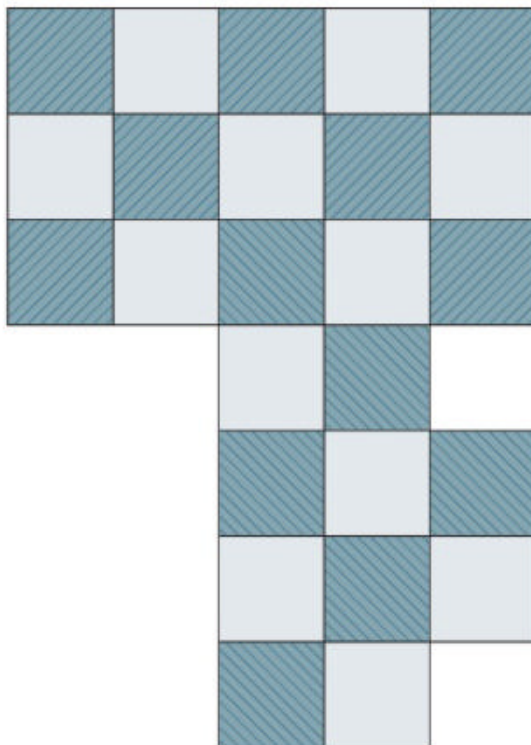
WHY YOU'LL LOVE IT: *When We Lost Our Heads* is a three-tiered wedding cake of a novel, if that wedding cake spilled out with tarantulas when you cut into it. O'Neill has a blast with her merry murderesses, chronicling their selfishness and nihilism with the same precision she uses to describe their prim frills, pearls and ringlets. The result is something like a Bret Easton Ellis novel as written by Jane Austen, mingling sugar-frosted girlishness and grim brutality. The book is smart and satiric, skewering gender, sex, class and wealth, but at its core it's a fantastic thriller about the intensity of female friendship, its shifting power dynamics and its occasionally toxic stew of jealousy and intimacy.

O'Neill's intricate plotting will keep you turning the book's pages late into the night, desperate to discover where Sadie and Marie's depravity leads them next. You'll want to know why the tragic baker Mary Robespierre (yep, just like *that* Robespierre) hates Marie Antoine so much. And how Sadie's jilted lover, George, turns an act of vengeance into a labour revolution against the city's oblivious elite. It's the most fun you'll have with a historical novel all year. **R**

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BRAINTEASERS



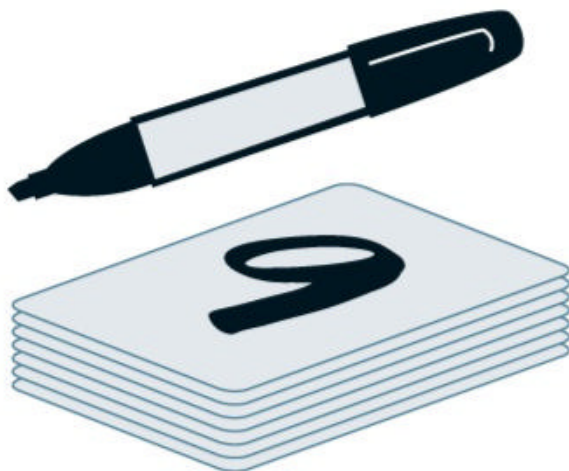
Fair But Not Square

Moderately Difficult How can you make a single cut through this shape—not necessarily a straight cut, but along the edges of the squares—so that the pieces can be reassembled into a 5 x 5 square?

Note: You won't need to flip the pieces over.

Card Sense

Easy Pavel has seven index cards and writes a number from 1 to 9 on each. The average of all seven of his numbers is 5. The only number that Pavel writes on more than one card is 9. When Pavel arranges his cards in increasing order by number, the middle card has a 4 on it. What numbers are on the seven cards?



(FAIR BUT NOT SQUARE) DARREN RIGBY; (CARD SENSE) FRASER SIMPSON

The Artist at Work

Moderately Difficult Caroline is going to paint a still life, but first she has to set the scene. She has the following eight items: red grapes, a bottle of red wine, a banana, a sunflower, a green apple, a green vase, a pine cone, and a wooden bowl. From the following clues, can you determine which objects Caroline will select?



- She will pick only one fruit.
- She will pick the vase if, and only if, she also picks the sunflower.
- She will pick exactly two man-made objects—but only one made of glass.
- She will pick exactly one item of each colour.

Double Trouble

Moderately Difficult Rephrase each item below as a pair of rhyming words. **Hint:** Each item's number is also the number of syllables in each word in the answer.

1. Rosé wine, for one
2. A rowdy group of political allies
3. The cost of cosmetology school
4. A walking jockey
5. A respect for acronyms and other shortenings

Dream Vacation

Easy Anahita is trying to remember the cost of an expensive trip that she saw advertised. She remembers these facts:

- The cost is a four-digit number, and one of the four digits is 5.
- The second digit is twice the first digit.
- The last digit is two more than the third digit.
- What is the highest possible cost of the trip Anahita saw advertised?



For answers, turn to PAGE 101



BY Beth Shillibeer

- 1.** Actors Dolph Lundgren, Ken Jeong, Mayim Bialik and Rowan Atkinson share what educational background?
- 2.** What bird is the national symbol of Bolivia, Chile, Colombia and Ecuador, yet is vulnerable to extinction?
- 3.** Which country invites the public to suggest comedic names for its snowplows, like “Sir Salter Scott” and “Lord Coldemort”?
- 4.** What country has the most vending machines per capita?
- 5.** Although largely under water, recent findings show that earth has an eighth continent. What is it called?

- 6.** Aiming to make fashion more inclusive, Aille Design uses Swarovski crystal pearls to create what design element for T-shirts and masks?
- 7.** King Louis XIX of France and Portugal’s King Luís II Filipe share what royal record?
- 8.** Mary Simon made history in 2021 as the first Indigenous person to be appointed to what position in the Canadian government?
- 9.** What country has the world’s only non-quadrilateral national flag?
- 10.** What six-member team made its official Olympic debut at the Tokyo games?

- 11.** Which were invented first, skis or wheels?
- 12.** Lonar Lake in India, Lake Nakuru in Kenya and Lake Van in Turkey are all what kind of lake?
- 13.** According to UNESCO statistics, female researchers comprise 30 per cent of the global workforce in the sciences but 63 per cent in what South American country?

14. In 1844, Samuel F.B. Morse sent the first long-distance message, “What hath God wrought,” using what new technology?



15. How many times can the new year be celebrated as clocks strike midnight around the world?

Answers: 1. Master’s degree or higher in STEM. 2. Andean Condor. 3. Scotland. 4. Japan. 5. Zealandia. 6. Braille phrases. 7. Shortest reign (20 minutes). 8. Governor General. 9. Nepal. 10. Refugee Paralympic Team. 11. Skis, more than 10,000 years ago. 12. Soda lakes (high alkalinity). 13. Bolivia. 14. The telegraph. 15. 38 (because there are 38 different local times).

WORD POWER

Deserts cover nearly one-tenth of the planet. Master this vocabulary and you'll be the toast of the oasis.

BY Linda Besner

1. wadi—

A: dry ravine that fills up during the rainy season.
B: clay water container.
C: watering hole.

2. saguaro—

A: green salsa. **B:** tall cactus. **C:** yellow-spotted beetle.

3. dromedary—

A: sweat-secreting gland.
B: five-stringed instrument. **C:** one-humped camel.

4. petrified—

A: turned to stone.
B: enraged. **C:** rotten.

5. mesa—

A: fine tequila. **B:** steep flat-topped hill. **C:** naturally occurring sundial.

6. rain shadow—

A: dry area beside a precipitation-blocking mountain. **B:** moist layer under seemingly dry soil. **C:** planting period after a brief rainy season.

7. mirage—

A: dust storm. **B:** dry-farmed wheat strain. **C:** optical illusion produced by hot air.

8. yucca—

A: stiff-leaved plant of the agave family. **B:** baked mud brick. **C:** corn processed in lime water.

9. caracal—

A: goat-hide tent. **B:** geometric woven pattern. **C:** wild cat with tufted ears.

10. kumis—

A: horse harness.
B: fermented beverage made from mare's milk.
C: pipe.

11. rhea—

A: peaceful dispute resolution. **B:** large flightless bird. **C:** yearling goat.

12. shamal—

A: guide. **B:** unseasonable storm. **C:** hot northwesterly wind.

13. oryx—

A: antelope with pointed horns. **B:** fossilized crustacean. **C:** corkscrew rock formation.

14. caravan—

A: group with vehicles or pack animals travelling together. **B:** dried fruit and meat preserved in tallow. **C:** bowing gesture.

15. torrid—

A: hot and dry.
B: extremely dangerous.
C: windswept.

WORD POWER ANSWERS

1. wadi—A: dry ravine that fills up during the rainy season; as, A *wadi* usually forms on relatively flat land and often leads to a dry lakebed.

2. saguaro—B: tall cactus; as, The *saguaro* cactus flower is the state wildflower of Arizona.

3. dromedary—C: one-humped camel; as, While the two-humped Bactrian camel appears more often in popular culture, the *dromedary* is far more common.

4. petrified—A: turned to stone; as, Hiking in the Alberta badlands, Sameena was amazed by the colourful *petrified* wood.

5. mesa—B: steep flat-topped hill; as, The *mesa* in the distance resembled a huge tabletop.

6. rain shadow—A: dry area beside a precipitation-blocking

mountain; as, British Columbia's dry Chilcotin region is situated in the *rain shadow* of the Coastal Mountains.

7. mirage—C: optical illusion produced by hot air; as, The day was so hot, Gloria saw a *mirage* of water shimmering on the road ahead.

8. yucca—A: stiff-leaved plant of the agave family; as, The Zuni of New Mexico use *yucca* sap as medicine to stimulate hair growth.

9. caracal—C: wild cat with tufted ears; as, *Caracals*, like most other big cats, are nocturnal.

10. kumis—B: fermented beverage made from mare's milk; as, Nomads in Mongolia have brewed *kumis* for thousands of years.

11. rhea—B: large flightless bird; as, Sofia watched with irritation as a flock of invasive *rehas* crossed her yard.

12. shamal—C: hot northwesterly wind; as,

From the International Space Station, Natasha watched a *shamal* pushing sand over Iraq.

13. oryx—A: antelope with pointed horns; as, The *oryx* likes to feed on wild melon.

14. caravan—A: group with vehicles or pack animals travelling together; as, Merchants carrying luxury goods, such as salt, across the Sahara banded together into *caravans* for safety.

15. torrid—A: hot and dry; as, André learned to manage the *torrid* weather of Tamil Nadu.

CROSSWORD ANSWERS

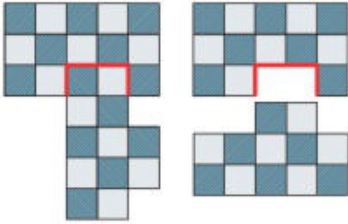
FROM PAGE 102

A	D	M	I	R	E		A	L	T	A
T	W	I	N	E	S		C	O	E	D
H	E	A	D	F	O	R	H	O	M	E
S	E	T	I				O	O	M	P
	B	A	C	K	A	L	O	S	E	R
					M	E	L			
N	O	S	E	A	R	O	U	N	D	
A	D	W	A	R			R	E	E	S
F	O	O	T	T	H	E	B	I	L	L
T	U	R	N		A	D	A	G	I	O
A	R	N	O		H	O	N	E	S	T

BRAINTEASERS ANSWERS

FROM PAGE 96

Fair But Not Square



Card Sense

1, 2, 3, 4, 7, 9, 9

The Artist at Work



Caroline selects the grapes, the sunflower, the vase, and the bowl.

Double Trouble

Pink drink, raucous caucus, beautician tuition, pedestrian equestrian, abbreviation appreciation.

Dream Vacation

\$4,857



BY Jeff Widderich

		1			8			6
9			4		5			
	7						4	
4				8		6		
3			5		9			1
		2		3				4
	6						5	
			8		7			9
8			1			7		

To Solve This Puzzle

Put a number from 1 to 9 in each empty square so that:

- ◆ every horizontal row and vertical column contains all nine numbers (1-9) without repeating any of them;
- ◆ each of the outlined 3 x 3 boxes has all nine numbers, none repeated.

SOLUTION

3	2	7	9	5	1	4	6	8
9	9	4	7	8	2	8	5	1
8		5	4	1	5	8	7	2
4		8	4	6	1	3	9	7
1		7	1	6	2	4	9	3
5		3	9	2	8	7	6	4
2		4	2	5	1	3	6	9
7		1	8	5	9	4	3	6
6		9	3	8	7	2	4	5



Active Body

BY Barbara Olson

1	2	3	4	5	6		7	8	9	10
11							12			
13							14			
15							16			
	17				18	19				
				20						
21	22	23	24				25	26	27	
28							29			30
31						32	33			
34						35				
36						37				

ACROSS

- 1 Look up to
- 7 Prov. dubbed Wild Rose Country
- 11 Winds around
- 12 Unisex, as dorms
- 13 Begin one's return commute, say
- 15 ET-seeking org.
- 16 ___-Loompas (Dahl drudges)

- 17 Bet on the slowest horse
- 20 Blanc or Brooks
- 21 Be a snoop to get the scoop
- 28 Marketing mud-slinging
- 29 Welsh actor Roger
- 31 Treat to dinner, say
- 34 What a signal light signifies
- 35 Music tempo that translates as "at ease"

- 36 It flows through Florence
- 37 "Cross my heart!"

DOWN

- 1 Olympians, e.g.: Abbr.
- 2 Not the cool kid
- 3 Snazzy Mazda
- 4 Language group of Urdu and Hindi
- 5 "Zebra" at the Grey Cup
- 6 "___ Beso" (Anka's "That Kiss!")
- 7 It might precede a blessing
- 8 Weaving devices
- 9 Arizona home of the Sun Devils
- 10 Write ___ John letter (end it)
- 14 Historical warrior upon whom Ragnar's brother is based in *Vikings*
- 18 Store chain bought out in Canada by HBC
- 19 ___ Lingus (Irish airline)
- 21 Pact now called CUSMA in Canada
- 22 What wavy lines in a comic strip mean
- 23 Taken an oath
- 24 "Jack Sprat could ___ fat"
- 25 The "u" of "yuppie"
- 26 Winter fall, "en français"
- 27 Montreal's Schwartz's and Snowdon, e.g.
- 30 Parking meter feature
- 32 "Fat chance!"
- 33 Tokyo, until 1868

For answers, turn to PAGE 100

**“Made you look.
And yes, I’m wearing Always Discreet.”**



Always Discreet Boutique Underwear. Fits close. Keeps you dry, too.



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