FACT CHECK: WHAT'S BEHIND YOUR CHOCOLATE CRAVINGS
PAGE 84

Reader's Digest

CANADA'S MOST-READ MAGAZINE

MARCH 2022

TOTAL BACK PAIN RELIEF—FINALLY!
PAGE 24

FAMILY FUNNIES

64 JOKES SURE TO MAKE YOU LAUGH
PAGE 32

Pro Jesters Dan and Eugene Levy

Swimmers Versus an Angry Bear
PAGE 42

Why You Need a Four-Day Workweek
PAGE 18

10 Ways to Detoxify Your Bathroom
PAGE 56

Bad Breath? A Fresh Fix
PAGE 22

The Teacher Who Changed My Life
PAGE 78

PM40070677

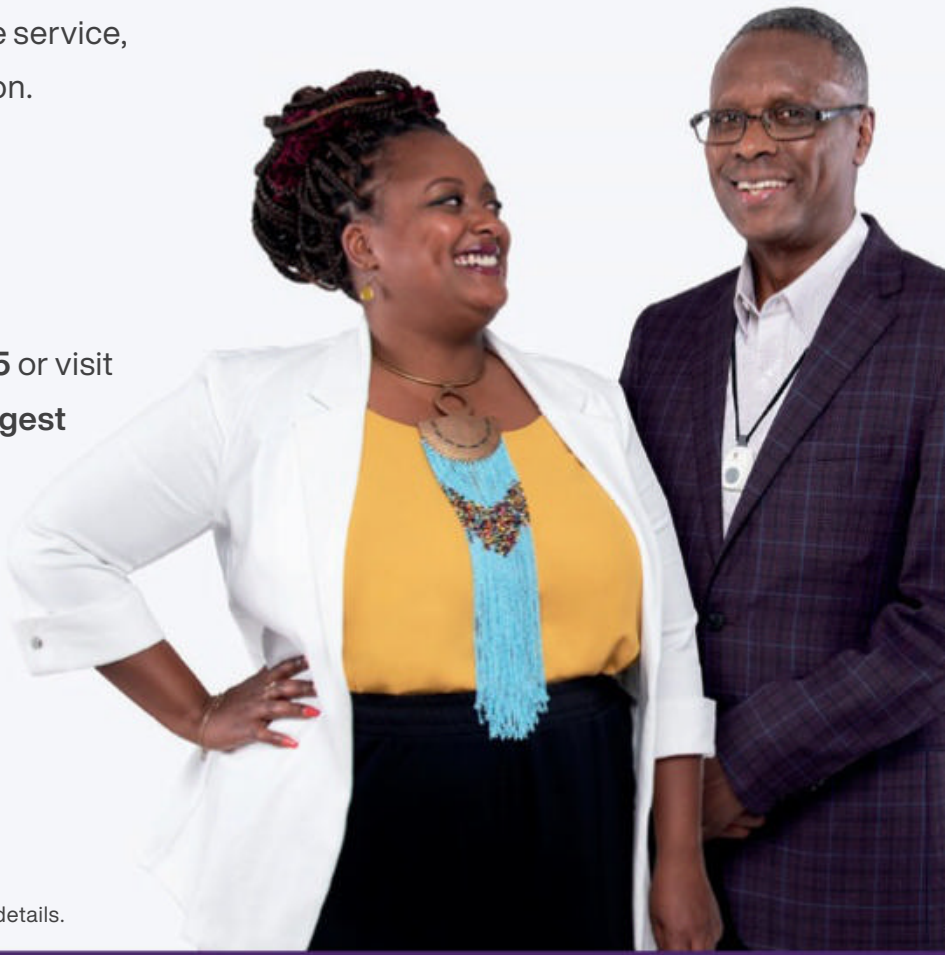
TELUS Health
LivingWell Companion™

“Papa, you are my inspiration. Your independence is so important.”

Keep living independently.
Get 24/7 support with Canada’s most affordable personal emergency response service, LivingWell Companion.

from
$25/mo.
on a 1-year term*

Call **1-855-565-2735** or visit
telus.com/**readersdigest**



*Terms & Conditions apply.
See telus.com/readersdigest for details.

Lyse-Pascale, age 33 and her dad Emmanuel, age 70

*A cancellation fee may apply for early termination of the service agreement, equal to $15 multiplied by the number of months remaining in the service agreement, except in Quebec, where it cannot exceed $50. Equipment must be returned in good condition upon cancellation of service, otherwise a replacement cost will be charged to the account. TELUS, LivingWell Companion, the TELUS Health logo and telus.com are trademarks of TELUS Corporation, used under license.

CONTENTS

Features

ON THE COVER:
PHOTOGRAPH BY SATY + PRATHA

LIAM MOGAN

84

56

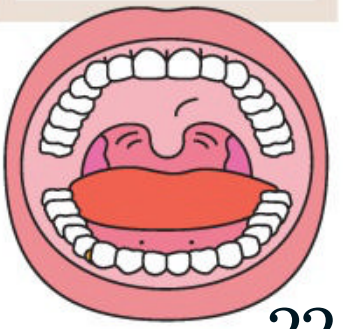
HUDSON CHRISTIE

Departments

(PHOTO) CHRISTIE VUONG; (MOUTH) TY DALE; (MEDICAL MYSTERY) VICTOR WONG

10

Humour



22

28

EDITOR'S LETTER

A Laughing Matter

I wasn't prepared for all the fart jokes. But with a five-year-old in the house, they're constant. He ranks the Netflix kids' movies by their fart frequency. On his wish list is a yellow and blue Minions-branded trumpet-shaped toy that emits a long, plaintive toot. He replaces the chorus of every Raffi song with squeak-blurt-fizz sounds. And his own farts, which he can produce on demand, leave him laughing so hard he rolls right off the sofa. The thing is, I can't help but laugh with him. They're funny!

Martin Short, arguably one of Canada's greatest achievements, says he learned to be funny from his family. His parents and four older siblings were always kidding around, and the funny trickled down.

Does having a funny family help you in life? It definitely helps you live longer. Several long-term studies have linked having a healthy sense of humour to better health. Laughing reduces stress, sucks more oxygen deep into your lungs, and lowers your blood pressure and heart rate. One report published by the American Psychosomatic Society found that laughing significantly reduces mortality in patients with cancer, cardiovascular disease and other serious conditions. In other words, laughter truly is the best medicine.

This issue's cover story (page 32) compiles our favourite jokes about that one source of so much funny stuff: our families. The science shows we could all use a good laugh. Jokes are good for us—especially, one five-year-old assures me, when they're a gas.

Mark

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

(PUPO) DANIEL EHRENWORTH; (WHOOPEE CUSHION) ISTOCK.COM/MICHAEL BURRELL

Reader's Digest

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

VOL. 200, NO. 1,187 Publications Mail Agreement No. 40070677. Postage paid at Montreal. Return undeliverable Canadian addresses to CP 38098 CSP Centennial Plaz, Dollard-des-Ormeaux, QC, H9B 3J2.

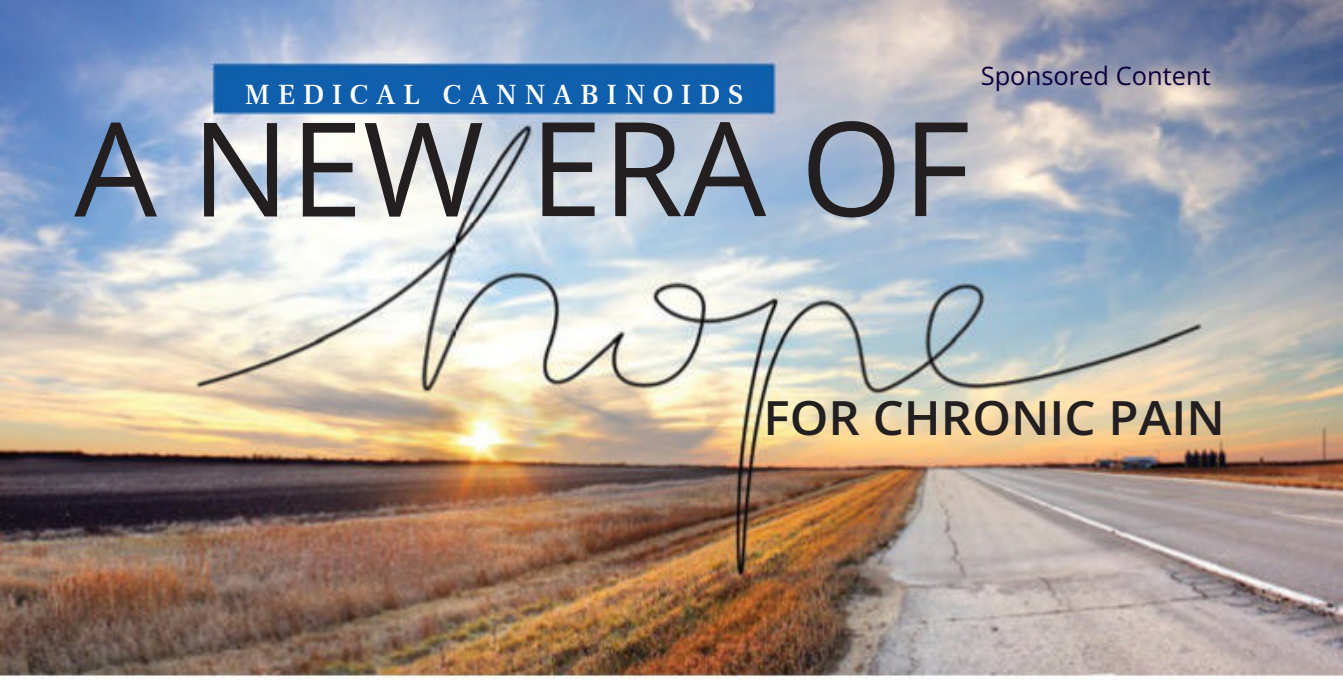
Print subscriptions, $34.50 a year, plus $8.99 postage, processing and handling. Please add applicable taxes. Outside Canada, $53.96 yearly, including postage, processing and handling. (Prices and postage subject to change without notice.) ISSN 0034-0413. Indexed by the Canadian Periodical Index. Single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

Reader's Digest publishes 10 issues per year and may occasionally publish special issues (special issues count as two), subject to change without notice.

MEDICAL CANNABINOIDS

A NEW ERA OF *hope* FOR CHRONIC PAIN



When we are unwell, we traditionally turn to over-the-counter or prescription treatments, and the old adage "take two and call me in the morning" still rings true for many of us. However, there is a growing body of scientific evidence that supports the use of plant-made therapeutics, including cannabinoids, to improve quality of life and manage chronic pain. To find out more, we spoke to one of the pioneers of medical cannabis in Canada, Brent Zettl, who has worked to change perceptions of plant-made therapeutics through a science-led approach. Now leading his most recent venture, **ZYUS Life Sciences**, Brent spoke to us about the progress in medical cannabinoids and their potential to define a new era of hope for those struggling to manage their pain.

Q: Why is chronic pain such an important area of focus for you?
A: "I have seen the debilitating effects of chronic pain first-hand, and it is truly heartbreaking. Traditionally, opioid-based medications have been prescribed to patients to bring them relief, but these medications can pose negative safety, addiction, and overdose risks[1]. Inadequate treatment of chronic pain has contributed to the devastating consequences of the opioid crisis resulting from opioid misuse, overdose and even babies born with withdrawal syndrome. The CDC reports more than 130 people die every day from opioid-related overdoses in the US and millions misuse prescription opioids[2]. The Government of Canada is also reporting a 74% increase in opioid-related deaths since the start of the COVID-19 pandemic. ZYUS is committed to offering solutions to curb these tragic numbers."

Q: What progress has ZYUS made so far in uncovering the power of cannabinoids as an effective treatment for chronic pain?
A: "Compelling evidence exists to support the principle that specific cannabinoid formulations can help manage pain. Our team at ZYUS is committed to a science-based approach with pre-clinical and clinical studies to unlock the extraordinary potential of cannabinoids to transform patient outcomes."

> "EVIDENCE EXISTS TO SUPPORT THE PRINCIPLE THAT SPECIFIC CANNABINOID FORMULATIONS CAN HELP MANAGE PAIN"

Q: What the does next generation of research and development look like for ZYUS and how will this further help patients?
A: "ZYUS is committed to driving the industry forward and leading the development of the next generation of plant-made therapeutics. This spring, ZYUS launched the first phase of its HOPE (Human Osteoarthritis Pain Evaluation) clinical trial in Australia to determine the safety, tolerability, and efficacy of Trichomylin® softgels – a novel cannabinoid formulation – to alleviate chronic pain. Developed by our team at ZYUS, our HOPE trial is the first-in-human clinical trial on a novel cannabinoid formulation of its kind globally. We believe Trichomylin® softgels have the potential to offer a safe and effective alternative to opioids, without the devasting addictive qualities. With millions of Canadians suffering from pain, our 'hope' is that Trichomylin® softgels become a prescription drug for pain management, to effectively to make life more livable for those struggling to manage pain.

To learn more about ZYUS, visit us at ZYUS.com/pain ZYUS

1 - Opioids and the Opioid Crisis. Health Canada. 2021. https://www.canada.ca/en/health-canada/services/opioids/get-the-facts.html
2 - Understanding the Epidemic. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. 2021. https://www.cdc.gov/drugoverdose/epidemic/index.html
3 - Opioid and Stimulant-related Harms in Canada. Government of Canada. 2021. https://health-infobase.canada.ca/substance-related-harms/opioids-stimulants/

LETTERS

I WANT TO BELIEVE

"The Truth Is Out There" by Brad Badelt (November 2021) reminded me of my own experience. In 1967, when my friend and I were 10 years old, we were convinced that we saw a UFO. We were a block away from her house when we heard a whine, then bang—suddenly we were bathed in an intense white light. To this day, when I look up at the night sky, I remember my encounter and get a sense that there's more out there than meets the eye.

—SANDRA MOONEY-ELLERBECK, *St. Albert, Alta.*

MISSING YOU

I wanted to say bravo to Ben Waldman for writing "The Pieces That Remain" (November 2021). The story brought tears to my eyes. I related to it immediately, as I lost my dad just over three years ago and have since been wearing his ring, which has his name engraved on it in Hebrew letters.

—RENA HADLINGTON, *Brampton*

FETAL POSITION

Having devoted seven pages to the abortion issue in the form of "The Long Fight" (October 2021), I think the magazine should now run an anti-abortion article of the same length, including photos and descriptions of a baby's development stages. This would demonstrate that *Reader's Digest* is unbiased and open to discussions of both sides of any debate.

—RENEE PROCIW, *Grande Cache, Alta.*

PUBLISHED LETTERS ARE EDITED FOR LENGTH AND CLARITY. ILLUSTRATION BY MATHIAS BALL.

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**.

CONTACT US
CUSTOMER SERVICE customer.service@readersdigest.ca
Reader's Digest Customer Care Centre, P.O. Box 970 Station Main, Markham, ON L3P 0K2

CONTACT THE EDITORS Have something to say about an article in *Reader's Digest*? Send your letters to editors_canada@rd.ca

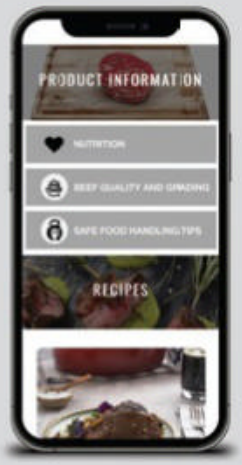
FOR SERVICE TO SUBSCRIBERS Pay your bill, view your account online, change your address and browse our FAQs at **rd.ca/contact**.

MAIL PREFERENCE *Reader's Digest* maintains a record of your purchase and sweepstakes participation history for Customer Service and Marketing departments, which enables us to offer the best service possible along with quality products we believe will interest you. Occasionally, to allow our customers to be aware of other products and services that may be of interest to them, we provide this information to other companies. Should you wish, for any reason, not to receive such offers from other companies, please write to: Privacy Office, Reader's Digest, P.O. Box 963, Station Main, Markham, Ontario, L3P 0J4. You may also write to this address if you no longer wish to receive offers from Reader's Digest or should you have any questions regarding your record or wish to examine or correct it.

Imagine the Possibilities

The **Canadian Beef Information Gateway** has been created to inspire your beef experience.

SCAN
Scan the QR code for your selected beef category.



EXPLORE
Explore cuts, recipes with videos, and more....

ENJOY
Enjoy that inspired meal at home.

To learn more, scan the code below with your smartphone.

CANADIAN BEEF
INFORMATION GATEWAY

THREE-TOMATO POT ROAST

SCAN YOUR PREFERRED BEEF CUT CATEGORY FOR RECIPES WITH VIDEOS, COOKING METHODS, NUTRITION, AND MORE...

ROASTS

STEAKS

GROUND BEEF

OTHER

Brought to you by Canada's Beef Farmers and Ranchers

BIG IDEA

How amateur gardeners are protecting Canada's botanical biodiversity

Seed Savers

BY Serena Renner

PHOTOGRAPH BY CHRISTIE VUONG

A CENTURY AGO, YOU needn't travel far to find unique fruits or vegetables. Their names—be they Lakota squash or Aunt Astrida's Latvian oxheart tomato—were a reflection of people and place. Today, because of the widespread adoption of industrial farming practices, about 90 per cent of North America's fruit and vegetable varieties have become extinct. Worldwide, 75 per cent of crop diversity has been lost. With that goes resilience against pests and future weather patterns, not to mention delicious flavours. But a group of Canadians have taken crop diversity into their own gardening gloves.

The rescue mission started in the early 1980s with 100-some backyard gardeners scattered across B.C., Ontario and Quebec. Every year, they noticed more of their favourite plants disappearing from the seed catalogues. Big seed companies were buying up smaller ones, and as inventories were consolidated, beloved beans and broccolis vanished into obscurity. To keep their cherished varieties circulating, the gardeners decided to save and share their own seeds. Soon 1,000 of these guerrilla growers were mailing seeds across the country.

In 1995, these gardeners formed Seeds of Diversity, a nonprofit focused

The Canadian Seed Library's Bob Wildfong.

on preserving Canada's botanical heritage. A little over a decade later, the group launched the Canadian Seed Library to house each crop variety in circulation. "We designate buildings to be preserved. We designate landscapes to be preserved," says Bob Wildfong, 54, the executive director of the organization for two decades. "We need to think of old varieties of plants as being in that same category."

ABOUT 90 PER CENT OF NORTH AMERICA'S FRUIT AND VEGETABLE VARIETIES HAVE GONE EXTINCT.

The Seed Library now stocks more than 2,900 seed varieties, stored in a closet at the nonprofit's office in downtown Waterloo. A second backup library is stored in a walk-in freezer at an educational farm north of Guelph called Everdale, where Wildfong started a seed-growing program in 2007. To keep the library well stocked, Seeds of Diversity also operates an adopt-a-seed program; members pay between $50 and $250—the cost of full sponsorship—to induct a specific variety into the seed library for perpetuity.

Under the program, volunteers sign up for spring growing, and tiny manila envelopes are mailed to each taker; the scarcest seeds are sent to the most experienced gardeners. At the end of the growing season, packages of fresh seeds are shipped back to Waterloo for drying, weighing and testing, before going into storage.

Wildfong's current favourite seed is the purple striped pole bean, an old Mennonite variety from the Waterloo area. He says the humble bean signifies something he's found most beautiful about seed saving: the personal connections between people and families. "I'm growing this Mennonite bean, and it's not from my family," Wildfong says. "But now it's part of my life, and I would like someone else to adopt it so it becomes part of their life, too."

Laurie Graham, 46, and her mother, Wilda Bostwick, 76, might do just that. They've already sponsored the Croatian blue pole bean, plus the year-round lettuce, the Slocan pea, and the white Sokol breadseed poppy. Graham, who lives in Toronto, started seed-sponsoring in 2012 as a gift to Bostwick, who grew up on a family farm and now lives in Vancouver. Graham first chose a sugar snap pea, like the ones her mom used to grow when Graham was a child. When the next holiday rolled around, Bostwick reciprocated, and a new tradition was forged.

Graham says it's meaningful to do her part in helping bring seeds back from the brink. "People work together to get seeds into a more viable state," she says. "It's a partnership." R

Navjot Sawhney bringing washers to northern Iraq

COURTESY OF THE WASHING MACHINE PROJECT

GOOD NEWS
FIVE REASONS TO SMILE

BY Anna-Kaisa Walker

MAKING REFUGEES' LIVES EASIER

UNITED KINGDOM For the 70 per cent of the world's population without access to electric washing machines, simply keeping up with laundry is a time-consuming, often painful physical task. The burden falls disproportionately to women and girls, who can spend 20 hours a week hand-scrubbing clothes, often without electricity or running water. London engineer Navjot Sawhney, however, has come up with an off-grid solution: a portable, lightweight and hand crank-powered washing machine that resembles a plastic drum. It also does double duty as a dryer, and costs around $60.

The 31-year-old Sawhney calls it the Divya, after the woman who inspired the project—his former next-door neighbour in South India, where he spent a year volunteering after leaving his job as an engineer at high-end vacuum maker Dyson. "When I got to know Divya, I was so frustrated by all the unpaid labour she needed to do for the sake of clean clothes," says Sawhney. He returned to the United Kingdom to found the Washing Machine Project in 2018. After a few months developing a prototype, he received a grant from Oxfam's Iraq Response Innovation Lab.

Since March 2019, more than 150 Divyas have been distributed to refugees in Iraq through non-profit partners. "The feedback was overwhelmingly positive," Sawhney says. His goal is to

deliver 8,000 machines in 10 countries over the next three years. By saving 75 per cent of the time and 50 per cent of the water required to wash clothes, he says, women and girls will be freer to pursue education.

Aside from the Divya, Sawhney has also worked on making clean and fuel-efficient cookstoves, and plans to develop off-grid refrigerators, air conditioners and lighting. Sawhney, whose father had to flee his home during the Partition of India in 1947, sees the world's growing refugee crisis as an urgent call for innovation: "There is a huge need for appliances that make life better for people."

Finding Shelter Animals Homes—Through Tinder

GERMANY Looking for a long-term relationship with someone single, lonely and a little on the furry side? Your next date could be with an adorable dog or cat—all you have to do is swipe right. Faced with an influx of animals who had been adopted during lockdowns and then surrendered when owners returned to work, the Munich Animal Welfare Association teamed up with an advertising agency to create "dating" profiles for 15 adoptable pets on the popular app Tinder. Complete with professional photos and a bio that includes likes and dislikes—Captain Kirk, for example, a two-year-old black and white cat, enjoys cuddles but not small children—the pet profiles have received an overwhelming number of right swipes, says the shelter. After being screened, prospective adopters can arrange a meet-and-greet with their new match at the shelter.

MIRASWONDERLAND/SHUTTERSTOCK.COM

Fighting "Period Poverty" with Free Menstrual Products

CANADA One-quarter of young women in Canada say they can't afford period products like pads and tampons, and, according to a United Nations report from 2014, one in 10 youth worldwide have missed school because of their menstrual cycle. The Ontario government plans to ease this burden through a new partnership with Shoppers Drug Mart, which will distribute 18 million free pads in washroom dispensers at all public schools in the province over the next three years. The fourth Canadian province to take such an initiative, Ontario's plan is part of a global movement to end "period poverty," where stigma and lack of access to menstrual

hygiene supplies have negative consequences for education, employment and health, causing absenteeism, anxiety and depression.

Citizenship for COVID-19 Frontline Workers

FRANCE By simply doing their jobs, health care workers, first responders, grocery store employees, daycare providers, and security and cleaning staff were at risk every day during pandemic lockdowns. In recognition of their service, the French government announced last September that 12,000 new nationals would be granted fast-tracked citizenship under a program that reduces the residency requirement from five years to two. "Frontline workers responded to the call of the nation," said Citizenship Minister Marlène Schiappa. "The country pulled through, thanks to them."

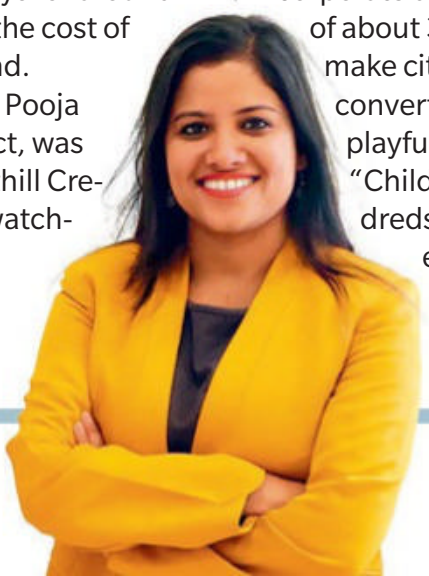
ACTS OF KINDNESS

Turning Old Tires into New Playgrounds

In and around more than a dozen cities in India, brightly coloured caterpillars, octopi and elephants have begun appearing in empty lots, much to the joy of local children. Built from old tires and industrial waste like scrap metal and ropes, these climbers, jungle gyms and swings are low-cost, sustainable play spaces created by Bangalore's Anthill Creations. A new playground can be built in just five days for around $2,500, a fraction of the cost of a standard playground.

The project's CEO, Pooja Rai, a trained architect, was inspired to found Anthill Creations in 2014 after watching children at an orphanage play with broken pipes and flip-flops—far from a luxury, play is a human right, she realized. Reusing some of the 100 million tires discarded in India every year also helps the environment, reducing the air pollution created by tire burning. Each tire is carefully cleaned, inspected and painted before being repurposed in the 300 playgrounds Anthill has so far built across India.

Rai aims to work with governments, corporate donors and Anthill's team of about 30 active volunteers to make cities more child-friendly, converting empty lots into playful community spaces. "Children come up with hundreds of different games exploring their creativity, and there is something new every time they play," Rai says.



COURTESY OF ANTHILL CREATIONS

THE 2022 READER'S DIGEST TRUSTED BRAND™ AWARDS

PLATINUM | 10+ YEARS

Coppertone — Sun Care Product

SHOPPERS DRUG MART — Pharmacy/Drug Store

Sun Life — Life Insurance Company

GOLD | 5–9 YEARS

Aveeno — Sensitive/Dry Skin Lotion

BEHR — Interior Paint

Nestlé Pure Life — Bottled Water

PURINA — Your Pet, Our Passion. — Pet Food

CLASSIC | 1–4 YEARS

always — Pads/Liners

Benadryl — Allergy Reliever*

Kellogg's — Healthy Cereal

HELLO FRESH — Meal Kit Delivery Service

BEHR — Exterior Paint

BLUE CROSS® — Travel Insurance Company

Depend — Incontinence Product

intact INSURANCE — Automobile Insurance Company

BEHR — Exterior Stain

Casper — Mattress-in-a-box

Claritin — Allergy Reliever*

*Tied brands within the category

Trust is critical today, from the people we encounter, to the products and services we use.

Celebrating its 14th year in 2022, the Reader's Digest Trusted Brand™ study polled 4,000 Canadians to identify what brands Canadians' trust most across 35 product and service categories. A trusted brand signifies a product or service that Canadians identify as being reliable, durable, credible and holds a good reputation.

So, when you are shopping for, or researching your next product or service, check out the most Trusted Brand™ winners below, and look for the Trusted Brand™ seal. A symbol of trust. Voted by Canadians.

TOYOTA
Hybrid Car Manufacturer

TOYOTA
Passenger Car Manufacturer

TYLENOL
Headache Pain Reliever

SEPHORA
Beauty Retailer

Silk
Non-Dairy Beverage

Tetley
Tea

TYLENOL
Arthritis Pain Reliever

weber
Grill

intact INSURANCE
Home Insurance Company

Rakuten
Cash-Back Rebate Company

SMIRNOFF
Cooler

TYLENOL
Cold Symptom Reliever

Perrier
Sparkling Water

Sun Life
Health & Dental Insurance Company

Tide
Laundry Detergent

TYLENOL
Pediatric Fever & Pain Reliever

REACTINE
Allergy Reliever*

Remaining 2022 Winners Include:
Ford (Pickup Truck category) | **Uber Eats** (Food Delivery Service)

ASK AN EXPERT

Who Needs a Four-Day Workweek?

We quiz Melissa Milkie, sociologist

BY Courtney Shea

ILLUSTRATION BY LAUREN TAMAKI

There seems to be growing support for a four-day workweek, including a proposed pilot project from the Ontario Liberal Party. Why is this a pressing topic right now?
The pandemic fundamentally shifted our understanding of the ways that work can be accomplished—where, when and in how much time. With the social interactions and downtime at offices reduced by working from home, it's become more clear that for some jobs—ones that are results based rather than time based—the same work could be accomplished in fewer hours.

You're an expert on work-life balance. How might life be better if we spent less time at work?
There are lots of potential positives to spending more time on life's non-work time "buckets," which are unpaid work, self-care and leisure. My studies show the more time a person spends on paid work, the lower their overall life satisfaction. Of course, there are caveats, the biggest one being that employers would have to maintain the same pay for fewer hours.

Okay, but if I'm an employer, how do you convince me this is a good idea?
If you look at the current labour

shortages, you can see that more desirable working conditions might be a way to attract and retain the best talent. There's a nursing home in Virginia that adopted a four-day week with five days' pay. Staffing costs were higher, but there was money saved in reduced turnover, and less spent on training. There was also better performance and fewer errors, which is good for business in the long run. With jobs that are part of the knowledge economy (as opposed to the labour economy), you don't even have to hire more people.

Why is that?
There's a principle called Parkinson's Law, which states that the amount of time a task requires will expand to fill the time given to do it, often due to increased but often unnecessary bureaucracy. So it's important to examine the status quo: what is the purpose of a report? Is this meeting really necessary? We also know that when people have more time away from work, they are less likely to let non-work activity infringe on their workday. And when people are working toward a goal like having more time to themselves, they are often more focused and efficient.

How did we land on five days for work in the first place?
For a long time, people worked longer than that—60 or 70 hours a week in the 19th century. The five-day week was adopted around the end of that century with the rise of unions, and major technological advances—electricity, for example.

With all of the progress since, why haven't work hours decreased more?
Our current culture really glorifies work, and many organizations view the ideal worker as one who is always available.

THE AMOUNT OF TIME A TASK TAKES EXPANDS TO FILL THE TIME GIVEN.

The Ontario government has put forth "right to disconnect" legislation to limit when employers can expect people to answer messages. Is this an effective pushback?
It would establish clear lines between work time and personal time, and it puts the onus on the employer, which is important. It's not about banning work after a certain hour so much as encouraging decisions that respect personal time. For example, I may write emails to my students over the weekend, because I want to get things off my plate, but I won't schedule them to send until 9 a.m. on Monday.

Melissa Milkie is a professor of sociology at the University of Toronto.

POINTS TO PONDER

People said it couldn't be done.

–Groundbreaking Canadian anthropologist Biruté Galdikas, ON HER SUCCESSFUL STUDY OF THE SECRET LIVES OF ORANGUTANS

The only way we're going to survive this trauma that we're going through right now is to have a positive spirit.

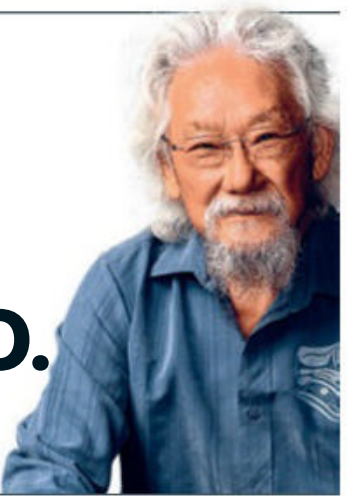
–Indigenous writer Tomson Highway

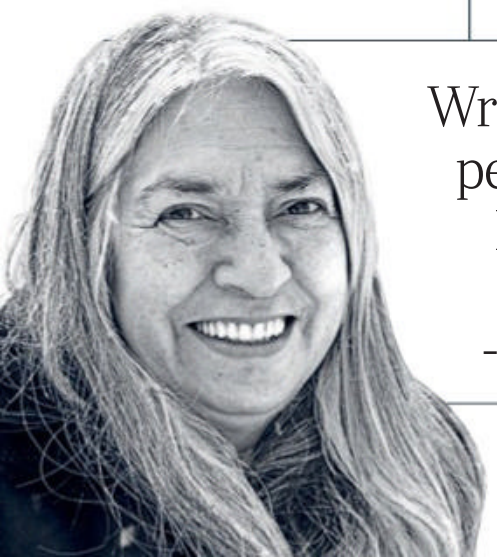
BEING ON THE INTERNET DOESN'T CHANGE THE HUMAN CONDITION; IT JUST CHANGES HOW THOSE BEHAVIOURS ARE EXPRESSED.

–Rob Norman, DISCUSSING HIS NEW PODCAST, *LIMITED CAPACITY*, ABOUT TECHNOLOGY

WE'RE IN DEEP, DEEP DOO-DOO.

–David Suzuki, SPEAKING ABOUT THE CLIMATE CRISIS





Writing made me a very powerful person in myself, inside myself. But it also influenced a new direction for Canada.

–Lee Maracle, WHO DIED IN NOVEMBER 2021 AT AGE 71

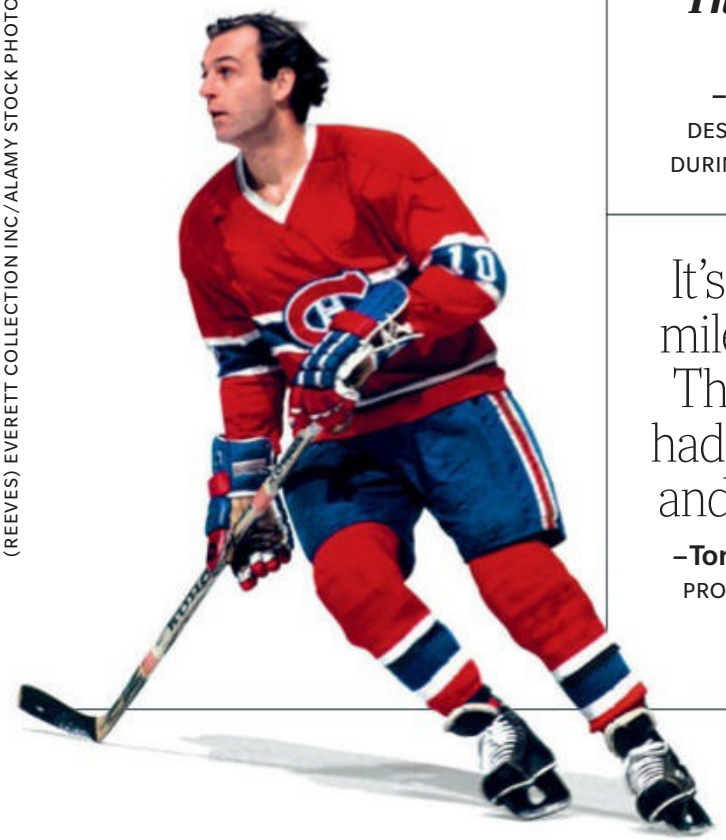
(GALDIKAS) COURTESY OF OFI; (SUZUKI) JENNIFER ROESSLER/DAVID SUZUKI FOUNDATION/DAVIDSUZUKI.ORG; (MARACLE) COLUMPA BOBB

We can always do more. There's no ceiling on that.

–Keanu Reeves, ON BEING THERE FOR OTHER PEOPLE

MONTREAL IS THE BEST CITY IN THE WORLD TO PLAY IN, IF YOU WIN. IF YOU DON'T WIN, IT'S HELL.

–Hockey legend Guy Lafleur



I'LL RETIRE AS A TORONTO RAPTOR. THAT IS MY EVERYTHING.

–Kyle Lowry

I looked up and my sunroof had been smashed. There was actually a tree on top of my car.

–Surrey, B.C.'s Chelsea Hughes, DESCRIBING BEING CAUGHT IN A MUDSLIDE DURING THE PROVINCE'S TORRENTIAL STORMS

It's a major psychological milestone for Nova Scotia. The prevailing paradigm had been one of stagnation and in some cases decline.

–Tom Urbaniak, CAPE BRETON UNIVERSITY PROFESSOR, EXPLAINING THE SIGNIFICANCE OF THE PROVINCE NEARING A POPULATION OF ONE MILLION

(REEVES) EVERETT COLLECTION INC./ALAMY STOCK PHOTO; (LAFLEUR) ZUMA PRESS, INC./ALAMY STOCK PHOTO

HEALTH

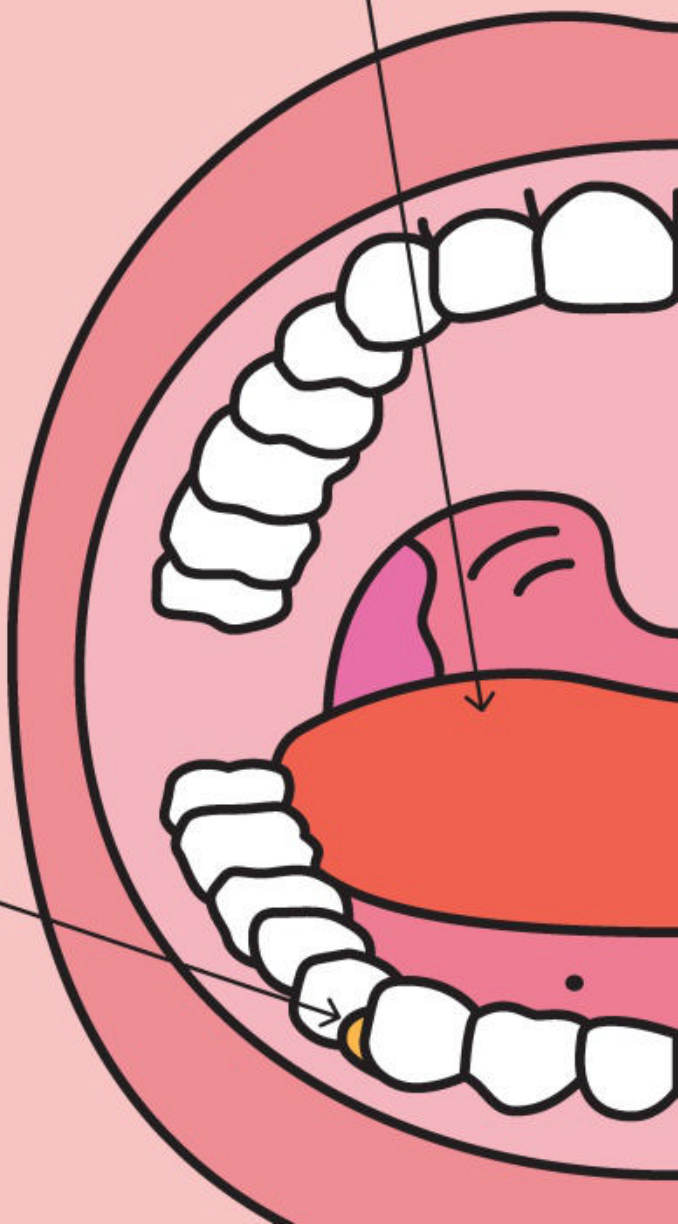
What You Need to Know About Bad Breath

When mints don't cut it, get to the root of the problem

BY Allison Baker

ILLUSTRATION BY TY DALE

Eighty to 90 per cent of bad breath is caused by bacteria living on **the tongue**. These organisms, which feast on food particles stuck between the teeth and in the grooves and crevices of the tongue, excrete sulphur compounds as they digest, which let off a foul smell. You already know the solution to this: brush and floss every day.



Missed dentist appointments can lead to a buildup of bacteria that mixes with sugars and starches, creating a film called plaque. If it's not removed, it can harden into tartar, which can collect **between the gums and teeth** and lead not only to bad breath but also infection, loss of tissue and bone and, eventually, tooth loss. After the age of 30, approximately seven in 10 Canadians suffer from gum disease, but the mildest form—gingivitis—can be reversed by seeking more regular dental care.

Our **tonsils** help us fight off viral and bacterial infection, but they can become infected themselves. Tonsillitis and even tonsil stones—calcium deposits created by food particles and dead bacteria—can cause bad breath. Some people may turn to breath mints and mouthwash, but Aaron Burry, deputy CEO of the Canadian Dental Association, cautions that the sugar from mints can provide more sustenance for bacteria. Meanwhile, mouthwash can remove all bacteria, both good and bad, which can upset the balance of the mouth if overused. Instead, gargling with warm water and half a teaspoon of salt can help dislodge the stones.

We've all known someone (or been someone) with "morning breath." While asleep, our **salivary glands** decrease saliva production to prevent excessive swallowing or drooling, but this can also lead to a dryer mouth—especially if we snore or breathe through our mouth. Saliva is our mouth's natural bacteria killer; when there isn't enough of it, bacteria reproduce and feed freely, emitting those pungent sulphur compounds that are the main component of bad breath. Burry recommends drinking more water during the day and limiting consumption of caffeine and alcohol, which are dehydrating. Chewing sugar-free gum for 15 to 20 minutes can also help activate salivary glands.

NEWS FROM THE
WORLD OF MEDICINE

BY Mark Witten

THE BENEFITS OF BAKING WITH LESS SALT

Globally, people consume an average of 10.1 grams of salt per day, twice the recommended maximum daily amount of five grams, and a rate that raises the risk for heart disease, stroke and kidney disease. While the majority of that surplus comes from packaged and processed foods, bread and other baked goods are often overlooked as a viable target for salt reduction. According to a University of Illinois study, reducing salt and increasing the amount of herbs and spices could take a big slice out of sodium intake without sacrificing taste and leavening ability. If you bake at home, the researchers suggest using only half the amount of salt called for in the recipe.

Social Envy Is Toxic

Last year, a whistleblower from Facebook revealed that the social media giant knew from internal studies that one of its platforms, Instagram, made people feel worse about themselves, contributing to increased depression and anxiety. This was due to constantly evaluating oneself against others. Perhaps unsurprisingly, social comparisons are also bad for your physical health. According to a study published in the *Journal of the American Heart Association,* people who ranked their social status low in relation to others had higher blood pressure, cholesterol, blood sugar and body mass index, raising their risk for heart disease and type 2 diabetes. Since social media makes comparisons easier than ever, researchers suggest making an effort to join supportive, inclusive social groups, whether online or off.

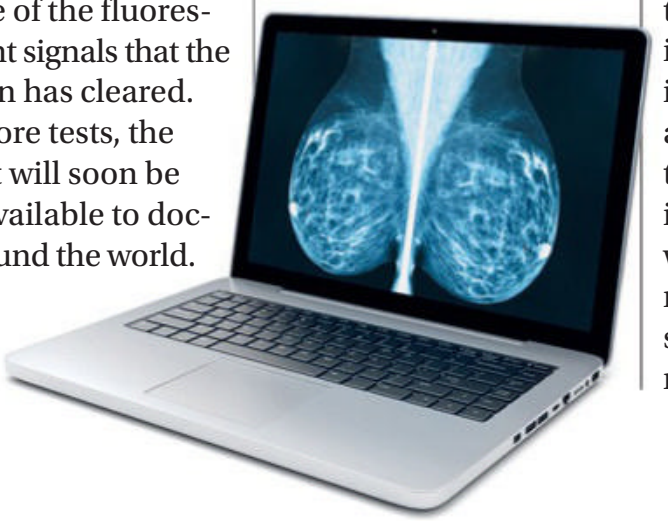
ISTOCKPHOTO.COM/DAN TOTILCA

"Smart" Bandages Are on the Way

Usually, if you want to check if a wound is healing properly, you need to remove the bandage, which can be both painful and risky, giving pathogens a chance to attack. But now, Australian researchers at RMIT University have developed "smart" wound dressings that detect biochemical changes in the skin. The dressings glow brightly under UV light if infection starts to set in. Or, if the wound was already infected, the absence of the fluorescent light signals that the infection has cleared. After more tests, the product will soon be made available to doctors around the world.

AI Helps Rule out Breast Cancer

Early detection of breast cancer through mammograms helps save lives. Unfortunately, cancer screening is about four times more likely to miss detecting cancers in women with extremely dense breasts, who have twice the risk of developing breast cancer as the average woman. Now, a Netherlands study has shown that, for patients with extremely dense breasts and no detectable lumps, an AI-based screening tool currently being tested is able to rule out cancer for 40 per cent of patients. This will allow radiologists to focus on less certain cases more quickly.



A Pacemaker for Depression

Nearly one-third of people with depression fail to respond to the variety of available treatments—including medication and psychotherapy. But a team at the University of California broke new ground by successfully treating a 36-year-old woman's depression by surgically implanting a battery-operated device inside her skull. Similar to a pacemaker for the heart, the device was able to detect an abnormal electrical activity pattern in her mood circuit that occurs when she's becoming depressed. When it delivered short bursts of electrical stimulation, her depression improved almost immediately. Known as deep brain stimulation, this minimally invasive technique will soon be tested in more patients with severe, treatment-resistant depression.

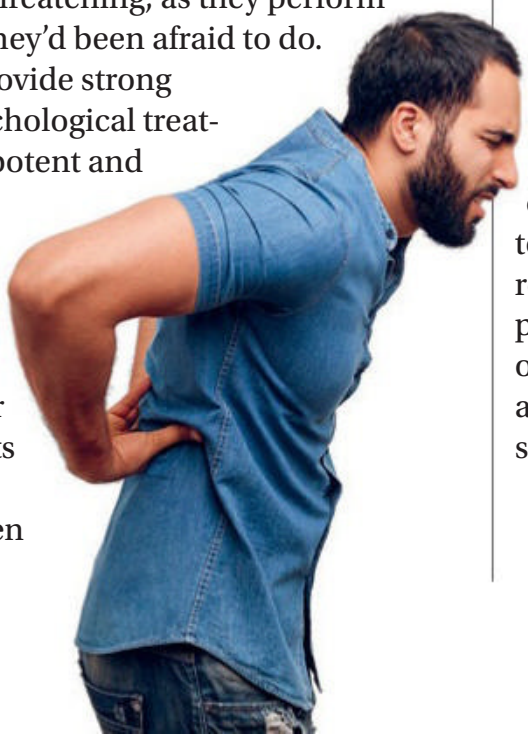
(HAND) PATTARISARA SUVICHANARAKUL/EYEEM/GETTYIMAGES.CA; (LAPTOP) UMBERTOPANTALONE/GETTYIMAGES.CA; (MAMMOGRAM) BLUEPLANETEARTH/GETTYIMAGES.CA

Therapy-Based Pain Relief

Over 80 per cent of American adults will experience chronic lower back pain at some point in their lives—and it's notoriously difficult to treat. That's especially true for the vast majority who are unable to identify a clear cause. For cases like these, a University of Colorado study recently looked at whether a psychological treatment could help—and it seemed to work. In fact, two-thirds of the chronic back pain patients who underwent four weeks of pain reprocessing therapy (PRT)—a technique developed by Los Angeles psychotherapist Alan Gordon—were pain-free or nearly pain-free at the end of one year.

The idea behind PRT is that, in chronic pain patients, certain brain networks become sensitized to overreact to even mild pain stimuli in the absence of an injury, or after an injury has healed. If acute pain is a warning signal that something is wrong with the body, chronic pain can be like a false alarm stuck in the on position. In PRT sessions, patients learn to think about the pain as safe, rather than threatening, as they perform movements that they'd been afraid to do.

These results provide strong evidence that psychological treatment can deliver potent and lasting relief for chronic back pain, therefore reducing the need for pain medications, surgeries and other invasive treatments that can be costly, ineffective and even dangerous.



KHOSRORK/GETTYIMAGES.CA

Language Brain Gains

A University of Kansas study has shown that, if given the opportunity for immersive learning, adults can pick up a new language almost as easily as do kids. It's great news because, when learning a new language, the brain builds more white-matter connections between brain areas, leading to better memory skills, focus, and agility in switching from one task to another.

Pecans Lower Cholesterol

People at risk of heart disease who ate 68 grams of pecans a day reported an average drop of five per cent in total cholesterol and a reduction of up to nine per cent in their LDL, or "bad," cholesterol, according to a University of Georgia study. R

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

MEDICAL MYSTERY

Hearing Things

Hallucinations of seagulls and elevator music led to a shocking diagnosis

BY Luc Rinaldi

ILLUSTRATION BY VICTOR WONG

ONE SUNNY DAY in June 2020, Lauren Wells and a few friends set out for a weekend of fun on the Lake Erie Islands. She had reason to celebrate. At just 25, she'd been hired as the head administrator of a nursing home in Sandusky, Ohio.

But the trip wasn't as carefree as Wells had hoped. On the first night, she felt a shooting pain in her left side, and she had to urinate much more often than usual. She chalked it up to cramps and the fact that she was drinking, and tried to enjoy the rest of her time away.

The following week, however, the pain was still present. Plus, her hands started to feel funny, as if there were a slimy film on them. A friend guessed Wells might be stressed from the new work. "But that didn't feel right to me," she says. "I was loving my job."

A few days later, as Wells was trying to fall asleep, she started hearing music—a faint elevator-type song that seemed to be coming from outside or the apartment above hers. She looked out the window, expecting to find a street party, but there was nothing. So she went back to bed and tuned it out. But the next night, the music returned. And again the evening after that. Eventually, she wandered the

streets, searching for the source. "I was so intent on finding this music," she says. But she couldn't pinpoint where it was coming from.

Then things got weirder. The same music seemed to be playing at work and at the bar, and she heard it in the hum of an air conditioner. A friend of a friend, who is an audiologist, explained that people sometimes hear melodies in mundane noises. That comforted her—but not for long.

About a week after the music began, Wells was in Perrysburg, a small Ohio town where she used to live, visiting friends and clearing out her old apartment. One night, she heard seagulls squawking outside her bedroom window. "There are no seagulls in Perrysburg," she says. It didn't seem like the audiologist's theory could explain sudden squawking in an otherwise silent bedroom. "Up until then, I didn't think I was hearing things that weren't there," she says. "But when I heard seagulls, I was like, 'Something is wrong with me.'"

Unable to sleep, Wells drove herself to the emergency room. The nurses ran some routine tests, but everything came back normal, so they sent her home with lorazepam, an anti-anxiety medication, and a referral to a psychiatrist.

Later that week in Sandusky, during a work meeting that Wells was supposed to be leading, she suddenly spaced out, confused and unable to speak. Concerned, her colleagues—a room full of nurses—called an ambulance. By the time she arrived at the local hospital, she was back to herself. The episode had made her doubly sure something was up, so she called her father, Brad, and voluntarily admitted herself into the psych ward, where doctors put her on a number of medications, including lithium and ziprasidone, an antipsychotic used to treat schizophrenia.

SHE WANDERED THE STREETS, LOOKING FOR THE MUSIC. THEN THINGS GOT WEIRDER.

When Brad arrived at the hospital, his daughter didn't seem like herself. (Wells remembers very little from this point on.) One moment she was acting aggressively with her nurses; the next, she was flirting with them. She was calling her relatives hundreds of times a day, and she wouldn't sit still during MRIs and EEGs. Then something more troubling happened: she had a seizure. Her doctors rushed her to the ICU, where she was placed on anti-seizure meds.

Unsure what to do, Brad called a family friend who was a psychiatrist and explained the situation. "It's a really rare bird," the psychiatrist advised,

"but have them look into anti-NMDA receptor encephalitis."

The neurological disease, which causes inflammation in the brain, affects only about one in 1.5 million people and wasn't even identified until 2007. Brad had never heard of the condition, but when he looked it up online, he realized that his daughter had all the symptoms. All throughout that day, he pushed the hospital to test for it. Wells' doctors pushed back. The condition is so uncommon that they'd never even seen a patient with it before. But Brad wouldn't relent. By the following day, they started to believe him.

THE CHEMOTHERAPY TREATMENT RAVAGED HER BODY. BUT WEEK BY WEEK, SHE IMPROVED.

That afternoon, Wells' team referred her to the neuro intensive care section at the nearby Cleveland Clinic, where Dr. Joao Gomes, the head of the department, suspected the psychiatrist that Brad had consulted might be right about anti-NMDA receptor encephalitis. But Gomes had a hunch that this wasn't the whole story. The condition usually has an underlying cause, often testicular or ovarian cancer, so he ordered an ultrasound. Brad was shocked that his daughter, who was otherwise healthy until earlier that summer, could not only have a neurological disease but also cancer. But tests proved that Gomes was right. Wells had a tumour on her ovaries.

With that discovery, Gomes began piecing together the intricate puzzle that explained Wells' bizarre medical history. To start, the pain in her side and frequent urination were a result of the tumour. Furthermore, her body had started producing antibodies to fight the cancer. "Unfortunately, in Lauren's case," says Gomes, "the antibody not only tried to attack the cancer, but it had some cross-reactivity with her NMDA receptors."

NMDA receptors are channels in the brain that affect memory and behaviour—and that happen to have similar structures to the cancerous cells Wells' body was trying to fight.

"That's what produced her symptoms," says Gomes. The music, the seagulls, the filmy hands—they were all hallucinations.

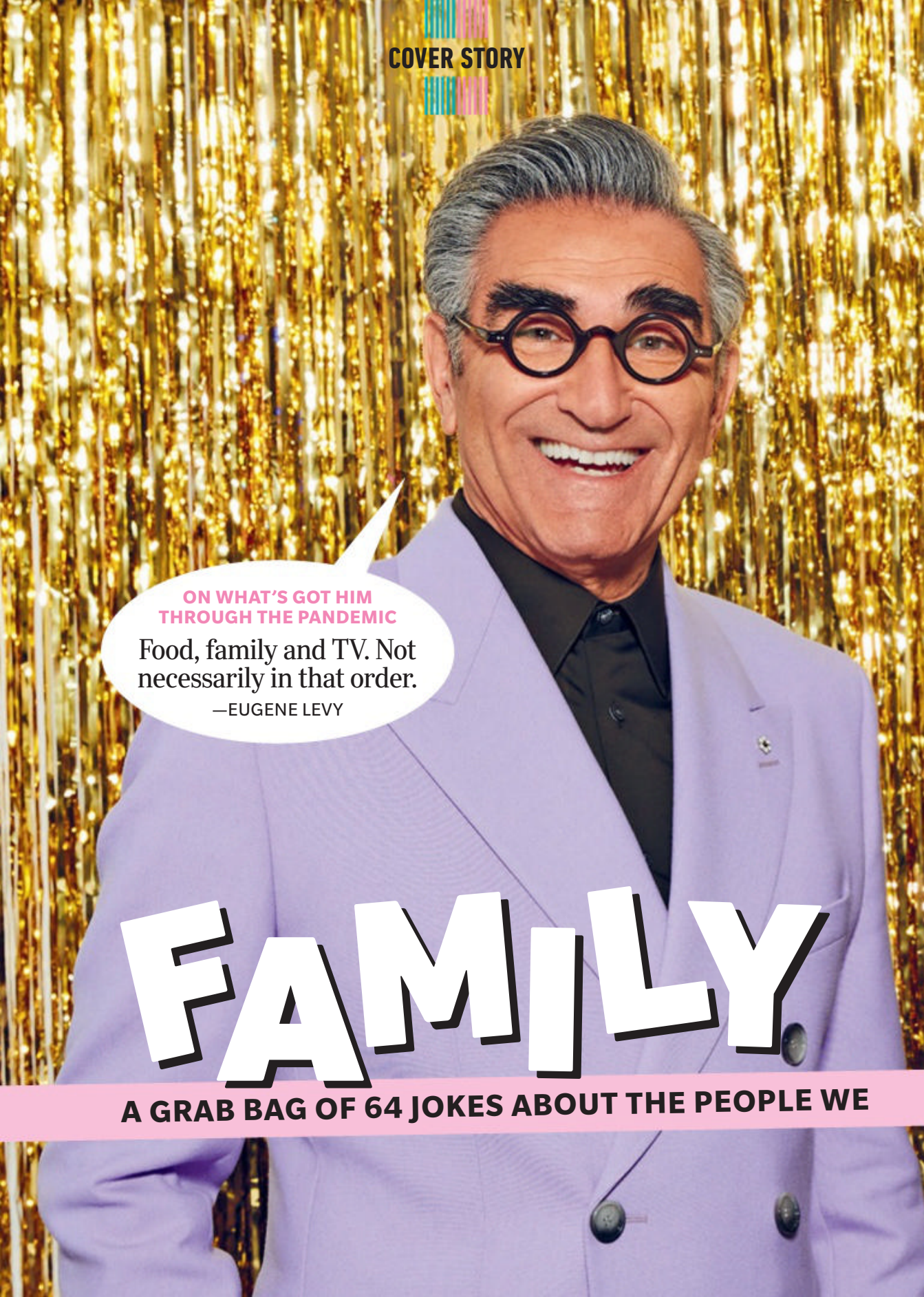
A spinal tap, which proved that Wells had the aforementioned antibodies, confirmed Gomes' hypothesis. But that was hardly the end of Wells' ordeal. In order to suppress her immune system and remove the offending antibodies, the Cleveland Clinic team treated Wells with steroids; new antibodies known as immunoglobulin; and plasmapheresis, a process that filtered her plasma and replaced it with donor plasma. They

also surgically removed the tumour and put Wells through chemotherapy, which would last for several months.

The treatment ravaged Wells' body. When she woke up after roughly two weeks in a coma, she couldn't walk, she struggled to find the right words when she tried to speak, and she was often confused. "I didn't even know why I was there," she says. "I had no idea that I had undergone surgery until I saw the scars on my stomach."

Week by week, she improved, first in inpatient rehabilitation and then in months of outpatient physical, occupational and speech therapy.

By April 2021, about six months after she left the Cleveland Clinic, Wells was cancer-free. Among anti-NMDA receptor encephalitis patients, there is a 10 to 25 per cent chance of relapse within two years, so Wells is keeping a close eye on her health, watching for the return of her symptoms. After briefly living with her parents, Wells moved into her own place again and started working at a new job at a nursing home in Cleveland—she decided it would be best to avoid the stress of her old administrative position. She remains thankful for her father's advocacy—and stubbornness—as well as the recovery support from her mom and friends. "Who knows how long I would have been dealing with this if not for them," she says.



ON WHAT'S GOT HIM THROUGH THE PANDEMIC

Food, family and TV. Not necessarily in that order.

—EUGENE LEVY

FAMILY

A GRAB BAG OF 64 JOKES ABOUT THE PEOPLE WE

ON HAVING A FAMOUS DAD

In high school people would ask me if *American Pie* was based on my life. My life was not that interesting. There were no pies involved.

—DAN LEVY

FUNNIES

KNOW AND LOVE BEST—FOR BETTER OR WORSE

PHOTOGRAPH BY SATY + PRATHA

KIDS KNOW BEST

DAD TO TWEEN: Nobody puts baby in a corner.
TWEEN: Why not? Aren't babies safer in a corner?
—@DADMISSIONS

MOM: Do you want the baby to be a boy or a girl?
KID: I want the baby to be Batman.
—@FOODIEANDFAMILY

SON: This song said a bad word.
ME: You know not to repeat it.
SON: I know, but I am saying it in my brain.
—@EMBROLEAR

PARENT: How was your first day of second grade?
KID: I survived. And I can't wait to get my farts out.
—@JANEGALLAGHER17

My two-year-old said she is a grown-up. I told her no, she isn't, she's a toddler.

She replied, "No, I'm a grown-up. I'm going to touch knives."
—@JESSOKFINE

I tried to explain to my four-year-old son that it's perfectly normal to accidentally poop your pants. He's still making fun of me.
—VOXPOP.COM

My daughter says every boy in the world has a penis, even Santa. So sad for her to one day learn that there's no such thing as Santa's penis.
—ADAM SCOTT, ACTOR

When I was four, my dad got pulled over by the police, and I screamed, "I have to poop!" The cop then let my dad go. Later he took me to the bathroom and couldn't stop laughing after I told him I didn't have to poop—I just didn't want him to get a ticket.
—@BUNANDLEGGINGS

I told my nephew a watermelon was going to grow in his stomach because he ate some of the seeds. He then looked me straight in the eyes and, I kid you not, said, "Nope, there's no sunlight so you're wrong and college has failed you."

He's seven.
—@GRACIEGRAYC

ENDURANCE TEST

My grandfather had a kid at 77, which is impressive. When I'm 77, the only things coming out of my pants are going to be Werther's Originals.
—LEONARD CHAN, COMEDIAN

COURTESY OF LEONARD CHAN

COLD COMFORT

Every time I get a migraine, my dad thinks I'm giving him the silent treatment. He's not very good at apologies, so instead, he gets me ice cream. I have yet to correct him.
—OPHIRA CALOF, COMEDIAN

When I was eight, I got lost at the mall and started crying because I couldn't find my mom. A security guard came to help me, but I punched him in the groin as hard as I could because "stranger danger." (He still had to help me find my mom.)
—@PRIMAWESOME

My five-year-old asked me to go find something downstairs. I couldn't find it.

MY FIVE-YEAR-OLD: "I've got an idea. This time, go back downstairs and try your best."
—@ADAMHILL1212

PARENTAL GUIDANCE

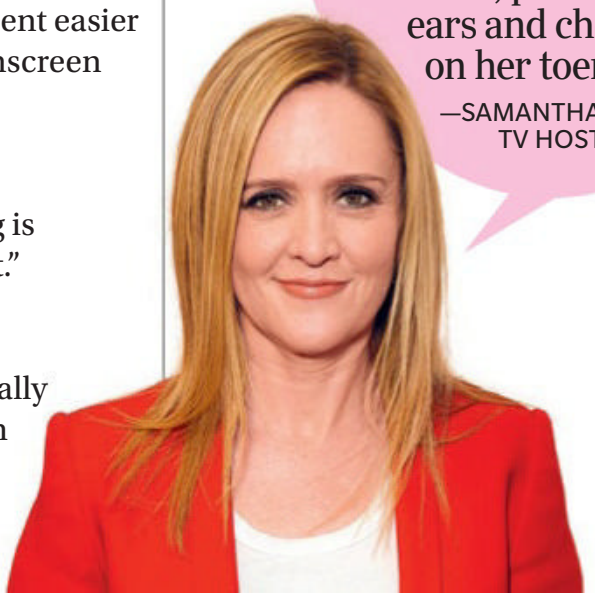
Parenting would be 30 per cent easier if you didn't have to put sunscreen on your kids.
—@STEVENTUROUS

Ninety per cent of parenting is saying, "Wherever you left it."
—@SOFARRSOGUD

My daughter and I accidentally busted in on my husband in the bathroom and he got mad, which is funny because I haven't peed alone in seven years.
—BUSY PHILIPPS, ACTOR

When can I expect to stop having avocado under my fingernails at all times? When they go to college?
—KRISTEN BELL, ACTOR

If I were a parenting animal, I'd be kind of like a tiger mother, but the weary tiger, the one you see on the nature specials who's just lying on her side in the sun and her cubs are running rampant all over her, pulling on her ears and chewing on her toenails.
—SAMANTHA BEE, TV HOST



(CALOF) COURTESY OF OPHIRA CALOF; (BEE) LEV RADIN/SHUTTERSTOCK.COM

Parenting is missing your kids when they're asleep—and missing your sanity when they're awake.
—@CHHAPPINESS

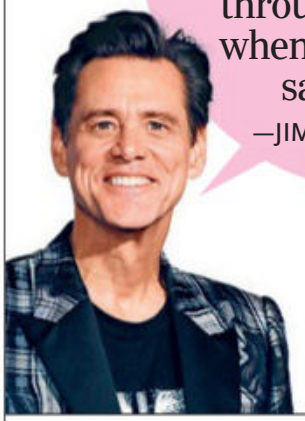
Going away on a business trip and my seven-year-old is very sad because "there won't be anyone to reach the high things," if you're wondering how important I am.
—@DADDYGOFISH

SENIOR MOMENTS

What do you call having your grandma on speed dial?
Instagram.
—MYTOWNTUTORS.COM

My grandmother started walking five miles a day when she was 60. She's 97 now, and we don't know where the heck she is.
—ELLEN DEGENERES, COMEDIAN

Grandpa whispers to Grandma in church, "I've just let out a silent fart. What do you think I should do?" Grandma replies, "Put a new battery in your hearing aid."
—JUICYQUOTES.COM



Maybe there is no actual place called hell. Maybe hell is just having to listen to our grandparents breathe through their noses when they're eating sandwiches.
—JIM CARREY, ACTOR

After 40 years, my grandma has finally gotten my grandpa to stop biting his nails. She hid his teeth.
—REDDIT.COM

When I was a kid, my grandmother was always in her bathrobe with rollers in her hair, 24-7.

"When are you going to take those rollers out?" I thought. "Can we see that hairdo you've been working on for 20 years? I bet it's a doozy."
—JEN GRANT, COMEDIAN

What's the difference between an all-you-can-eat restaurant and your

EXCUSES, EXCUSES

Having a little kid is great because you can say to people, "Sorry we're 43 minutes late. We saw a stick," and they have to be like, "That's totally legit."
—SOPHIE KOHN, COMEDIAN

(CARREY) KATHY HUTCHINS/SHUTTERSTOCK.COM; (KOHN) COURTESY OF SOPHIE KOHN

ACCORDING TO RYAN REYNOLDS

While sleeping in, not sharing your food and only caring about yourself is awesome, you know, having a kid is okay, too.

Being a dad isn't just about eating a huge bag of gummy bears as your wife gives birth. It means being comfortable with the word "hero."

I can't tell if my daughter is smashing plates all over the kitchen floor or singing the *Paw Patrol* theme song.

I'd walk through fire for my daughter. Well, not fire, because it's dangerous. But a super-humid room. But not too humid, because my hair.

No matter which kids' book I read to my screaming baby on an airplane, the moral of the story is always something about a vasectomy.

TINSELTOWN/SHUTTERSTOCK.COM

A GOOD SPORT

All of my kids played hockey. I loved being a hockey mom, but I can tell you I never once got into a fight in the stands. I took it right out to the parking lot, where it belonged.
—CATHY BOYD, COMEDIAN

grandma's cooking? At an all-you-can-eat, you get to decide when you're full.
—MYTOWNTUTORS.COM

"Was there anything you needed? I gotta get off the phone and fold my socks." (My grandma, upon picking up my phone call.)
—ANDREA JIN, COMEDIAN

What did Grandma and Grandpa do for fun back in the day? I don't know. My 17 aunts and uncles won't answer the question.
—REDDIT.COM

My grandpa just walked into a room with a guy wearing skinny jeans and eating avocado toast. I said, "Who is this guy?" He said, "My hip replacement."
—REDDIT.COM

THANKS, MOM

My mom is Eastern European. How Eastern European? She once wouldn't taste a cake because it was too colourful.
—MONICA HAMBURG, COMEDIAN

When my mom fries fish outside, our property tax increases and our property value decreases.
—CELESTE LAMPA, COMEDIAN

#YoMamaSoCanadian she sends "you're welcome" cards in response to "thank you" notes.
—@SETH_SCHAFER

I was on a trip to L.A. for my first record deal, sitting in the back of a limo with the head of the studio. We were discussing my career prospects, and he said, "You're 30 pounds away from superstardom in this country." I later called my mother to commiserate, and she said, "Why didn't you tell him you just don't want to put any more weight on?"
—JANN ARDEN, ACTOR

TRAVEL ADVISORY

We are planning a road trip through Canada. My wife is concerned that our old camper van may break down. I told her not to worry. After all, we have Triple Eh.
—ANONYMOUS

Happiness is having a large, loving, caring, close-knit family in another city.
—GEORGE BURNS, COMEDIAN

My parents were English campers, so terrible campers. What my dad ended up doing most of the time was ordering pizzas and making cups of tea… One morning he was like, "Get up, you lazy buggers." We peered through the tent, and we can hear this low throng of an airplane engine, and it came over and dropped DDT on my dad. There was a moth infestation. He just sat there with his cup of tea, and in that Liverpool way he said, "All right. How fast until we can find this funny?"
—MIKE MYERS, ACTOR

I asked to switch seats on a plane because I was seated next to a crying baby. Apparently that's not allowed when the baby is yours.
—SHAREITSFUNNY.COM

TWO'S COMPANY

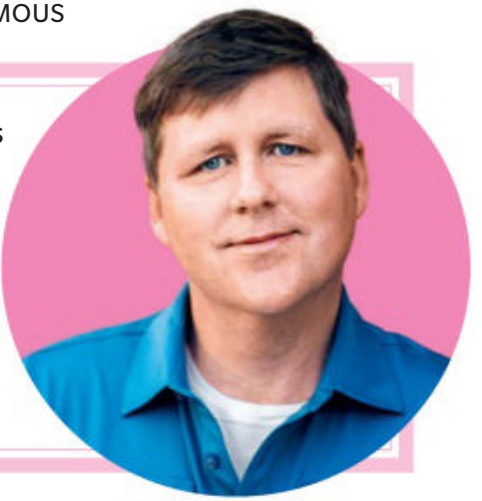
It's so cold in Winnipeg right now that I'm hoping for a heated argument with my wife.
—@MSILVAWPG

I don't know anyone who gets as much happiness out of their kids as [my wife and I] get out of our non-kids. Like, we're psyched all the time! We're lying in bed on Saturday mornings smoking weed, watching movies naked. If we had kids, we could not be doing this.
—SETH ROGEN, ACTOR

Marriage is asking each other what you want for dinner every day until you die.
—ANONYMOUS

BY THE LETTER

I'm the baby of seven. Everybody's name begins with D. My parents are Dave and Doris; then there's Debbie, Dawna, Deanna, David, Douglas, Darian and me, Darryl. My mom said it was just a coincidence. Just a coincidence? Be honest, Mom. You were too busy making babies to turn the page in the big book of baby names.
—DARRYL PURVIS, COMEDIAN



(BOYD) COURTESY OF CATHY BOYD; (ARDEN) SHAWN GOLDBERG/SHUTTERSTOCK.COM; (PURVIS) COURTESY OF DARRYL PURVIS

IT'S ALL RELATIVE

CANADA'S FIRST FAMILY OF FUNNY

At heart, *Schitt's Creek* (streaming on CBC Gem and Netflix) is all about the strength we get from our families. The Roses—Johnny (Eugene Levy), Moira (Catherine O'Hara), Alexis (Annie Murphy) and David (Dan Levy)—also prove it's possible to be extremely ridiculous and extremely lovable. Here are some of our favourite moments from the series.

"Talk to the hand, son, because the ears are no longer working."

—JOHNNY, MISUSING HIS KIDS' LINGO

"Just think of them as tiny little roommates whose tiny little poops you get to clean up."

—ALEXIS, EXPLAINING BABIES

"If airplane safety videos have taught me anything, David, it's that a mother puts her own mask on first."

—MOIRA, DEFENDING HER PARENTING SKILLS

"Um, I do drink red wine, but I also like white wine. And I've been known to sample the occasional rosé. And a couple summers back, I tried a merlot that used to be a chardonnay, which got a bit complicated. I like the wine, not the label."

—DAVID, EXPLAINING HIS SEXUAL PREFERENCES

MESSAGE RECEIVED

My eight-year-old daughter was looking through the snack cupboard when she said, very seriously: "You stopped buying granola bars."

I replied, "Well, you stopped listening to me, so I guess we're even."

—VERONICA ANTIPOLO, COMEDIAN

I once walked in on my parents having sex. It was the most embarrassing 30 minutes of my life.

—NORM MACDONALD, COMEDIAN

When you see the term "fun for the whole family," that's the big tipoff that it's fun for nobody. Nothing in life is fun for the whole family. There are no massage parlours with ice cream and free jewelry.

—JERRY SEINFELD, COMEDIAN

According to a recent Dominion Institute poll, a majority of Canadians have no idea how Parliament works. Which is fine. We're a very busy people—we have lives to lead, families to raise. Not to mention we're all on hold with Rogers.

—RICK MERCER, TV HOST

EYE ROLL ALERT

"Dad, can you explain to me what a solar eclipse is?"

"No sun."

—@DADSAYSJOKES

A kid decided to burn his house down. His dad watched, tears in his eyes. He put his arm around the mom and said, "That's arson."

—ANONYMOUS

Why do fathers take an extra pair of socks when they go golfing? In case they get a hole in one!

—@LAMEHUMOR

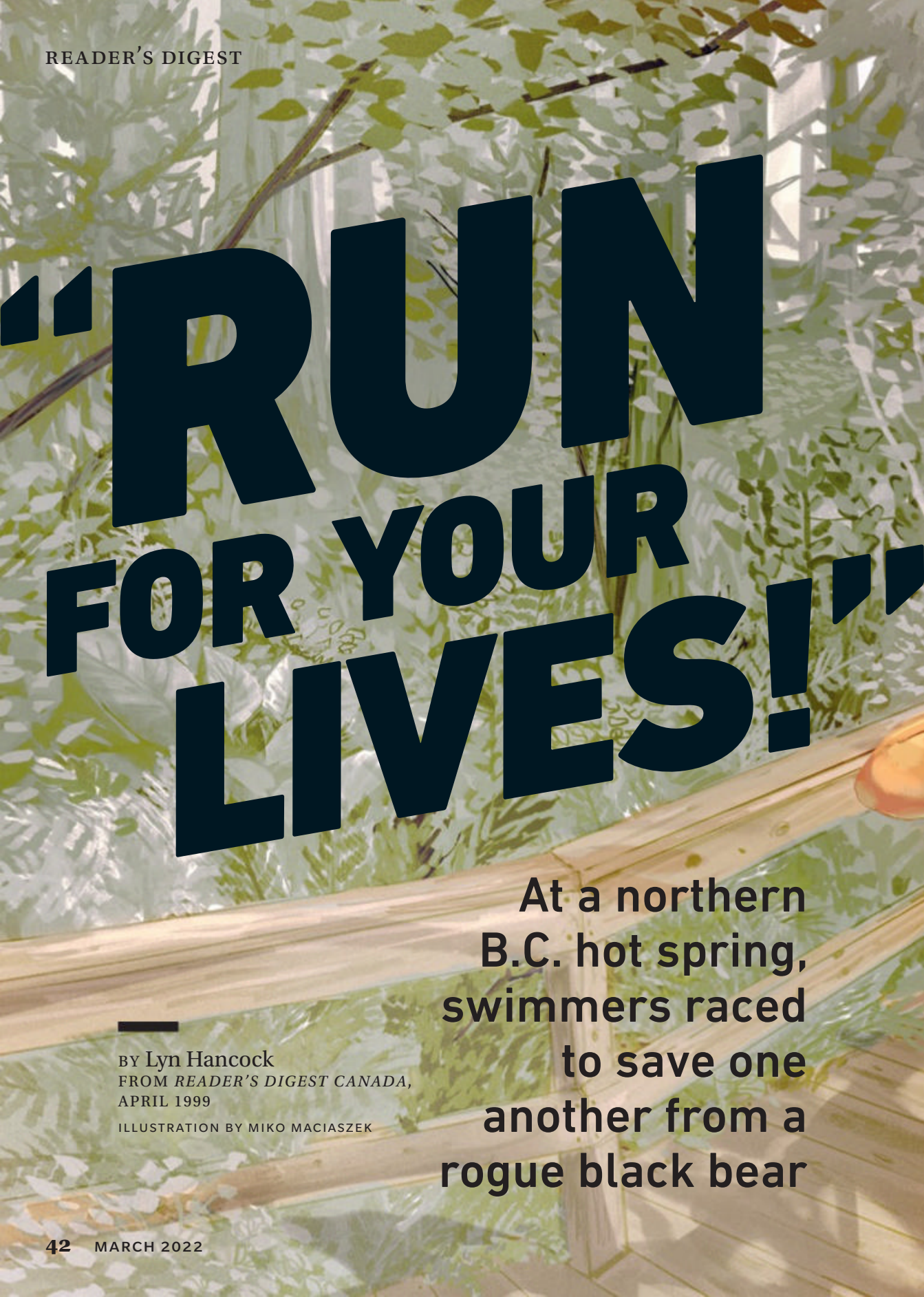
There was a dad who tried to keep his wife happy through labour by telling jokes, but she didn't laugh once. Know why? It was the delivery.

—BUZZFEED.COM

My dad died because he couldn't remember his blood type. He kept insisting we "be positive," but it's just so hard without him.

—@DADSAYSJOKES

(OPPOSITE PAGE) DAVID: ALBUM / ALAMY STOCK PHOTO; JOHNNY: PICTURELUX / THE HOLLYWOOD ARCHIVE / ALAMY STOCK PHOTO; ALEXIS: ALBUM/ALAMY STOCK PHOTO; MOIRA: TCD/PROD.DB/ALAMY STOCK PHOTO. (THIS PAGE) ANTIPOLO: COURTESY OF VERONICA ANTIPOLO; MERCER: SHAWN GOLDBERG/SHUTTERSTOCK.COM



"RUN FOR YOUR LIVES!"

At a northern B.C. hot spring, swimmers raced to save one another from a rogue black bear

BY Lyn Hancock
FROM *READER'S DIGEST CANADA*, APRIL 1999
ILLUSTRATION BY MIKO MACIASZEK

HAVING DELIVERED THE last of his explosives to seismic crews working on the Alaska Highway, Ray Kitchen, a 56-year-old trucker from Fort Nelson, B.C., decided to stop off at the Liard River Hot Springs Provincial Park. There, his 11-year-old daughter, Joline, and her friend Sarah, who were along for the ride, could enjoy a swim.

A tropical oasis in the boreal forest, just south of the Yukon-B.C. border, the hot springs are a popular tourist haven complete with campsites and a playground. It was August 14, 1997.

As Kitchen relaxed beside the springs, watching the girls play, terrified screams suddenly erupted from a part of the park called the Hanging Gardens, where plants cascade down a natural terrace. The sound jolted Kitchen to his feet.

He rushed along a rain-slicked boardwalk and up some wooden stairs to reach the gardens' viewing platform—and stopped, horrified. On the wooden structure, a huge bear straddled a teen boy beside the motionless form of a woman. Both were covered with blood from deep gashes in their swimsuit-clad bodies.

PATTI MCCONNELL HAD been driving north from Paris, Texas, for over a week, heading for Alaska to start a new life. The vivacious 37-year-old mother hoped to get a job there and raise her two kids, Kelly, 13, and Kristin, seven.

It had been a tiring trip, and the children were delighted when McConnell turned off the Alaska Highway and into the Liard River park.

The family wasted no time slipping into their swimsuits, and in bare feet they hurried along the boardwalk and into the crystal clear 53 C water of the lower pool. After a long, hot soak, they headed for the more secluded upper pool some 340 metres farther into the bush.

Kristin soon got bored and raced back along the boardwalk to the lower pool, where she'd made some friends.

"Slow down or you're going to slip!" McConnell yelled as her daughter tore off around a bend. She and Kelly got up to follow. As they reached the turnoff leading to the Hanging Gardens, Kelly said, "Let's go see them, Mom."

Climbing a flight of stairs through the bush, they came to a viewing platform. So intent were mother and son on identifying the exotic plants, they paid no attention to a rustling in the bushes beside the boardwalk. McConnell glanced at her watch. "Kelly, I'm worried about Kristin. I'm going to find her."

McConnell started down the wet steps. As she reached for the railing to steady herself, something drew her attention. She looked up into the eyes of a black bear—a big adult male sitting in the shrubbery chewing on a dogwood branch.

Galvanized by her son's screams, McConnell moved as fast as she could, the bear charging after her. She ran up the steps to the viewing platform—and was trapped.

Kelly watched in horror as the bear engulfed his mother's body with its own. Despite his slight stature, the 13-year-old ran at the creature and kicked it in the face. "Get off my mom!"

The bear looked up, grunted and went back to its prey.

Searching for a weapon, Kelly snatched up a sawed-off tree limb. With a strength born of anger, he

LUNGING FURIOUSLY WITH A STICK, HE HIT THE BEAR SQUARELY ON THE NOSE. THE ANIMAL GROWLED AND SWUNG A PAW INTO HIS NECK.

McConnell froze. "Kelly, bear!" she hissed.

"Sure, Mom!" With his back to her, Kelly thought she was kidding.

"Kelly!"

This time he turned around to find an animal taller than him staring intently at his mother. Remembering what he had heard about bears, he said, "Mom, don't make any sudden movements."

Cautiously, Kelly edged toward his mother. The bear snorted, then lunged through the railing and onto the boardwalk. "Mom! Run!"

smashed at the bear's head, all the while screaming for help.

The sight of his mother's blood on the bear's canines spurred Kelly on. Lunging furiously with his stick, he hit the animal squarely on the nose, drawing blood. The bear growled and swung a paw at Kelly, ripping deep claw marks into his neck and shoulders.

Then he came after the terrified boy. Kelly crumpled under the animal's massive weight. He felt its teeth crunch around his waist as it lifted him into the air and swung him around like a dog playing with a toy. Just as he was

Liard River Hot Springs Provincial Park, 20 years after the attack.

DANITA DELIMONT/ALAMY STOCK PHOTO

about to pass out, the animal flung him to the deck. Kelly rolled into a ball.

His mother lay beside him, her skin ashen, her eyes open and unblinking. He tried to crawl toward her, but the bear pounced again, tearing chunks out of his flesh. The animal's foul, rancid breath made Kelly want to vomit. He closed his eyes. He knew he was about to die.

RAY KITCHEN QUICKLY took in the scene. Grabbing a fallen tree branch, he hammered it against the railing.

"Hey! Get off!" he yelled. The bear paid no attention. Kitchen tore off a bigger branch and rammed it into the bear's stomach, hoping to push the animal away from the child.

The bear rose from his victim and charged toward Kitchen. The impact knocked him right through the railing, bear and man tumbling into the bush. Clad only in his swim trunks, Kitchen tried to protect his body from the bear's slashing claws by scrambling on his knees to a tree and covering his head with his hands. He began yelling for help.

Frank Hedingham, 71, was lounging on a deck overlooking the lower pool when he heard the screams. Just a bunch of kids, he thought. Then he heard shouts: "Help!" "Bear!" "Get a gun!" He took off in their direction.

Just ahead of him on the boardwalk were Ingrid Bailey, a wilderness firefighter and paramedic from Felton, California, and her friend, Brad Westervelt. News of the rogue bear had spread quickly, and frantic people were fleeing toward the parking lot.

But Bailey, who regularly parachuted into fires in remote areas, was used to bears. She, Westervelt and Hedingham pressed on, gathering sticks and chunks of wood as they ran.

At the viewing platform, they saw two bloodstained bodies on the deck. But it was the terrifying scene below the deck that riveted them. Kitchen, still alive, was struggling weakly. The bear's jaws were clamped tight around his upper arm and shoulder, its claws slashing at his already torn and bloody body.

Bailey began hurling her chunks of wood at the bear. "Get off him!" she screamed, stamping her feet and pounding the railing with a stick. She felt no fear, just anger, then helplessness as her efforts did nothing to distract the animal.

Hedingham and Westervelt, meanwhile, had spotted a long, thick tree trunk. It was heavy and cumbersome, but they levered it over the railing. Using it as a battering ram, all three heaved together, but that, too, failed to drive the animal off.

We need a gun, Bailey thought desperately. Where's the park ranger?

As if reading her thoughts, Westervelt dropped his end of the tree. "I'm going to find a ranger," he yelled and raced off. Hedingham, with a history of heart attacks, was exhausted but vainly continued to pound away at the bear.

Suddenly the bear shifted its position, clamped its jaws around its victim's neck and threw him into the air. "No!" Bailey screamed frantically.

SUDDENLY THE BEAR'S PAW CURLED OVER THE EDGE OF THE DECK—ONLY CENTIMETRES FROM THE BOY'S FEET.

The bear hesitated and dropped Kitchen to the ground. His face gouged, his neck almost severed, Kitchen was dead.

Bailey turned to the other victims. She knelt beside McConnell and felt for a pulse. She knew the woman was dead, but her training dictated that she try to resuscitate her. She set to work.

Just then Kelly moaned, and Hedingham rushed to his side.

Suddenly the bear's left paw curled over the edge of the deck centimetres from Kelly's feet.

Furious, Hedingham stood up and delivered a vicious kick to the bear with his hiking boots. The animal staggered back, but instead of retreating, it moved down the slope toward the

boardwalk, where people were still passing by.

Hedingham turned back to the boy, who was trying to crawl to his mother. "Help my mom," he pleaded in a whisper.

"Don't worry," Hedingham said. "We're doing all we can. You mustn't move. Breathe slowly."

Hedingham, who had first-aid training, took a handkerchief from his jacket to mop blood from the worst of the gashes. "What we really need," Bailey said, "are towels to act as compresses and two more pairs of hands for CPR."

As if in answer, several men bounded up the stairs. One had a towel and knew CPR. He helped Hedingham bind the boy's wounds.

Another man assisted Bailey, compressing McConnell's chest while Bailey breathed into her mouth.

The bear had gone. But where was the ranger? Bailey wondered.

"We must get them to hospital," Hedingham said desperately. "I'm going for help."

Suddenly, new screams rang through the trees.

ARIE VAN DER VELDEN, 28, a research assistant from the University of Calgary, had been soaking in the upper pool when he became aware of a commotion coming from the bush. Along with other bathers, he left the pool and hurried down the boardwalk. He had almost reached the turnoff to the Hanging Gardens when someone yelled, "A bear's coming! Run for your lives!"

Everyone turned and ran, but Van der Velden slipped and fell into the bush. In seconds the bear was there and launched itself on top of him, slashing at his body. Van der Velden kicked the animal's nose. He even tried pulling the bear's ears, but nothing could deter the beast. Van der Velden felt a searing pain as the bear's claws hooked into his flesh, and then the bear bit deep into his left thigh.

ANOTHER MAN AIMED HIS RIFLE AT THE BACK OF THE BEAR'S NECK, THEN FIRED. HE KNEW IT WAS DEAD, BUT FIRED TWICE MORE.

Dave Webb, a 49-year-old businessman from Fairbanks, Alaska, had just arrived at the park when an exhausted man dripping blood from his temple ran up. "You've got to do something. There's a bear up there!" Hedingham panted, explaining what had happened. Webb nodded, raced back to his motorhome and brought out

two rifles—a Winchester .30-30 and a Remington .223.

To a young man standing nearby, he shouted, "Do you know how to use a gun?"

"That 30-30 I do," said Duane Eggebroten, 27. They loaded up and set off at a run down the boardwalk.

Eggebroten arrived at the scene first. He heard low groans coming from below the boardwalk. The bear now had Van der Velden propped against a log and was feeding on him. Eggebroten aimed carefully for the back of the bear's neck, then fired. The bear slumped down. Eggebroten knew it was dead, but he fired twice more to be sure.

Up on the viewing platform, Bailey, still tending to McConnell and her son, heard the shots. All the pent-up tension and anger poured out of her. "Shoot it again!" she cried. "Shoot it again!"

The horror at Liard River Hot Springs was finally over.

Patti McConnell died that afternoon. But thanks to the courage of Ray Kitchen, Ingrid Bailey, Frank Hedingham and the others, Kelly McConnell and Arie Van der Velden survived. Flown out to a hospital, they both eventually recovered from their wounds.

In Fort Nelson on August 22, 1997, more than 500 mourners turned out to honour the bravery of Ray Kitchen. In a letter to Kitchen's wife, then-U.S. President Bill Clinton wrote, "The heroism and selflessness that your husband displayed coming to the aid of Patti and Kelly McConnell is an example of all that is noble and good in human nature."

From Canada, Kitchen posthumously received the Star of Courage in September 1998. Frank Hedingham, Kelly McConnell, Ingrid Bailey and Brad Westervelt were also awarded decorations for bravery.

After the bear attack, B.C. Parks installed a two-and-a-half-metre-tall electric fence around the entire facility, to protect visitors from wildlife. R

THIS ARTICLE FIRST APPEARED IN THE APRIL 1999 ISSUE OF *READER'S DIGEST CANADA*.

Bottoms Up

Tea unleashes the potential which slumbers in the depth of my soul.

LEO TOLSTOY

Great love affairs begin with champagne and end with tisane.

HONORÉ DE BALZAC

I judge a restaurant by the bread and by the coffee.

BURT LANCASTER

"No new environment felt insurmountable with Pablo by my side," writes Sosa Wright.

Pablo and Me

My twin died when we were 18. I'm now finally learning how to live without him.

BY Ben Sosa Wright
FROM *XTRA MAGAZINE*
PHOTOGRAPH BY WADE HUDSON

"Do you have any siblings?"

People throw that question around all the time, along with other typical getting-to-know-you fare like "Where did you grow up?" or "How do you feel about this season of *Drag Race*?" It makes sense that others would treat these inquiries casually. After all, they're completely normal questions that provide context for who we are.

In 2014, my fraternal twin brother, Pablo, passed away suddenly from a heart condition at the age of 18. Since then, I never knew how to answer the siblings question. Even though there were only two options, choosing either one felt like lying. And the idea of being completely forthcoming made me sick.

"Well, I did but now I don't."

I'd tried that answer before and I always found myself taking care of the other person's emotions afterward, as if I had put them through something by telling them that my brother died. Over time, I chose instead to compartmentalize my grief. Shutting down my emotions only ever worked for a day or two. I just couldn't find the words to describe my brother or the pain his loss brought. But recently I've been trying.

WHEN YOU GROW UP as a twin, part of your identity is fixed in the fact that you are one of two. Twins spend as much time as they do together because it's convenient: it can be excruciating trying to make new friends, so to have a best friend already, one who lives with you, is the world's greatest security blanket.

When we were kids, Pablo was quiet and I was loud; he was well-behaved and I got in trouble with teachers; he was universally liked by our peers and I made enemies in no time. But when we were alone together, or with our close friends or family, we were practically the same person. We would play in the basement for hours, modelling Claymation characters from scratch while making each other laugh uncontrollably. Having someone who knows you better than anyone else in the room is affirming because your sense of self is alive in another person. No new environment felt insurmountable with Pablo by my side.

I remember having a pizza lunch at our elementary school in Toronto when we were 11. A classmate was giving Pablo a hard time—maybe he took his pizza crust or Five Alive, I'm not sure—and I, who had previously thought myself above brutish behaviour, soared from the table to put my hands on the perpetrator. It was pure instinct. My body became hot. I needed to be there for Pablo. The classmate and I pushed and slapped each other until a teacher separated us.

When the vice-principal asked me why it happened, I just stared. "I was defending my brother. No, I'm not sorry. Yes, I would do it again."

I stayed true to my word. I defended Pablo any and every chance I got. Maybe I was defending our collective ego, but it often felt like I really was defending Pablo's well-being. Despite being three minutes older, he was smaller and susceptible to bullying.

But Pablo also cared for me. He was the first person I ever came out to. It was an anticlimactic experience—he didn't seem at all surprised and nothing changed between us. Later on, Pablo claimed to have always known I was gay because whenever we played with our *Star Wars* Lego together, I chose the fierce woman characters. He placed an immense value on my decision to "play as a girl" and always made me feel cooler as a result.

As he entered his teens, Pablo became an intelligent, compassionate

force of nature who moved peacefully through the world and never demanded attention. He discovered art and filled countless sketchbooks with original creatures and only showed them to those he felt close to. You felt special if he let you flip through the pages, nodding as he described the inspiration behind each hero or monster. His taste in music, film and television was also cool and eclectic. He introduced me to the Shins, Coen brothers movies and *Adventure Time*—all formative things for me. Pablo was my steward in the world of fantasy and sci-fi; I still feel connected to him any time I see the Marvel or *Star Wars* logo appear on a movie screen.

WHEN WE GRADUATED from high school, I moved to Montreal while Pablo stayed in Toronto.

He died a month after I left for university. I heard my name said by itself for the first time, and it made me feel lonely. I missed the ampersand between our names. And when people talked about him in the past tense, I felt the same heat in my body as I did way back in that lunchroom, as if Pablo were dying these little deaths. I thought it would be easier to become no one at all than to find out who I was without him.

Of course, I still had to live my life. I discovered stand-up comedy in Montreal, cut my teeth in the city's alternative comic scene, then moved back to Toronto to do even more stand-up. Throughout these years I was, objectively, myself. But every new friend, acquaintance, professor and comedian that I met wasn't meeting the me that I knew, the person who was Pablo's twin. They were meeting a shadow of that person.

Queer people who spent any time in the closet growing up can identify with the feeling of self-preservation through emotional detachment. Negating an entire part of your existence can

The author (left) and Pablo, in 2013.

COURTESY OF BEN SOSA WRIGHT

feel isolating and repressive, but it can also feel, at times, pragmatic. Pablo's death was too painful to bring up. When I did, I was left with a vulnerability hangover so powerful that it made hiding my grief feel like the easier option.

Every time I tried to speak of him, the words felt insufficient and hollow. I wanted new words. I grew to hate the typical grief jargon. Pablo felt bigger than all of that—he still does. (Not to brag, but he's probably the most important person in all of history to have died too soon.) So now I operate from a place of feeling sorry for those of you who didn't know my twin, and I have been finding joy in harnessing language to tell people who he was.

AS PAINFUL AS IT IS to mourn the relationship we had, and who I was when I was with him, I always felt like I was a better person for having Pablo in my life. His likeness is in my DNA. When something funny happens at work or on stage, I imagine telling him about it. I try to keep these invisible conversations alive because it's something I miss most about being a twin.

While I am convinced that grief, unfortunately, ages you physically, the one silver lining that comes with experiencing a devastating loss is that it ages you mentally, as well. I cringe at the word "wiser"—it feels like it should be reserved for wizards and librarians. But it is true. I am wiser thanks to Pablo.

There are times where I dream of being an enlightened, damaged person who can eloquently divulge my trauma at a dinner party, where everyone is so moved that they applaud. As the hostess wipes a tear from her eye, she says, "Ben, you are so brave and smart." But I know that's not the level of closure I realistically need.

I don't think losing Pablo is ever something I want to feel "at peace" with or gain closure from. I still don't understand why he had to die so early, and I don't think I ever will. But it gets easier with time, and like any relationship, my relationship with Pablo will change with me. As I continue to grow and learn, I find comfort in the fact that I can do so through Pablo's eyes. R

Behind the Wheel

The best car safety device is a rear-view mirror with a cop in it.

DUDLEY MOORE

Good artists make the roads. Good teachers and good companions can point them out. But there ain't no free rides, baby.

URSULA K. LEGUIN

LIFE'S LIKE THAT

Didn't You Hear?

(SIGN) COURTESY OF EIMEAR MANNING

Me, arriving late to functions: Sorry, supply chain problems.
—DELIA CAI, *writer*

Nine-Month Miracle

My wife and I were at the hospital for her toe surgery, so she asked for a wheelchair. As we made our way to her appointment, one nurse approached us and said, "Congratulations."

It turned out the wheelchair had "maternity" labelled on it. We are 89 and 90 years old.
—GEORGE LAHODA, *Calgary*

Before my wife became pregnant, I always assumed Braxton-Hicks was a country music artist.
—@THEDADVOCATE01

Me Before You

I was running a bath and saw my dog looking nervous, so I showed her my glass of wine to reassure her that the bath was for me.
—ASHLEY NICOLE BLACK, *comedian*

Every Friday, my husband and I have ice cream as our treat.

Last Thursday, while watching TV, I suggested that it would be nice to have ice cream, to which he replied, "Well, it's Friday somewhere."
—JACQUELINE VACHERESSE, *Garlands Crossing, N.S.*

A classmate was surprised when she noticed that my driver's licence indicated that I was an organ donor—so much so that she asked, "Which organ did you donate?"
—@LEXADELGAY

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 Ultimate Guide to a Greener Bathroom

HOW TO MAKE THE MOST TOXIC ROOM IN YOUR HOUSE CLEANER, SAFER AND CHEMICAL-FREE

BY Tara McKenna FROM *DON'T BE TRASHY*

ILLUSTRATION BY HUDSON CHRISTIE

Early in the 2010s, I began to realize that my bathroom was the most toxic place in my house. I read headline after headline warning consumers about the negative health effects of chemicals in beauty products. Documentaries such as *Stink!*, about the toxic chemicals found in everyday products, left me further alarmed. I had all kinds of unsafe chemicals in my cupboards. Maybe it shouldn't have been that much of a surprise, especially when it came to the cleaning products. Many of them do have warning labels.

Now it makes me cringe to think that I spent years cleaning with harsh chemicals without wearing rubber gloves. I wasn't protecting myself against the toxins that can penetrate the biggest organ we've got: our skin. Additionally, breathing in cleaning products' fumes can be bad for our lungs. Toxic substances may irritate air passages, be absorbed by the lungs into the bloodstream, or lead to a decline in lung function with long-term use. I resolved to change my cleaning habits—immediately.

What I didn't know back then was that my efforts were also laying the foundation for sustainable and low-waste living. It makes sense. Less stuff equals less waste. Fewer toxins equals healthier people and a healthier planet. And, the chemicals we use at home often find their way into the natural environment.

Fast-forward to today, and I'm seeking out bathroom products that are healthier (i.e., non-toxic), with a minimalist approach (i.e., fewer products, more functionality) and that are low waste (i.e., have less packaging). My transition took years, but there are many ways to speed up the process to a cleaner, greener bathroom.

CHECK THE INGREDIENTS IN YOUR PERSONAL CARE PRODUCTS

The first few non-toxic swaps I made were shampoo, conditioner, body wash and lotion, making sure each replacement was free of parabens. Parabens are a class of commonly used preservatives known to disrupt hormone function, which can negatively impact fertility, birth outcomes and reproductive organs, and also increase the risk of cancer.

I often use the free online database created by the American non-profit the Environmental Working Group (www.ewg.org/skindeep/) to determine safe versus harmful ingredients. In addition to parabens, here are some of the toxic ingredients the EWG recommends avoiding:

- coal-tar hair dyes and other coal-tar ingredients, including aminophenol, diaminobenzene and phenylenediamine (found in dandruff and psoriasis shampoos)
- fragrances (can contain hormone disruptors and are among the world's top five allergens)
- PEGs and ceteareth (found in personal-care products and cosmetics)
- phthalates (often included in fragrance, as well as in some nail polishes, plastics, paints and air fresheners, among other things)
- triclosan and triclocarban (antimicrobial ingredients in a range of personal-care products, including toothpaste and deodorant)

(DEODORANT) ISTOCKPHOTO.COM/KA2SHKA; (NAIL POLISH) ISTOCKPHOTO.COM/GRESEI

FOUR STEPS TO A CLEANER BEAUTY ROUTINE

I only use a few beauty products, but I still like a good eye shadow and mascara—and some foundation to conceal my rosacea, a red and bumpy skin condition on my face. Our daily beauty routines are significant, even if we don't give them much thought. Here's how to start simplifying yours.

1. REVIEW YOUR CURRENT ROUTINE: Consider your daily beauty regimen through morning, day and night. Ask yourself the following questions:

- How many products do I use each day? What are they?
- What products am I using the most?
- Which products do I barely touch?
- Are all my products effective?

Through this reflection exercise, establish what's essential to your routine and what's unnecessary. Consider what a simplified routine could look like for you.

2. FILTER OUT YOUR PRODUCTS BY THEIR INGREDIENTS: Gather all your products. Then, using resources like the EWG website, assess each one and decide whether you will keep it based on your knowledge of the ingredients. Discard anything that no longer meets your standards.

3. SLOWLY MINIMIZE: Now that you've detoxed your beauty products, take a

good look at what you have left. Next, incrementally minimize the products in your daily routine to transition toward less. Try not to toss everything all at once (unless you know for sure that you won't need certain items).

4. START FRESH WITH YOUR NEW AND IMPROVED ROUTINE: Once you become comfortable with your reductions, step into your new and simplified routine. Keep in mind this won't happen overnight; it may take a few weeks or even months to create your ideal setup.

15 EASY LOW-WASTE OPTIONS FOR YOUR BATHROOM

Finding perfectly non-toxic and low-waste bathroom products is a bit like looking for a needle in a haystack! The process of trial and error can result in a pile of unwanted stuff. My biggest piece of advice is to use up what you already have, then find replacements when needed. Once you're ready to make the switch, here is a list of options to help you get a head start:

TOOTHBRUSH: Conventional toothbrushes are a source of plastic that's filling our oceans and our landfills. So what are the alternatives? Bamboo toothbrushes, like those from Brush Naked, last just as long as a plastic toothbrush. Another way to reduce your waste is to opt for a toothbrush that includes a reusable handle with a replaceable toothbrush head.

TOOTHPASTE: Many toothpaste tubes are made of a combination of plastic and aluminum, which makes them difficult to recycle. But not all toothpaste comes in a tube! Tooth powder sold in glass jars is one alternative. It is used much like normal toothpaste; simply wet your toothbrush, dip it in the powder, and brush. Toothpaste tabs, which you can crush in your mouth before you start brushing with a wet toothbrush, are also available from the brand Nelson Naturals, for example.

FLOSS: Instead of using plastic, some people opt for silk floss in a reusable glass jar or stainless-steel container. You can also get a water flosser (like Waterpik), which is endlessly reusable.

RAZOR: When I began to reduce my waste, I switched to a metal safety razor by Albatross Designs, which has a blade take-back program that upcycles the blades. I'll never go back. I even find my metal safety razor offers a closer shave, too.

(RAZOR) ISTOCKPHOTO.COM/VALERII EVLAKHOV; (TOOTHBRUSH) ISTOCKPHOTO.COM/ANATOLIY SADOVSKIY

TOILET PAPER: One option is to use family cloth, which is exactly what it sounds like. Each family member has their own set of cotton washcloths to use for number one and number two. You need a sealed laundry bin for used cloths and must wash these cloths separately from other laundry, using hot water and eco-friendly bleach. Alternatively, you can opt for a bidet, which can significantly cut down on toilet paper use, or choose toilet paper made from recycled materials.

SHAMPOO AND CONDITIONER: I prefer shampoo and conditioner bars. If you want to go the refillable route, see if there's a local bulk or zero-waste shop where you can bring an empty bottle to fill up on shampoo or conditioner.

BODY WASH AND HAND SOAP: I use bar soap for both. You can look into liquid refill options similar to those mentioned above for shampoo and conditioner. Another cool option is to buy concentrated mix that you combine with water in your own reusable hand-soap bottle.

BODY AND FACE LOTION: One of my favourite solid lotion bars is made from beeswax; it's smooth, smells nice and is perfect for travel. You can also get a glass jar refilled with body lotion. Looking for some DIYs? Check out the blog at www.thezerowastecollective.com/blog!

MOUTHWASH: There are a few low-waste options for mouthwash, like getting it in a glass jar, finding refill stations locally and at zero-waste-dedicated shops, or getting concentrated tablets

that you drop into water.

DEODORANT: There are many deodorant options, but I often use Meow Meow Tweet, which is aluminum free. You can buy it in either a jar or a solid form that is packaged in a cardboard tube. There are also brands that offer a reusable tube that can be refilled. Simple as that!

MENSTRUAL PRODUCTS: Swap out disposable pads for their reusable counterparts, like Mother-ease and leak-proof underwear. You can rinse reusables in a washing machine on a quick rinse cycle, then add in with towels or sheets to wash. Or, try a menstrual cup.

MAKEUP WIPES, COTTON BALLS/ROUNDS: Go for reusable options! You can buy or sew (using an online tutorial) specialty makeup wipes and cotton rounds, or just use a face cloth.

COTTON SWABS: There are both plastic-free and reusable alternatives to cotton swabs. There are reusable versions made by LastObject and NakedSwab, which come in a carrying case, making them easy to travel with.

(TOILET PAPER) ISTOCKPHOTO.COM/ZORAN KOLUNDZIJA; (SOAP) ISTOCKPHOTO.COM/ASLAN ALPHAN

HAIRBRUSH: If you need a new one, opt for natural and renewable materials like wood and natural rubber that are sustainably sourced.

TISSUES: I swapped these out for reusable and washable cotton hankies. I simply use them, toss them in the laundry, then wash them with my towels.

CHECK THE INGREDIENTS IN YOUR CLEANING PRODUCTS

The air inside our homes is two to five times more polluted than the air outside. This is due to things like building materials, home furnishings, air fresheners and cleaning products releasing harsh chemicals into the air, including ones linked to asthma, developmental harm and cancer. Here's what to ditch:

- Cleaners that include ammonia or chlorine bleach because they are highly toxic, and when accidentally mixed, they create a dangerous chloramine gas.
- Anything containing hydrochloric acid, phosphoric acid, sodium or potassium hydroxide, or ethanolamines, because they can cause skin burns, blindness and lung irritation.
- Air fresheners and scented products that don't disclose their fragrance ingredients, as these products may trigger allergies and could contain endocrine (hormone) disruptors.
- Triclosan, which is an antimicrobial that is linked to increased allergen sensitivity and may disrupt thyroid function.
- Quaternary ammonium compounds, which are chemicals associated with asthma, reduced fertility and birth defects in animals.

(SPRAY BOTTLE) ISTOCKPHOTO.COM/4X6; (CLEANING RAG) ISTOCKPHOTO.COM/S-CPHOTO

THREE STEPS TO GREENER CLEANING

It's time to figure out what you really need to clean your home and streamline your cleaning routine with the low-waste options that work best for you.

1. DETOX YOUR CLEANING SUPPLIES: Similar to the way you decluttered your cosmetics and toiletries, pull out all of your cleaning supplies. Then, using the EWG website, assess everything and discard anything that no longer meets your standards. You can give these away, donate unused products to organizations that accept them, and throw away anything that remains.

2. SIMPLIFY YOUR CLEANING ROUTINE: After going through the exercise above,

assess what's left. Ask yourself:

- Will I use everything here?
- Am I missing anything that I need?

While it's freeing to declutter, it's also less wasteful to use up what you already have at home.

3. LOW-WASTE CLEANING OPTIONS: Once you're ready to fill in any gaps in your leftover cleaning supplies, consider the following low-waste options:

- **Product refills:** Product refills are great if you have access to zero- and low-waste shopping options. Take your own containers and fill up what you need in store. You can also do low-waste bulk refills at home with companies like the Bare Home and Common Good.
- **Concentrated cleaners:** Dr. Bronner's castile soap is a highly concentrated cleaning solution that, when mixed with water, can be used to make various cleaning products: all-purpose cleaner, veggie and fruit wash, toilet bowl cleaner and body wash, among many other uses. Other low-waste, concentrated cleaning brands have concentrated tablets to reduce plastic waste at home, or you can try Tru Earth laundry strips.
- **Solid bars:** Similar to concentrated cleaners, solid bars reduce waste by eliminating single-use plastic. No Tox Life carries the Dish Block, which is a concentrated cleaning bar that's great for washing dishes as well as cleaning other areas of your home.
- **Make yourself:** My all-time favourite, easy-to-make all-purpose cleaner is simple! All you need is a spray bottle, water, vinegar and (optional) essential oil. Here's the breakdown:

– 1 part vinegar to 2 parts water

– 10–20 drops of your favourite essential oil per 3 cups (I like to use a citrus mix)

This all-purpose cleaner is safe for most surfaces, but you should avoid using it on granite, marble and soapstone countertops, as well as solid-wood furniture. Vinegar is a great disinfectant, with many antibacterial properties; that said, it does not kill viruses like COVID-19.

- **Cleaning accessories:** Skip the paper towel and use a reusable rag or cloth for cleaning. Or opt for a Ten and Co. Swedish sponge cloth, which can hold up to ¾ cup of water, can last up to a year, is easily cleaned in the dishwasher or washing machine, and can be composted at the end of its life. R

Happy Feet

Some socks are loners. They can't live in pairs.

WENDY COPE, POET

"Joey, Meet Glennie"

Our son isn't a dog person. Could our new dachshund-mix change his mind?

BY Ruth Marshall

ILLUSTRATION BY JARETT SITTER

"YOU KNOW THAT TROPE: guy hates dogs, then guy falls in love with dog?" said my older son, Joey, who's 23 and lives in and works from our home. "Not gonna happen here."

I got it. My husband Rich and I never wanted a dog either. We didn't have them as children, and our children never wanted them as children. Dogs had bad breath, they never cleaned up after themselves, and we all had strong feelings about where they put their noses and what they did when we

weren't looking. Twelve years ago, while looking after my sister's shaggy Havanese, Mojito, he ran away, ate a bird and then threw it up on our rug.

"We are *never* getting a dog," I told Rich afterward.

But in the early days of the pandemic, doggies were everywhere and, unlike people, we could cuddle them. Dachshunds were our favourite. Rich found Glennie on Kijiji in March—half Chinese crested powderpuff, half dachshund. Translation: the mother was a long-haired beauty and the father was a scrappy escape artist.

We brought our darling, barely a kilogram, home to meet Joey. "She seems nice," he said, giving her a cursory pat on the head, "but I don't want a dog."

He would come around. How could he *not* come around? *We* came around! He didn't come around. He refused to have anything to do with her, even though she climbed all over him while we watched *Jeopardy!* and licked his feet and played with his socks.

We respected his boundaries, but one night, four months after Glennie had taken up residence in our Toronto home, Rich and I had dinner plans and Joey was getting picked up by three friends to go to a cottage. That meant there would be a one-hour window in which Glennie would have to be left at home alone. In preparation, Joey took her for a walk, picked up after her (progress!), then told her it was time for him to go.

When he opened the door to meet his friends outside, Glennie escaped. Joey took off after her, afraid she'd run into the street, and immediately tripped on the porch, ripping his chin open. Glennie ran back and jumped on his head. We rushed home and waited with Joey's friends while he went to the hospital to get his chin examined.

Sitting in the living room, we looked curiously at the full laundry basket in the middle of the floor.

"Joey wanted to show off how Glennie chases her leash around the basket," his friend explained. "He thinks she's pretty cute."

Probably not anymore, I thought. Joey came home, thankfully okay, his chin glued back together. No doubt it would take more than glue to get him and Glennie back together, though. He picked up his bag for the cottage and slung it over his shoulder.

"Let's try this again, guys," he said to his friends.

Glennie's nails ticked shyly across the floor. Joey paused.

"Oh," he said. "It's you."

Glennie licked his socks, trying to apologize.

"I'm okay," he said to her, bending down and rubbing—not just patting—her head. "I really am. See you Monday, Glennie."

Trope, meet true love? Maybe once Glennie learns how to do his laundry. Starting with his socks. R

HEAL THYSELF

HOW NEW BREAKTHROUGHS IN REGENERATIVE MEDICINE—USING YOUR OWN **STEM CELLS**—CAN TREAT ALMOST ANYTHING

BY Patricia Pearson

PHOTOGRAPH BY JAIME HOGGE

Dr. Riam Shammaa used Annissa Jobb's stem cells to alleviate her back pain.

ANNISSA JOBB HAD been working as a personal support worker in Toronto for a couple years when her back pain first appeared. The cause: an undiagnosed herniated disc, which had pinched the nerve. As the pain worsened, she gritted her teeth and tried to keep going.

"It was my calling in life, taking care of people," explains Jobb, now 54. But working with frail seniors involves a lot of lifting, bending and pulling. "I had a drawer full of pain medication. None of it was working. I'd snap. My husband and I came close to getting divorced."

By November 2016, about a decade after she first noticed the pain, Jobb could scarcely walk 200 metres. "My family doctor finally said, 'You will end up in a wheelchair if you don't stop working there.'"

Jobb's GP referred her to Dr. Riam Shammaa, a sports medicine and pain specialist in Toronto. Every few weeks, Shammaa administered nerve-block needles, similar to an epidural. They held Jobb's pain at bay for anywhere from a few days to a few weeks, but then it always returned.

Historically, the treatment of chronic back pain has been less than ideal, either causing patients to become addicted to opioids or involving major—often unsuccessful—spinal-fusion surgery, which is suitable for only about one in 20 patients. Hunting for a solution beyond these limited options, Shammaa turned to stem cells—the building-block cells found in human embryos, but also in various tissues in adult bodies—which are able to generate an array of different cells. Specifically, he'd been studying bone marrow stem cells, and invited Jobb to participate in a study with 23 other patients, cautioning that there were no guarantees. The procedure would involve using Jobb's own bone marrow cells and had been proven safe. She agreed to try it.

In Jobb's case, the stem-cell therapy would require extracting her bone marrow tissue and concentrating the stem cells, known as mesenchymal stem cells, or MSCs, present in the marrow. This concentrate (called bone marrow aspirate concentrate, or BMAC), which is processed in a centrifuge, would then be injected into her herniated disc in the hopes that it would regenerate and heal the damaged tissue.

An MRI of Jobb's spine showed two discs were causing her problem, which was good news as far as the procedure

was concerned. "Out of five levels on the lumbar spine, one or two showing damage tells you that the spine hasn't deteriorated everywhere," says Shammaa. "By contrast, when you have five levels of severe disc disease—in other words, if the spine is really messed up—there is not a lot you can do."

The procedure took place in September 2017 and began with an extraction of Jobb's bone marrow—the most painful step—which was immediately distilled and concentrated. Then, guided by a type of X-ray called fluoroscopy, Shammaa inserted a needle through Jobb's spine to place the BMAC in the discs. All told, it took three and a half hours, and Jobb remained awake the entire time in order to alert Shammaa if he touched a nerve.

Afterwards, Jobb recovered in bed for two weeks and then, slowly, began to walk. A month later, however, she strode briskly into the clinic, a moment Shammaa recalls with delight. "She was in disbelief," he says.

When Shammaa published his findings in March 2021, he reported that 90 per cent of his patients gained two to three millimetres of height that had been lost due to disc compression. Furthermore, 80 per cent of them stopped using opioids. As for Jobb, while she had previously described her back pain as "beyond 10", she says it's now a two.

THE USE OF STEM CELLS is part of a field called regenerative medicine, which began to emerge two decades ago as a way to deploy the body's own cells and growth factors to repair tissues by restoring their lost function. Several such therapies and products are already approved by regulators and in use, including skin substitutes for treating burns, scaffold products for healing surgical incisions and cord blood–derived products for treating certain blood diseases and disorders.

But over the next decade, the expanded use of stem cells to treat even more injuries and conditions could lead to a medical revolution. As researchers report from stem-cell clinical trials being conducted all over the world,

A regenerative medicine scientist examines a stem cell culture.

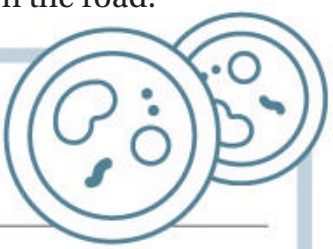
PHILIPPE GARO/SCIENCESOURCE.COM

the hope that these cells can repair damaged bodies, long discussed and debated in scientific circles, appears to be well founded.

In a study treating congenital vision loss with retinal stem cells at the University of California, Irvine, for instance, one woman was able to see her family for the first time in years. A German child suffering from a sometimes-fatal skin disease called epidermolysis-bullosa recovered after receiving a transplant of genetically modified skin cells at Italy's University of Modena and Reggio Emilia. The actor Selma Blair reported symptom remission last August after participating in a stem-cell transplant trial for multiple sclerosis. And a multi-centre study on treating osteoarthritis underway in Ireland, France and the Netherlands shows promising early results from 18 patients.

Despite these early successes, Shammaa cautions that the science is so new that it is easily misunderstood and misapplied. "There are a lot of snake-oil salesmen out there," he says, pointing to private stem-cell clinics all over the world that claim to cure such things as erectile dysfunction and dementia, doing so without genuine evidence and in defiance of regulatory bodies. "It's important for patients to learn what is possible right now and what is still down the road."

STEM CELLS, BUT WHAT KIND?



Here are the main types of stem cells being used in the rapidly developing field of regenerative medicine.

PLURIPOTENT A few days after fertilization, an embryo becomes a mass of about 100 cells (a blastocyst) that can become any type of body cell. Since there are ethical concerns with harvesting them, scientists are learning to reprogram adult cells to act like pluripotent stem cells. These induced pluripotent stem cells (iPSCs) hold promise for diseases like macular degeneration, Parkinson's and heart disease.

MULTIPOTENT Multipotent stem cells can develop into more than one cell type but are more limited than pluripotent cells. For instance, mesenchymal stem cells are a type of multipotent cell that can come from bone marrow, fat tissue (from stromal vascular fractions), an umbilical cord or amniotic fluid. They're popular in regenerative medicine, and there's potential for them to treat many conditions, including spinal cord and cartilage injury, as well as rheumatoid arthritis.

UNIPOTENT Unipotent stem cells can become only one thing. There is research underway to see how skin stem cells could be used to regenerate skin after burns, which would normally be treated with skin grafts. *—Tina Knezevic*

He adds, "Some patients are good candidates for simple procedures like a bone marrow concentrate injection, but others have illness or injury that is too advanced or too complicated. We cannot give them false hope."

That said, the field of stem-cell therapy is less than 20 years old and has already come a long way.

AN EARLY BREAKTHROUGH occurred in 2006, when Shinya Yamanaka, a molecular biologist at Kyoto University in Japan, showed that stem-cell therapy could avoid the morally divisive use of embryonic stem cells. Instead, he discovered he could induce adult skin cells to develop into blood or bone or liver cells. Yamanaka, who went on to win a Nobel Prize in 2012 for this work, differentiated these cells from the kind found in a fertilized egg by calling them "induced pluripotent stem cells," or iPSCs. While an embryo's cells could turn into any part of the body, iPSCs could create many different kinds of tissues, but not a whole human. Since this discovery moved the conversation about stem cells past the sensitive subject of using fetal tissue for medical purposes, which is illegal in some countries, the research began to take off.

In 2014, Tokyo's Riken research institute performed the first-ever successful iPSC transplant, creating retinal cells generated from skin cells from a patient with age-related macular degeneration. Shortly afterwards, Dr. Henry Klassen at the University of California, Irvine, oversaw a trial for treating retinitis pigmentosa, a rare genetic group of disorders causing gradual blindness, in which a donor's retinal progenitor cells were transplanted into the eyes of 28 study participants. One of them, 64-year-old Kristin Macdonald of Los Angeles, who had gone blind, regained what she describes as a burst of light. "I can navigate by light now, and see more contrasts and shapes," she says. Macdonald has since become an outspoken patient advocate for stem-cell trials.

RETINAL STEM CELLS HELPED ONE WOMAN SEE HER FAMILY FOR THE FIRST TIME IN YEARS.

Then, in 2018, neurosurgeon Richard Fessler of Rush University Medical Center in Chicago oversaw a year-long trial with iPSC stem cell-derived motor neurons transplanted into six patients paralyzed by spinal cord injuries. Fessler reported that all regained some upper-body movement, and that a patient who was only able to shrug his shoulders can now use his hands to eat, write and do other tasks. This is the kind of breakthrough that the late *Superman* actor Christopher Reeve was advocating for from his wheelchair, after neck-down

paralysis from a horseback-riding accident, while governments around the world were making moves to restrict embryonic stem-cell research. (In certain cases, embryonic stem cells are currently in medical use, derived from leftover blastocysts—the clustering of cells in a fertilized egg—that didn't implant during an IVF treatment.)

FOR MANY PATIENTS, STEM CELL THERAPY HAS ALREADY IMPROVED QUALITY OF LIFE.

These are still early days, with much to investigate in terms of safety, dosing and how to manufacture iPSCs for different conditions in a standardized and cost-effective way. But Yamanaka predicted in 2018 that several treatments using regenerative medicine and new drugs will be developed, authorized and covered by insurance as soon as 2030.

"We're looking at regenerative medicine as something that will one day be a medical specialty of its own," adds Dr. Shane Shapiro, associate professor of orthopedic surgery at Mayo Clinic in Jacksonville, Florida, "much like cardiology or neurology."

In the meantime, the first generation of stem-cell treatments that currently have regulatory approval in Canada, the U.S. and the European Union largely involve simple cell transplants—ones that move the patient's own cells from one part of their body to another. That said, stem-cell transplants for blood diseases like leukemia have been used for several years, this being the one exception where a matching donor's cells are also allowed.

Among approved procedures, the most common is BMAC transferred to the spine or the knee. While Jobb sought treatment for her back, 58-year-old telecommunications technician Rodolfo Corsini needed relief for job-related knee pain when he visited Italy's Humanitis research hospital in 2020. He hadn't heard of BMAC until it was suggested to him by surgeon Elizaveta Kon, who didn't see enough damage to merit knee replacement surgery. He agreed to the injection, and it was a success. "I can do almost everything that I did before," he says.

Kon, along with some European colleagues, is now involved in a number of exploratory studies, including a comparison of treating patients with BMAC plus another type of adult stem cell—called stromal vascular fraction (SVF)—which is extracted from a person's fat tissue.

Will it work? Certainly the early research on BMAC provides hope, although with limitations. "We couch these treatments as something to help with a chronic, degenerative condition, something that in many cases can

be successful in managing the symptoms and improving quality of life but in most cases are not a cure," Shapiro says. "The analogy should be diabetes or high cholesterol. We don't cure those things; we treat them. What we would like to see in the future is a way to treat arthritis without metal and plastic, or to treat degenerative disc disease without a spinal fusion. That's the ultimate goal."

A consortium of 10 European partners, including universities, is in pursuit of that goal, and researchers are even looking to skip the painful marrow extraction procedure that Jobb underwent. Instead, says research scientist Mary Murphy at National University of Ireland, Galway, they hope to be able to create MSC cells in the laboratory in a standardized and high-volume way. And while some members of the EU-funded group are focusing on how to generate that sustainable supply, others are testing new therapies. For example, researchers in Sweden and the Netherlands are developing one for osteoarthritis. It will be several more years before everything can be tested, approved and made available.

BECAUSE REGENERATIVE medicine is still young, and patients should be wary of profit-hungry companies selling fraudulent stem-cell products, those who want to know their options should start by consulting with a medical expert on their specific condition. "If it's knee arthritis, start with a specialist in orthopedic surgery or sports medicine," advises Shapiro. "If it's degenerative disc disease of the lumbar spine, start with a spine specialist." Then, seek a referral to someone in that field who has learned about regenerative medicine.

For many patients, stem-cell therapy is already making a lasting difference to their quality of life. "My husband and I went hiking last summer," Jobb says. "I walked a whole kilometre. I was so excited. I thought, maybe I could start cross-country skiing! Why not?"

Words to Move You

If I'm an advocate for anything, it's to move. As far as you can, as much as you can. Across the ocean, or simply across a river.

ANTHONY BOURDAIN

Perhaps travel cannot prevent bigotry, but by demonstrating that all peoples cry, laugh, eat, worry and die, it can introduce the idea that if we try and understand each other, we may even become friends.

MAYA ANGELOU

Thank You *for* Calling

Six steps to headache-free customer service

BY Erin Pepler

ILLUSTRATION BY VALÉRY GOULET

A CASUAL CONVERSATION with a longtime friend recently revealed that we were paying wildly different annual fees for the same satellite radio subscription. We had both spoken to customer service representatives to renew our memberships, but my friend was paying nearly double what I was for the same package. After comparing notes, we agreed that the disparity probably had something to do with how our customer service interactions had gone. (I was much nicer, I concluded, only half-joking.)

My approach to calling customer service has always been simple: be kind, be patient and be direct. I ask what promotions are available and if my current plan is the best they can offer, but I'm never demanding, rude or condescending. I'm also ready to walk away. I wanted that radio subscription, but I could live without it—and I'm sure the customer service rep could sense it. This strategy has

helped me negotiate a better deal on my cellphone, cable and Internet services, among other things.

Call centres have always been busy, but over the pandemic, their lines have been ringing off the hook. Recent consumer research from the U.S. shows that 54 per cent of customer service professionals reported an increase in case volume, with that demand expected to continue in the months to come. Wait times have increased along with call volumes—often leading to frustrated consumers and stressed-out call centre employees.

Getting what you want from customer service isn't always a given, but there are ways to stack the odds in your favour. Here are some insider tips and tricks.

Understand Your Contract

We've all been advised to read contracts in full before signing, but many customers simply skim them. Unfortunately, this can result in frustration when there's a gap between what's expected and what's been agreed upon. "Customers should understand the promise made to the customer by the company," says Emily, 30, a long-time customer service representative who currently works for a vehicle rental business in Ontario. She says most customer service issues she handles can be chalked up to someone ticking a box without reading the fine print. To avoid this scenario, read everything and ask clarifying questions before signing.

Be Transparent

A lot of callers tell little white lies to manipulate the outcome of a customer service interaction—like fibbing about how frequently or infrequently they use a service. But a rep has a bird's-eye view of your entire relationship to the company. Be clear, stick to the facts, and your honesty will often pay off.

"Today, a customer didn't get the vehicle model he ordered," Emily says. He quickly admitted he didn't read the rental contract, which stipulates the company will supply another vehicle if a specific model isn't available, and apologized. In response, Emily found the model he wanted at another location and credited him extra kilometres for the longer trip.

Call at the Right Time

Some telecommunications companies have a daily allowance of monetary credits they're able to offer customers per shift. "Every employee on the floor is given an amount of money they're allowed to credit," says Rebecca, 41, who worked in customer service for a decade, including several years with a large telecommunications company. "There's a max per customer and a max per day." The earlier you call in a person's shift, the better your chances of receiving these credits, she adds.

To gauge how many credits a rep may have left, Rebecca suggests engaging in some friendly banter: ask your rep how their shift is going or how far

into the day they are. Also be aware that an experienced rep with a proven history of meeting targets may have a higher credit allowance than someone who just started working for the same company. A newer hire may require a manager to approve a credit, often putting you on hold. Be patient: they're trying to help you get a deal.

This situation is more common for services; service interactions related to products are less likely to involve credits or the ability to negotiate fees.

Let Them Talk

After waiting on hold or going through a computerized system, you may want to jump right into your issue as soon as you reach a real person. However, most customer service reps have a script they're expected to follow or a checklist of security questions. Steamrolling your rep will start your interaction on the wrong foot. "Don't cut them off," Rebecca advises. "Let them take leadership of the call."

Stay Calm and Be Kind

The goal of a customer service job is to resolve issues, so most call centre reps will genuinely want to help. That said, they aren't expected to take abuse. "If a conversation starts with aggression or yelling, the representative isn't going to go out of their way to help you," Emily says. "Most companies have a policy of zero abuse, meaning if you're rude, our supervisors and the company endorse us ending the call before giving any type of support."

Your customer profile also has notes on your behaviour. "If you yelled, screamed and were a pain in the butt, they're already bracing for impact," says Rebecca, who has often endured abusive language. Emily adds that such tactics are often counterproductive: once, a customer who called her a derogatory word was banned from using the company's services.

Sometimes, customers have valid reasons to feel frustrated or upset. I've been there—recently I was accidentally charged $25 for a service I'd cancelled. It helps to acknowledge that the person handling your call isn't responsible for the problem itself. View your rep as a source of help. Show gratitude and thank them in advance. "If you're their one really good call in that hour," says Rebecca, "they're going to do everything they can to help you."

Try a Bot

Large corporations often offer online chat options. While they can sometimes be helpful, it's important to note that you may be talking to a bot that's programmed with preset answers. A chatbot may be adequate if you're looking for a simple answer to a common question ("Is this product dishwasher-safe?"), but there are limitations. If you have a complicated question, it's time to put these tips to use and call in. Good luck!


A B C
1 2 3

As a kid, I never expected to become lifelong friends with my teacher

The Remarkable Miss C

BY Caroline Cremer FROM *THE GLOBE AND MAIL*

ILLUSTRATION BY KATIE CAREY

There's a small, brown brick house

in Toronto, almost hidden by evergreens, that I visit from time to time. It's not the house that is special to me but, rather, the person who lives inside. I knock on the door and hear a sing-song voice inviting me in.

"It's me, Miss C," I say as I take off my winter coat.

"Put your boots under the heater, lovey," she says as she slowly appears in the hallway with her walker.

We give each other a long, tight hug. I walk into the living room and see books stacked neatly on the floor and pictures of her family and friends. I look over and smile at Winston, the same beloved dog puppet who once sat on Miss C's classroom piano years ago. Propped up on the mantel, he has a few holes in his arms now. Miss C puts aside her walker and sits down in her reclining chair. I sit close by and reflect on how fortunate I am to know such a remarkable woman.

I have adored Miss C ever since she became my kindergarten teacher, nearly 45 years ago. Her classroom seemed magical, filled with activity centres that sparked joy, curiosity, creativity and even comfort when needed. She had a piano and a ukulele, or uke, which sat under the easel, waiting to be played for eager four-year-olds. Near the window was a book corner, and next to that was the dress-up centre. Over by the cubbies were two long tables set up with bright paints, brushes and fresh paper. I remember starting my day there, painting pictures of my family.

My classmates and I knew our teacher cared deeply about us. For me, that is the mark of an extraordinary educator—one who instills within their students both the love of learning and the excitement of going to school. Miss C created a safe place where we could be whatever we wanted: a painter, a construction worker, a dancer, a writer.

One spring morning, Miss C brought to class chicken eggs that were nearly ready to hatch. We named and nurtured them for a few weeks. After they hatched, we became keen scientists carefully documenting their development through pictures and words in our egg journals. Although giving the

(PREVIOUS PAGE) BLACKBOARD BACKGROUND: ISTOCKPHOTO.COM/MAXIPHOTO; CHALK LINE: ISTOCKPHOTO.COM/ALIONAMANAKOVA

hatchlings away was difficult, Miss C taught us that this was the natural course of life. We trusted her, and we were okay.

FOR AS LONG AS I CAN remember, I wanted to be a teacher. As I got older, I often found my way back to Miss C's classroom to visit. Whether I was in middle school, high school or university, I would visit her class after school hours from time to time. When I graduated and became a teacher in Toronto in 1998, I couldn't wait to invite Miss C to my classroom.

Recently retired, she arrived one day with her ukulele tucked under her arm and Winston in her bag. As she sat in the rocking chair, I saw joy on my students' faces singing the same songs I sang with her as a child, like "Puff the Magic Dragon" and "If I Had a Pony." Afterward, with Winston on her hand, she effortlessly captivated the students through his delightful antics—like scratching his ear until he got himself in a tizzy. As a new teacher, I marvelled at how she intuitively connected with children. That is a rare gift.

For years, Miss C volunteered in my classroom. On one visit, she helped me and my students plant potatoes in our school's garden. On another visit, she helped my class release butterflies that we'd raised. She regularly helped my students read and write their stories. I felt fortunate to learn about teaching from her. I looked forward to our conversations as colleagues and friends.

We also shared in each other's ups and downs. She was there at my graduation from graduate school. She gave me advice when my dad went into a nursing home. She let me cry on her shoulder when my mom was diagnosed with cancer. In turn, I was there for her when her husband died and when her sister moved across the country. I encouraged her to travel to Cuba with her choir and even lent her my suitcase. She asks me for updates about my family and friends, and she tells me about hers.

WHEN I BECAME A TEACHER MYSELF, I COULDN'T WAIT TO INVITE MISS C TO MY CLASSROOM.

I am here for her now as she begins to slow down. Her mobility is limited, and the time to sell her house is near. I bring up boxes from her basement and place them at her feet. Then I sit on the floor and open each box for her. One by one we go through every painting a student gave her, every thank-you note a parent wrote, and many of her teaching aids. I recognize some of them. I now have her book of instructions on how to care for baby chicks. The felt sun that hung over her classroom's door now hangs over mine.

One day, I find a pile of chart paper featuring the letters of the alphabet. Each page is decorated with pictures and names of students beginning with that letter. I gasp as I find my own name printed in green marker. Suddenly, my mind goes back to Room 3. There is Miss C sitting on a chair next to an easel while my classmates and I sat on the carpet at her feet. We learned about the letters and their sounds and how to count. We sang songs and listened to stories.

Now, Miss C sits on her reclining chair, and I find myself again sitting on the floor at her feet. Over tea, we talk for hours. I listen intently because I know I still have more to learn from her. These days, the lessons are about love and relationships, growing older and making time for what's important in life. We also talk about the education system, then and now, and challenges in the classroom. I'm amazed how so much and so little has changed. Miss C doesn't miss a beat; she can explain the reasons behind a child's behaviour, and she can bring clarity to problems that I've been worried about for weeks.

OUR FRIENDSHIP IS one that neither of us expected. "Who would have ever thought!" she often says with a smile.

"I know," I answer, "I'm so lucky."

"Me too," she replies.

The truth is, we both are.

Before I leave that winter day, she hands me a bag of "groovy garbage" as she calls it, which consists of the empty yogurt containers she saves for me. She knows these are treasures to fellow primary teachers, for arts and crafting time. I happily accept them and give her a hug goodbye. I'll be back soon. Back in my car, I glance at my rear-view mirror and I can see her watching my car drive down the street.

Educators know teaching is not a job that starts at 8:30 and ends at 3:30. The lucky teachers get to see what their students have done with their lives. The exceptional ones never leave their students' hearts. R

Hope for the Best

It does not do to leave a dragon out of your plans if you live near him.

J.R.R. TOLKIEN

**Without leaps of imagination or dreaming,
we lose the excitement of possibilities.
Dreaming, after all, is a form of planning.**

GLORIA STEINEM

LAUGHTER
THE BEST MEDICINE

I'm so bad at small talk that I just asked the woman cutting my hair what she does for a living.
—@MOMJEANSPLEASE

Feeling Woozy
"How come you're late?" my boss asked when I arrived at work.

"It was awful," I said. "I was walking down the street and saw a terrible accident. I'm just glad I took that first aid course."

"What did you do?"

"I sat down and put my head between my knees to keep from fainting."
—REDDIT.COM

I just want to meet someone who's as considerate as the guy who named the flathead screwdriver and as confident as the guy who named the Phillips.
—SUSAN CLAUSE, *Ottawa*

Pay It Forward
A woman was getting swamped with calls from strangers because a billing service had launched a number that was identical to hers. When she called to complain, she was told to get a new number.

"I've had mine for 20 years," she pleaded. "Couldn't you change yours?"

The company refused, so she said, "Fine. From now on, I'm going to tell everyone who calls that their bill is paid in full."
—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 Ola Dada

When I tell people I'm from Fort McMurray, they usually think I'm lying. Listen, if I were going to lie, I would say I'm from Wakanda… which is more believable than a Black man being from Fort McMurray.

Ola Dada is a Vancouver comedian. Follow him on Instagram at @showtime.dada

COURTESY OF OLA DADA

BY Mark Schatzker FROM
THE END OF CRAVING

PHOTOGRAPHS BY LIAM MOGAN

Dana Small was 11 years old when she knew she wanted to study the brain. Six years earlier, her mother had developed epilepsy. Small watched as a woman she'd known to be quick witted and brilliant struggled to get out of bed in the morning. "That's what sparked my interest in the fragility of consciousness," Small says, "which is what led to the brain."

In 2001, she received her PhD from McGill University, after conducting one of her first and most famous experiments. In it, she gave subjects Lindt chocolates to suck on as their brains were being scanned. The scans revealed that with each successive chocolate, pleasure—or "reward value," as the study called it—diminished. The parts of the brain that were brought to glowing life by the first chocolate became more and more dim. The study, published in *Brain: A Journal of Neurology,* was a breakout success. To this day, Small remembers Wolfram Schultz, one of the world's most prominent neuroscientists, telling her that it was the most comprehensive study yet of motivation in humans. Since publication in 2001, it has been cited more than 1,300 times by other scientists exploring the nature of pleasure, not to mention by an untold number of journalists who use it as proof of humanity's hardwired and dangerous love of sweetness.

Despite the widespread acclaim, Small often found herself unsure of what the experiment actually showed. Was sweetness simply a superficial pleasure that diminished with continued exposure, the way a song can

become boring when overplayed? Or was something deeper going on? Was the brain's opinion of those chocolates influenced by signals it was receiving from the body and computations it was making about its needs?

It would take years, but those thoughts eventually crystallized, sending Small down a twisting experimental path that would lead to the biggest finding of her career.

IT BEGAN IN 2008 at Yale University, where Small had become a professor. Next door to her office, a Brazilian neuroscientist named Ivan de Araujo had been running some odd-sounding experiments with mice that were "sweet-blind"—they had been genetically engineered to lack the ability to taste sugar. Araujo then fed them, of all things, sugar.

Araujo was interested in "post-ingestive" effects. In 1970, a French physiologist named Michel Cabanac ran an experiment and found that sugar water extinguished appetite only if it was swallowed—if people spat it out, their hunger would persist. That meant sugar's biological interaction with the human body went beyond the tongue. A message, it seemed, was delivered to the brain that said, "Sugar obtained—cancel hunger." If the sugar water was spat out, however, no such message was sent. This was what led Araujo to do something as seemingly pointless as give sugar water to mice who were incapable of tasting sweetness.

The mice were put in cages with three sippers. One was filled with water, another filled with sugar water, and a third one with even sweeter sugar water. The mice, being sweet-blind, had no idea which was which, so they fumbled between dispensers, licking them all equally and randomly.

But only for a little while. After six days, the mice's behaviour was no longer random. They were deliberately drinking sugar water. They consumed it with the same frequency and in the same quantity as mice who were not sweet-blind. Somehow, the "blind" mice knew which sipper was which.

Araujo discovered that the brain chemical dopamine, previously thought to trigger the feeling of "wanting," was keeping a running tally of the energy contained in the food the mice had consumed. With

time, dopamine did enough bookkeeping that deep in the brains of the mice, predictions were formed, such as sipper on the left = calories. When those mice became hungry, "wanting" kicked in, compelling them to the sipper with calories, which they drank from, all the while not tasting a thing.

His mice "wanted" calories and ingested them from the sweet sipper until "wanting" turned off. But their desire was never quenched by enjoyment. "We didn't see the classic liking signs," Araujo says. There was no paw-licking, no gleeful tongue-poking. The mice were like whiskered little robots.

Araujo followed this study up with one that was even stranger. This time, he used regular lab mice and put them in cages with two sippers; one contained water mixed with sucralose, an artificial sweetener, while the other contained an extremely bitter chemical called denatonium benzoate. The bitter sipper, however, was configured in such a way that when a mouse drank from it, a little burst of sugar would be injected into its stomach. Araujo thus "rewrote" the rules of taste. Sweetness now indicated no calories, while bitterness did the opposite. Once again, the mice behaved like intelligent energy-seeking robots. They gave up on the sweet but ultimately useless sipper and opted instead for the wincingly bitter taste of the denatonium benzoate, as though magnetically drawn to the calories it provided.

The rules of taste, it seemed, weren't carved in stone. Sweetness may be hardwired, but it is just a cue, a label whose meaning can be overwritten. The stomach wasn't some dumb and unfillable pit—it was an active participant, sending information to the brain, information that was recorded with each meal and used to make predictions. What the brain ultimately cares about isn't how food tastes. It cares whether food is useful.

ARAUJO'S FINDINGS brought Small's thoughts back to her Lindt chocolate experiment. What was it exactly, she wondered, that she'd witnessed in the brains of her chocolate eaters? Was it a simple attraction to sweetness fading in those brain scans? Or was it a

deeper attraction to calories that was fading to black?

It is a fine and good question, but how do you answer it? How could Small measure in humans what Ivan de Araujo had so exquisitely observed in genetically engineered mice?

This is how: Small created five separate drinks, each with a distinct flavour and colour. She then added a precise amount of the artificial sweetener sucralose, so that each drink tasted as sweet as a drink that contained about 75 calories' worth of sugar. Finally—this was the key step—she added varying amounts of a chemical called maltodextrin, a simple, high-calorie starch invented in the late 1960s that the subjects could not taste, which allowed her to manipulate the calorie count of each drink while leaving the taste unchanged.

Small had thus created a little arsenal of drinks that tasted equally sweet, but each carried a different energy payload: zero, 37.5, 75, 112.5 and 150 calories. Small gave samples of the drinks to her test subjects so that their brains could "learn" the caloric value of each. Next, she scanned their brains as they sampled each beverage. If she detected any differences in the "wanting" areas of the brain, she knew it would have to be due to the calories and not the sweetness, because the drinks all tasted equally sweet.

It was ingenious. Small had found a way to separate calories from sweetness in human test subjects, and now she would be able to measure which was doing what. Everything about the experiment was perfect, except for one thing: it didn't turn out at all the way she expected.

Small had anticipated that the highest-calorie drink would trigger the biggest brain response. A hundred and fifty calories are more biologically useful, after all, than zero calories, 37.5 calories and so forth. Yet it was the 75-calorie drink that generated the clearest spike of brain activity. What was going on? If calories were driving the desirability of the drinks, then the 75-calorie drink should have produced less motivational oomph than the 150-calorie drink. But it produced more. If calories had nothing to do with desirability, why would a 75-calorie drink be more desirable than a zero-calorie drink? It made no sense.

THE RULES OF TASTE AREN'T CARVED IN STONE. THE BRAIN ULTIMATELY CARES ABOUT WHETHER FOOD IS USEFUL.

The more Small thought about it, however, the more a single number came into focus: 75. The drinks had all been designed to taste as though they had 75 calories' worth of sugar, and it was the 75-calorie drink that produced the biggest brain response: 75 and 75. Was this more than just a coincidence?

To answer that question, Small moved from the brain to the body and measured how each of the drinks was metabolized. It was a simple experiment. Subjects would enter the lab, consume one of Small's drinks, then be connected to a machine called an indirect calorimeter, a device that analyzes the heat a person's body produces and from this can estimate the quantity of calories being burned. It is a textbook response called the thermic effect of food. When the body takes in calories and uses them, it generates heat as a by-product, the same way the engine of a car heats up after it's been running. The more calories a person consumes, the greater the thermic effect.

That, at least, is what the textbooks say. But that is not what Small found. She can vividly remember the day her laboratory assistant showed her the initial results. "It blew my mind," Small says. "I knew right away we were onto something new and exciting."

A few days earlier, a female test subject, a woman in her 20s, had consumed the 75-calorie drink and was subsequently connected to the indirect calorimeter. On cue, her body produced a little plume of heat, indicating that the 75 calories were being burned.

Days later, the same woman returned and drank the 150-calorie drink and, once again, was connected to the indirect calorimeter. There should have been a gradual uptick in heat production. Her body should have produced more heat with the 150-calorie drink than it had with the 75-calorie drink. Then Small's lab assistant shared data that seemed almost impossible: the indirect calorimeter measured nothing. It was as though the woman had not consumed a single calorie.

SWEETNESS IS LIKE THE TRUMPETER AT THE GATES. IT HERALDS THE ARRIVAL OF CALORIES—AND THE SPECIFIC QUANTITY.

The findings were so odd Small did the experiment again, but the results did not change. Over time, a distinct pattern had emerged: when people consumed the drinks in which the sweetness and calories were not in sync, the

calories those drinks delivered would not be properly metabolized. Small calls the phenomenon "nutritive mismatch." The maltodextrin would splash into their stomachs, where enzymes would convert it into sugar, and the sugar would be absorbed into the blood. But then, oddly, it wouldn't get burned. Like a film of gasoline floating atop sea water, the sugar just circulated in the blood. When the drinks were "matched," on the other hand—when the level of sweetness correctly indicated the caloric payload—the calories were burned as expected.

Small's research journey had taken a 90-degree turn. By attempting to discern what it was about sweet foods that made them desirable, she had unexpectedly discovered something more fundamental. Sweetness wasn't just some enjoyable but arbitrary taste sensation. It was a metabolic signal, the first spark in a string of biochemical processes by which sugar is turned into energy. Sweetness was like the trumpeter at the castle gates. It heralded not only the arrival of calories but the specific quantity and began making arrangements for how they would be used.

When sweetness and calories match, it all hums along: calories are burned, the brain registers it, and the brain remembers. But when there was an unexpected variance between what the tongue sensed and what the stomach received, the entire metabolic process seemed to shut down. "It's like the system just threw up its hands," Small says, "and didn't know what to do."

Did nutritive mismatch have long-term consequences? This question prompted Small's next study, which looked for a hallmark of diabetes called insulin sensitivity, a condition in which cells no longer respond properly to this crucial hormone. She tested drinks with sugar, drinks with no calories, and drinks where sweetness and calories were mismatched. Once again, the results were as amazing as they were alarming. The mismatched drinks—and only the mismatched drinks—impaired insulin sensitivity.

Finally, Small fed mismatched beverages to teenage boys and girls. This was a particularly relevant investigation because adolescents are in a period of heightened body and brain development and so have an outsize calorie

appetite, which is one reason teens drink a lot of sugary beverages. The study had barely even begun when Small and her team drew blood from three subjects and discovered, to their great alarm, that two had already become prediabetic. An ethics board reviewed the results and deemed the health risk to be so great that it would be unethical to continue.

IF THE THOUGHT OF spiking blood sugar and prediabetic teenagers alarms you, there is more bad news. Those drinks didn't even taste good. The highest-scoring beverage inched above "like slightly" but didn't crack "like moderately." Small's brain scans showed plenty of cerebral action, but "liking" wasn't invited to the party. It was "wanting." Her beverage-drinking volunteers were like those sweet-blind mice—drawn to consume drinks they did not particularly enjoy.

It makes one wonder: where did this idea that obesity is an excess of pleasure come from in the first place? This is the root of a long-standing stigma against obese people. They indulge themselves to excess. They are too selfish to say, "I may want more, but enough is enough."

Obesity, the experts keep telling us, is caused by an overabundance of "highly palatable foods": pizza, ice cream, chicken fingers, cheeseburgers and the like. Lately it has become fashionable to refer to such foods as "hyperpalatable," the idea being that these ultraconcentrated wallops of sweet and salty calories deliver a hit of bliss so strong it "sensitizes" the brain, just like addictive drugs.

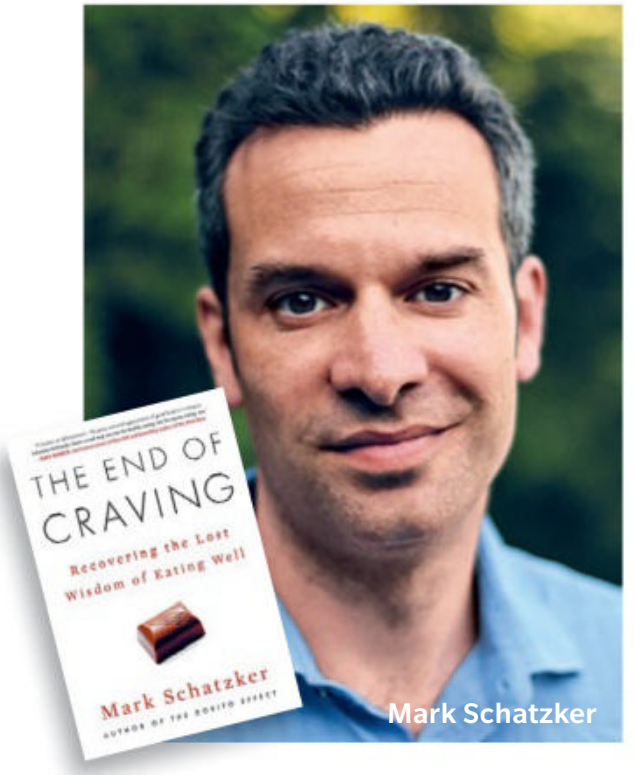
If only life were that simple. It is easy to paint calories as humanity's enemy, which perhaps explains why we have gleefully been doing so for decades. But to malign the lowly calorie is to fundamentally misunderstand the evolutionary story that brought our species into existence.

CALORIES AREN'T OUR ENEMY. THEY FUEL OUR BIG BRAINS AND GIVE US TIME TO DO BIG, BRAINY THINGS.

Several million years ago, the brains of our evolutionary ancestors were roughly a third the size they are now. Brains are energy hogs. They burn lots of calories. Having a small brain meant our ancestors could survive on a low-calorie, fibrous plant diet. They spent much more of their time foraging and eating, and they had long, slow-moving digestive tracts that were

needed to extract nutrients from this kind of diet.

As humans evolved, however, a trade-off took place. Our brains got much bigger, while our guts got smaller and faster. A big brain paired to a small gut meant we had to upgrade to food that packed a bigger caloric punch: fatty meat, nuts, seeds, grains, sweet fruit and the like. Four entirely separate populations of humans—one in Europe, two in Africa and one on the Arabian Peninsula—evolved the ability to digest milk into adulthood, giving them the lifetime ability to consume one of the few sources of fat blended with carbohydrates found in nature.



Eating such a calorie-rich diet brought with it a great advantage: time. We spent less of the day obtaining food. We saved countless hours of needless chewing. Instead, we began to do all the things that make us human: we fashioned tools, erected structures, shared stories, created myths and played games. We invented cooking, which made our rich, easy-to-digest food even easier to digest.

Calories made humanity possible. Calories are what fuelled our big brains. Our calorie-rich diet didn't reinforce the compulsion to eat; it released us from a food-gripped existence. It gave us the time to do big-brainy things. Just because we require calories does not mean our basic programming compels us to overconsume them, for the same reason that requiring oxygen does not compel people to perpetually hyperventilate.

As we became more advanced, there were even more reasons to refrain from overindulgence. Food had to be shared with other members of the tribe, then the village, then the town, especially with children, whose dependence on adults for resources lasts an eternity compared to that of other species.

Eventually, we reached one of the great landmarks in our species' development: we figured out how to store food. Eleven thousand years ago, we stockpiled grain in purpose-built facilities that kept it dry and free from rodents so we could eat it weeks and months after harvest. Ancient Egyptians

PHOTOS COURTESY OF SIMON AND SCHUSTER CANADA

collected honey from their apiaries and stored it in clay pots. Five thousand years ago, Indigenous people living on the Great Plains smashed bison bones into pieces and boiled them in steaming vats fashioned from animal hides. When the rendered fat rose to the top, they scooped it off and blended it with dried meat and berries to make a carb-, protein-, and fat-rich calorie bomb called pemmican.

This innovation brought with it an incredible leap forward in energy efficiency. When calories are stored as fat, a great deal of energy is wasted just hefting all that extra weight around. But when food energy is preserved outside the body—in clay pots, in granaries—you achieve far greater efficiency.

Storing food, however, also required an essential mental capability: the ability to resist eating it. Ancient Native Americans didn't sit there for days at a time stuffing themselves full of pemmican until none was left. They feasted after the bison hunt, but they retained the ability to set aside enough for the brutal winter yet to come. There was an evolutionary fitness advantage in being able to say, "I will eat this later."

If we didn't have that ability—if we really were slaves to our unending appetite for calories—the human species would have died off long ago.

All of which leaves us with the following paradox: why were more primitive humans able to resist consuming too many calories but advanced humans are not? In Dana Small's research, we at last have the beginning of an answer.

Ever since organisms began sensing food as it entered their body, the information they gathered was reliable. This is why the ability to taste evolved in the first place. No creature has 40 minutes to sit and digest a meal so its brain can figure out if it should keep eating. It is much more efficient to take a reading as the food comes in. The ability to sense food is so crucial, in fact, that more DNA is devoted to systems that sense the taste and flavour of food—the nose and the mouth—than any other part of the human body. Tasting food engages more grey matter than any other activity.

This system is designed for accuracy, but it evolved in an environment in which food provided the senses with accurate information. Small's research

THERE'S AN EVOLUTIONARY FITNESS ADVANTAGE IN BEING ABLE TO SAY, "I WILL EAT THIS LATER."

shows what happens when that changes: when the food we eat tells the brain a nutritional lie, the system fails. Calories enter the blood but are not burned. "If sweeteners are disrupting how carbohydrates are being metabolized," Small explains, "then this could be an important mechanism behind the metabolic dysfunction we see in diets high in processed foods."

To make matters even worse, we appear to be entering a golden age of nutritive mismatch, and ironically, it is in large part due to the widespread panic over sugar. To a food company, nothing could make more sense than blending sugar with artificial sweeteners. Both the calories and the amount of "sugar" appearing in nutritional info panels decreases, but the sweetness stays constant and the food or drink remains as tasty as ever. Creating nutritive mismatch is, simply, good for business. There is mismatch popping up all over the food and beverage aisles.

So here we have found a fundamental aspect of food and eating that has changed: the sensed nutritional value. For as long as humans and their ancestors have existed, the taste of a calorie matched the energy it delivered. In the span of just a few decades, that has changed. Calories don't "mean" what they used to.

We have tampered with the very way the brain perceives food. This is what has set so many of us on a path to weight gain. We changed food, and it changed us. R

Mouth to Mouth

Every time you smile at someone, it is an action of love, a gift to that person, a beautiful thing.

MOTHER TERESA

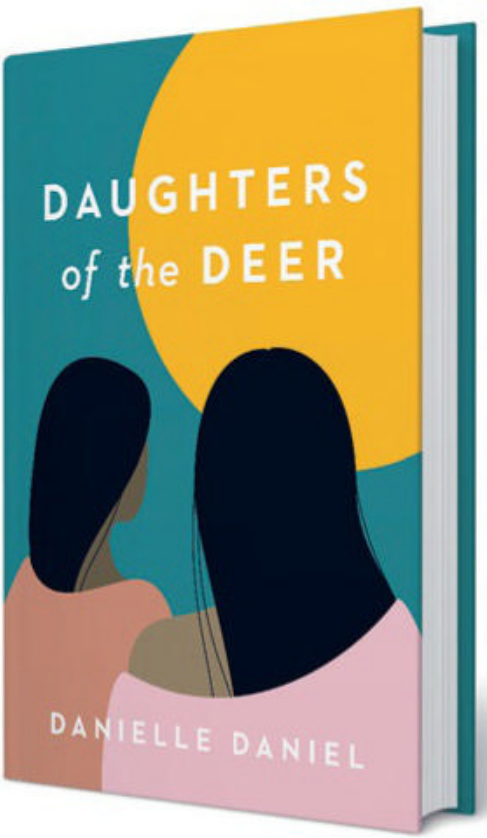
A kiss is a lovely trick designed by nature to stop speech when words become superfluous.

INGRID BERGMAN

I have just been to the dentist, and need not return for another six months! Is it not the most beautiful thought?

AGATHA CHRISTIE

READER'S DIGEST
BOOK CLUB



Every month, we recommend a new must-read book. Here's what you need to know.

BY Emily Landau

DAUGHTERS OF THE DEER

by Danielle Daniel

$24, PENGUIN RANDOM HOUSE

WHO WROTE IT: Métis author Danielle Daniel is already a household name among bookish parents. She's the writer and illustrator of several beloved children's books, including *Sometimes I Feel Like a Fox*, which uses the Anishinaabe tradition of totem animals to help kids identify with the natural world, and *You Hold Me Up*, an achingly tender picture book that encourages empathy and respect. *Daughters of the Deer*, her first novel for adults, is inspired by her own genealogy. Daniel is of Algonquin, Scottish and French background. One ancestor, a young biracial woman who was killed in the late 17th century near Trois-Rivières, provided the spark for this book.

WHAT IT'S ABOUT: *Daughters of the Deer* is set on the shores of the St. Lawrence River in 1657, where a tenuous alliance has formed between the Weskarini Algonquin tribe and a wave of French settlers. They're joined against their common foe, the Iroquois.

The novel's opening scene is gutsy and harrowing, as the Weskarini cower

in the local church, hiding from a band of Iroquois who've raided their camp and murdered and abducted their kin. In this chaos we meet Marie, a steely, self-possessed tribal healer whose husband was murdered and two young children kidnapped in a previous raid.

MARIE SEETHES WITH SO MUCH FURY, THE PAGES SEEM TO SINGE AND SMOKE IN HER WAKE.

As her people starve and their numbers dwindle, Marie reluctantly agrees to marry Pierre, a kind yet callow white French settler; she believes she can ensure her tribe's safety by assimilating into another one and reinforcing their alliance. The book soon flashes forward a generation, catching up with Marie's teenage daughter, Jeanne, who is both white and Algonquin, yet feels out of place in both communities. The only happiness in her life is her secret romance with Josephine, a white girl from her village—a love that, in the eyes of her father's people, will send her straight to hell.

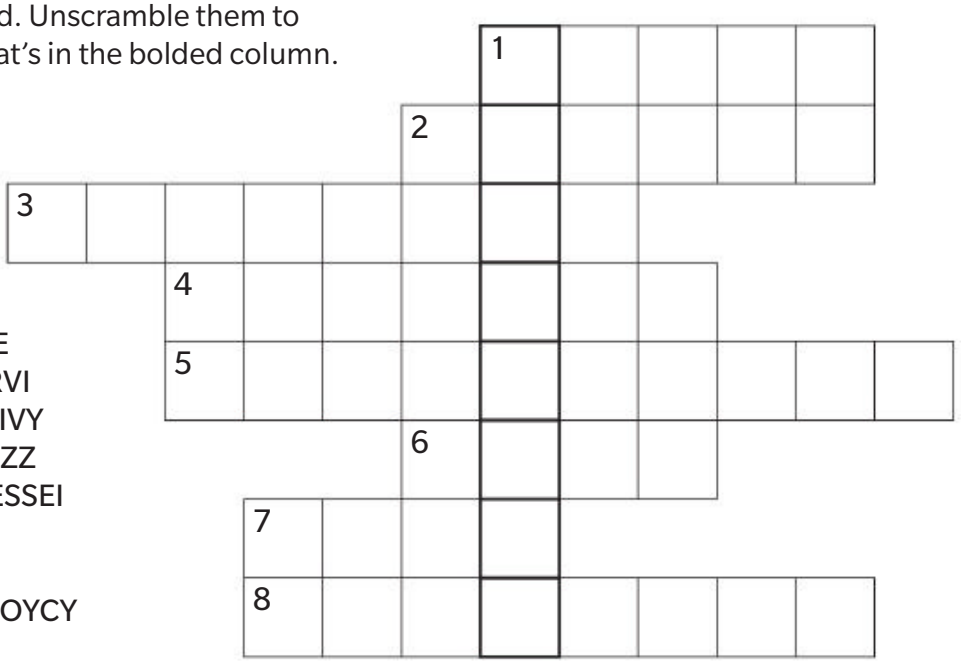
WHY YOU'LL LOVE IT: Historical fiction is almost exclusively dominated by white stories. That's what makes Daniel's novel so special—it's a meticulously researched time machine that immerses readers in the rituals, joys and tragedies of first contact–era Algonquin people. Scenes come alive as she describes the medicinal herbs they use, the ways they trap their food, the beading on their clothes, the rhythms of their drums.

The characters are equally unforgettable—especially Marie, who joins *Gone Girl*'s Amy and *My Brilliant Friend*'s Lila in the modern pantheon of incandescently angry literary heroines. On the outside, she's poised and calm, accepting her fate and loveless marriage with cool detachment. Inside she seethes with so much grief, fear and fury that you half expect the pages to singe and smoke in her wake. She's furious that she has to leave her wigwam to live in Pierre's cabin. She's annoyed that she must wear a reused wedding dress supplied by the church instead of her radiant beaded tunic. She's in misery that, to keep the peace, she has to give up her traditions and rituals for the Catholic sacraments of her white neighbours. And she's livid that these interlopers have brought sicknesses and fevers to her people, and overhunted the land until there's nothing left. Marie is still able to maintain her Algonquin identity, but her daughter, Jeanne, is torn between worlds. For women like Marie and Jeanne, their rage is the only weapon they have against the white men attempting to conquer their land, their bodies and their lives. R

BRAINTEASERS

Acrostic

Easy These scrambled clues are all connected in meaning to a hidden acrostic word. Unscramble them to discover what's in the bolded column.



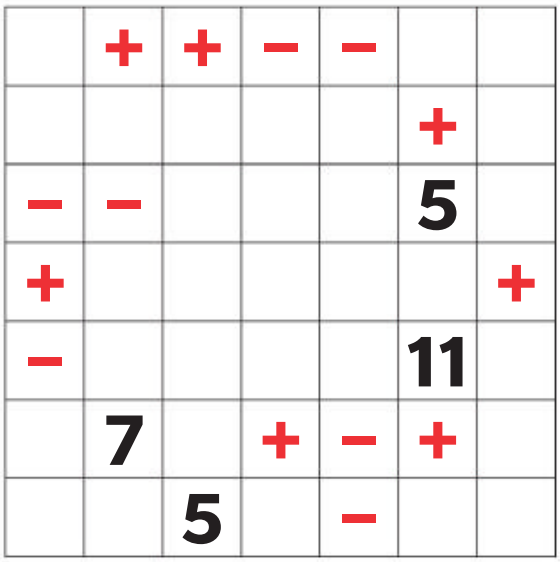
1. EVRVE
2. GOURVI
3. CITAVIVY
4. PIAZZZZ
5. LVLNESSEI
6. NGZI
7. TEZS
8. ANBUOYCY

Either/Or

Medium We've thought of an eight-letter word with no repeated letters. In each pair of words that follow, one and only one of them is made entirely from letters in the word. Can you identify the eight letters, and then unscramble our word?

BONE or CHIN
CHIME or PIANO
CHOP or RIBS
BEAR or CAMP

(ACROSTIC) MARCEL DANESI; (EITHER/OR) DARREN RIGBY; (LETTER TILES) ISTOCK.COM/EULALIA CAYUELA MARTINEZ



Circuit Board

Difficult The plus and minus signs in the diagram represent positive and negative terminals. Connect each positive terminal to a negative terminal by a wire so no terminal is used twice, the other squares all have wires in them, and the squares with numbers indicate the length of the wire passing through that square (not counting the terminals). Note: you may not connect adjacent terminals.

Pic-a-Pix: Crabby

Moderately Difficult Reveal a hidden picture by shading in groups of horizontally or vertically adjacent cells. The numbers represent how many shaded cells are in each of the corresponding row or column's groups. (For example, a "3" next to a row represents three horizontally adjacent shaded cells in that row.) There must be at least one empty cell between each group. The numbers read in the same horizontal or vertical order as the groups they represent. There's only one possible picture; can you shade it in?

				4							4	
				3 1							1	3
				2 1							1	2
				2 1 9 5 5					5 5 9		1	2
		2	2									
		3	3									
		3	3									
	2	2	2									
	1	6	1									
			10									
			6									
			10									
1	2	2	1									
		2	2									

For answers, turn to **PAGE 103**

(CIRCUIT BOARD) DARREN RIGBY; (PIC-A-PIX: CRABBY) DIANE BAHER. MORE DETAILED INSTRUCTIONS AVAILABLE AT LEARNPICAPIX.COM

TRIVIA

BY Samantha Rideout

1. What pizza topping was first introduced by restaurateur Sam Panopoulos in London, Ont., Canada?

2. What kind of synthesizer can you hear in Donna Summer's "I Feel Love" and the Beatles' "Here Comes the Sun"?

3. Nintendo didn't always make video games. What did it originally manufacture?

4. According to Finnish lore, what natural phenomenon is caused by the tail of the mythical firefox?

5. The majority of adults cannot fully and comfortably digest lactose, which is found in dairy products. True or false?

6. Who reigned the longest, Queen Elizabeth II (so far) or Queen Victoria?

7. Which is the lightest element, and the most plentiful one in the universe?

8. What sad clown appears in works by Picasso, Manet and Watteau, among others?

9. Which country celebrates Hinamatsuri, or the Festival of Dolls, on March 3?

10. What colour are the attractive but poisonous berries of the plant known as deadly nightshade?

11. *The Three Musketeers* recounts the swashbuckling adventures of a group of close friends. How many friends, precisely?

12. In 1950, which country became home to the first "forest kindergarten," a preschool that takes place mostly outdoors?

13. What are Python, C and Perl?

14. Australian researchers outfitted which marsupials with Fitbits last year, to record their heart rates?

15. The first records of curling as a sport date back to the 16th century, in which countries?

ISTOCK.COM/MILEA

Answers: 1. Pineapple. **2.** The modular Moog synthesizer. **3.** Playing cards. **4.** The Northern Lights. **5.** True. **6.** Elizabeth II. **7.** Hydrogen. **8.** Pierrot. **9.** Japan. **10.** Black. **11.** Four. **12.** Denmark. **13.** Software programming languages. **14.** Koalas. **15.** Scotland and the Netherlands.

WORD POWER

They say a picture is worth a thousand words. In this quiz, photography gets 15. How many do you know?

BY Rob Lutes

1. bokeh—effect creating **A:** shadow. **B:** blurred background. **C:** high contrast.

2. catchlight—**A:** light reflected in a person's eye in a photo. **B:** light panel used in photography. **C:** 19th-century term for flash.

3. lookbook—**A:** camera shaped like a paperback novel. **B:** viewfinder. **C:** set of photos showing a designer's collection.

4. daguerreotype—**A:** early photograph produced on a copper plate. **B:** hyper-realistic painting. **C:** date stamp on photos.

5. vignette—**A:** photo negative. **B:** photo made to appear older through costumes and sets. **C:** portrait with darkened corners.

6. aperture—**A:** film sensitivity to light. **B:** space through which light passes. **C:** appetite for photography.

7. noise—**A:** visual distortion in a photo. **B:** items cluttering an image. **C:** celebrated school of abstract photography.

8. resolution—**A:** staged photo. **B:** final image in a series. **C:** measure of the sharpness of an image.

9. pixel—**A:** smallest unit of digital information in a photo. **B:** tripod stand. **C:** miniature camera.

10. golden hour—**A:** hour when the sun is highest in sky. **B:** midnight during harvest moon. **C:** period just after sunrise or before sunset.

11. aspect ratio—**A:** relative size of the subject in a photo. **B:** distance between the photographer and the subject. **C:** ratio of the width to the height of an image.

12. sepia—**A:** reddish-brown colour. **B:** image bleed between frames. **C:** type of underwater photography.

13. panorama—**A:** prism photography. **B:** photo containing a wide view. **C:** negative reaction to a photo.

14. camera shy—**A:** related to the time before photography. **B:** disliking having one's photo taken. **C:** nervous to take photos.

15. photobomb—**A:** high-intensity flash. **B:** move into the frame of a photograph as a prank. **C:** bad photo.

WORD POWER ANSWERS

1. bokeh—B: effect creating a blurred background; as, Siobhan's use of *bokeh* gave the photos a painterly look.

2. catchlight—A: light reflected in a person's eye in a photo; as, Gabe set up metal reflectors to impart *catchlights* to Bonnie's eyes.

3. lookbook—C: set of photos showing a designer's collection; as, Carmella browsed the *lookbook* for dress ideas.

4. daguerreotype—A: early photograph produced on a copper plate; as, Aiden brought out an 1850s *daguerreotype* of Thoreau.

5. vignette—C: portrait with darkened corners; as, Winnie's *vignette* looked like an image from a silent film.

6. aperture—B: space through which light passes; as, At dusk, Brent needed a larger *aperture* to allow more light through the lens.

7. noise—A: visual distortion in a photo; as, Long exposures can result in images with a lot of *noise*.

8. resolution—C: measure of the sharpness of an image; as, Lennox needed photos with a high *resolution* for her posters.

9. pixel—A: smallest unit of digital information in a photo; as, The *pixel* count determines an image's resolution.

10. golden hour—C: period just after sunrise or before sunset; as, Taken during the *golden hour*, Jal's photos had a warm hue.

11. aspect ratio—C: ratio of the width to the height of an image; as, Most TVs sold today have an *aspect ratio* of 16:9.

12. sepia—A: reddish-brown colour; as, The *sepia* colouring gave Theo's photos a historic look.

13. panorama—B: photo containing a wide view; as, A *panorama* of Malta covered the entire wall.

14. camera shy—B: disliking having one's photo taken; as, Though *camera shy*, Nanette allowed her excited grandchildren to take her picture.

15. photobomb—B: move into the frame of a photograph as a prank, as, The wedding was going smoothly until the hockey team *photobombed* the family photo.

CROSSWORD ANSWERS

FROM PAGE 104

L	E	A	F	S	■	T	R	E	E	S
E	L	I	O	T	■	E	E	N	S	Y
S	Y	R	U	P	■	S	U	G	A	R
■	■	B	R	E	T	T	S	■	■	■
P	R	E	S	T	O	■	E	G	G	S
E	N	D	■	E	R	R	■	L	E	A
A	S	S	N	■	S	E	G	A	T	O
■	■	■	I	V	O	T	E	D	■	■
G	R	O	V	E	■	R	I	D	G	E
D	U	R	E	R	■	I	C	E	I	T
P	E	C	A	N	■	M	O	N	T	H

BRAINTEASERS ANSWERS

FROM PAGE 98

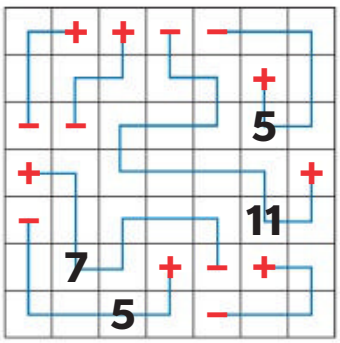
Acrostic

Hidden word: VITALITY.

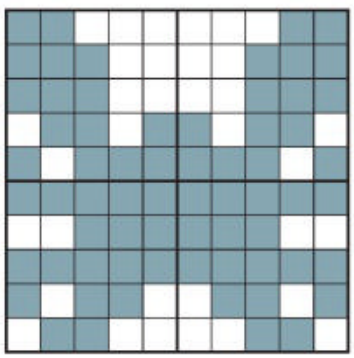
Either/Or

The word is CHAMPION.

Circuit Board



Pic-a-Pix: Crabby



SUDOKU

BY Jeff Widderich

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

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.

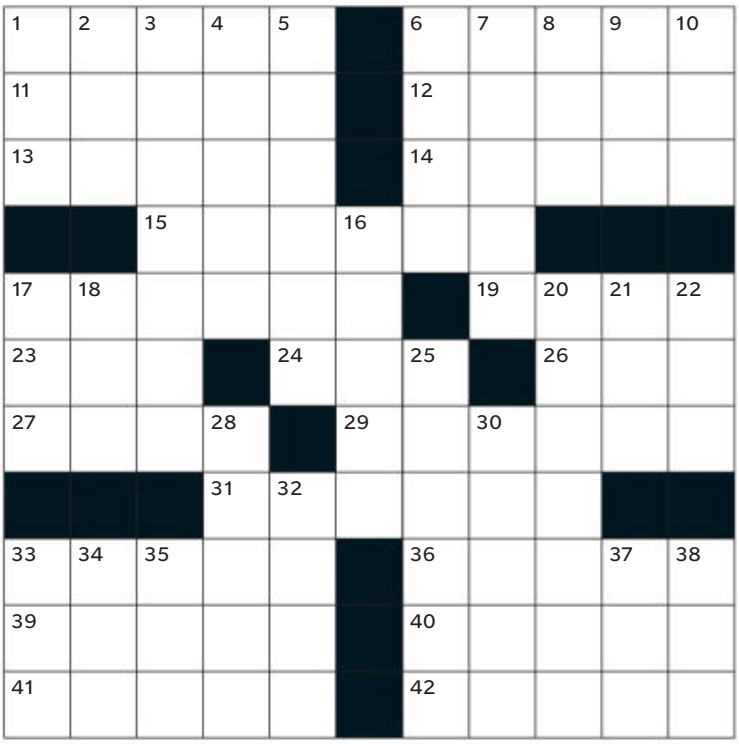
SOLUTION

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

CROSSWORD

Maple Blank

BY Derek Bowman



ACROSS

1 **Auston Matthews and Doug Gilmour, notably**
6 **Helicopter-seed sources**
11 "The Waste Land" poet
12 ____-weensy (very small)
13 **Pancake or snow topping**
14 **Product of boiled sap**
15 Favre and Hull of sports
17 "Abracadabra!"
19 Omelette base
23 Come to a conclusion
24 Blunder
26 ____ & Perrins (sauce)
27 Last "A" of CAA: Abbr.
29 Parachute Club lead singer Lorraine
31 Phrase on some polling-place stickers
33 **Small hardwood forest**
36 **City east of Vancouver**
39 *Adam and Eve* painter
40 Guarantee a victory, say
41 **Sweet, yummy, nutty pie**
42 **March, in Canada, really**

DOWN

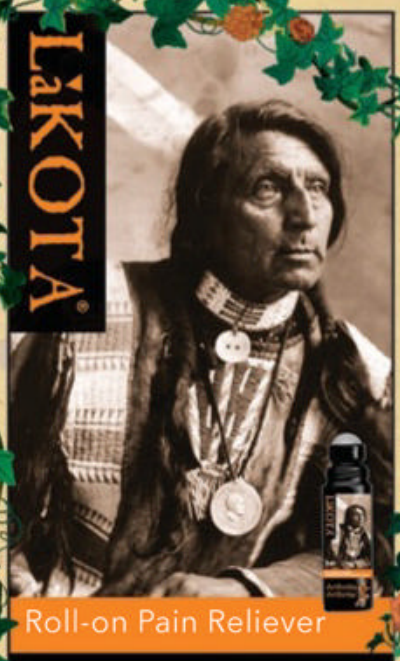
1 ____ *Misérables*
2 Ron who played Tarzan
3 Alternatives to futons
4 Petits ____ (small cakes)
5 Sunshine State vacation spot, familiarly
6 Evaluate
7 Find a new purpose for
8 Shakespeare's lang.
9 Tikkanen who won five Stanley Cups
10 Damascus's country: Abbr.
16 Sculpted upper body
17 Veggie in pot pies
18 Many ICU workers
20 Lift the spirits of
21 Acquire
22 ____ Paulo, Brazil
25 Neaten again, as a beard
28 Big name in body lotion
30 U.S. insurance company with a reptilian mascot
32 Unseen friend in Jim Varney's *Ernest* films
33 National econ. yardstick
34 Feel regret over
35 Beast in *The Hobbit*
37 "Vamoose!"
38 Addis Ababa is its cap.

For answers, turn to **PAGE 102**

Invisible pad. All the protection you need.

The only bladder leak pad with
RapidDry™ layers
that protect differently.

Got Joint Pain?



Get Medicine That Works!

Warning

This is a powerful product. It uses a five-fold natural pepper extract that blocks pain at the source. Unlike other rub-on pain relievers that only cause skin warming, Lakota works below the skin at the site of the pain. When it is absorbed, it blocks the pain messengers from sending a pain signal, killing the pain. And Lakota lasts way longer. It comes in a no-mess, hands-free roll-on. Get Medicine That Works!