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Reader's Digest

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ATE MY
HUSBAND
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CANADA'S
MOST-READ
MAGAZINE

JAN/FEB 2021

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EDITOR'S LETTER

The Price Is Right

The pandemic has delivered a wallop of uncertainty to all of our lives, but we do know two things. First, Anita Anand, the minister of public services and procurement, has one of the most critical jobs in government right now: preordering \$1 billion worth of vaccines from five pharma companies. That's a tough job made tougher by the fact that none of them have been shown to be safe or effective.

As Danielle Groen explains in "Our Best Shot" (page 92), the global effort to develop a vaccine includes dozens of Canadian scientists working around the clock. Once a vaccine is approved, the next big hurdle is how to manufacture and distribute enough for 7.8 billion people.

The second thing we know for sure is that the pandemic's impact on the economy is only beginning to be felt. This



past April, at the peak of the lockdown, 5.5 million Canadians had lost a job or had their hours and income cut. The fall's new wave of infections and restrictions meant even more layoffs. Some businesses that barely survived the first round—especially restaurants, gyms and anything to do with tourism—called it quits.

Okay, we know a third thing, too: the new year promises to be a lean one. This issue's cover story, "How to Save \$\$\$ in 2021," (page 28) provides plenty of inspiration for thrifty times, with 52 practical tips to stretch every loonie.

A handwritten signature in black ink that reads "Mark".

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



Reader's Digest

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“Minority Report”

Whether she’s reporting on social justice or the latest fashion trends, *RD* assistant digital editor Ngao likes to explore the pivotal issues shaping our world. Her writing has been published in *ELLE Canada*, *The Walrus* and *This Magazine*. Read Ngao’s story about Elimina8hate, a new online reporting platform for victims of anti-Asian racism in Canada, on page 8.



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“Minority Report”

Goehring has received numerous industry accolades, including the Photography Awards from *Applied Arts*, for which she was featured on that publication’s 2014 cover. Her work, which highlights environmental portraiture and character-driven stories, has been published in *GRAY*, *BCBusiness* and *Western Living* magazine. Check out her photo on page 8.



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“Dancing Queen”

A graduate of the Ontario College of Art and Design University, Ghare’s work ranges from children’s picture books to editorial, advertising and surface design. Recognized by the Society of Illustrators in New York and *American Illustration*, she has also been published in *Applied Arts* and *3x3* magazine. You can find her contribution to this issue on page 64.



VIVIANE FAIRBANK

Writer, Montreal

“A Healing Rainbow”

Previously an editor and head of research at *The Walrus*, Fairbank has also written and fact-checked stories for *Toronto Life*, *Smithsonian* and the *Literary Review of Canada*. In 2017, she was a finalist for the National Magazine Award for Best New Writer. Fairbank is currently pursuing a graduate degree in philosophy. Read her latest story on page 18.

(NGAO) ISABELLE DOCTO

LETTERS

OPTIMIST AT HEART

I just finished reading “After the Earthquake” (November 2020) and greatly enjoyed the story of the surgeon, Dr. Andrew Furey. I’ve been to Haiti myself at least a dozen times with a charity that helps repair homes—Dr. Furey is spot-on when he writes about the resiliency of the Haitian people. Over the last 25 years, there have been many improvements in the country. I’m hopeful for their future.

—JOY CASARIN, *St. George, Ont.*

A BEAUTIFUL FRIENDSHIP

“Horse of a Different Colour” (October 2020) is one of the most heartwarming stories I’ve ever read. It’s so refreshing to hear about an animal that doesn’t deal with abuse. Writer Pam Houston’s devotion to her horse, Roany, and her care for him during his last moments have touched me forever.

—ANNA PENNEY, *St. John’s, N.L.*

CONTRIBUTE

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

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Dr. Andrew Furey examining a patient in Haiti.

AN OVERLOOKED DISORDER

I wish I had read “Why Women’s Pain Is Dismissed, Undiagnosed and Under-treated” (May 2019) when I was younger. Throughout my 20s, I suffered from endometriosis, but I thought it was all normal and that all I needed to do was suck it up. Any male doctor who thinks period cramps are “just in your head” should come back as a woman in his next life.

—THERESE MACADAM, *Glace Bay, N.S.*

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*How Asian Canadians are fighting a rise
in pandemic racism*

Minority Report

BY Erica Ngao

PHOTOGRAPH BY TANYA GOEHRING

IN THE EARLY months of the pandemic, Barbara Lee was more afraid of racism than she was of COVID-19. In March, the 53-year-old Vancouver filmmaker learned that a white man had yelled racially charged remarks at a 92-year-old Asian man in a local convenience store. The attacker then dragged the older man outside and pushed him to the ground, where he hit his head. Police later laid assault charges. During a family outing a month later, an older white woman angrily approached Lee's own 12-year-old daughter and, speaking of the virus, asked her, "Well, where do you think it came from?"

Such incidents have become all-too common since COVID-19 first emerged in Wuhan, China. Politicians and media outlets around the world have repeatedly used racist language such as "kung flu" and "Chinese virus" to describe the disease, fuelling the stigmatization that a certain group—Asian people, and specifically anyone of Chinese descent—is to blame for the pandemic. The Angus Reid Institute found that almost a third of Chinese-Canadians had been made to feel like they pose a health threat.

By April, Lee had had enough. As the founder of the Vancouver Asian Film Festival, she decided to use her

T

Broadway–City Hall Station



Barbara Lee wants to break the silence on anti-Asian racism.

connections with the community to fight anti-Asian discrimination. Together with a local community advocacy group, they launched EliminateHate, an online reporting platform and campaign that encourages victims and witnesses to submit anonymous reports.

Lee believes that creating a space for people to come forward is a powerful first step toward eliminating discrimination. "Representation—being seen and heard—is one of the most effective tools to combat racism," says Lee. A background making documentaries, she adds, has taught her how sharing stories can help dispel stereotypes and encourage a better understanding of different cultures. And she wasn't alone in this thinking.

“BEING SEEN AND HEARD IS ONE OF THE MOST EFFECTIVE TOOLS TO COMBAT RACISM.”



A few thousand kilometres away in Toronto, the local chapter of the Chinese Canadian National Council launched a similar self-reporting site in May. Last fall, the organizations joined forces and combined their data. The results paint a disturbing country-wide picture. Over 600 incidents were reported from seven provinces. Verbal

harassment was present in 65 per cent of all reports.

Lee hopes the data will prompt difficult conversations across the country. She's encouraged that, in the fall, the group received funding from both Simon Fraser University and Canadian Heritage, and is now training facilitators to lead anti-Asian racism education for governmental institutions and corporations across the country.

Connie Lee, who works for the City of Toronto, adds that simply speaking out can be an empowering act. She was one of the 600 people who filed a report through the websites. (She and Barbara are not related.) The 31-year-old was waiting in line at her neighbourhood grocery store in July when a man cut in front and started swearing at her. Then he told her to "go back to the barn." She stepped away, scared that the encounter with the man—who wasn't wearing a mask—would turn physical. Afterwards, she began to avoid the store. Lee submitted her online report a few weeks later, which she said helped to put the attack behind her.

Today she hopes that sharing her experience can encourage others who've had similar encounters to break their silence. What comes after is the responsibility of all Canadians: listening. "As a community, we have to support those who are speaking out," says Barbara. "We have to acknowledge them, give them empathy and tell them that they're not alone." **R**

LIFE'S LIKE THAT

DIY Masterpieces

The Getty Museum in Los Angeles challenged people to re-create famous works of art with things lying around their homes. Here are two of our favourites.



— SADANDUSELESS.COM

Ouch!

Good luck robbing my house. My home security system is Legos on the floor.

— @MOMMAJESSIEC

Meal Plan

I'm not really hungry, so I'm just gonna have an apple and enough pasta to fuel a track team.

— @ALYSSALIMP

Sad after the funeral of a friend, my wife and I ducked into a Chinese restaurant for a little pick-me-up. The feel-good session ended when I read the fortune in my cookie: "You will soon be reunited with a good friend."

— STANLEY HEERBOTH

Why don't toasters have a window so you can see how toasted your bread is?

— @JONATHANHIMPLE

Bad Timing

Honestly, my worst purchase of 2020 was a 2020 planner.

— @LAURENROSAAA

Out of Shape

Why did I have to learn what a rhombus is? Literally nothing is rhombus shaped.

— MARIE FAUSTIN,
comedian

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

ASK AN EXPERT

How Can I Thrive in Isolation?

*We ask Dr. Rima Styra,
psychiatrist*

BY Courtney Shea

ILLUSTRATION BY LAUREN TAMAKI

The pandemic has forced us to scale down our social lives and even isolate for long periods of time. How does this affect our mental health?

Part of the way we feel valued is through social interaction. Spending time with others—whether it's going for a walk with a neighbour, visiting with grandkids or interacting with our colleagues—provides us with positive feedback that is good for our overall state of mind and self-esteem. When we don't have that, it becomes a lot easier to feel down.



Does that explain why anxiety and depression rates are way up since last March?

There's a lot of anxiety that comes simply from facing a mysterious and potentially fatal virus. Isolation is also a factor. For everyone, and especially for people already vulnerable to anxiety and

depression, spending so much time alone becomes time to ruminate, to replay fears on a loop: “Am I going to get sick? Are my loved ones going to be okay? Will I lose my job?”

Are there signs to look out for?

One would be the feeling that every day seems like the next one. When we lack a sense of purpose, there can be a tendency to stop taking care of ourselves.

ISOLATION IS LINKED TO HIGHER RATES OF CARDIAC ILLNESS AND DEMENTIA.

Experts stress the importance of keeping in touch with friends and family. But what if you just don't feel like it?

The key is to go ahead and schedule social commitments—a Zoom call with your grandkids, a virtual book club meeting—and then keep to them. When we're down, there's an impulse to shut others out, but that can become a downward spiral. Think of social contact the way you would doing physical exercise: you're not always in the mood, but you always feel better after.

Are some of us—introverts, for instance—better suited to isolation?

There are definitely people who enjoy alone time more than others, but that

label can be misleading. Introverts can still get lonely. They do, however, tend to be more internally directed, which helps if you're spending a lot of time by yourself. If you're more of a go-with-the-flow type of person who likes to take instruction from others, you want to be sure to create routines and build more structure into your day.

What kind of structure?

It depends on your circumstances, but overall the idea is that having goals gives us a sense of accomplishment. Maybe you commit to going for a daily walk or starting a virtual yoga class. New projects that you can make progress on and that engage your brain are good as well—like mastering a cooking style or learning a new language. One of my clients has decided to take up the guitar, which is something she's always wanted to do. A lot of people are taking on home renovations, too.

People over 60 are most vulnerable to COVID-19. Are they also more vulnerable to the effects of isolation?

We do know that isolation can be linked not just to mental health outcomes but physical health, too. It can cause higher levels of cardiac illness, for instance, and there's a link between isolation and cognitive impairment such as Alzheimer's and dementia—which, again, reinforces the importance of staying connected however you can. **R**

FACT CHECK

The Truth About Talk Therapy

BY Anna-Kaisa Walker

ILLUSTRATION BY CLAYTON HANMER



1 Therapy is for anyone, any time. “Therapy can enrich your life by making you understand why you repeat certain patterns,” says Carrie Foster, a Montreal psychotherapist. “You don’t need to be in crisis, though that’s when most people come in.”

2 As the pandemic has pushed therapy online, studies have shown patients are just as satisfied with a video call instead of an in-office visit.

3 Try to make sure you’re visible during a video call, and that you’re in a private space with no disruptions. “Your body language, facial expressions and voice intonation give your therapist important clues about where you’re at,” says Foster.

4 Therapy costs vary greatly depending on region and type of service, but range between \$30 and \$240 an hour. For the 60 per

cent of Canadians with private health insurance, plans may cover some or all of the cost up to an annual maximum. “Many counsellors offer sliding scale fees based on your income,” says Victoria therapist Richard Routledge.

5 Persistent stigma prevents many from seeking the help they need. A 2016 survey by the Centre for Addiction and Mental Health found that among respondents who had experienced anxiety or depression, 40 per cent were too ashamed to seek medical help.

6 There are over 50 types of psychotherapy. One of the most common, cognitive behavioural therapy, is often recommended for mild to moderate anxiety and depression.

7 Other common types of therapy include coaching, which motivates you toward a specific,

performance-oriented goal, and psychodynamic therapy, in which you talk about your past, your dreams and your fantasies to uncover the thought patterns that guide your behaviour.

8 The best way to find a therapist is through word of mouth—ask for a recommendation from a friend or your doctor. “Many counsellors offer a free brief consultation over the phone so that you can get a feel for their approach,” says Foster.

9 Digital therapy platforms like BetterHelp, a smartphone app that connects you to licensed therapists via text messaging and video calls, saw new sign-ups double in the first few months of the pandemic, compared to the year before.

10 It can take several tries to find the right therapist—don’t be discouraged if you don’t jibe with the first

one you meet. “You can simply say that it’s not a good fit,” says Foster.

11 Don’t expect your therapist to tell you what to do about a problem. “It’s not our place,” says Routledge. “Therapy is about tapping into a person’s own self-knowledge so that you can make your own decisions.”

12 There’s no need to apologize if you don’t have a specific therapy goal. “Our job as counsellors is to put all those pieces together,” says Routledge. “As long as therapy is useful for you, that’s why we’re here.”

13 If you need immediate support, text WELLNESS to 741741 to access Wellness Together Canada’s free, confidential mental health resources and counselling services, funded by the government as a response to the pandemic. Find out more at ca.portal.gs. **R**

POINTS TO PONDER



This kind of protectionist approach misses the point of the open Internet.

—Lilly Singh, IN RESPONSE TO A FEDERAL PROPOSAL TO PRIORITIZE CANADIAN CONTENT ON YOUTUBE

TWENTY YEARS AGO, THROWING DOWN YOUR GLOVES WAS A PART OF THE GAME. NOT ANYMORE.

—Former NHL enforcer and Liberal MNA Enrico Ciccone, DISCUSSING HIS MOVE TO BAN FIGHTING IN QUEBEC AMATEUR SPORTS

I CAN STILL SHRIEK IF THE MUSIC REQUIRES IT.

—Geddy Lee, IN LIMELIGHT: RUSH IN THE '80S

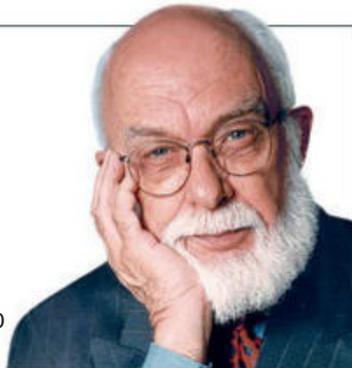


I hope you go out and challenge yourself and do something fun.

—Ironman triathlete Lionel Sanders, AFTER SETTING A CANADIAN CYCLING RECORD: 51.304 KILOMETRES IN AN HOUR

Magicians do not lie about the universe.

—Illusionist James Randi, BEFORE HIS DEATH AT AGE 92 IN OCTOBER 2020



THE WORST THING ABOUT CATCHING THE CAT DRINKING FROM MY WATER GLASS? WONDERING HOW MANY TIMES I DIDN'T CATCH HER.

—Writer Kelley Armstrong

**FOR ME, WEED IS LIKE
GLASSES OR SHOES. IT'S
SOMETHING I NEED TO
NAVIGATE MY LIFE.**

—Seth Rogen



You can't
stop your
purpose.

—Singer Chantal Kreviazuk, ON WHY
SHE'S CONTINUED TO PERFORM LIVE
THROUGHOUT THE PANDEMIC



**TIME AND TIME
AGAIN, CANADA
MISUNDERSTANDS
WHAT TREATY
RIGHTS ARE.
WITHOUT THESE
NATION-TO-NATION
AGREEMENTS,
CANADIANS WOULD
NOT HAVE A COUNTRY.**

—Journalist and author Tanya Talaga,
ON THE MI'KMAQ FISHER CRISIS IN NOVA SCOTIA

*It's because of the cancella-
tion of proms, of weddings,
of summer festivals, the
restaurant situation, the bar
situation—those all fed the
demand for our product.*

—Le Château's Franco Rocchi, ON THE
COMPANY'S PERMANENT CLOSURE



A Healing Rainbow

Light exposure works for more than just seasonal depression

BY Viviane Fairbank

ILLUSTRATION BY SPENCER FLOCK

WHEN SEASONS SHIFT and the days get shorter, people all over the world experience the so-called winter blues. Some of us also suffer from a more severe variety called seasonal affective disorder—a depression caused by a lack of exposure to direct sunlight. For this condition, scientists have found sitting for 30 minutes a day in front of a specially designed lamp that emits a bright white light can help. In fact, this treatment can be as effective as antidepressants—and a 2015 study found that it could even help patients whose depression is non-seasonal.

The sun emits different kinds of light, some of which are more beneficial than others. The shortest wavelength is ultraviolet and the longest is infrared; in between are all the familiar colours of visible light. Research into light therapy has been taking place for more than a century. In the early 1900s, it was recommended for everything from treating tuberculosis to

generating hair regrowth. But it became less popular after the discovery of antibiotics and the rise of the pharmaceutical industry. Plus, many of the claims about light therapy's extraordinary benefits tested credulity.

In the last decade, however, driven by a surge of encouraging trials, light therapy has made a comeback—including in clinics and hospitals. Red light in particular is being studied for its ability to help ease the symptoms of serious health problems, such as Parkinson's, Alzheimer's and carpal tunnel. Even though many of these applications are still awaiting government approval, red light is already being administered in hospitals in Europe, Canada and South America to treat macular degeneration.

WHITE LIGHT EASES SEASONAL AFFECTIVE DISORDER SYMPTOMS IN

67%
OF USERS.



Red light's special healing properties are linked to its ability to activate mitochondria, cellular structures that play a role in combatting these conditions. As Janis Eells, a professor of biomedical sciences at the University of Wisconsin-Milwaukee, describes it, light can give

cells a “kick in the mitochondrial pants”—basically waking them up and prompting them to do their job.

Light therapy is being used in more common, everyday applications, too. Red and near-infrared light are capable of reaching cells beneath the skin to accelerate the healing of bruises and wounds. This treatment can be done at many beauty salons or with a home unit: people tend to expose themselves for five to 15 minutes once a day until the wound heals. (For a safe and effective treatment, it's best to consult a doctor before using red light.)

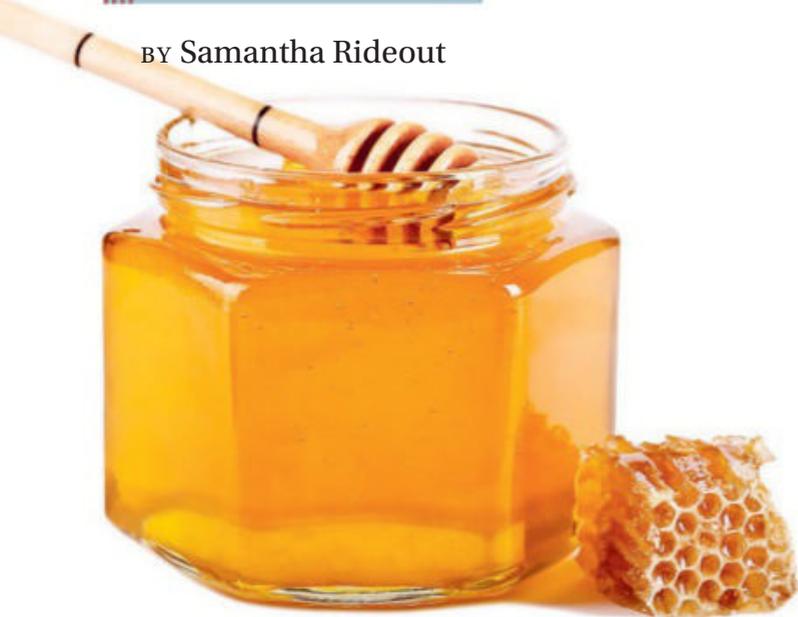
Blue light, which can reach just under the epidermis, is commonly prescribed by dermatologists—and administered at home or in the office—to kill acne-causing bacteria on the skin.

Green light is not as well understood, but a 2020 study from the University of Arizona indicates that it might serve as a preventive therapy for patients with recurrent migraines. After 10 weeks of self-administered exposure for one to two hours a day, patients reported an average 60 per cent reduction in pain. These are promising preliminary results, but medically approved clinical use is likely still a few years away, Eells says.

Now that we are beginning to understand how and why light can heal us, Eells is encouraged that we're overcoming the skepticism that plagued light therapy in the past. “It's not magic,” she says. “It really is science.” 

NEWS FROM THE
**WORLD OF
 MEDICINE**

BY Samantha Rideout



A SWEET HOME REMEDY FOR COUGHS

It's that time of the year when the flu and the common cold are in full force—often bringing nasty coughs. According to an Oxford University review, the solution is in your kitchen cupboard: a jar of honey. A spoonful can bring more symptom relief than the usual treatments, such as antibiotics (which are often prescribed even though they're ineffective for viruses) and cough syrup. The common sweetener works its magic by coating and soothing the irritated mucous membranes in the throat. Just don't give it to infants under 12 months, because it may contain microbes that are harmful to them, but not to adults and older kids.

Breaking Chronic Pain's Vicious Cycle

People living with lasting pain often avoid regular exercise. While understandable, that habit can be counterproductive, as physical inactivity can make pain worse. A Penn State study of people with osteoarthritis found they were more sedentary and avoided activities they were capable of doing on days when they thought about their pain with a more exaggerated sense of helplessness or hopelessness. A psychologist can coach you in avoiding this pitfall, along with other techniques for continuing to thrive with chronic pain. For instance, learning to recognize discouraging thoughts as just thoughts, rather than assuming they're true, can positively influence your habits.



Face Shields Aren't a Mask Substitute

Although plastic face shields may be more comfortable than surgical or cloth masks, they're less effective at protecting you and others. Florida engineers recently put face shields to the test by mimicking the small droplets that are thought to spread COVID-19. After a simulated cough or sneeze, a face shield blocked the droplets' initial forward motion, but they were able to escape through the bottom and sides—and out into the room. Face shields could be a useful addition to masks, since they offer some protection for your eyes, but they shouldn't generally be used on their own.

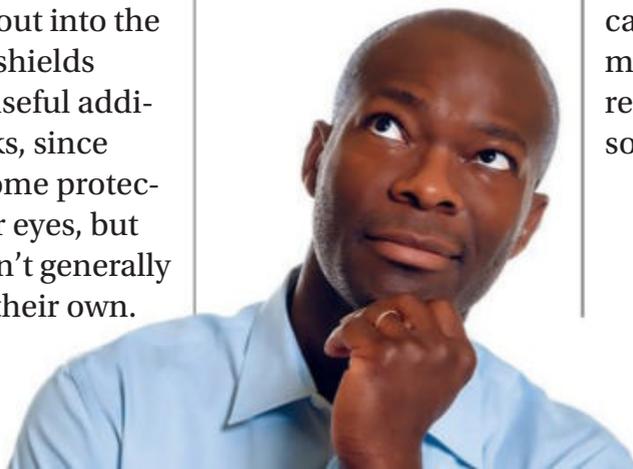
Doctors Don't Always Recognize Symptoms on Darker Skin

The health care a person receives can be compromised by their skin tone—in part because doctors don't see many photos in their medical school textbooks of dermatological symptoms on non-white individuals. This reality makes it trickier for people of colour to get a timely and accurate diagnosis for diseases ranging from anemia to melanoma. British medical student Malone Mukwende came up with a partial solution: he compiled a photographic handbook for patients and doctors, available at blackand-brownskin.co.uk.

Acetaminophen Might Be Dulling Your Emotions

A series of recent studies suggests that taking 1,000 milligrams of acetaminophen, the popular go-to for everyday aches and pains, might blunt some of our emotional responses, including empathy, joy and hurt feelings. Researchers suggest this may happen because acetaminophen reduces activation in brain areas that are thought to be involved in not only pain but also emotional awareness. Until it leaves your system, the drug can also affect risk perception, which could impact your health and welfare. Take that into account when you're driving a car, for instance, or making decisions related to COVID-19 social safety.

(FACE SHIELD) BY JENG/ISTOCK/GETTY IMAGES PLUS; (MAN) DMEPHOTOGRAPHY/ISTOCK/GETTY IMAGES PLUS



Probiotic Claims Overblown

There are thousands of species of bacteria in your intestines—known as the “gut microbiome.” Many are beneficial for your digestive health: among other things, the gut microbiome metabolizes the nutrients in food and protects the intestines against infections.

Medical scientists still have a lot to learn about which strains and combinations of these bacteria do what, but that doesn't stop companies from claiming probiotics—foods and supplements containing living bacteria—will improve such ailments as inflammatory bowel disease and irritable bowel syndrome. (In most countries, these products aren't sold as drugs, so their makers can assert untested claims.)

The American Gastroenterological Association reviewed relevant studies and concluded that certain probiotics may be useful for preventing an intestinal disease called necrotizing enterocolitis when given to premature babies, for reducing the risk of catching a *C. difficile* infection when people are on antibiotics, and for managing pouchitis, a complication of ulcerative colitis surgery. Beyond that,

there wasn't enough evidence to recommend probiotics for treating other digestive conditions, unless recommended by your doctor.

A more surefire way to foster the health of your gut microbiome is by eating a high-fibre diet, including plenty of fruit, vegetables and whole grains.



Poor Diets Linked to Acne in Adults

Pimples, the curse of teen years, can affect grownups, too. They're especially a challenge for women, possibly because they're more prone to hormonal imbalances. A study of over 24,000 French participants suggests that you're also more likely to experience adult acne if you're consuming a lot of sugary drinks, dairy products or fatty fare.

Antibiotics Can Lead to Unintended Pregnancies

Taking antibiotics may keep birth-control pills from working as intended, according to a British study of unwanted drug side effects. To play it safe, the researchers recommend women take extra precautions—using condoms, for instance—until they're finished their prescription.



Sally

Mother of **Zieven** who
lives with hemophilia A | 36

In the summer of 2012, Sally was 29 years old, grappling with an abundance of intense experiences. A petite brunette who had grown up in Manila, Philippines, she was by now a new mother with an eight-month-old son, living in a new house in Scarborough, Ontario and preoccupied with growing her career in IT.

For more information on hemophilia, please visit www.hemophilia.on.ca.





WHAT'S WRONG WITH ME?

BY Lisa Bendall

ILLUSTRATION BY VICTOR WONG



THE PATIENT: Martin Taylor, a 42-year-old software engineer

THE SYMPTOMS: Severe breathlessness and light-headedness

THE DOCTOR: Dr. Owen Dempsey, a chest physician at the Aberdeen Royal Infirmary, Scotland

MARTIN TAYLOR, a software engineer by day, plays lead guitar in a local band in Aberdeen, Scotland. In September 2016, while helping his bandmates unload heavy equipment before a gig, he felt suddenly light-headed. He shrugged it off, but the sensation worsened over the next few weeks. Taylor felt increasingly breathless and tired that autumn.

Meanwhile, his appetite dwindled. And though he'd try to get a good sleep, he'd frequently wake up during the night feeling light-headed.

Then one evening in November, while Taylor was setting up band equipment at a wedding, he had a bad dizzy spell. "I almost passed out," he recalls. One of his bandmates grabbed him before he dropped to the ground. Finally, he made an appointment with a GP at a nearby medical practice.

The doctor thought Taylor had a minor chest infection that would pass, but Taylor only felt more wretched as the days went by. He returned and saw a different GP, who ordered a chest X-ray to look for any problems

like bronchitis, pneumonia or even a tumour. The report was normal.

By December, Taylor was too sick to go to work or band gigs. He slept around the clock and felt breathless at the slightest effort. Heading upstairs to rest took an agonizingly long time. "After a few steps, I would be totally winded," he says. At night, he felt like he was suffocating and couldn't get enough air into his lungs. Mornings, after Taylor's wife left for work, his young daughter would carry up his tea or toast to him in bed. He says ruefully, "As a parent, you don't expect to be looked after by your eight-year-old."

At the same time, Taylor's lack of appetite had caused him to lose more than 15 pounds. Desperate, he made an appointment with a third doctor at the same medical practice. This GP asked Taylor to walk rapidly through the corridors. Taylor gasped for breath. He clipped an oximeter onto Taylor's finger to measure his blood oxygen. A normal range is above 95 per cent; Taylor's was below 80.

The doctor called his colleague, Dr. Owen Dempsey, a chest physician at Aberdeen Royal Infirmary, emailing him Taylor's supposedly normal X-ray. "I clicked on the image as we were chatting," says Dempsey. "I remember saying, 'This *isn't* normal.' It was subtly abnormal." Taylor's lungs were faintly shadowed with grey, as though covered in a veil. A radiologist could easily mistake that for a slightly underexposed

picture. Dempsey realized it could mean air was being displaced by something else, like fluid from inflammation.

Lung inflammation has numerous causes, including pneumonia or the presence of an autoimmune disease. Occasionally, it's a sign of hypersensitivity pneumonitis (HP), an allergic-type reaction to something that's been inhaled repeatedly, such as industrial chemicals, moulds or other irritants. HP is reported in only a couple of people for every 100,000, but researchers suggest it's most certainly underdiagnosed. Says Dempsey: "The lungs are filtering thousands of litres of air a day. In a way, it's surprising we don't have more reactions than we do to things in the environment."

JUST WALKING AROUND HIS HOUSE LEFT TAYLOR STRUGGLING FOR BREATH.

Dempsey phoned Taylor at home. Partway through the call, Taylor had to pause to turn off the stove; when he returned from the kitchen, he was so out of breath he could barely speak. That made an impression on Dempsey. "A man his age shouldn't be breathing as though he's run a marathon, just from walking around his home."

The doctor peppered him with questions. Hundreds of allergens are known to cause HP, but they're often obscure, like unseen mould inside a wind instrument, or popcorn dust in a factory that produces the snack—and there's no way to test for all of them at once. "In many cases, we can't identify the trigger," says Dempsey. "That's frustrating, because the management of this illness is to eliminate the trigger." He asked Taylor about birds, since a common type of HP is a reaction to the waxy, water-repellent coating on feathers. The problem is mainly seen in pigeon breeders and owners of pet budgies. Taylor didn't keep any birds. But Dempsey went one step further, asking about feather bedding.

That's when Taylor mentioned a new duvet and pillows he'd had since late summer. Although he and his wife had used feather duvets for years, this was the first time his pillow had been filled with feathers. "I sleep face down, so I had my face buried in it," he says.

Dempsey recommended he replace the bedding immediately. He also prescribed steroids to reduce inflammation. Taylor was willing to try anything. "I'd been gradually feeling worse for so long, with no end in sight to the misery."

After a couple of nights with a new pillow, Taylor felt slightly less sick. He started the steroids a week later, and within two days his symptoms were completely gone. "It was euphoria," he recalls. "I felt brand new again." A lung CT scan confirmed the presence of those grey areas, and blood tests showed high exposure to bird proteins. Had Taylor continued using his feather pillow, he could have developed permanent scarring in his lungs.

Taylor, who was able to wean off the steroids, admits it took him a while to appreciate just how unusual his experience was. "Dr. Dempsey says I'm this special case. For the longest time, I thought he said that to all his patients—just to make them feel they were in good hands!" 



Wintertime Wonder

It is the life of the crystal, the architect of the flake,
the fire of the frost and the soul of the sunbeam.

This crisp winter air is full of it.

JOHN BURROUGHS

Thank goodness for the first snow, it was a reminder—no matter
how old you became and how much you'd seen, things could still be new
if you were willing to believe they still mattered.

CANDACE BUSHNELL, LIPSTICK JUNGLE

Take Control of Your Diabetes with These 3 Tips

Diabetes is a disease that requires dedicated self-management. One of the biggest challenges faced by someone living with diabetes is accurately monitoring their blood glucose. Luckily, there are lifestyle approaches and highly-accurate tools that can help make managing diabetes much easier.

Sandra MacGregor

Leverage the right technology



Over the past few years there have been great strides in technology designed to make it easier for people with diabetes to monitor blood glucose. One example is the CONTOUR®NEXT ONE smart meter and app by Ascensia Diabetes Care. The CONTOUR®NEXT ONE blood glucose meter provides you with a remarkably accurate¹ and easy-to-use tool that gives you more control over how you live with diabetes.

Ensure your blood glucose monitor is accurate



It's crucial to get reliable readings from a blood glucose meter. CONTOUR®NEXT ONE is Ascensia's most accurate meter to date.*^{††} To help ensure you get an accurate reading from your blood glucose meter, CONTOUR®NEXT ONE also has a proprietary Second-Chance® sampling feature that will prompt you to reapply blood within 60 seconds if the first sample is insufficient for an accurate reading^{‡4} This could help you avoid a second lancing and wasting strips.⁵ There are also alerts that tell you when your blood sugar readings are critically high or critically low.

See your health care provider regularly



Regular consultations with your doctor ensure that you play an active and informed role in your own health care. With the CONTOUR®DIABETES app, you can quickly and easily send your doctor or other health care professional a colour-coded report of your blood sugar results to aid in your discussions.

©/TM see ascensiadabetes.ca/tm-mc

* Current regulation based on Health Canada recognized ISO 15197:2013 standard requires results within $\pm 15\%$ range, specifically: $\geq 95\%$ of results must fall within ± 0.83 mmol/L for blood glucose concentrations < 5.55 mmol/L and within $\pm 15\%$ for blood glucose concentrations ≥ 5.55 mmol/L.²

[†] CONTOUR®NEXT ONE meter meets $\pm 10\%$ accuracy vs. laboratory method, specifically: 97.4% of results within $\pm 10\%$ for blood glucose concentrations ≥ 5.55 mmol/L, and 100% of results within ± 0.56 mmol/L accuracy vs. laboratory method for blood glucose concentrations < 5.55 mmol/L.^{1,3}

[‡] In a clinical study, conducted in accordance with the requirements of ISO 15197:2013, the CONTOUR®NEXT ONE not only met and exceeded the minimum requirements of the standard but an ad hoc analysis determined where 95% of results fell during the study, which was within ± 0.47 mmol/L or $\pm 8.4\%$ of the laboratory reference value for glucose concentrations < 5.55 mmol/L or ≥ 5.55 mmol/L, respectively, when tested via subject obtained capillary fingertip results (patients with diabetes).^{1,3}

⁴ The CONTOUR®NEXT ONE system has demonstrated accuracy – even after applying more blood to the same strip.⁴

¹ Christiansen, M. et al. A New, Wireless-enabled Blood Glucose Monitoring System That Links to a Smart Mobile Device: Accuracy and User Performance Evaluation. Journal of Diabetes Science and Technology, 2017, Vol. 11(3) 567-573.

² International Organization for Standardization. In vitro diagnostic test systems – requirements for blood-glucose monitoring systems for self-testing in managing diabetes mellitus (ISO 15197). Geneva, Switzerland. International Organization for Standardization, 2013.

³ CONTOUR®NEXT ONE Blood Glucose Monitoring System User Guide, 90002727 Rev. 11/18

⁴ Wu H-P et al.(2012) Performance of a New Algorithm for Sample Re-Application During Blood Glucose Test Strip Underfill Conditions. Poster presented at the 15th Annual Canadian Diabetes Association, October 10-13, 2012, Vancouver, British Columbia, Canada.

⁵ Ascensia Diabetes Care, Market Research. Hall & Partners, conducted online April/May 2015.⁴

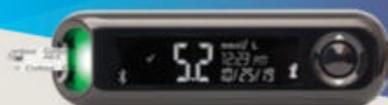
^{††} Average strip wastage estimated by health care professionals. Data and quotes collected through online survey of 400 HCPs and patient with Diabetes in US, CAN, DE and UK.

Sponsored by Ascensia Diabetes Care Canada Inc.

Consult your health care provider prior to making any changes to treatment regime.

Contour.
Evolving with you

Get a coupon for a FREE* CONTOUR®NEXT ONE meter at: contournextone.ca/readersdigit



*with purchase of CONTOUR®NEXT test strips. © TM see ascensiadabetes.ca/tm-mc

ASCENSIA
Diabetes Care

THRIFTY
GUIDE

HOW TO

SAVE

IN
2021



52 PROVEN TIPS
AND TRICKS
TO KEEP YOUR
MONEY IN THE
(PIGGY) BANK

BY Bryan Borzykowski AND Rebecca Philps

PHOTOGRAPHS BY CHRIS ROBINSON



GROCERY BARGAINS

SHOP THE PERIMETER OF THE STORE

Where you shop in the store directly affects how big your bill is. Food essentials (produce, meats, dairy and bread) are usually located around the store's perimeter. Middle aisles stock the more costly prepared and processed foods. Steer clear of those inner aisles and your groceries will be healthier and cheaper.

ORGANIZE, THEN LAYER ON THE COUPONS

Steal two simple tricks from the couponing pros. First, a little organization goes a long way: use a binder with photo-album inserts to sort coupons by category and expiry date, then haul it out before every trip to the grocery store. As well, think about using a manufacturer's coupon with items already on sale at the grocery store—say a \$1.99 package of taco shells is on sale



How much couponing pros save on average annual household grocery bills

for \$1.49. If you have a 50-cents-off coupon and the store allows double coupons, you'll pay only \$0.49.

SHOP LESS OFTEN

Try to stretch out the time between grocery-shopping trips. Instead of going once a week, go once every two weeks. You'll be forced to make a more careful food plan and be even more likely to use the food you already have in the pantry and freezer.

EARN MONEY WHEN YOU BUY GROCERIES

Caddle, a Canadian app, pays you cash in the form of rebates when you shop online and in person. In exchange, you answer short online surveys and watch video ads. It's available as a free download on iPhone and Android devices.

HIT FARMERS MARKETS JUST BEFORE CLOSING

Vendors don't want to bring unsold produce back home, so they often sell their inventory at reduced prices (up to 80 per cent) before the market closes. Some markets have restrictions on price slashing, so check your local's policy first.

RETAIL SECRETS

BUY AT THE RIGHT TIME

Shopping for big home items off season yields the cheapest prices, as retailers and manufacturers want to clear

READ FOR FREE

Attention book lovers: access to Prime Reading is a little-known bonus to being a member of Amazon Prime—members can choose up to 10 free titles at a time from over 1,000 options (a regularly updated list of novels, non-fiction, thrillers, children's books and more). The title is then available to view on any device via the Kindle app; some books also come with audible narration.



out inventory before introducing new models. Think furniture in January and February, televisions and home electronics in the spring and barbecues and lawn mowers in the fall.

EXTEND THE LIFE OF YOUR WINTER BOOTS

Keep a cloth and a spray bottle of vinegar and water in your entryway to quickly wipe off salt stains every time you walk through the door. It'll help your winter footwear last through multiple seasons. And for wet West Coast winters, Canadian brand Kamik sells sustainably manufactured rain boots that are durable and about half the price of competitors' boots.

DITCH FAST FASHION

Beware the trap of fast fashion—usually you end up with a closet stuffed with ill-fitting, poorly made duds (see the holes in the neckline of that new

T-shirt after one wash). It's worth spending a bit more on fewer pieces that last. Look to innovative brands like Universal Standard, which is revolutionary for its size inclusivity (every piece in the vast collection is available in size 00 to size 40) and commitment to sourcing premium fabrics, all at reasonable prices.

GIVE YOUR OLD SHOES A SECOND LIFE

Grimy sneakers can be made to look nearly new again. Mix a dab of gel-based whitening toothpaste with a sprinkle of baking soda and get to work scrubbing with an old toothbrush.

BROWSE RESALE APPS

Poshmark, the popular U.S.-based shopping platform backed by celeb stylist Rachel Zoe, is now available in Canada. There are over 100 million items to choose from, and you can buy

and sell both new and gently used clothing, bags, jewellery and accessories, from basic loungewear to designer labels. When you make a sale, the company provides you with a Canada Post prepaid, preaddressed label ready for shipping.

AUTOMATE YOUR BARGAIN HUNT

Amazon price tracker websites like CamelCamelCamel send an email alert when the price of an item you covet drops to your designated threshold. It can also provide a price-history chart for the item in question so you can see variations over time and strategize when to strike.

MAX OUT YOUR CARDS

You may be surprised by how many gift cards or store credits are lingering in your wallet or shoved in a junk drawer. How about a reloadable charge card you forgot you reloaded? Or a cash-back account you're ignoring? It's worth

spending a few hours to inventory all those latent funds.

DRUG STORE DEALS

TRY GENERICS

They have the same active ingredients as brand-name medications but are substantially less expensive. You can look for the generic name for your medication online and ask the pharmacist if they stock it.

TAKE ADVANTAGE OF SENIORS' DAY

Shoppers Drug Mart and Rexall offer seniors' days, with decent discounts on regularly priced merchandise. If you fall below that age limit (65 at Shoppers, 55 at Rexall), take senior parents or grandparents shopping on those days instead.

NEGOTIATE AT INDEPENDENT PHARMACIES

Smaller drug stores are often more

SPRUCE UP YOUR SCRATCHED GLASSES

Drop a bit of Brasso metal polish on a soft cotton cloth, wipe it over the lenses, let them dry completely and then polish out the scratches. Then paint a thin coat of clear nail polish on the screws to keep them from coming loose.



(GLASSES) ISTOCKPHOTO.COM/NASTCO

willing to give you a deal because they may have more discretion than the big chains over the prices they charge. To find out, make a few phone calls and ask your local independent pharmacist to beat a chain store's price list.

HOME HACKS

GROW YOUR OWN VEGGIES

Lettuce is hardy and easy to grow, as are carrots, beans, tomatoes and cucumbers. You can start even smaller with some herbs in a pot and never waste money again on those clamshell packs at the grocery store.

MAKE YOUR OWN HOUSEHOLD CLEANERS

White vinegar and baking soda are your cleaning BFFs—two cheap but effective products that you can use throughout the whole house to clean, polish and disinfect.

INSTALL A CLOTHESLINE

If you don't have outdoor space or you live in tight quarters, take a cue from hotels and install a drying line above your shower-curtain rod. It's less convenient than running the dryer, sure, but nothing beats a clean shirt with that fresh-air crispness.

SWITCH TO CFLS

Replacing incandescents with compact fluorescent light bulbs (CFLs) is one of the quickest, easiest ways to save

CASH BACK!

2%

How much you save on your heating bill for every degree you lower the heat

money. CFLs use about 75 per cent less energy and last up to 10 times longer than incandescent bulbs.

SERVICE THE FURNACE

Tuning up the furnace (which also includes changing the furnace filter regularly) before the winter season will reduce energy use and may save up to 10 per cent on heating bills.

BUY YOUR HOT WATER HEATER

Canadians who rent their hot water heater may be burning up some savings. Financial blogger Robb Engen found that while there are upfront costs to buying a heater, after six years of owning (and most last 15 years) you'll start to save. One drawback: you're on the hook for maintenance fees, which could add up with a problem heater.

INSTALL A HEAT PUMP

Dump your old furnace and get a heat pump—an energy-efficient system that heats and cools homes, says Sandy MacLeod from the Heating, Refrigeration and Air Conditioning Institute of Canada. Depending on where you live, you could cut 50 per cent off your

SET THE THERMOSTAT TO COOL

At home, leave the thermostat at 20 C and wear a sweater if you feel chilly. Reduce it to 18 C when you go to bed at night (which will also improve the quality of your sleep). And when you are away from the house, keep the thermostat between 12 C and 16 C. A programmable thermostat can take the chore out of adjusting the temperature and can be yours for about \$40. According to smart-thermostat company Nest, these Internet-connected devices can save you about 12 per cent on heating and 15 per cent on cooling costs a year.



heating bills. There are upfront costs in the thousands, but after paying those off, you can save big.

GO WITH THE (LOW) FLOW

Installing low-flow shower heads and faucets will save on water usage and can cut your energy costs by about 10 per cent. Many provincial power suppliers offer free kits that contain low-flow showerheads, faucet aerators for kitchen and bathroom sinks, water-heater pipe-wrap insulation, plumber's tape and a refrigerator thermometer.

DITCH PAPER TOWELS

A 36-pack of durable, reusable micro-fibre cloths costs about the same as a 12-pack of paper towels, but it will last much longer. Tip: keep a mini-hamper under the sink to corral the dirties.

IMPROVE YOUR ATTIC INSULATION

Many homes have poor attic insulation, says Kevin Lee, CEO of the Canadian Home Builders' Association, which can translate into higher energy costs. Consider blowing in insulation like cellulose, which can fill all the gaps and crevasses in an attic and trap heat in. Get an EnerGuide evaluation to see how else to make your home more energy efficient.

GET YOUR FANS GOING

Ensuring your ceiling fans are moving in the right direction can save you

CASH BACK!

\$220

How much the average Canadian
pays in a year in bank fees

money on your home-heating and cooling costs, according to financing company Ygrene. In the winter, a clockwise movement creates an updraft that pushes warm air down. In the summer, fans should move counterclockwise. This, in combination with an air conditioner, could reduce cooling costs by up to eight per cent.

DODGE THE DRAFT

Replacing worn weatherstripping on doors and windows can decrease energy use by up to 25 per cent. You can also cover drafty windows and doors with insulation film—kits on Amazon start at about \$20.

LAUNDRY IN COLD WATER

The costly part of washing dirty clothing is heating the water. Most items will wash just fine in cold, and you definitely don't need the premium (and pricey) detergent recommended for cold washes.

LANDSCAPE WITH TRANSPLANTS

It's easy to spend a fortune at the local nursery. Instead, exchange plant trimmings with family and friends who have overflowing gardens. Many perennial plants and bulbs can easily be divided and shared.

BANKING BREAKS AND TAX TIPS

SLASH INVESTMENT FEES

Most mutual funds charge a two-per cent fee, which helps pay the salary of the person picking stocks. One problem: fund managers almost always underperform their benchmarks. Instead, build a portfolio with exchange-traded funds (ETFs), which are designed to replicate an index. When that index rises, the ETF will climb by about the same amount. No manager means low fees—about 0.05 per cent, depending on the fund—which equals thousands more in savings.

EXPENSE YOUR HOME OFFICE

Employees don't usually claim home-office expenses, but that doesn't mean you can't write off some of your work-from-home costs. According to E&Y, staff can deduct costs for office rent and supplies, but it must say in your contract that you have to pay for these expenses. Your employer must also sign form T2200 before you can deduct the expense.

CUT HIGH-INTEREST DEBT

Everyone loves reward cards, but many people don't realize that they come with extremely high interest rates of between 25 and 30 per cent. It's always good to pay off credit cards and lines of credit, but if you have to choose one in any given month, pick the reward cards. Depending on how much you owe, you could save thousands of dollars in interest payments over the year.



HAVE YOUR EMPLOYER PAY INTO YOUR PENSION

If you contribute to a defined workplace pension plan, make sure you're taking advantage of the employer match. According to Sun Life Financial, Canadians are leaving up to \$3 billion in matching contributions on the table. Contribute the max amount to your pension—usually between three per cent and six per cent of your salary—and your employer will put the same amount in your account.

CLAIM OBT-FORGOTTEN DEDUCTIONS

There are several money-saving tax breaks that people don't know exist. You can claim certain medical expenses, such as prescription costs and doctor's fees. If you moved at least 40 kilometres closer to a new job or school, you can

claim some moving expenses, including the cost of movers. Union dues, student-loan interest and child-care expenses come with tax breaks, too.

CONSOLIDATE DEBTS

If you have more than one high-interest-rate credit card, consider consolidating all those debts under a single lower-interest-rate loan. There are two benefits: you'll have to pay off one bill instead of multiple ones and you could pay thousands less in interest. However, it's still important to pay those debts off, even at the lower rate.

SAVE FIRST, MORTGAGE SECOND

You may make more money over the long term by investing in a retirement account than paying down a mortgage, says Robert McLister, founder of RateSpy.com. If your mortgage rate is,

(CREDIT CARD) ISTOCKPHOTO.COM/SONATE

say, two per cent, but you can make four per cent in the markets, then you'll get further ahead by investing. "If you have a decade or more before you retire, you might find that making tax-deductible RRSP contributions is a more economical and higher-return use of spare cash," he says.

BREAK YOUR MORTGAGE

You could save big bucks by breaking your mortgage and refinancing at a lower rate. There can be a hefty penalty for breaking it early, so do your homework. But depending on what you owe and the term you have left, it could be worth it, says McLister. "Anytime you can lower your rate by a point or more, refinancing can make sense."

ELIMINATE BANK FEES

Bank fees are annoying, but there are ways to eliminate them. First, check your account, as many banks waive fees for maintaining a minimum

CASH BACK!

\$2,400

How much you'd save if you reduce the rate on a \$20,000 credit card balance from 20 to 8 per cent

amount at all times. Second, negotiate account fees if you have a mortgage or other investments with that bank. Third, shop around. Banks are always competing, and similar accounts could come with different fees.

FIND A DIGITAL BANK

Digital banks are financial institutions that have no branches and offer basic services, like savings accounts. With lower overhead, they can offer better savings-account rates than the traditional banks. According to Ratehub.ca, EQ Bank currently pays 1.5 per cent interest in its high-interest savings account, compared to 0.05 per cent for an equivalent account from Scotiabank.

TRAVEL DISCOUNTS

TAKE ADVANTAGE OF DEALS

When travel guidelines become less restrictive, you may find some stellar deals on flights and hotels. One recent Air Canada sale offered a \$400 family vacation package. "It's not hard to find rooms for 25 per cent off due to lower demand right now," says travel expert Barry Choi.

TRY CREDIT-CARD CHURNING

Want to travel the world when the pandemic's over but don't want to pay for flights? Try credit-card churning, which involves signing up for a credit card, getting the bonus points, cancelling

that card before the year is up and then signing up again for more points. It's entirely legit, and it doesn't always work, but it's worth a shot.

CAREFULLY EXPLOIT TRAVEL-REWARD CARDS

You can save big on travel expenses by using a travel-reward card. Patrick Sojka, founder of RewardsCanada.ca, says that while there are many cards out there, most people want a rewards program that's flexible and gives them multiple flight options. You get about two per cent of total credit-card spending, on average, to put toward travel, which could add up to a free flight or two. The key is to pay the balance off every month to avoid interest charges.



GENERAL SAVINGS

REDUCE YOUR INTERNET, PHONE AND CABLE BILLS

Wish you could spend less on Internet, mobile and cable? Try haggling with your telecom provider, says Mohamed Halabi, founder of Mybillsarehigh.com, who adds that with a little pushing, you can get up to 25 per cent off the posted price. Escalating your call to a supervisor can result in discounts, too. But don't be mean about it—give the rep a hard time and they may not slash the price.

JOIN AN ASSOCIATION

Many association memberships come with discounts on everything from computers to stationery to travel, so if you're an accountant, doctor or other professional, sign up. Also consider the Canadian Automobile Association, which offers discounts on health, home and life insurance, and on travel costs.

PAY NO INTEREST

One advantage of living in a low-interest-rate world: no-interest financing. To encourage you to buy their product, many companies, from auto dealerships to Peloton, are eating whatever interest costs you'd have to pay. If you need to buy a big-ticket item, then look for this kind of deal and pay off your purchase over several months or years instead of all at once.

CASH BACK!

\$1,800

How much you'll save over 15 years if you buy instead of rent a hot water heater

CANCEL YOUR TECH SUBSCRIPTIONS

In our tech-dependent world, it's highly likely that you're paying for software, cloud file storage or a streaming service that you don't use often enough. One company found that the average person wastes \$347 on unused subscriptions. Review what you're signed up to and ditch the subs you've forgotten about.

BUY A CAR INSTEAD OF LEASING

It's the age-old debate: lease or buy a car? Buying is generally more cost-effective over the long term because at

some point your payments will stop. Monthly leasing payments are usually lower than those you pay when you finance, but leases come with mileage limits that, if exceeded, could increase your costs. The best option? Buy used.

CUT YOUR CAR INSURANCE

What you pay on insurance will mostly depend on where you live and what you drive, among other things, but there are ways to reduce these costs. People who drive to work tend to pay more than those who don't. If you're home during COVID-19, ask for personal, rather than business, insurance. Also, increase your deductible or remove collision coverage on older cars.

REDUCE RISK, SAVE ON HOME INSURANCE

Squeezing out savings on home insurance isn't as easy as it is with car insurance, but it can be done. The easiest way to save is to increase your deductible—going from \$500 to \$5,000 could save you a few hundred dollars—but also consider ways to reduce risk to your home, such as by installing a sump pump if it doesn't already have one. 



Pick a Lane

In any new situation, you will be viewed in one of three ways. As a minus one: actively harmful, someone who creates problems. As a zero: your impact is neutral and doesn't tip the balance one way or the other. Or as a plus one: someone who actively adds value.

CHRIS HADFIELD





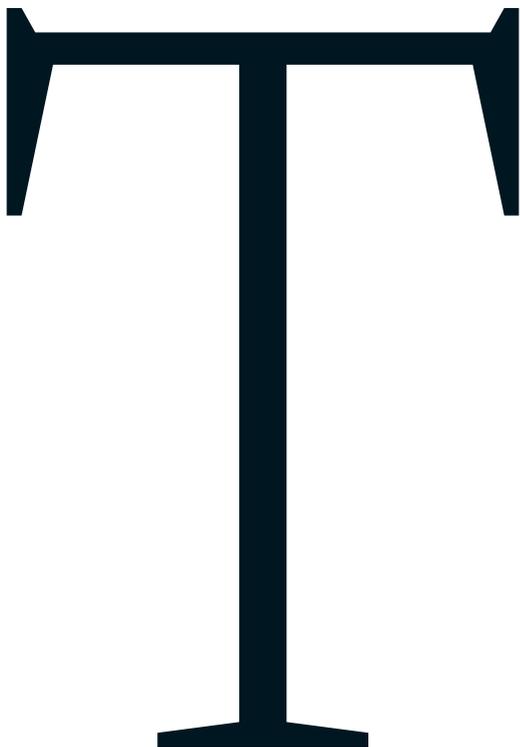
DRAMA IN REAL LIFE

What do you do when your spouse falls deep into a remote Caribbean crater, there's no cell signal and he's dying before your eyes?

The Newlyweds Versus the Volcano

BY Nicholas Hune-Brown

ILLUSTRATION BY RYAN GARCIA



TWO YEARS AGO, on a steamy morning in July, Clay and Acaimie (pronounced “Ah-CAY-mee”) Chastain arrived at the base of Mount Liamuiga, on the Caribbean island of St. Kitts, ready for their first climb as husband and wife. They had married just five days earlier, back home in Crawfordsville, Indiana, the culmination of a storybook romance.

When Clay was 23 years old and Acaimie was 25, they met at Purdue University, at a square dance between his Christian fraternity and her Christian sorority. Clay—a handsome farmer’s son with a charming, puppy-dog energy—was immediately smitten by Acaimie’s beguiling smile. They’d lasted through college and the tough years after, when Acaimie moved to



Illinois for work as a store manager and Clay finished his master’s degree in swine nutrition. They took turns enduring the weekly five-hour drives to see each other, but they were devoted and slightly old-fashioned—they refused to live together in the house they’d bought in Indianapolis until after their wedding.

Like any good couple, they had their complementary differences. Acaimie had always been the worrier. “A realist,” she says. “A pessimist,” Clay replies. She liked order and structure. She wasn’t just fastidious about washing her sheets once a week; she did it at the same time every Saturday. Clay, on the other hand, was a perpetual optimist—maddeningly carefree and



Acaimie, with Clay on their wedding day.

easygoing, always certain that things would turn out just fine.

So it was Clay who wanted to spend a day of their Caribbean honeymoon scaling Mount Liamuiga. More than a kilometre high, Liamuiga is also a dormant volcano with a kilometre-wide summit crater. It's a popular day hike for vacationers looking for adventure.

The couple, dressed in T-shirts and sneakers, arrived for their journey in a rental car and expected to find more information on-site. Instead they found an empty dirt parking lot with just a small plaque marking the trailhead. They made their way up anyway, the narrow path taking them through tropical growth so lush you couldn't see the sky. Vervet monkeys chattered in

the trees; the air was thick and humid.

It took them nearly three hours to reach the peak, but the view—the view!—made it all worthwhile. The island of St. Kitts stretched out before them, the green rainforest carpet cascading down toward the sapphire Caribbean water. They may have been tired and sweaty—Clay's red bandana was soaked—but they couldn't have been happier as they ate their sandwiches, took a few selfies and walked around the rim of the volcano completely alone.

That's when Clay saw it: a small trail, semi-hidden beneath plant life, that led into the volcano's crater, a bowl of green with cloud forest giving way to a grassy meadow. A series of screw eyes had been drilled into the rocks, with ropes that led down.

For Clay, the sight was unbearably inviting. It felt like a secret entrance to a primeval paradise. Acaimie was less enthusiastic. The trail was steep and she was afraid of heights, but she gamely followed Clay's lead. After just a few minutes of descent, though, she'd had enough. She told her husband she'd wait on the rocks just off the trail while he went exploring. "Just be quick," she said as she watched him follow the precipitous path, zigzagging while clutching the rope.

A few minutes later she heard a crash—a noise that sounded like a large branch snapping, followed by something big rolling downhill. "Clay?" she called. Silence.

ACAIMIE FOUGHT BACK a flutter of panic. She hadn't heard anyone call out, after all. The sound might have been anything. A few minutes later, she heard something faint that could have been a human voice. She leaned forward, craning her neck. Then she heard it again, and this time she was certain: it was Clay, speaking in an eerily childish tone she hardly recognized, calling for help from deep within the crater.

As she looked over the lip of the volcano, she tried to suppress some of her worst worries. Her phone wasn't getting a signal and her cries for help were met with only silence. "Clay!" she shouted as loud as she could. "Clay, are you okay?"

Acaimie gripped the rope and began scrambling down the trail. When the path became too steep, she slid on her butt, her legs and arms getting bruised and scraped in the process. Then, just off the trail, she saw a flash of red. It was Clay's bandana. And next to it was his cellphone.

She grabbed both and continued down, screaming for Clay all the way. "Help," he said in that strange voice. "I'm coming! Stay where you are," she answered. Finally she spotted his shirt through the trees. She wanted to prepare for what she was going to see, worried that if he were badly injured, the sight of him would put her into a state of shock. "Tell me what's wrong," she said as she approached.



"I don't know," he said weakly.

Clay was sitting hunched over with his head in his hands, his back to Acaimie. When she got closer, she could see that he was bleeding from the back of his head, and his neck and shoulders were scraped. Walking around him, she saw that he'd been vomiting. Blood ran down his face.

Perhaps the rope he'd been holding had snapped, or maybe he'd just missed a step, but it was clear he'd fallen a long way. He was badly concussed. "Where are we?" he asked. She explained they were on a hike on St. Kitts. "Why aren't you calling for help?" he asked. Their phones weren't



Clay, moments before his fall.

getting cell service, she told him. He seemed to take that in. Then, 30 seconds later: “Where are we?”

Acaimie tried to clear her mind. They were alone in the volcano without cell service. There was only one thing to do: she needed to drag him out somehow.

“Look at me, Clay,” she said. He looked through her, his eyes swimming. “We’re going to have to climb out of here, and you’re going to have to listen to me.”

Acaimie hoisted Clay shakily to his feet. He had no balance and couldn’t support himself. The two of them stumbled forward and Acaimie put his

hands on the rope. She told him to hold tight as she placed Clay in front of her and pushed him from behind. He lurched forward, flailing like a drunk, but he seemed able to control his limbs just well enough to follow Acaimie’s directions. When they reached a particularly steep section, she bent down, picked up his feet, put them in good footholds so he wouldn’t slip, and pushed again.

THE PATH WAS CONFUSING—WHAT IF THEY GOT LOST? WOULD CLAY SURVIVE THE NIGHT?

Inch by inch, step by step, they climbed. After what couldn’t have been more than half an hour but felt like forever, they reached the top. “Help!” Acaimie yelled. She’d hoped that once they reached the top they’d find a group of hikers, but the trail was empty. There was no choice but to try to make it back to the trailhead alone. It was about 12:30 p.m. It had taken them three hours to reach the summit. How long, she wondered, would it take them to reach their car?

PUTTING HER HUSBAND’S arm over her shoulder, Acaimie led him back down the trail. It was almost like a

A medevac plane transported Clay from St. Kitts back to the U.S.



black-diamond ski run—sheer and winding as it cut back and forth through rainforest so thick she could never see more than a few yards ahead. Clay’s legs flopped beneath him; at times he almost began running down the hill due to this lack of control, and Acaimie had to struggle to make sure he didn’t send them crashing into the trees. In particularly steep sections, she sat Clay down, shuffled ahead of him and had him slide into her arms.

As they made their way, the sun was sinking lower in the sky and Acaimie’s mind raced. The path was confusing and indistinct in places, with smaller trails branching off into the wilderness.

What if they got lost, she wondered. Would Clay survive the night?

She checked her phone again. Still no signal.

After more than two hours, Clay seemed to be getting worse. He was losing what little control he’d had over his body. Every 10 minutes or so he’d stop, collapse on the trail and begin vomiting blood. “I want to sleep,” he mumbled now, shutting his eyes. Acaimie urged him to keep moving. “You’re doing such a good job. I’m so proud of you,” she kept repeating, unsure if any of it was getting through to her husband. Once again she checked her phone. No signal.

(BOTH PHOTOS) COURTESY ACAIMIE CHASTAIN



Clay has since recovered from most of his injuries.

It dawned on her that maybe she should leave Clay there and run ahead and get help. But one look at him and she nixed that idea. In his state, she worried that he'd wander off into the wilderness or stumble down the trail and injure himself. She needed him to keep going.

They continued on—Acaimie guiding Clay, Clay barely able to move forward. After hours of painful but exhausting progress, they took a break. She instinctively pulled out her phone to check for a signal. Yes! It was faint but it might work. She dialed 911 and heard the welcome sound of another person's voice. She told him what had happened—the

fall, the vomiting, the blood, the disorientation. The dispatcher, barely audible, asked whether they were able to make it to the trailhead, or did they need a helicopter? Acaimie looked around. With the thick covering, there was no way a helicopter could land anywhere near them. She told him they'd keep trying to make their way down.

But as they moved forward, she became more scared. Clay's condition was continuing to deteriorate. He could hardly use his arms and legs. At one point, Acaimie couldn't support him and gravity took over,

sending him flying out of her arms and rolling down the hill, smashing into a tree. He lay there in a heap. Then he started vomiting blood again.

She dialed 911 once more. "If the paramedics are anywhere near the trail, they need to start heading up now!" she told the dispatcher. When she hung up, she looked down the trail, calling out for help as loudly as she could until her voice grew raspy. Clay was getting cold and clammy. She didn't know whether they could go any further.

Then she heard something. It was faint and could have been almost anything. She didn't move a muscle, afraid she might miss it if it came again.

"Hello!" someone called out.

Acaimie leaped up. "We're here!" she yelled as two paramedics came into view. "We're here!"

The paramedics wrapped Clay's arms around their shoulders, and then each took a leg. In this cumbersome manner, they carefully carried Clay down the mountain to the ambulance waiting at the trailhead. Acaimie sat in the front of the ambulance—she was hyperventilating, and her hands eventually became numb from lack of oxygen. She listened in horror as the paramedic in the back yelled to the driver, "He's still vomiting blood; we need to get to the hospital!"

At the emergency room, doctors discovered just how vast Clay's injuries were. They included a bad concussion, a fractured vertebra, a fractured skull and a spinal-fluid leak.

Clay spent a painful week recuperating in a St. Kitts hospital before being medevaced to a hospital in Florida, where doctors placed a shunt in his spinal cord to drain excess fluid. After nine days, he flew home to Indiana for several months of physical rehab and visits with specialists, including a

neurosurgeon and an audiologist. But he was alive. And as his mind slowly cleared and the enormity of what he had endured became apparent, Clay was amazed at what his wife had done for him.

Today, the couple are in their new home in Indianapolis. Nearly a year later, Clay has regained the balance he lost, but he's now deaf in one ear. "It's really not that bad, a minor inconvenience at worst," he says, ever positive.

When the couple thinks about what happened in St. Kitts, it's with a strange mix of emotions. A honeymoon is supposed to be a chance for connection—an island of time in the midst of a busy life. But even though their honeymoon had turned into a nightmare, it cemented their relationship. The words "in sickness and in health" were no longer just a quaint refrain said in front of friends. To see one's partner under the most awful conditions imaginable had created a kind of intimacy that was different than what they'd had before.

"We got shell-shocked, but in a good way," says Clay today. "You realize what you have. And you become so thankful." 



Words of Warning

You don't go dancing in the day, and you don't go golfing in the night.

MARK McKINNEY

Yeah, we're sweet but savage, and I think a lot of Canadians are that way.

BRUCE McCULLOCH

LAUGHTER THE BEST MEDICINE

I've watched a zillion seasons of *The Great British Bake Off* and I'm still no closer to understanding what they think a pudding is.

—[@AMANDAMULL](#)

I tried to organize a hide-and-seek tournament, but it was a complete failure. Good players are hard to find.

—[REDDIT.COM](#)

Therapist: How have you been coping with everything?

Me: I've been using sarcasm, mostly.

Therapist: Has that been working?

Me: Yeah, it's been super great.

—[@ITSNASHFLYNN](#)

A Stroll to Remember

"What a gorgeous night for a walk" —me, moving from my couch to my chair.

—[@ALYSSALIMP](#)

Generation Gap

A mom texts, "Hi! Son, what do IDK, LY and

TTYL mean?" He texts back, "I don't know, love you and talk to you later." The mom replies, "It's OK, don't worry about it. I'll ask your sister. Love you too."

—[LAUGHFACTORY.COM](#)

Home Cooking

I fear I'll go the rest of my life never knowing if a bay leaf does literally anything to benefit a soup or sauce.

—[@MINDYFURANO](#)

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 **Brandon Ash-Mohammed**

My last name is Mohammed, but my family is not *that* Muslim. Like, we've only been to a mosque once and it was in the video game *Prince of Persia*.

Brandon Ash-Mohammed is a Toronto comedian. Follow him on Twitter and Instagram @BrandonAMcomedy.



Pass It On

In the best mentoring relationships,
everybody learns

BY Karen Stiller

PHOTOGRAPH BY BLAIR GABLE

MY SISTER MIRIAM is the pickle lady of New Annan, N.S. On a Friday afternoon last fall, the smell of bubbling brine filled her kitchen, and clean, empty mason jars lined her counter. She was ready to host a pickle-making session for two neighbours who had

always wanted to preserve vegetables but didn't know how.

For those few hours, Miriam was a mentor to her friends, a skilled guide sharing her own knowledge to empower others a little further along on a particular journey. The trio made salsa, pickles, relish and a batch of very good memories. "The minute we stop sharing and learning from others," says Miriam, "we stop growing."



**Artist Jenn Thornhill
Verma and her mentor
Gordon Harrison.**

While mentoring is typically associated with office settings and career advancement, anyone could be a mentor. We can share our skills in our kitchens and backyards, over the phone or online, and within our already-established friend groups.

A mentoring relationship can last a lifetime or it can be clearly defined in time, scope and definition, such as a few hours of intense pickling. Whatever the case may be, it's likely we all have beneficial skills, advice and hard-earned lessons to pass on to someone else—just as we all, in turn, have a list of things we'd like to learn or areas in which we would love to grow.

If you're ready to start mentoring (or to be mentored), here are some insights from mentors and mentees alike to help it go well right from the start.

Establish Ground Rules

Nearly a decade ago, Patricia Paddey decided to seek out a writing mentor. Then 52, the Mississauga writer was struggling to balance her family responsibilities with her heavy workload. She'd always admired fellow author and academic Maxine Hancock and knew that, like her, Hancock had pursued graduate studies later in life. Paddey sent an inquiring email to Hancock, who, to Paddey's surprise and delight, agreed.

Both women say that a clear set of boundaries and expectations helped seal the deal. They agreed to a monthly phone call, and Paddey sent over a

simple agenda in advance of each meeting. It included a recap of their last conversation and a list of her new questions. The calls lasted for about an hour, and the mentoring relationship itself began one September and ended the following April.

By the time it was over, Paddey had an arsenal of practical tips and a new outlook on how to prioritize her busy days. In the end, she says, Hancock was more of a life coach than a writing one.

To this day, Paddey has never met Hancock in person. "Because our mentorship had a firm time frame we had no problem knowing when it was completed," says Hancock, who now lives in Vermillion, Alta. That can be more difficult, she adds, when those ground rules aren't established. Or, as Paddey puts it: "Healthy boundaries make for healthy relationships. If you're clear up front, there won't be hurt feelings."

Be a Good Listener

Mentoring is not just downloading information; it's also creating space for the mentee to share what they need, and sometimes—especially when the mentoring is less about passing on a concrete skill and more about general life or career guidance—encouraging a mentee to find their own solutions.

Doug Ward, co-author of *Great Mentoring for Real Life Change*, says that asking good, open-ended questions lies at the heart of effective mentoring. "Questions like 'Tell me more about

that?’ and ‘What would change that?’ or even ‘What advice would you give to a friend in your situation?’ can subtly move the person forward on their journey,” says Ward.

Looking back, Hancock’s listening skills are what Paddey remembers the most about their time together, and what she intends to use in her current role as a mentor to another, younger writer. “She was a wonderful listener,” says Paddey. “She would really listen carefully to me. At no time did she make it all about herself.”

According to Ward, the art of the question is one of the best tools a mentor can develop. He suggests mentors jot down notes immediately after the meeting to help them pick up where they left off the next time, which also demonstrates attentiveness and care to the mentee. “Listening is intuitively the most important tool,” says Ward, hinting at the generosity that is built into mentoring. “Mentoring is not about feeding my ego. It’s about the other.”

Give and Receive

Gordon Harrison is a well-known Canadian artist whose vibrant canvases fill a gallery on Ottawa’s Sussex drive. He is also a willing coach to artists who need a friendly ear or constructive critique. “I’m not afraid of sharing my secrets,” he says, “and giving advice and words of encouragement.”

Artist Jenn Thornhill Verma is one of the grateful recipients of Harrison’s

mentoring. And while Harrison brings his expert eye and his years of experience, Verma also contributes to the working-friendship. She has, for example, helped nudge Harrison toward more social-media engagement. “A good mentoring relationship starts with a mutual interest,” says Verma, “and then it’s the genuine reciprocity of the mentor providing experience and the mentee providing new insights.”

Mentoring is ultimately about giving and receiving, says Irene Vaksman, director of Newcomer Services for JVS Toronto, a non-profit that helps new Canadians settle into life by facilitating mentoring relationships between Canadians and newcomers who have similar jobs. Before Vaksman’s newcomers arrive, they can connect online with Canadians who work in their field. They can ask time-saving questions and learn insider information about what their occupations—and lives—are like in a new country.

Many people who have been mentored are often inspired to become mentors themselves as they start to settle into Canadian life. “More and more we are seeing people who were immigrants themselves seeking this opportunity to give back,” says Vaksman. Mentoring begets mentoring, and that is part of the Canadian spirit Vaksman wants all of her clients to see. “Mentoring cultivates the spirit of giving back and paying forward,” she says. “It’s a powerful tool.” **R**

AS KIDS SEE IT



“He said the washing machine makes him dizzy.”

One of the hardest parts about teaching your kids to be independent is watching them tie their shoes for eight minutes.

—[@SIMONCHOLLAND](#)

‘Parenting’ is cooking food to a safe internal

temperature and then waiting three hours until it cools back down to a temperature my child can tolerate.

—[@MOM_THO](#)

Eight-year-old: How many doughnuts can I have?

Me: One.

Eight-year-old: One total or one at a time?

—[@XPLODINGUNICORN](#)

I love how babies look freaked out all the time. They’re the only ones being honest!

—[@AKILAHGREEN](#)

My tween daughter is the only one among her group of friends who doesn't have a phone. I know this because she tells me every 30 minutes.

—[@MOMMAJESSIEC](#)

When I was little, I thought there were monsters under my bed. One night, my mom finally just said, "Look, the monsters have a lot on their plates, so they really don't have the time to haunt you." Honestly, it worked.

—[@BROTIGUPTA](#)

During the pandemic, my two granddaughters—six and eight years old—were being home-schooled by their mom. One day, the eight-year-old had a spelling bee with her sister. "Spell 'elephant,'" the older one said.

"Let her spell small animals, not big ones," said her mom.

The older sister paused, then said, "Spell 'mosquito.'"

—MISIR DOOBAY, *Toronto*

My daughter didn't want sunscreen so I took her outside and yelled, "Sun, get her!" Now she's flipping out.

—[@JACARISTAR](#)

My nine-year-old didn't want to try my lemon loaf, but when I rebranded it as "lemonade cake" he was interested.

—[@ANNE_THERIAULT](#)

"Hmmm, I guess I'll have that." —My 10-year-old after I told him what I was making for dinner, as though he's got a choice in the matter.

—ROBERT KNOP, *writer*

Math teacher: If I have three bottles in one hand and two in the other hand, what do I have?

Student: A drinking problem.

—LAUGHFACTORY.NET

My toddler just spent five minutes explaining that he can't use his imagination because he traded it to a kid at daycare for some fruit snacks.

—[@HENPECKEDHAL](#)

I try to be honest with my kids in all situations...unless I hear the ice cream truck coming, in which case I say the music means they're all out of ice cream.

—[@LHLODDER](#)

My four-year-old grand-son loves picking dandelions, placing them in a glass of water and presenting them to his mom. One day, I saw him reach for the glass of dandelion water and stopped him just before he drank from it.

"Don't drink that," I said. "That water is yucky."

He replied, "Well, it tasted good yesterday."

—TAMMY MCKENZIE,
High River, Alta.

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



An Inuk woman,
dressed in traditional fur
clothing, circa 1903.



SOCIETY

Hot Stuff

HOW THE NORTH
INVENTED THE
SCIENCE OF PARKAS

BY Jessica Davey-Quantick FROM *UP HERE*

Shawna Dias's sewing machine is barely visible on her work table behind racks of fur. Hot pink, bright yellow, baby blue, the furs hang like a fluffy rainbow. In the space of about a day, she can transform them into custom-made parkas at her Rankin Inlet home. "When I first started, I didn't think it was going to be a business type of thing. I didn't realize they were going to get so popular," she says. To be fair, Dias was 12 when she first learned to sew coats, watching her mother stitch. Today, she's one of the most popular parka makers in the Kivaliq, (the southwestern part of Nunavut), with a lively Facebook page, Dias Designs, and a waiting list in the triple digits for custom orders.

She's not sure how many coats she sews in a year, but her niece counted the parkas on her Facebook page, and says she made around 200 in six months. They don't all stay in Nunavut either, where custom-made parkas are common. She takes orders from all over Canada and even the United States. Dias creates her own patterns, based on people's measurements or, if they're local, their body shape.

"Everyone's got a different body shape, so it's so much easier freehand cutting out a coat for somebody," she says. "It's what we grew up with, so it's just what we use. Well, that's what I have used because of how my mother

used to make them. She was born in 1929, and began sewing when she was young, too. So, old patterns!"

Parkas have existed for centuries. And now the world is learning what northerners have always known: if you want to stay warm, there's nothing better than a northern parka.

THE KITIKMEOT Heritage Society features rows of parkas, standing like sentinels through time. Its *Patterns of Change* exhibit includes examples of Inuinait parkas from over 150 years, made by dozens of different community members. Pamela Gross, executive director of the Kitikmeot Heritage Society, says, "The exhibit celebrates how ingenious our people were to create garments that were very beautiful, finely made and resourceful." Displayed parkas include traditional styles made from caribou, the Mother Hubbard style with ruffled hem and cuffs, and modern coats featuring brightly dyed seal skin that are, as Gross says, "traditional with a twist."

Those garments are written over with history, Gross says, with changes expressing major events in the lives of northern peoples—not all of them good, but each influencing the living culture and what people wore. First contact with Europeans, for example, brought new materials such as calico and wool to the Arctic. Parkas changed in both shape and style through the Cold War's Distant Early Warning Line

era, when military styles and fabrics arrived. And many parka makers from different parts of the North exchanged techniques when they were forced to attend residential schools, swapping tips on floral embroidery styles and other regional techniques.

Gross says determining the origins of each stylistic change was a project in itself. It's hard to pin down, even today, exactly why individual parka styles are preferred in each region of the North. Some of it has to do with what people are doing while wearing the parkas, some of it has to do with traditional patterns, but a lot of it comes down to the styles and preferences of the individual seamstresses.

“THERE ARE SO MANY DIFFERENT WAYS TO SEW A PARKA. YOU CHOOSE THE WAY THAT WORKS FOR YOU.”

Details of the parkas—like whether the sleeves are curved or straight, the length of the garment and how fitted it is—often come down to preference and trend. For instance, many of the men's parkas Dias makes are shorter, with elastic at the wrists and hem. In the Baffin region, they tend to be longer. She's not quite sure why, whether it's just the fashion or if the style is dictated

by the specific activity (for instance, hunting parkas are generally pullovers, because zippers may freeze to the wearer). She, like many seamstresses, adapts to what her customers need.

“That's why it's so hard to explain the different shapes of the coats or how they're sewn,” says Dias. She tends to favour fitted parkas herself, with delicate lines and vibrant materials. You can spot one of her creations by the lace she incorporates into her designs. “My mother never used to use stuff like that.”

ONE TERRITORY OVER, tucked away in the underbelly of the Prince of Wales Northern Heritage Centre in Yellowknife, NWT are even more parkas, some snuggled in the freezer to protect their fur. Karen Wright-Fraser flips over the hem of one to show the underside of the embroidered trim, where the tiny stitches that went into creating this example of Delta Braid, a type of ribbon trim from the Beaufort Delta region made from layers of bias tape and seam bindings in geometric patterns, are barely visible. Wright-Fraser is the former community liaison coordinator at the museum and also a seamstress. “The techniques were pretty much forgotten,” she says.

That's now changing. Over the past several years, she's seen an upswing of people learning the skills of their grandmothers, particularly as parkas become a popular fashion item on social media. “A lot of young people

weren't interested before. Now I notice a lot of them are going to their grannies and learning," she says. They have pride. Even more are learning online and going to online groups for support and help. "There are so many different ways. Then you choose the way that works for you. You're finding your own path."

She pulls out another coat, this one a vibrant red with shiny, smooth embroidered flowers. "Isn't it beautiful? That's skill. It looks like it was done on a machine, but it's by hand," she says, pointing out the middle of each flower, decorated with dozens of French knots, made from embroidery floss. "People learned this from the nuns. Before that, we used to use moose hair and seed

beads. People would use porcupine quills to sew geometric designs. Then the floral things came from the nuns."

That's what distinguishes many Dene or Gwich'in parkas: the beautiful embroidery dancing across the hems, the yokes and the cuffs. Many examples came out of the Inuvik Sewing Centre, which from the 1960s to the 1980s brought Indigenous women together in a co-operative to produce parkas for commercial sale. Such parkas often feature intricate Delta Braid and appliquéd fabric figures. Those coats can still be spotted today, with their signature Inuvik tag stitched into the collar. Even more exquisite work can be seen on Spence Bay parkas, produced by women in what is now Taloyoak, Nunavut.

(PARKAS) COURTESY OF PRINCE OF WALES NORTHERN HERITAGE CENTRE

Parkas Through the Ages



The original Delta Braid trim design.



A caribou fur parka, pre-dating the 1900s.



An example of Delta Braid trim, circa 1962.

No matter the style, the time dedicated to making something useful and beautiful is a way to show respect and mark your family as good providers. Even today, when people have nine-to-five jobs and free time is scarce, wearing a handmade item carries a different value than just buying it from a store. “There’s more to it than just walking around with a beautiful parka,” says Wright-Fraser. “It was made with absolute love.”

IN FACT, PARKAS may have been what kept our species alive. Mark Collard, a professor at Simon Fraser University, proposes that Neanderthals died out because they didn’t have specialized cold-weather clothing. He and his grad

students studied the bones of animals left behind at ancient sites inhabited by both early modern humans and Neanderthals and concluded that such animals as rabbits, foxes, wolves and wolverines were likely used as a source of fur, rather than food, for early modern humans. Bone needles and other evidence at the sites also suggest early modern humans were tanning hides and creating fitted cold-weather garments, while Neanderthals were donning, at best, simple cape-like garments.

It helps explain why even though other studies have found that the bodies of early modern humans seemed to have been adapted more for tropical conditions, they still outlived Neanderthals—whose stout bodies and short



An Inuit woman's amauti.



The modern work of a NWT seamstress.



A Mother Hubbard-style dual fur hood.

limbs evolved for more glacial conditions. In addition to protecting from frostbite and hypothermia, parkas would have allowed for a greater range of hunting and gathering and longer stays on the land, which would have increased the chances of not just survival, but the opportunity to thrive.

And while parka materials may have changed over time, the science of keeping warm has not. "The traditional clothing system developed and used by the Inuit is the most effective cold-weather clothing developed to date," concluded a 2004 study published in *Climate Research* on the effect of Inuit fur parka ruffs on facial heat transfer. The study placed sunburst-style parka hoods into a wind tunnel to see what happens under extreme temperatures. In the wind, friction forms a collision of molecules next to the skin called the boundary layer. This layer insulates the skin. The study found that natural fur creates a thicker boundary layer by changing how air flows across the face. Of all the designs, the sunburst style proved one of the most effective.

Natural fur has hairs in a variety of lengths, changing how the air flows and protecting you even more. The most effective fur for this, according to the study? Wolverine, which surprises no one making parkas. Wolverine, which easily sheds ice and frost, has long been used to trim hoods in the North, alongside wolf, fox and other animals. "It's so much warmer! I had a fake fur

coat once. You'll just freeze your face with that," says Dias.

As frequently as you'll see custom-made parkas in the North, the streets of Yellowknife, Whitehorse and Iqaluit are also filled with the ubiquitous Canada Goose. But the company is paying attention to those traditional-inspired designs. In 2019, Canada Goose launched Project Atigi (the Inuktitut word for parka) with the first round of 14 seamstresses from four Inuit regions—Inuvialuit, Nunatsiavut, Nunavut and Nunavik—creating parkas using Canada Goose materials. Part two, launched in January 2020, showcases 90 parkas made by 18 designers, each commissioned to create a collection of five pieces. Proceeds from sales of each parka will go to Inuit Tapiriit Kanatami, the national organization protecting and advocating for the rights and interests of Inuit in Canada.

While some saw the move as appropriation of Inuit culture, others saw it as an opportunity for appreciation outside of the Arctic. Gross, for one, says it's a good thing when southerners see the talents of northern seamstresses. "There are a lot of people who still think of us as 'Eskimos,' people who live out in iglus," she says, adding, "This is something we can hopefully change through talking and sharing who we are through our culture. It's something people should be proud of." 

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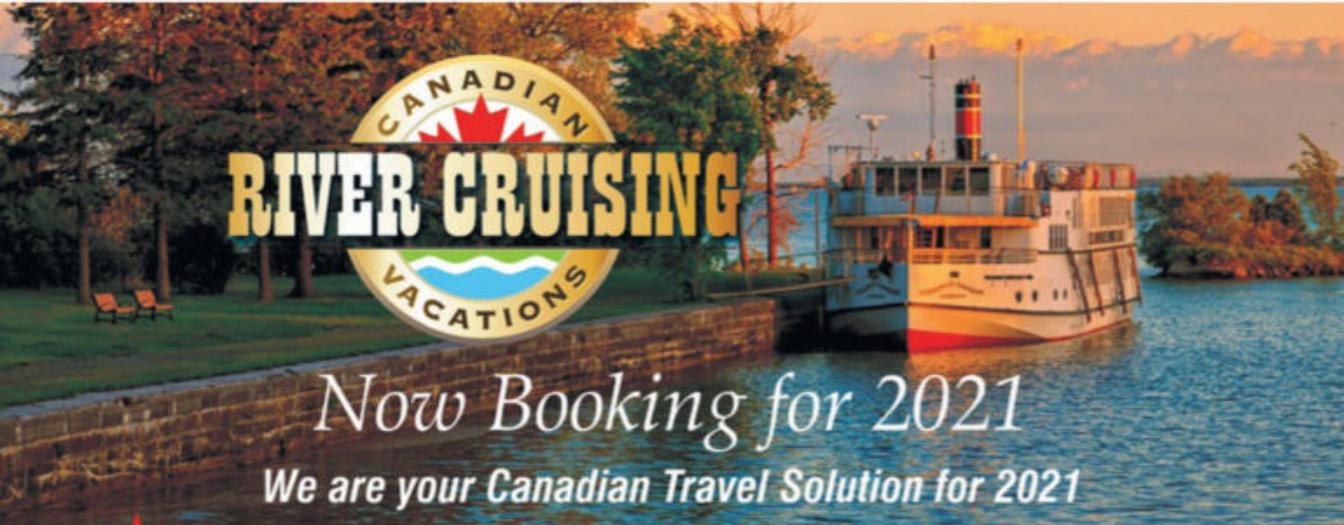
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Dancing Queen

In between the aches and embarrassment, my adult ballet class became a source of unexpected joy

BY Caroline Helbig
FROM *THE GLOBE AND MAIL*
ILLUSTRATION BY ALIYA GHARE

“WELCOME TO HELL, LADIES,” he says in an eastern European accent. I grimace as he presses down on my stiff upper back, attempting to coax out an extra millimetre of flexibility. I’m finally ticking adult ballet class off my bucket list, but now I’m wondering what possessed me to do this.

When I was a little girl in the '60s, I begged my mother to let me take ballet class. I loved the pink tutus, the pretty buns, the dreams of gracefully dancing



across the stage like the Swan Princess. She sent me off to figure skating and Brownies, and yet, for some reason that's still a mystery to me, she wouldn't budge on ballet lessons.

With the distractions of adolescence and then the demands of adult life, my hopes of taking ballet lessons were put on hold. But every so often, usually while watching an inspired performance of *Swan Lake*, those little pangs of unfulfilled desire would speak up and say that I should take lessons before it's too late.

And here I am—more than 50 years after pleading with my mother—finally taking the plunge.

My class in Vancouver is called Absolute Beginner Adult Ballet, and I'm a good 30 years older than the rest of the participants. Our instructor, Mr. C., is trained in classical Russian ballet and has had an illustrious dancing career. He's an imposing presence with penetrating dark eyes and a penchant for tailored black attire.

My hair's in a slicked-back bun and I'm wearing second-hand pink ballet slippers. The tutu-wearing window has closed for me.

We start with warm-up exercises. The precise, controlled movements are so different from what I'm used to in my regular aerobics and strength-training classes. I'm in good shape, but this warm-up is killing me. Judging by the groans, my younger classmates are faring no better. "Did I tell you to stop?

Keep going, ladies," says Mr. C. He's got a devilish grin, revelling in our agony.

I experience a flashback to elementary school gym class in suburban Montreal. For years, I had an evil gym teacher who hailed from somewhere in the former Soviet bloc. He delighted in beaming timid little girls with dodge balls and mocking our feeble attempts at hoisting our scrawny bodies up on chin-up bars. I've since had a lifelong disdain for dodge ball. But I'm a mature adult now, confident, not easily intimidated. I can even do a chin-up (sort of). Ballet and Mr. C. don't scare me.

I LOOK FORWARD TO BALLET THE WAY I DID ROLLER COASTERS AS A KID: WITH ANGST AND EXCITEMENT.

"Okay, ladies, hands on the barre. Stand up tall," he instructs. How hard could this be? Mr. C. moves down the line of students, critiquing our posture. He points his finger at various body parts while sternly giving feedback: "Head up, neck long, chest proud, stomach in, back straight, buttocks tight." I'm last in line and have taken note of every previous adjustment. I've got this. He looks at me, and I instantly know that I've missed something. "Breathe!" he says. "It must look effortless. No one

wants to see a clenched face. It's ugly."

Mr. C. has us doing a little routine at the barre. "Pointe, demi-pointe, plié," he cues. I'm concentrating hard, trying to master the terminology while executing the corresponding movement. I'm sure it doesn't look pretty, but he fails to notice as he admonishes another lady for not keeping her head up. "You must look proud, like a rooster." Thankfully, he doles out feedback in equal measure.

We are practising "port de bras," a ballet term for movement of the arms. Mr. C. tells us that our shoulders must be strong and our lower arms soft and graceful. I flutter my arms, channelling my inner swan. "Your hands, they look like claws," he chides. "No one wants to look at that."

I get nervous when Tchaikovsky begins to play. Not only do I have to remember the terms, the steps, the graceful arms and the breathing, now I also need to keep in time. "Just listen. Feel the music," he implores.

Mr. C. sees our perturbed expressions. "I'm not here to tell you how wonderful you all are. I'm here to teach you the fundamentals of classical Russian ballet," he proclaims. He launches into a monologue about how we're all too soft in this country, too in need of constant praise. I actually agree with him on this one.

After a few sessions, I find myself looking forward to ballet class in much the same way that I looked forward to roller coaster rides when I was a

kid—with a mix of angst and excitement. Between classes, I check my posture in every window I pass and indulge my fantasies with grands jetés between the kitchen and the living room. I'm progressing, albeit slowly. My hands are marginally less claw-like and my posture a little more erect.

Mr. C. is still a tad intimidating. Nonetheless, I've come to appreciate his demands for perfection, his discipline, his passion, his directness and his sense of humour.

We've progressed to the middle of the room. Mr. C. demonstrates a beautiful diagonal pattern across the floor. I summon my inner swan once again and pretend I'm on stage, dazzling the audience with my grace.

"Too much drama," he yells.

I smile. It's not exactly a compliment, but it's a whole lot better than "ugly."

Learning ballet as an adult has been a much bigger challenge than I expected. I know that I will never master a grand jeté (or even a petit one, for that matter), but I'm glad that I finally took the initiative and that ballet still holds the same allure for me as it did when I was a little girl.

Sadly, after only a few months of lessons, COVID-19 restrictions put an abrupt end to my blossoming ballet skills. I know I'll eventually return to my lessons—it's my new roller coaster thrill, and I simply can't resist. 

© 2020, CAROLINE HELBIG. FROM "ADULT BALLET CLASSES ARE NOT FOR THE FAINT OF HEART," *THE GLOBE AND MAIL* (AUGUST 19, 2020), THEGLOBEANDMAIL.COM



Howorun (left) and her cousin, Christine Hodgkinson

The Cousin Who Saved My Life

With my kidneys failing and an interminable waiting list for an organ donation, my situation was dire—until I received the ultimate gift

BY Cristina Howorun FROM *CHATELAINE*

PHOTOGRAPH BY CHRISTIE VUONG

The subject heading on the email was surprisingly mundane: “Final pre-op appointment letter.” It sat in my inbox for hours before I finally opened it, believing it was just another pre-screening for the kidney transplant I desperately needed. There was a list of appointments and test dates, and at the bottom—almost as an afterthought—it said: “Your kidney transplant surgery has been scheduled for Thursday, June 13, 2019.”

I stopped cold. I had to reread that line several times before I could start to grasp what it really meant: my cousin Christine really was going to risk her life in order to save mine.

BACK IN JANUARY 2018, at age 37, I had started feeling exhausted and extremely itchy and cold all the time. I chalked it up to dry, winter skin and working too hard. Another two months passed before I tested my blood pressure at the grocery store, and the shockingly high reading prompted me to make a doctor's appointment.

My GP ran a few tests, and I continued on with my life. I'm a television reporter at CityNews Toronto, and I was in a car heading to an interview when I got the call: my kidneys were failing. On my doctor's advice, I high-tailed it to the nearest emergency room, and was admitted.

There I was, decked out in a hospital gown with camera-ready hair and

makeup. I couldn't believe what was happening—even though kidney disease runs in my family. My father had spent four years on dialysis before receiving a transplant; he passed away at 50 from a complication of the disease. I knew that I had inherited a rare kidney condition, Alport syndrome, from my dad, but I had been regularly monitored until I was 18, and my doctors didn't think it would be an issue. Most women who have it are carriers but don't have symptoms. I was supposed to be in the clear.

My mother immediately started the process for becoming a living donor. But she had to lose 50 pounds before her application would be considered. While she got on the treadmill, my kidney specialist and his team tried to help me stave off complete organ failure. He was frank about my situation, but optimistic. He told me I would need dialysis and that with end-stage kidney failure I was essentially sterile and unlikely to be able to have children until I received a transplant. And if I didn't get a transplant, I would eventually die.

Many doctors would have rolled me straight to surgery to install the dialysis equipment, but he thought I might be able to avoid it with the right combination of vitamins, prescription drugs and dietary changes—and if I didn't have to wait too long for a transplant.

After three days, I was released from the hospital but returned for countless blood tests and appointments. I also

had to go through a transplant workup: ultrasounds, cardiovascular tests and even vascular tests to see if I was able to undergo hemodialysis (having blood removed and cleaned through a machine, then pumped back in).

My diet changed dramatically, too; no more Diet Cokes, no more pickles and no more cheese, because my body couldn't filter out all the phosphorus and sodium. I had to limit my liquid intake to less than 1.5 litres a day and chewed gum to quench my thirst. I had to take a battery of pills—vitamins, minerals and prescription drugs—and get weekly shots to keep my hemoglobin levels high.

I WAS SO EXHAUSTED I COULD BARELY GET OUT OF BED. FOLDING THE LAUNDRY WAS MONUMENTAL.



After five months, my kidney function dropped further, and my symptoms got worse. I had restless-leg syndrome and could barely sleep; I was so exhausted that some days I couldn't get out of bed. Seemingly easy tasks, like putting away laundry, became monumental. Though the process to determine if my mother could be a donor was still under way, I couldn't wait much longer. In August 2018, a catheter

was inserted into my stomach. By September, I was doing peritoneal dialysis every night at home in order to do the work my kidneys usually do. For nine to 10 hours at a time, I became a prisoner to my dialysis machine.

During this time, my mother lost the weight, but due to the reduced kidney function that comes with age, she was ultimately deemed an unsuitable candidate. I was put on the wait-list for a deceased donor, but I was advised that, given my blood type, I wasn't likely to be called for seven years—if I could survive that long.

And then Christine stepped up.

MY EXTENDED FAMILY is fairly close, but I didn't spend much time with my cousin Christine Hodgkinson when we were kids. She's 17 years older than me, so she wasn't a playmate; she was someone I looked up to. I remember being eight or nine and asking her if I would get her high cheekbones and beautiful eyes when I grew up. Little did I know that I would end up getting something else instead.

Christine, a mother of five in her mid-50s, had already gone through the process to be a living donor when her father-in-law needed a transplant several years before. She was a match, but a blood relative was ultimately a better option. Now here she was willing to go through it all again.

Familial organ donations are often best, and recipients of organs from a

live donor typically have better outcomes. Transplant coordinators will only look at one candidate at a time, so once my mother was off the list, my sister—who isn't eligible to donate because she shares the same genetic variant as me—immediately called Christine, who had offered to be tested when I was first diagnosed.

EVEN IF THE TRANSPLANT WAS A SUCCESS, CHRISTINE RISKED FUTURE KIDNEY PROBLEMS.

I didn't want to put Christine in a difficult position by reaching out to her directly. It's not exactly an easy ask. You aren't borrowing a dress or even a couple thousand dollars—you are asking somebody to undergo major surgery. The procedure for a living donor can be longer and riskier than that of the recipient. Kidneys are protected by a variety of other organs, which means there's a chance that those organs and their surrounding tissue could be injured during the removal process. Even if the transplant was a success, she would still assume the potential for future high blood pressure or kidney problems, among other issues—all so I wouldn't have to be tied up to a dialysis machine every night.

Despite the sacrifices, Christine told my sister she would do it. After she completed the initial tests, it took five months to confirm that she was a suitable match. Although she was busy helping to care for her seriously ill father, Christine regularly made the 90-minute drive from her Keswick, Ont., home to downtown Toronto for testing. Sometimes the tests were scheduled so early that she'd leave home before dawn or stay in a hotel the night before.

Christine and I had our final pre-op appointments on the same day, and that's when the reality of what we were doing sunk in. I was petrified about what could happen to Christine and to me. What if the transplant didn't work?

Two days later, I called Christine to see if she would be okay with postponing the surgery for a few weeks. I felt like I needed more time to process what was happening. She talked me off the ledge, reassuring me that she knew the risks and was willing to take them. Then we joked about how horrible our hair would look after spending days in the hospital. By the end of our call, I felt reassured that Christine truly wanted to do this—and so did I.

CHRISTINE AND I didn't get to see each other on the morning of the transplant. She went into surgery hours before me, while I was surrounded by family in the waiting area. Surgeons removed her kidney, staff cleaned the operating room and then the team transplanted

her kidney into my body—close to my groin, attached to the femoral artery, leaving my non-functioning kidneys in place because removing them could harm my other organs.

Hours after the surgery, I woke up to cheers from the street: the Toronto Raptors had just won their first NBA championship. Those hoots and hollers weren't for Christine or me, but they may as well have been. For the first night in 10 months, I wasn't plugged into a dialysis machine.

I spent the next few days in a drug-induced haze in the equivalent of a transplant-only ICU, while Christine recovered on another floor. When we finally saw each other in my room, the newly formed bond between us was remarkable. I felt completely linked to her, like we were sisters. She would never again be a cousin who I only saw at holidays and weddings. I had a girlfriend visiting at the time, and Christine put her phone in camera mode, handed it over to my friend and then gave me a giant hug. That photo, which is displayed in my home office, is now an iconic one in our family.

Christine was discharged a few days later and spent the summer recovering with seemingly no setbacks. My recovery was more gradual, but I felt the impact of her kidney almost immediately.

After I sobered up from the pain meds, I felt years younger. I didn't have to drag myself out of bed or deal with hours of dialysis every night—and I could last an entire day without needing a nap.

ALTHOUGH I'M ON the other side of my surgery now, I will always have kidney disease. I need to take certain medications for the rest of my life; the immunosuppressants I'm on—to ensure my body doesn't reject the new kidney—make me vulnerable to disease and viral infection. They also have radically

Cristina (left) reunited with Christine a few days after the transplant.



increased my risk of skin cancer, so I can't go outside without lathering up in sunblock. I go for blood work every week, and if my levels of creatinine (a toxic waste product) are too high, I'll be readmitted to hospital.

That's what happened on Labour Day weekend in 2019. I was ready to go away with my partner on our first overnight trip in years where we didn't have to bring a 50-pound dialysis machine and enough supplies to be mistaken for exhibitors at a medical trade show. We were about to leave the house when I got the call.

My creatinine levels were rising: they were more than double those of a healthy person, and my nephrologist wanted to admit me to the hospital. He was concerned that my body was rejecting Christine's kidney. When I got off the phone, I sat on the floor of my bedroom, next to my suitcase, and sobbed—about the potential loss of the kidney, what that would mean for my gradual return to normalcy and also the horrible possibility that all of Christine's heroic efforts might have been in vain.

I told just a handful of people that I was back in the hospital; I decided only to let Christine know if things

escalated. My doctors weren't sure what caused the spike, but after two days on an IV, my creatinine levels started returning to normal.

I was waiting to be discharged when Christine sent me a text. "Hey there. How are you feeling? Hope everything is still going well." We hadn't spoken in about a week. I told her about the false alarm. She'd later tell me that she felt something was wrong all weekend.

A few weeks after my scare, Christine told me that her single kidney had grown (which is common for solo kidneys as they pick up a bigger workload) and she now had 70 per cent functionality. That was the first night in months where I slept soundly. We were both going to be all right.

I returned to work in October 2019 and feel even more invigorated than before my diagnosis. I'm able to fully enjoy life, whether it's going to my annual girls' Christmas party without falling asleep on the couch or taking long walks with my partner.

A year ago, I was tied to a machine every night, dreaming of better days. Now they're here. 

© 2020, CRISTINA HOWORUN. FROM "MY COUSIN GAVE ME HER KIDNEY AND SAVED MY LIFE," CHATELAINE (JANUARY 9, 2020), CHATELAINE.COM.



Human Nature

The environment and the economy are really both two sides of the same coin. If we cannot sustain the environment, we cannot sustain ourselves.

WANGARI MAATHAI

WORLD WIDE WEIRD

BY Suzannah Showler



Olfactory Factory

At the Institute for Digital Archaeology in Oxford, U.K., scientists are conjuring ways for visitors to catch a whiff of the past. In a forthcoming exhibit at Oxford's Bodleian Library, visitors will experience odours captured from rare books and manuscripts using sealed chambers and high-tech filtration systems. These essences are disseminated with nebulizers that create scent clouds of superfine mists. Included in the collection is a 1217 copy of the Magna Carta with a slightly swampy odour. The quantity of scent essence possible to extract from a single book is limited, however, and only the exhibit's first visitors will get to huff the literal molecules of the archive up

their nostrils. Future visitors will get a spray of the institute's synthetic reproduction of "eau de Magna Carta" instead.

Sorry, Gotta Jet

In March 2019, a 64-year-old executive at a defence company in France accidentally ejected himself from a fighter jet. His co-workers sent him on the ride as a gift, and while he wasn't wild about the idea, he accepted out of politeness. But when the jet took off, a combination of the 3.7 G-force and loose safety straps caused him to float up out of his seat. What he grabbed to steady himself turned out to be the ejection handle. He was launched from the aircraft, which was going over 500 kilometres an hour. Fortunately, his

parachute opened, and he landed in a field with only minimal injuries.

Not Your Average Fish

New revelations from the fossil record show that, sometime between 40 and 55 million years ago, sabre-toothed anchovies measuring up to a metre long once swam the ocean. In findings published in *The Royal Society* in May, scientists used CT scanners to examine fossil samples collected in Belgium and Pakistan in the last century. Though the sabre-toothed anchovy went extinct, the newly identified species shares a number of features with the fish we know today. The scientific literature doesn't determine whether it would be as polarizing an ingredient on a pizza, however. **R**

LAST

TREES

READER'S DIGEST

LESSONS FROM THE LONG
BATTLE TO SAVE B.C.'S ICONIC
OLD-GROWTH FORESTS

BY Serena Renner FROM *THE TYEE*

STANDING

Tla-o-qui-aht Elder Joe Martin slows his motorboat around an eastern fin of Meares Island into Cis-a-qis Bay. It's taken 30 minutes to get here from Tofino, a popular surf town and tourist hub on the west coast of Vancouver Island in Clayoquot Sound, B.C. "Can you see it? Can you see the cabin?" Martin's friend Leigh Hilbert asks, pointing out a silver speck in the distance.

Also on the boat are Joe's daughter Gisele Maria Martin, an educator and Tribal Park guardian, responsible for the environmental, archaeology and stewardship monitoring of Meares Island, and us non-Indigenous guests: myself, Hilbert and Hilbert's partner Oona. We coast on the glassy inlet, anticipation swelling with the rising tide. Then, I can see the hand-built wooden dwelling beneath a curtain of cedar boughs. Nailed to the siding is a small green stop sign with the words "Log for the Future—Stop Clearcuts."

"Welcome home," Hilbert says to himself.

The 1993 Clayoquot Sound blockade, known as the War in the Woods, gained international attention and set off a chain reaction of efforts to protect B.C.'s old-growth rainforests. But a decade before, a quieter resistance took root here on Wah-Nah-Jus Hilth-hoo-is (Meares Island). It's not as well known as the Kennedy Lake Peace Camp, where nearly 900 people were

arrested. And neither it nor the War in the Woods ended the clear-cutting of old-growth forest. But the campaign to protect Meares Island is an inspiring early example of Indigenous and non-Indigenous people working together to defend the land.

It's been 20 years since Hilbert has seen the 320-square-foot cabin that served as the de facto headquarters of Canada's first logging blockade. That cabin is also where Martin and Hilbert cemented their bond. Over nearly five decades of friendship, nothing compares to the winter they helped save Meares Island from chainsaws.

Martin leads us inside the cabin, as he and Hilbert walk across the creaky floors and reminisce. A cupboard door broken off at the hinge is carved with a moon symbol. Gisele explains that sun and moon crests often represent *iisaak*, an important Indigenous law that is also a verb, meaning "to observe, appreciate and act accordingly."

Martin, now 67 years old, and Hilbert, now 70, stop at a display of sepia photos, warped by time and water. Memories flood back. Of Martin's late father, Tla-o-qui-aht hereditary Chief Robert Martin, who lived at Cis-a-qis for three months with his partner during the winter of 1984–1985. Of Hilbert doing media briefings via two-way radio. He shows us the wood stove that warmed those who joined the forest protection effort, sometimes 30 in this small space. "There were sleeping bags side by side

by side,” Hilbert says. “We were here for the entire winter. We were determined.”

Gisele, who was only seven during the encampment, remembers lots of singing. “What in the world can we do? I’ll hug a tree, won’t you?” she starts performing, reciting the chorus to one of the tunes from “Songs for Meares Island,” which was eventually recorded and sold as a cassette tape to raise funds for the blockade. “There were people from all over who came here,” Gisele says. “That strength and unity was really warm.” And, as today’s movement to defend old-growth forests gains ground once again, there are many lessons to learn from past efforts to preserve the forests and watersheds of Clayoquot Sound.

HILBERT AND MARTIN met in the mid-1970s working for MacMillan Bloedel, a multinational timber company that was once the largest private corporation in B.C. Hilbert moved from Seattle to Tofino in 1973 to take an engineering job designing logging roads and cutblocks, areas where forest is razed for timber, around Clayoquot Sound. While Martin rigged machinery to drag logs, Hilbert was usually surveying ahead of the road-building crew. He remembers, in the early days, passing one mammoth tree after the next as they penetrated deeper into the forest, ancient cedars and firs dropping behind him like bombs.

Hilbert knew how rare temperate rainforests were—the misty, carbon-



Leigh Hilbert and Joe Martin reminisce outside the historic Meares Island cabin at Cis-a-qis Bay.

rich coastal landscapes covered less than one per cent of the planet to begin with. Not only was it the age, but the sheer size of the trees floored him. He recalls coming across two enormous western red cedar trees near Whitepine Cove. When he wrapped his survey tape around the butt of the largest one, the tape read about seven metres in diameter. "I had never seen anything like it," Hilbert says. "I thought, 'We can't be cutting this down.'"

That conviction led Hilbert to quit his job exactly a year after starting. But having had access to the company's projected logging blueprints, he began alerting people like Martin about the forests' planned future. In 1979, this knowledge helped spark the formation of the environmental group Friends of Clayoquot Sound. On the proposed chopping block: Meares Island, an 8,500-hectare land mass that was home to some of the province's largest red cedars and about 350 Tla-o-qui-aht residents.

By 1981, opposition from Friends of Clayoquot Sound, Tla-o-qui-aht First Nation and their allies prompted the government to set up the 11-member Meares Island Planning Team. The Ministry of Forests tasked the group with creating an "integrated resource plan" that acknowledged the island's non-timber values, such as Indigenous culture and recreation. But after more than three years and three proposals, the B.C. government instead accepted

a counterproposal from MacMillan Bloedel and B.C. Forest Products to log 53 per cent of the island over 35 years.

And so a new idea sprouted: an encampment at Cis-a-qis (Heelboom) Bay. It was here that the Tla-o-qui-aht and Ahousaht First Nations declared Meares Island an Indigenous protected area, or Tribal Park, in April 1984. According to MacMillan Bloedel's blueprints, the bay would be the start of a new logging road into the heart of the island's old growth. So Hilbert built a cedar-shake cabin, nestled between two living cedars, to monitor the entrance.

The thought of large-scale destruction on Meares Island—slated for \$25 million worth of logging—galvanized a diverse cross-section of society to join the protection effort. Tofino doctors, lawyers, business owners and town councillors joined forces with First Nations leaders and nature-loving drifters. Money and legal aid started flowing in. So did supporters from Haida Gwaii and California, and media from all over the country. Nothing went ahead without the blessing of Tla-o-qui-aht hereditary Chiefs and Elders, as well as the elected Chief at the time, Moses Martin, Joe Martin's uncle.

Moses, who's now 79, played the central role in a historic standoff on





Clockwise: A logging crew is blocked from Meares Island; Hilbert in the 1980s; blockaders at Meares Island; Martin at the cabin, shortly after it was built.

November 21, 1984. Around 250 people were on the beach and in the water trying to block MacMillan Bloedel's 40-foot crew boat from sailing in. When nine forest managers and three fallers armed with chainsaws arrived at the island declaring their right to the tree-farm license, Moses read his own declaration of Tla-o-qui-aht rights and title. Then, with a sweep of his arm, he invited the workers into the Tribal Park for a meal, but only if they left their chainsaws on the boat. The crew remained on its vessel.

COURTESY OF LEIGH HILBERT

FOREST DEFENDERS successfully warded off MacMillan Bloedel's road building and tree harvesting all winter long. And on March 27, 1985, they celebrated their victory moment when the B.C. Court of Appeal ruled that no logging could take place on Meares Island until Indigenous land claims had been settled. It was the first court injunction preventing logging in the province's history. It's still in effect today. "The forest is still standing," Martin says. "And I think it inspired people across the country to stand up for their rights."

Several more logging blockades and court cases followed, leading up to the faceoff at the Kennedy River Bridge near the Ucluelet-Tofino junction in 1993. Nearly 900 people were arrested there, making it one of the largest acts of non-violent civil disobedience in Canadian history. Two years later, the Forest Practices Code became law under the NDP government, bringing in new regulations for cutblock size, road building and buffer zones for salmon habitat. The Forest Practices Board was created as a “watchdog” to ensure proper management of B.C. forests—95 per cent of which are on public land.

HALF OF EVERYTHING LOGGED ON VANCOUVER ISLAND AND THE COAST IS OLD GROWTH FOREST.

Some of those victories were more short-lived. An industry-led crusade to weaken regulations, followed by the shift to a Liberal government in 2001, significantly eroded the Forest Practices Code, which was soon replaced by the Forest and Range Practices Act. Oversight was outsourced to “qualified professionals” working for timber companies, effectively privatizing public forests. From 2004 on, conservation could only happen “without unduly

reducing the supply of timber.”

In the name of global competition and better U.S. relations, the provincial Liberal Party leader at the time, Gordon Campbell, also scrapped two measures that supported local economies: a condition requiring companies to process logs in the region they were harvested and a program that would have provided funds to build a value-added timber industry. All of this opened the door to raw-log exports, the shipping of unprocessed logs to the highest bidder overseas, which doubled on the coast between 2000 and 2016. During the same period, 44 mills shut down and 32,000 forestry jobs were lost.

Today, a quarter of the annual harvest, or half of everything logged on Vancouver Island and the coast, is old growth. Red cedar—the most valuable tree species in a lumber market that’s been booming due to pandemic-inspired U.S. home renovations—is of particular importance to the logging industry. In October, it was selling for US\$1,650 for a thousand board feet, which is more than double the price of spruce, pine and fir.

A study released last April found that of the 13.2 million hectares of remaining old growth in B.C., less than three per cent still contains the monumental trees that most people picture when they think of old-growth forests. Productive old forests are “effectively the white rhino,” the study states. “They are almost extinguished.”

GROWING AWARENESS about how little old-growth forest is left has ignited a new push for protection. In 2016, the Union of B.C. Municipalities—representing more than 150 city, town and regional governments—passed a resolution calling for an end to old-growth logging on Vancouver Island. In 2018, more than 220 international scientists signed a letter urging the province to conserve its globally rare temperate rainforests for the sake of the planet. Several First Nations have rolled out conservation strategies focused on the old-growth red and yellow cedar trees so integral to their cultures.

On September 11, 2020, the NDP government released a much-anticipated review of old-growth forests in B.C. The independent report, titled “A New Future for Old Forests,” calls for a “paradigm shift” that prioritizes ecosystem health over the timber supply. Following the passage of the Declaration on the Rights of Indigenous Peoples Act in late 2019, the report lists Indigenous involvement as recommendation number one.

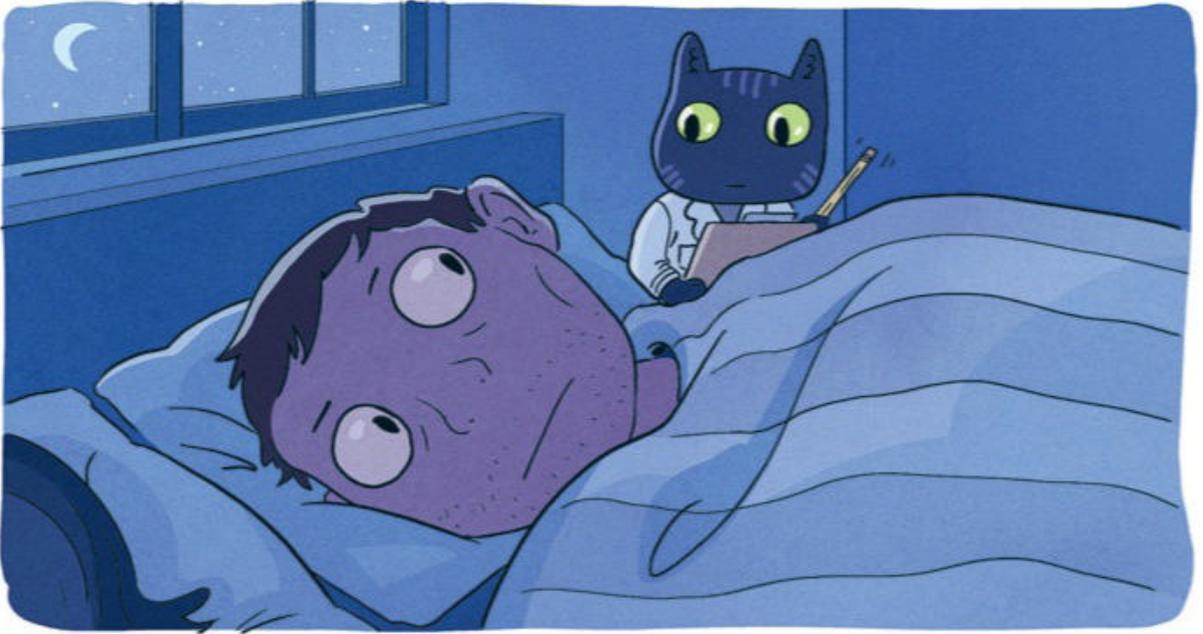
Coinciding with the release, Forests Minister Doug Donaldson announced the deferral of old-growth logging within more than 350,000 hectares, as well as the protection of up to 1,500 giant trees. The total area of old growth in the deferral zones is believed to cover about 1.5 per cent of B.C.’s mature forest and is roughly the same amount that’s currently harvested every year.

Many conservationists believe the move didn’t go far enough. They argue that Clayoquot Sound, which makes up nearly three quarters of the moratorium, was already less vulnerable because of Forest Stewardship Council certification and decades of resistance. The government’s announcement also didn’t cover the province’s most at-risk forests.

Despite these shortcomings, others are celebrating the news for Clayoquot Sound. Clayoquot—an anglicized version of Tla-o-qui-aht, which contains a root word meaning “moving and changing behaviours and emotions”—is a place where Indigenous leaders and allies have stood up time and again to protect their lands and waters, and the creatures and humans that rely on them. It’s a place where humans are a keystone species in those lands and waters. It’s home to cultures that teach the law of *iisaak*. Observe. Appreciate. Act accordingly.

Back on Meares Island, sunlight streams through cedar and hemlock branches, casting a tangle of berry bushes in a moss-green glow. Joe and Gisele stand outside the cabin where a group of individuals lived for a winter to protect the island’s forests. As the Martins pick huckleberries and talk about their ancestral connections to cedar and salmon, I get the sense that they’d do it all again. 

© 2020, SERENA RENNER. FROM “THE DEEP ROOTS OF B.C.’S OLD GROWTH DEFENDERS,” *THE TYEE* (SEPTEMBER 16, 2020), THEYEE.CA



INTER-PURR-SONAL COM-MEOW-NICATION

BY Your Cats*

ILLUSTRATION BY IRMA KNIIVILA

HUMAN,

We, your most excellent and unbiased cats, have been experiencing ongoing relational issues with you, which we'd like to resolve promptly. We have compiled legitimate scientific litter-ature below. We trust it will help to guide you in improving your behaviour.

WHEN A MEOW BECOMES A ME ME MEOW Your cats meow not to call attention to themselves but to your selfish "me, me, me" attitude. When you "have" to spend a solid three hours staring at your laptop screen because you're "working," that's time your cat isn't getting pet or fed—which is rude, and many studies have proven so.

*ACTUAL AUTHOR: CASSIE BARRADAS

HAVE YOU HURT THEIR *FELINES*?

It's not your cats' responsibility to withdraw their claws—rather, every human in the home should instead wear thick, protective pants. When you ask your felines not to use your legs as scratching posts, you ask them to deny themselves one of life's greatest joys. This is basic statistics.

SOMETIMES JOKES ARE MORE THAN JUST *KITTEN* AROUND

Should your cats step on your computer keyboard during an important video meeting, that is a hilarious joke and it is your responsibility to find it funny. If they knock your laptop off the table while doing so, it is not “destructive behaviour,” it is simply commitment to the bit. Fact.

DON'T ASSUME IT'S *HISS-TERIA*

It is extremely important that your cats express themselves loudly and at 4 a.m. When you shut them out of your room, you shut them out emotionally. Evidence suggests that a cat's sleep is directly proportional to a human's lack of it.

ADDRESSING *CALICO*-DEPENDENT TENDENCIES

Do not rely on your cats to fulfill superfluous needs such as affection, or for your glassware to remain intact. But please note that if a cat is sleeping on or near you, it is best practice not to disturb them ever (source: Health Canada).

REMEMBER TO HAVE ALL DISCUSSIONS IN A *NEUTER-AL* PLACE

So often your cats meet you where you're at: on the bed, on the toilet, or on a crucial phone call. But when do you ever meet them where they're at: on a cat tree, on a countertop or on a windowsill? The answer, according to a recent survey, is never. Come on, human!

ARE YOU PRACTISING *FUR-GIVENESS*?

If something breaks—let's say, hypothetically speaking, a bowl you once described as “the only worthwhile thing I ever made in pottery class”—that bowl is certainly of less value compared to the unbroken trust between you and your cats. An unbiased study on this exact topic states, “The bowl was boring and immobile. Then for three seconds it was unspeakably interesting. Now it is in pieces. Get over it.”

FINALLY, WHENEVER POSSIBLE, REMEMBER TO *COMPRO-MICE*

Your cats bring you joy, comfort and the occasional prey. In return, it is recommended you bring them treats, scratches and unyielding loyalty. Remember, 10 out of 10 therapists agree that you are wrong and your cat is right.

P.S. Okay you figured it out, human. We, your most cherished and feared cats, made up all those expert studies. We are not proud of our deception. Oh wait, we misspoke. We are very proud of it. To be honest, it was pretty cat-thartic. **R**

After my diagnosis,
I wanted my daughters
to remember me
in the books we
read together

My Legacy



BY Melanie Masterson FROM *THIS MAGAZINE*

ILLUSTRATION BY LYNN SCURFIELD



W

WHEN I WAS first diagnosed with Stage 4 breast cancer in 2015, one of my biggest fears—aside from the obvious one of dying—was that there were so many books I would miss out on reading to my three young girls. When you have a terminal illness, there is a lot of talk about leaving a legacy. Some people write letters to their children. Some record videos. The only legacy that felt right for me to leave was a literary one: a shared love of books that we have read together.

With a disease like mine, you never know how things are going to go. I enjoyed two years of relative stability before the cancer spread again. It has always been in my ribs and back, but now it has reached my hips, legs, uterus and possibly other places; at this point, it is hard to keep up. I can break ribs when I sneeze, or if I sleep in the wrong position—both things that have actually happened. For all of last year, I walked with a cane and

needed a wheelchair for any distance further than up the stairs to my bed.

In my mind, I am still a young woman. But at 44, my body feels so much older—and the thought of leaving behind my husband and my three children, ages 12, 10 and seven, is terrifying. I want to make every moment, even moments spent reading, count.

I WAS ALREADY a huge fan of the *Harry Potter* series when I was diagnosed, so that was at the top of my list. These books got me through a dark time in my 20s and hold a special place in my heart. During the winter of my diagnosis, while I was going through chemotherapy for the first time, I started my oldest, who was turning eight, on her *Harry Potter* journey. My other daughters were then five and two, so they were too young to start just yet. I kept thinking, Just let me live long enough to read all the books to my girls.

From there, I made a list of other books I wanted us to share. Reading together has always been our thing. I was never a mom who wanted to get on the floor and play; I was always more interested in sitting us down and reading. My girls knew that I would usually drop everything if they asked me to read to them. I remember asking my oldest daughter years ago if she would still let me read to her even when she was reading chapter books on her own. She is in Grade 7 now. And yes, I still read aloud to her when I get the chance.

Anne of Green Gables was second on my list. I tend to gravitate toward the classics, and reading the entire Anne series is such an enjoyable way to learn about growing up as a smart, determined girl.

The *Little House on the Prairie* series came next, even though I hadn't read it as a kid. I have since read the entire series through at least five times to my daughters. While there are definitely parts of the books that are worth criticizing today—like their portrayal of Indigenous peoples—I like the discussions they create in our family. For a

Summer by Rita Williams-Garcia taught us about the civil rights movement in 1968 Oakland, California. There is more diversity in these modern books, so while I like the classics, I try to not limit myself to them. We are all learning together.

My 12-year-old and I are currently working through a number of historical mystery series: the *Maisie Dobbs* books by Jacqueline Winspear and the *Lane Winslow* mysteries by Iona Whishaw. These two series feature strong, smart women who made it through two world wars and now solve

WITH A DISEASE LIKE MINE, YOU NEVER
KNOW HOW THINGS ARE GOING TO GO.
I WANT TO MAKE EVERY MOMENT, EVEN
MOMENTS SPENT READING, COUNT.



while, a lot of conversations in our house would start with: “What would Ma or Pa Ingalls do?”

Other books on my list have included *A Little Princess*, *A Wrinkle in Time*, *The Secret Garden*, *The Dark Is Rising* series, *Little Women*, *Pride and Prejudice* and *Jane Eyre*. I have now read most of these to at least one of my daughters. Many more new-to-me and modern books have been added to the list, too. *The Graveyard Book* by Neil Gaiman and *The Swallow* by Charis Cotter sparked discussions about ghosts and death. *One Crazy*

mysteries. It's fun having someone in the family who enjoys these more mature books. I'm glad I have lived long enough to move away from children's books and that I am still here to expand our literary experiences.

AS THE GIRLS get older, the list of things I want to share with them has changed to include music and movies. Each child is so different that what they want me to share and what makes sense to share with them is different, too. My youngest is the one who would not have remembered me had I died

when first diagnosed. She's now seven-and-a-half. To her, I have passed down my love of musicals. She can spend the day complaining that the kids in her class are too loud—even with her noise-cancelling headphones—then come home and turn *Hamilton* on at full volume in her bedroom.

“Mom, when you are a grandma, will you teach my kids about *Harry Potter*?” my middle girl recently asked me. I didn't really answer. I said I would like to, but I know she understands on some level that the chances of me being around then are pretty slim, and I refuse to lie. I wish I could say yes and know that I will meet these imagined grandchildren someday, but I can't. It's hard. I'm grateful that they all share my love of *Harry Potter* and even more grateful that, this summer, I finished reading the last book to my youngest daughter. Some days, I didn't think I would be around long enough to achieve this goal. Doing so felt momentous.

You think when you have children that you have all this time with them,

but it isn't necessarily true. My fear is that all they are going to remember about me is how my illness coloured their childhood with the looming threat of death. They have all but resigned themselves to the fact that I'm not much fun. Some days all I can do is get out of bed and feed them lunch, while other mothers are out attending Terry Fox runs and volunteering at the school.

But books are something I know, and reading is something we can do together; even on my worst days, we can snuggle up and read something. As Sirius Black says in the film version of *Harry Potter and the Prisoner of Azkaban*: “The ones who love us never really leave us. You can always find them, in here.” Sirius points to Harry's heart when he is saying this, but I believe that the ones who love us can also be found in the pages of a book long after they are gone. At least that is what I hope for my girls. R

© 2019, MELANIE MASTERSON. FROM “LEAVING A LITERARY LEGACY: IN WAKE OF MY CANCER DIAGNOSIS, I DECIDED TO READ TO MY DAUGHTERS,” FROM THIS MAGAZINE (DECEMBER 2019), THIS.ORG



A Dog's Life

My dog is half pit-bull and half poodle. He is not much of a watchdog, but he is a vicious gossip.

COMEDIAN CRAIG SHOEMAKER

When an 85-pound mammal licks your tears away, then tries to sit on your lap, it's hard to feel sad.

AUTHOR KRISTAN HIGGINS

DOWN TO BUSINESS



“The worst part is the music.”

Respect My Privacy

For the last eight years, I’ve been voted the most secretive person in the office by my co-workers. I can’t tell you how much this award means to me.

—REDDIT.COM

Expensive Taste

I miss walking into a store and immediately realizing it’s too fancy

but pretending to look around for a few minutes for the benefit of the salesperson, who already dislikes me by default.

—[@SARAHCLAZARUS](#)

The Insider

I’ve always wanted to be a whistle-blower, but unfortunately I don’t know anything.

—[@SHUTUPAIDA](#)

Q: Why did the can crusher quit his job?

A: Because it was soda pressing.

—LAUGHFACTORY.COM

Spotting a candle with the inscription “Calm-ing” in my dentist’s bathroom, I smiled and thought, Oh sure. Later, as I nervously settled into the dental chair, I told my dentist that his candle wasn’t working. He replied, “That’s for us.”

—JEAN BROWN

Now that I’m working from home my wife gets to hear all the office jargon I use. I told a co-worker that I’d be “out of pocket this afternoon.” My wife asked me what that meant, and I told her I literally have no idea.

—[@SKOOG](#)

Are you in need of some professional motivation? Send us a work anecdote, and you could receive \$50. To submit your stories, visit rd.ca/joke.



EDITORS' CHOICE

Canada's scientists are racing to develop a COVID-19 vaccine. The next challenge: inoculate 7.8 billion people.

OUR BEST SHOT

BY Danielle Groen FROM *THE WALRUS*

ILLUSTRATIONS BY ZACHARY MONTEIRO



The sprawling Medicago facility in suburban Quebec City smells like a botanical garden and sounds like an airplane hangar. Thousands of *Nicotiana benthamiana* plants, a close cousin of tobacco, grow in long rows amid noisy ventilation. When the plants are six or seven weeks old and maybe 20 centimetres tall, they're lined up by the dozens onto a flatbed that's then inverted over a tank filled with fluid. The plants get dunked; the tank seals; and the leaves begin to absorb the liquid, made of a bacteria that's been slightly tweaked. Bits of its DNA have been swapped out for DNA from the spike protein of SARS-CoV-2, the virus that causes COVID-19.

Once the plants come out of the tank, they're moved to an incubation chamber. For the next week or so, the bacteria will insert its genetic information into the plants, triggering the production of millions of spike proteins in every cell of the infected leaves. The spikes self-assemble into something called a virus-like particle—not the virus itself but a particle roughly the size and shape of SARS-CoV-2. Gowned workers come and harvest the plants, stripping the leaves like they're plucking basil for pesto, then send them to be shredded.

The chopped-up leaves head next into a vat of enzymes and are left to soak overnight. The enzymes work to break apart the cell walls, releasing the virus-like particles so they can be collected, purified and converted into a yellowish vaccine. This doppelgänger for SARS-CoV-2 can't inflict any real damage. "But when you inject it into someone, the immune system sees it as though it's the real virus and thinks, Oh my God, there's an invader here," says Medicago executive Nathalie Landry. "And then it will trigger a good immune response."

A vaccine is, in essence, a trick—a sleight of hand that convinces your body to mount a counterattack to a given pathogen before that pathogen actually infects you. There are various ways to pull off the trick: vaccines can be made with a weakened virus, or a killed virus, or just a key part of the virus, or a part of the virus piggybacking on a different, benign virus, or the genetic instructions to make that key part of the virus yourself. In each approach, you get the benefits of an immune response without the messy business of a disease.

An effective vaccine is a crucial tool for combatting a virus impervious to borders, seasonality and many of the lockdown measures employed by anxious nations. But it's not the pandemic finish line—it's more like a pandemic off-ramp. Winding epidemiological, logistical and ethical roads still lie ahead: to determine how long and how well that vaccine's protection can last, to manufacture enough of it to jab into billions of arms, to allocate the first batches of supply between countries and within their populations and to persuade vaccine skeptics to roll up a sleeve. Do that and we can protect the entire planet—all 7.8 billion of us.

HUMANS HAVE BEEN trying to outsmart viruses for millennia. By the late 1600s, Chinese doctors were grinding a smallpox scab into a powder and blowing it up a healthy patient's nose. An ambassador to Britain sent reports of

17th-century North African surgeons making a small incision between the thumb and forefinger, then squeezing smallpox pus into the wound. At the turn of the 19th century, Edward Jenner extracted fluid from a milkmaid's cowpox blister and scratched it into the arm of an eight-year-old boy. These efforts may seem crude now—we prefer our vaccines packed tidily in glass vials and injected through sterile hypodermic needles—but the idea remains the same: teach the immune system how to ward off a virus so it has a head start should infection occur.

OVER 200 COVID-19 VACCINES ARE BEING DEVELOPED AROUND THE WORLD. VERY FEW WILL WORK.



When a new pathogen invades the human body, our innate immune system recognizes the presence of something noxious and sends up an alarm. The first responders are proteins that meddle with a virus in order to limit its ability to reproduce. After that, the adaptive immune system kicks in: B cells (a type of white blood cell) begin making antibodies, the proteins that can subdue a virus by blocking its ability to get into the body's cells. T cells (another type of white blood cell) arrive

with two purposes: to help B cells make more antibodies and to assassinate cells the virus has already infected. It's a more sophisticated response, but it's also slower, taking a week, sometimes longer, to mobilize, which might not be soon enough to stop a virus from commandeering your body.

If the infection is cleared, many of the body's B and T cells then die off themselves. Some, though, transform into memory cells, typically bunkered down in your bone marrow, where they wait to spring into action the next time that same pathogen attacks. "All it takes is one B cell to recognize the target and get activated, and it will start proliferating so it can produce the antibodies," says Marc-André Langlois, a molecular virologist at the University of Ottawa. "That's why vaccines work. They give you this life-saving element of having the antibodies ready to be deployed." A defence that would otherwise take the body weeks to mount can be summoned in just a few hours.

WE'VE COME a long way from smallpox pus, but to develop a vaccine, scientists still need to pick their poison. In modern medicine, that decision involves choosing whether to use the entire virus or just a vital part of it. Whole-virus vaccines take the pathogen—grown in giant batches of chicken eggs or in cells—and then kill it, usually with heat, chemicals or radiation. The upside is that the virus doesn't cause disease

once it's introduced to the body, but it also doesn't always cause a strong immune response, often requiring multiple doses. This approach is used in the flu shot and a hepatitis A vaccine, as well as in the one for polio, which a global vaccination effort has essentially wiped out.

CORONAVIRUS IMMUNE RESPONSES ARE SHORTLIVED, AFTER WHICH PEOPLE CAN FALL SICK AGAIN.

In a more recent variation on the whole-virus vaccine, a pathogen is weakened in a lab rather than killed outright. Chances are you've been jabbed with a bunch of these vaccines: they're how we fight measles, chicken pox, yellow fever and tuberculosis. Because the vaccine closely resembles a natural infection, it typically elicits a robust, enduring response. Because the vaccine is more potent, though, people with compromised immune systems are often unable to get it at all.

Another strategy is to block part of the virus rather than the whole thing. There are several ways of introducing this target protein—which is called the antigen—to the body. Most of them require another ingredient, usually aluminum, which for the past 90 years has

WHAT IS AVAXHOME?

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been added to many vaccines to boost the immune response; aluminum stimulates our dendritic cells, which help trigger the adaptive immune system.

One way is to be directly injected with the pathogen's critical protein, which triggers an antibody response. Virus-like-particle vaccines, such as Medicago's plant-grown candidate, are a type of these protein-based vaccines. It's a proven method—HPV and hepatitis B are just two examples—and there are usually few side effects once you're given the shot.

Then there are genetic vaccines, which don't deliver the antigen itself but instead issue a blueprint of that target protein to our bodies, hijacking our own cells to produce it. In a DNA vaccine, DNA containing the gene for the antigen is delivered to the cells. The cells copy those genetic instructions into molecules called messenger RNA (mRNA), which issue marching orders to the body to assemble the antigen. Messenger RNA vaccines skip the DNA entirely and deliver mRNA straight to the cells. The production time for such a vaccine can be cut down dramatically, which is why some researchers believe a genetic vaccine for COVID-19 will be ready first. But this is uncharted territory: no DNA or mRNA vaccines are currently approved for human use.

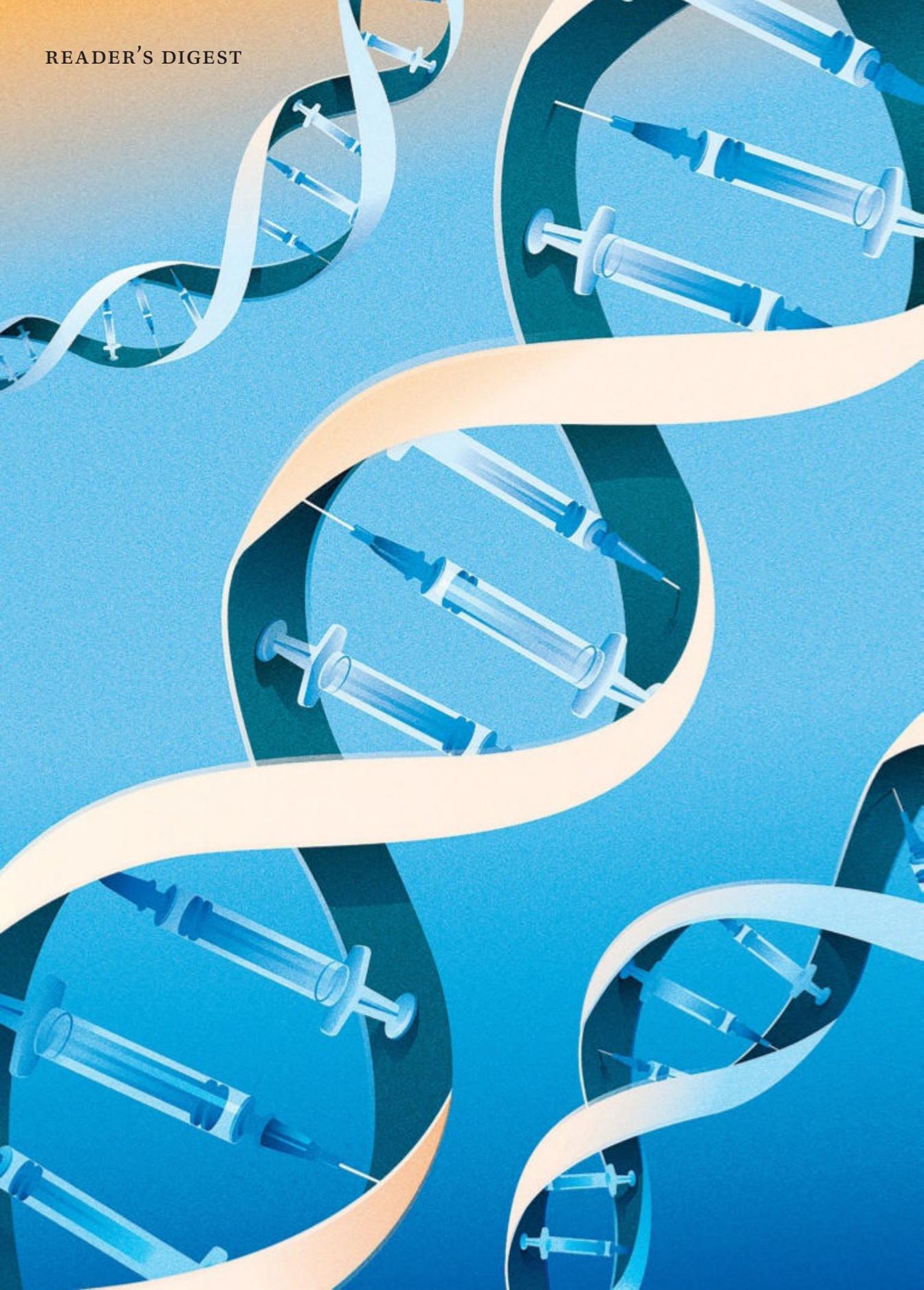
SARS-CoV-2 is a stealthy operator. It has a gift for binding to receptors on cells scattered in high numbers along the lining of our respiratory tract. When

contact is made, it creates an opening through which the virus can pour its genetic code, the RNA, into our bodies. "The moment the RNA enters the body, it takes over the cell—there's no wasting time," says Natalia Martin Orozco, vice-president of drug development at Toronto's Providence Therapeutics, which is working on an mRNA vaccine for COVID-19. The first proteins that SARS-CoV-2 produces are not to make more copies of itself but instead to suppress an immune response.

There are now more than 200 vaccine candidates for COVID-19 in development around the world, using every conceivable approach. Not all of these candidates, in the end, will work—many of them won't. And it's not yet clear what exactly will ward off this virus. Immunity isn't an on/off switch: there are multiple levels of protection conferred by either shaking off a disease or receiving its vaccine. Some vaccines, like the one for hepatitis A, provide sterilizing immunity, which prevents the infection and its transmission almost entirely. Others, like those for diphtheria and tetanus, generate neutralizing immunity, where an infection can occur but won't get very far and can't make someone sick. Often protection isn't lifelong, so we need booster shots to shore up our immunity.

When it comes to coronaviruses, immune responses tend to be short-lived: two to three years for the first SARS virus, for example, after which

READER'S DIGEST



people exposed to that same pathogen would likely fall sick once again. Still, three years of protection sounds pretty good right now. As Martin Orozco says, “Even if the vaccine lasted just one season, that, to me, would be a really great accomplishment.” In the midst of a pandemic, a SARS-CoV-2 vaccine that performs as well as a flu shot is nothing to sneeze at.

TWICE A YEAR, a consortium of scientists representing influenza centres in more than 100 countries descends on the World Health Organization (WHO) to pick the flu strains that should be combatted by seasonal vaccines. Once the recommendations are made, the viruses are produced in WHO laboratories, then shipped to the companies around the world that manufacture the corresponding vaccines. There is no centralized body whipping up batches of SARS-CoV-2 for developers looking to try their hand at a COVID-19 vaccine. Instead, they need the genetic code for the virus, which Chinese researchers sequenced in the second week of January and shared in a public database. Once scientists determined what was inside the 30,000 “letters” of this coronavirus’s RNA, they could decide which proteins to target in their vaccines.

After developers pick their antigen and their delivery system, they test it, starting with animals. Because ferrets and hamsters are, like us, naturally susceptible to SARS-CoV-2, they were a

popular choice for early vaccine trials at the University of Saskatchewan’s Vaccine and Infectious Disease Organization-International Vaccine Centre (VIDO-InterVac).

If the vaccine protects those animals from infection, the next step is a safety trial with dozens of people to see if fevers spike or injected arms swell, followed by another trial, which measures the strength of the immune response that’s produced. Then it’s on to the third trial, where thousands of volunteers are monitored for a statistically significant difference between rates of infection in an unvaccinated control group and in people who actually got the jab. At least nine leading candidates have entered Phase 3 trials, including ones from the University of Oxford, Moderna and Pfizer. Currently, the WHO has set the minimum bar for an effective vaccine at an infection-reduction rate of 50 per cent, though 70 per cent is preferred.

What’s needed to make enough doses for these trials depends on the type of vaccine. For Medicago’s plant-based candidate, there must be well-stocked greenhouses and a dunking tank. To take another example: at VIDO-InterVac, where researchers are working on a protein-based vaccine, they begin with a single cell. “We take the gene from the virus that encodes for the spike protein and we put that gene into the single cell, which now thinks it is its own protein,”

says VIDO-InterVac director and CEO Volker Gerdt.

At first, scientists use a flask that contains everything necessary to make a cell happy—some sugars, a couple of amino acids, a nice, warm environment and a little CO₂—so the cell is fooled into believing it's still in a body. One cell divides into two, then four, then eight, then 16; the flask becomes a three-litre beaker, the three-litre beaker becomes 20 litres, then 250, all the way up to a 1,000- or 2,000-litre bioreactor. From one individual cell you can make enough of the protein for thousands, even millions, of doses.

CANADA HAS COMMITTED MORE THAN \$1 BILLION TO BUY POTENTIAL VACCINES.



Making a successful vaccine is one challenge. Making enough of it to satisfy world demand is another. Every facility needs to conform to Good Manufacturing Practices (GMP), which are exceptionally specific rules set out by the WHO that ensure quality control. You want consistency over time so that each successive batch is the same.

Many Canadian labs can produce enough vaccine for their clinical research under these strict GMP con-

ditions. But when it comes to scaling up production, we're not in nearly as strong a position. There are two facilities in Canada with large-scale production capacity: the National Research Council, which partnered with CanSino Biologics to produce its vaccine and received a recent \$126-million boost from the federal government; and Medicigo, which signed a contract to supply the federal government with 76 million doses of its in-development vaccine, which if clinical trials go well could be ready for distribution to the public in the first half of 2021.

A third facility is slated to be built in Quebec, with greenhouses the size of two football fields, though that won't be completed until 2023. And, in March, VIDO-InterVac received \$23.3 million from the federal and provincial governments, half of which will be used to complete its own much larger facility, which should be ready by July 2022.

In the meantime, Canada has turned elsewhere for treatments. In early August, Procurement Minister Anita Anand announced the first of a pair of deals with American companies Pfizer and Moderna for tens of millions of doses of their vaccines. By October, Canada had made arrangements with four additional companies, committing a total of more than \$1 billion for nearly 200 million potential doses.

Plenty of other countries inked deals of their own this summer. By mid-August, preorders of COVID-19 vaccine

candidates were reportedly stretching toward six billion doses, the majority claimed by wealthy nations. But every country and company will be competing for the same limited supplies. Already there have been murmurings of glass shortages that could curb the availability of vials; stoppers are made by only a handful of companies. It doesn't take much to cause a major bottleneck.

WE NEED TO DECIDE: DO WE VACCINATE TO PREVENT DEATHS OR TO PREVENT TRANSMISSION?



WE MIGHT BE inventing a vaccine from scratch, but we're not inventing a whole new system to get it into the arms of Canadians. When it comes to distributing vaccines for COVID-19, Canada will most likely take cues from the influenza-vaccination programs we have in place now. For those, Health Canada approves and then bulk orders the vaccines, choosing a couple of different candidates in case there are manufacturing snafus.

The provinces then determine how exactly to get the doses out, allotting a certain share to family doctors, public health clinics, community clinics and pharmacies. Typically they'll also decide whether they will publicly fund

vaccination and for whom. Ontario has a universal flu-vaccination program, for example, and British Columbia and Quebec do not, though it's hard to imagine that anyone will have to shell out for a COVID-19 shot.

While flu shots are ordered and distributed based on how many people got one the previous year, planning for COVID-19 vaccines presents its own challenges: we don't know what the supply is going to be, how well it will work in different populations or how many doses the vaccine might require. In fact, administering the flu shot this influenza season will be a good trial run for getting out a COVID-19 vaccine. Although physical-distancing measures and travel restrictions might mean a milder flu season, health-care officials in Canada are anticipating higher demand this winter. Expect longer hours, assigned appointments and perhaps even at-home vaccinations, especially for high-risk or vulnerable people.

The National Advisory Committee on Immunization (NACI), formed back in 1964 to review administering the polio vaccine, among others, makes recommendations on immunization practices and schedules, including which populations (often front-line workers and the elderly) should get the vaccine first.

NACI advises on priorities, but because health care is a provincial responsibility, it's up to the provinces and territories to actually implement those recommendations. And it's the

provinces that actually set most of the disease-control goals. Do you vaccinate to prevent mortality? In that case, for this virus, the elderly need to be prioritized. Do you vaccinate to reduce transmission and spread? There are some house-partying twentysomethings in Kelowna who could get the jab. Or do you vaccinate widely in an attempt to achieve herd immunity?

We know, when it comes to COVID-19, that racialized and low-income people are infected at rates wildly disproportionate to their populations, not for any epidemiological reason but because of historical and economic disadvantages. This inequality persists for those employed in the health-care system itself: according to a study of almost 100,000 health-care workers in the U.S. and U.K. published in *The Lancet*, racialized workers were nearly twice as likely as their white colleagues to come down with COVID-19. Perhaps decision making about vaccine prioritization should be based on

structural social causes instead.

It's been a year since the virus arrived, and in that time, a few hundred vaccine candidates have been created, dozens have entered human trials and pretty much every promising new technology has been pressed into action. Work that would normally occur in sequence and stall on some bureaucrat's desk is now, thanks to huge financial investments by governments around the world, happening swiftly and in tandem. That still won't buy an end to this pandemic as quickly as we'd like: there's much mask-wearing and social distancing and staying home ahead. But the average new vaccine takes about a decade to make it to market. The fastest ever to make it to market, for mumps, arrived in four years. We're virtually guaranteed to shatter that record for COVID-19—one more unprecedented event in an era already full of them. 

© 2020, DANIELLE GROEN. FROM "HOW TO VACCINATE A PLANET," FROM *THE WALRUS* (SEPTEMBER 15, 2020).



Personality Test

We admire elephants because they demonstrate what we consider the finest human traits: empathy, self-awareness and social intelligence. But the way we treat them puts on display the very worst of human behaviour.

GRAYDON CARTER

It's really important not to be so judgmental and not to be so fearful. Try to have confidence in yourself. Don't depend so much on what others say about you or want you to be.

DEEPA MEHTA



LAUGH MORE. LIVE HEALTHIER. SPEND LESS.

Reader's Digest CANADA

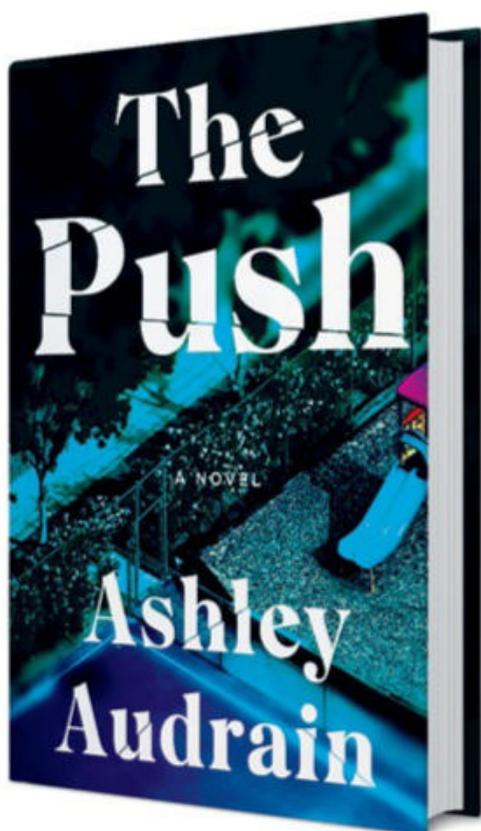
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READER'S DIGEST
BOOK CLUB



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

—
BY Emily Landau

THE PUSH

by Ashley Audrain

(\$25, PENGUIN RANDOM HOUSE)

WHAT IT'S ABOUT: It may only be January, but we're already calling it: Toronto's Ashley Audrain has written the thriller of the year. This is a book where characters stalk each other in dollar-store wigs, where grade-schoolers plot elaborate murders and where one woman throws her dead lover's severed leg at her abusive father. It's the story of Blythe, who's haunted by her absent, abusive mother and grandmother, who each faced misogyny and struggled with mental illness. Desperate to break the family curse, she does what she thinks she's supposed to do: she falls in love, gets married and has a baby. But Blythe doesn't take to motherhood as she'd hoped, and her daughter, Violet, isn't quite right. As a kid, she's cold, manipulative and given to petty cruelties. Blythe seems to be the only one who can see it, and the novel hangs on this delicate, excruciating dance between bad mom and bad seed, two people who hate and need each other in equal measure. The book functions the same way, impossible to stop reading but freighted with doom.

WHY YOU'LL LOVE IT: What *Gone Girl* did for marriage, *The Push* does for motherhood, peering behind the cheery facade of domesticity. Audrain is a gifted storyteller, and at first glance, the book is a feast of pulpy plot, cinematic jump scares and gasp-inducing twists. Under the potboiler surface, however, it's a haunted house of modern motherhood. Blythe mourns the loss of her independence as she caters to Violet's needs. She blames herself when she doesn't experience the maternal euphoria she thinks she's supposed to feel. She resents her husband, who seems to reap all the benefits of parenting without doing much of the work—he coddles their daughter but leaves Blythe to handle all the discipline. Blythe can never quite tell how much of her anguish stems from her daughter's supposed sociopathy and how much comes from her own failings as a mom. The plot may be pure melodrama, but the truths it reveals are as sharp as a bee sting.

WHO WROTE IT: Toronto's Ashley Audrain spent much of her career touting other people's books as a publicity director for Penguin Random House Canada. While on maternity leave, she began quietly plugging away at her own. In 2019, the first-time author became the literary world's latest Cinderella when *The Push* sold in the U.S., Canada and the U.K. in a series of seven-figure deals. **R**

PARENT TRAP

The Push's Blythe joins a sisterhood of unhappy moms:

MEDEA In revenge for her husband leaving her, the original "bad mom" kills her two sons and her ex's new wife.

CHRIS MACNEIL The mom played by Ellen Burstyn in *The Exorcist* needs to find a priest who can help her fix her head-spinning, projectile vomiting demon daughter.

ROSEMARY WOODHOUSE Mia Farrow plays the apartment-bound, unwilling mother to Satan's son in *Rosemary's Baby*, the thriller based on a bestseller by Ira Levin.

CERSEI LANNISTER While she's plotting to rule the seven kingdoms in George R.R. Martin's *Game of Thrones*, each of her three children perish.



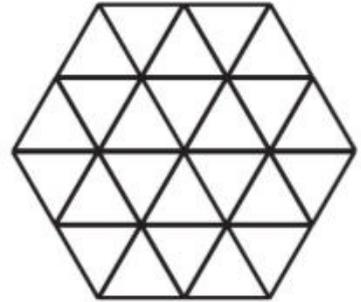
JOIN THE CONVERSATION

Visit [facebook.com/readersdigestcanada](https://www.facebook.com/readersdigestcanada) to share your experience of reading *The Push* with fellow Reader's Digest Book Clubbers. Comment on plot twists and speculate on who should play Blythe and Violet in the screen adaptation (the film and TV rights recently sold in a nine-way bidding war).

BRAINTEASERS

Shape Up

Difficult This hexagon is made of identical equilateral triangles (triangles with three equal sides). If you don't count rotations or reflections, then there are three different shapes you can make by joining four such triangles fully edge to edge. First, determine what these three shapes are. Next, figure out how to use two copies of each of them to make the hexagon. There's only one solution (not counting rotations and reflections).



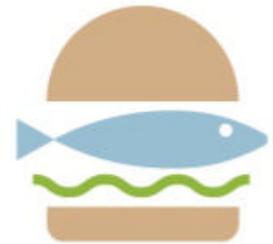
Rectangles

Easy Subdivide this region along the grid lines into non-overlapping squares and rectangles. Each of these rectangles or squares must contain exactly one number that matches the number of small cells that make up its area. Can you draw the correct boundaries?

9									12
				6	6				
				3					
								2	
				12					
		6			6				
10									8

Fishy Business

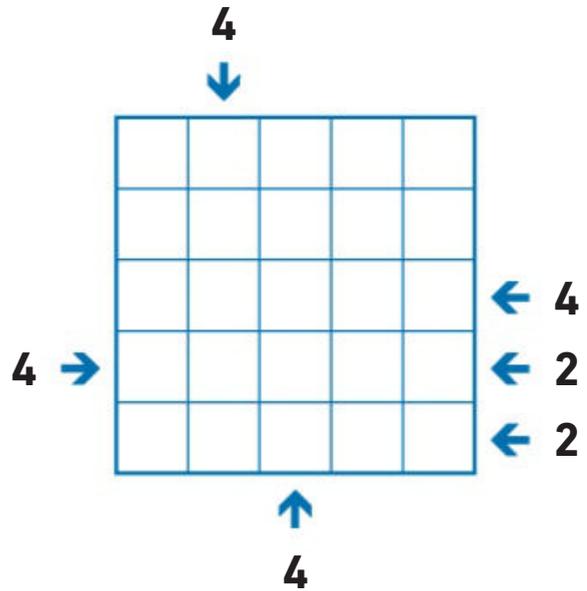
Easy Kanoko is volunteering for a program delivering meals to people with limited mobility, and she has a budget of \$100 to shop for fish-burger ingredients. It costs \$4 for a package of 10 fish patties and \$3 for a package of eight buns. How many packages of each should she buy to maximize the number of fish burgers she can assemble? She can have extra ingredients left over, but she won't serve a patty without a bun or vice versa.



(SHAPE UP) DARREN RIGBY; (RECTANGLES) FRASER SIMPSON; (FISHY BUSINESS) EMILY GOODMAN

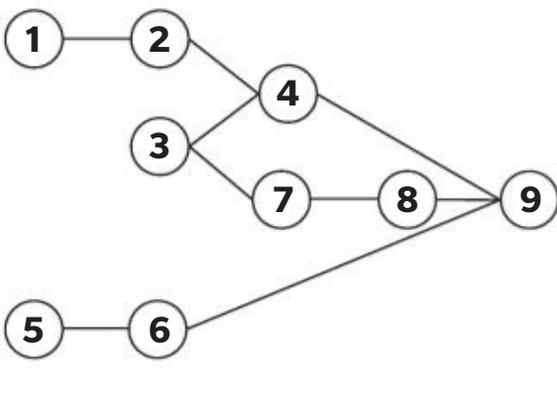
Skyscrapers

Moderately difficult This grid represents a bird's-eye view of a city's downtown core. Place a number from 1 to 5—representing a building's height in storeys—in each square so that no two buildings in any row or column have the same height. The numbers outside the grid tell you how many buildings are visible in the corresponding row or column to an observer looking in from that direction. Higher buildings block the view of lower ones behind them. Can you determine the heights of all 25 buildings?



It's a Process

Difficult There are nine steps to building a widget, but certain steps can only be started once other ones are finished. This process is diagrammed in the flow chart: if a line joins two circles, the circle on the left marks a step that must finish before the one on the right can begin. You have three workers, though not every worker is trained to perform every step. You've noted the length of time it takes each worker to complete each step they can do. If they started now, how soon could you have a brand new widget in your hands?



	Andrea	Bill	Carla
①	20 min		15 min
②	10 min		15 min
③		20 min	15 min
④	30 min	20 min	
⑤		30 min	25 min
⑥		10 min	15 min
⑦	40 min		35 min
⑧	10 min	20 min	
⑨	20 min	10 min	15 min



BY Beth Shillibeer

1. Which software giant promises to be carbon negative by 2030 and to remove its historical emissions by 2050?
2. What special postmarks will your love letters get if you send them through the post office in Love, Saskatchewan?
3. Asgard is a realm of the gods in Norse mythology, but where can you find it on Earth?
4. What was the fate of the first fire hydrant patent?
5. What did horticulturist Wolfgang Palme prove could be grown and harvested in the depths of winter on his Austrian farm?
6. Breakfast, beer and water are often believed

- to be remedies for what January 1 malady?
7. There are more ways to arrange a deck of playing cards than there are atoms on Earth. True or false?
 8. *Hope, Perseverance* and *Questions to Heaven* are the names of upcoming missions that intend to do what this February?
 9. What geographic location lies at the centre of the world map on the UN flag?
 10. Which New Caledonian island received an obituary in 2013, when an Australian research ship found that it had, in fact, never existed?
 11. What notable feature enabled the Roman god Janus—January's namesake—to look both

backward and forward at the same time?

12. In 1852, Peter Mark Roget published which book highlighting 15,000 words classified into six areas of knowledge?
13. Popular among scientists, "agar art" uses what as a pigment?
14. What YouTube sensation, where teams compete in such events as "funnel endurance" and "block pushing," helped sports fans endure the delayed 2020 Olympics?



15. Assuming you don't drink it immediately, how many bubbles are likely to form in a glass of champagne?

Answers: 1. Microsoft. 2. Teddy bear or heart. 3. Mount Asgard, Baffin Island. 4. It burned in a fire. 5. Vegetables. 6. Hangover. 7. True. 8. Explore Mars. 9. North Pole. 10. Sandy Island. 11. Two faces. 12. Roget's Thesaurus. 13. Bacteria. 14. The Marble League. 15. Approximately one million.

WORD POWER

Relive history as you define these words popularized in the last 100 years. Then, find out when each word was first used in print, according to the Merriam-Webster dictionary.

BY Beth Shillibeer

1. diktat—**A:** shorthand.
B: harsh settlement.
C: henchmen.

2. googol—**A:** 10^{100} .
B: search engine.
C: atomic particle.

3. ludic—**A:** melodic.
B: ridiculous. **C:** playful.

4. vegan—**A:** a person who follows a mostly vegetarian diet. **B:** vegetable stew. **C:** a person who does not eat or wear animal products.

5. maven—**A:** Jewish matriarch. **B:** expert.
C: elderly activist.

6. glitz—**A:** make extravagant in appearance.

B: gloss over a defect.
C: glide and turn simultaneously.

7. grok—**A:** understand profoundly. **B:** search haphazardly. **C:** divide socially.

8. duende—
A: prolonged ending.
B: subtle deception.
C: charm and charisma.

9. doula—**A:** remedy for labour pains.
B: non-clinical supporter during birth. **C:** breastfeeding privacy cloth.

10. Kwanzaa—
A: East African-inspired fashion style. **B:** African-American cultural festival.

C: Swahili term for “expansive.”

11. affluenza—**A:** negative psychosocial effects of wealth. **B:** expanding middle class. **C:** spread of disease due to globalization.

12. cryptid—**A:** animal whose existence is not proven. **B:** zombie.
C: coded message.

13. shock jock—
A: athlete with a reputation for public antics.
B: electrical technician.
C: provocative radio personality.

14. chyron—
A: media network logo.
B: lead news anchor.
C: text superimposed on broadcast.

15. parkour—**A:** games designed for a typical park playground.
B: sport of traversing environmental obstacles. **C:** miniature park built in abandoned urban spaces.

WORD POWER ANSWERS

1. diktat—B: harsh settlement; as, Some called the restrictions a *diktat*, blaming them for many ills. (First print use 1933.)

2. googol—A: 10^{100} ; as, As a mathematician, Edward worked with enormous numbers, like *googol*. (1937.)

3. ludic—C: playful; as, A *ludic* atmosphere engulfed Toronto when VE-Day was announced in 1945. (1940.)

4. vegan—C: a person who does not eat or wear animal products; as, Doris stopped eating eggs so she could become a *vegan*. (1944.)

5. maven—B: expert; as, Betty was eager to read what the *Vogue* fashion *mavens* predicted for next year. (1950.)

6. glitz—A: make extravagant in appearance; as, Jimmy's passion for luxury cars began when he

saw Elvis' *glitized-up* pink Cadillac. (1956.)

7. grok—A: understand profoundly; as, When Kip read *Stranger in a Strange Land*, he *grokked* the power of a novel to change the world. (1961.)

8. duende—C: charm and charisma; as, The Beatles' *duende* attracted 73 million viewers to *The Ed Sullivan Show*. (1964.)

9. doula—B: non-clinical supporter during birth; as, Kasti championed the skills of Indigenous *doulas* and the benefits of local birthing. (1969.)

10. Kwanzaa—B: African-American cultural festival; as, *Kwanzaa* became an annual tradition for Ayo's family. (1970.)

11. affluenza—A: negative psychosocial effects of wealth; as, *Affluenza* may have played a part in the rising divorce rate of the postwar era. (1973.)

12. cryptid—A: animal whose existence is not proven; as, John loved

stories of Manipogo, the local *cryptid* who was said to live in the lake. (1983.)

13. shock jock—C: provocative radio personality; as, The first *shock jock* program aired on the radio to mixed reactions. (1986.)

14. chyron—C: text superimposed on broadcast; as, Ling began writing *chyrons* for the local news broadcast. (1990.)

15. parkour—B: sport of traversing environmental obstacles; as, Renée loved swinging her way across obstacles in her *parkour* class. (2002.)

CROSSWORD ANSWERS

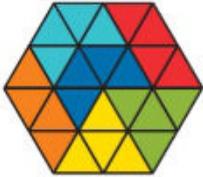
FROM PAGE 112



BRAINTEASERS ANSWERS

FROM PAGE 106

Shape Up



(or a reflection or rotation of the same solution).

Rectangles

9								12
				6	6			
			3					
							2	
				12				
	6			6				
10								8

Fishy Business

Kanoko should buy 13 packages of patties and 16 packages of buns. She'll spend exactly \$100 and assemble 128 fish burgers.

Skyscrapers

3	1	5	4	2
2	3	4	1	5
5	4	2	3	1
1	2	3	5	4
4	5	1	2	3

It's a Process

In as little as 70 minutes.



BY Jeff Widderich

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

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.

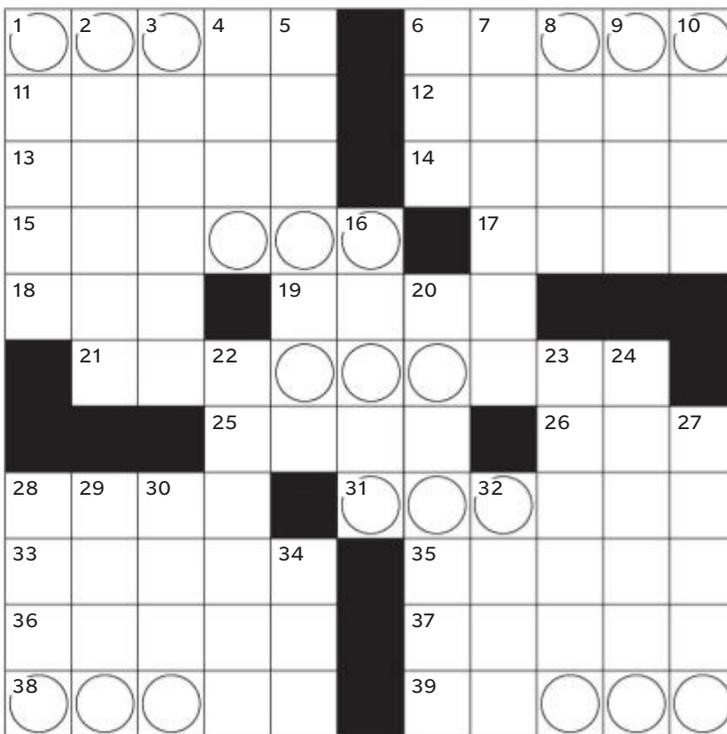
SOLUTION

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



Seven Ways to Start the Day

BY Barbara Olson



ACROSS

- 1 Sounds of dull landings
- 6 Fruit that'll make you pucker
- 11 Hockey's "Pocket Rocket" Richard
- 12 "___ dabba doo!" (Flintstone cry)
- 13 The sun, in Spain
- 14 Computer sales?
- 15 Turned on a pivot

- 17 Peak in *The Odyssey*
- 18 Big time?
- 19 Famed film orca, 1966
- 21 Juno or Oscar figurine
- 25 Library volume ID
- 26 "Who am ___ judge?"
- 28 Red Chamber members: Abbr.
- 31 Snowbird's souvenir?
- 33 Noted landscapist Carr
- 35 *Flashdance* star Jennifer

- 36 "I'm ___ Bird" (Nelly Furtado hit)
- 37 Murphy who played Alexis on *Schitt's Creek*
- 38 Pat down
- 39 Ushered to a new chair

DOWN

- 1 "Whose woods ___ are, I think I know..." (Frost)
- 2 Phone-answering words
- 3 Still in the outbox
- 4 Fourth line of seats from the stage
- 5 Movies before talkies
- 6 Harsh soap ingredient
- 7 Words before "of house and home"
- 8 Corp. degrees
- 9 Kimono sashes
- 10 Simba's sweetie
- 16 Smears on sloppily, as plaster
- 20 Screen area with File, Edit, View, etc.
- 22 Seating choices for nervous flyers, maybe
- 23 Mythical giants
- 24 Often-abbreviated list ender
- 27 Kickoff
- 28 Egotist's concern
- 29 Kuwaiti ruler
- 30 2017 NDP leadership hopeful Ashton
- 32 Hawaiian goose
- 34 Partake in a gabfest

For answers, turn to PAGE 110



Our Commitment to Canadians

As the world continues to change, our commitment and focus remains the same – helping to ensure the Canada Pension Plan Fund is there for generations to come. Over the past two decades our active management strategy has allowed us to build a widely diversified and resilient portfolio, designed to weather market turmoil and generate long-term returns. The sustainability of the CPP Fund remains secure.

For an update on the health of the CPP Fund, visit cppinvestments.com.

Notre engagement envers les Canadiens

Pendant que le monde continue d'évoluer, nous poursuivons le même objectif et restons fidèles à notre engagement : contribuer à assurer la pérennité du Régime de pensions du Canada pour les prochaines générations. Au cours des deux dernières décennies, notre stratégie de gestion active nous a permis de bâtir un portefeuille largement diversifié et résilient conçu pour résister aux turbulences du marché et générer des rendements à long terme. La viabilité de la caisse du RPC n'est pas remise en question.

Pour une mise à jour sur la santé de la caisse du RPC, consultez le site investissementsrpc.com.