

# Reader's

## digest

SEPTEMBER 2018

### GET SMARTER About Your Brain

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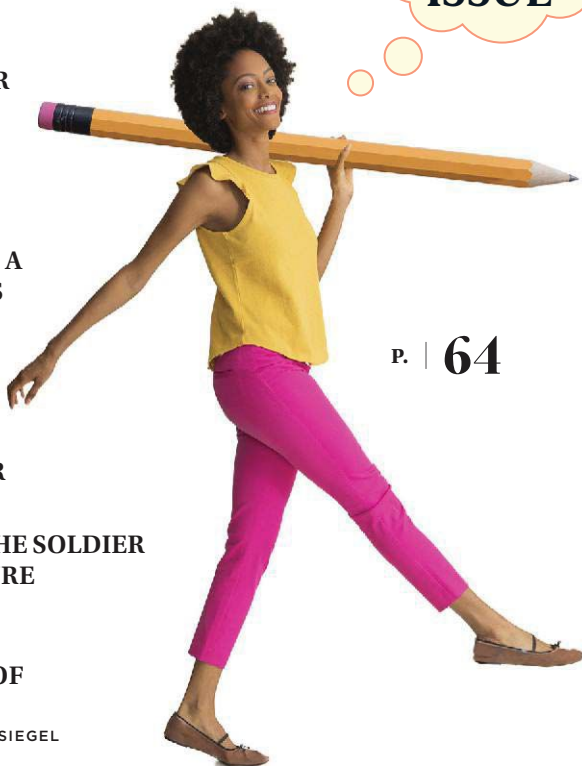
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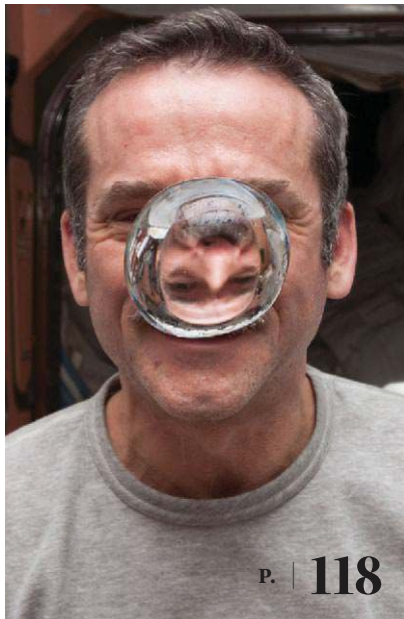
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REYN

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# Dear Readers

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**A** S A LONGTIME HEALTH EDITOR, I like to think I'm smart about medical science. Yet what do I do when I have a scratchy throat? I pop open a packet of over-the-counter "immune support" tablets, drop them in a glass of water, and listen, half laughing at myself, for the telltale *FIZZ* sound.

No clinical studies support the effectiveness of this concoction. None of its ingredients, possibly excepting zinc, are proven to prevent colds or their symptoms.

I treat my insomnia in much the same way. When I wake at 3 a.m., I pop ibuprofen to help me resume my snooze—despite the fact that at least one double-blind study found that it promotes sleep no better than fake pills.

Sticking to my rituals is not as dumb as I sometimes feel it is. As Robert Anthony Siegel explains in "The Power of Fake Pills" on page 78, drugs don't need effective active ingredients to offer symptom relief. In study after study, a treatment will get similar results as a dummy version and hence be judged a failure. Yet the subjects in both groups end up feeling better—because the act of taking a pill by itself can do good work.

Siegel's account plumbs science's growing appreciation of this placebo effect. With some symptoms and illnesses, many of us can be persuaded—or persuade ourselves—to heal faster via what scientists would call an ineffective treatment.

Do you have an "unscientific" concoction that you believe works for you, and so it does? Please tell us about it at [rd.com/placebo](http://rd.com/placebo). Meanwhile, I'll bet on my semi-comic ritual with the fizz to do what it always seems to—tamp down any brewing cold by morning. In health, as in life, we should never underestimate the power of belief.

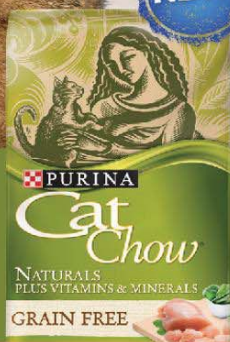


Bruce Kelley,  
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# Letters

COMMENTS ON THE JUNE ISSUE

## 40 Home Repairs Anyone Can Do!

You suggest turning off the water to the house when leaving on vacation. We always turn off the water heater too. It saves energy and is a safety issue. Our neighbor's overheated and exploded during his absence. Happily, with the water shut off he didn't have major flooding and no one was hurt, but he had thousands of dollars in damage to his home.

LINDA HAMMER, *Fort Jones, California*

Editor-in-chief Bruce Kelley's column about using a pricey handyman reminded me of a quote attributed to Red Adair, a famous oil well fire-fighter. He said, "If you think hiring a professional is expensive, wait until you hire an amateur."

DAN HARRIS, *Houston, Texas*

## Rise and Shine All Day

I would love to add something to your roundup of smart morning habits: prayer. It is another positive way to meditate and start your day,



with prayers of gratitude for all that happened the day before and prayers to rock out all the things on your schedule for the day ahead. It has helped millions for many years, no matter what religion you are. It is tried-and-true!

DANIELLE ZIEROFF,  
*Auburn, Michigan*

## Gadzooks! The Surprising Sources of Great Sayings

I so enjoyed your article on the origin of common sayings that I decided to share it with my eight-year-old daughter. I asked her first whether she knew the meaning of "Let the cat out of the bag." She confidently guessed: "Don't mistreat your pets!"

ELLEN SPERTUS, *San Francisco, California*

## Humor in Uniform

Patrick McSherry's submission about how a gunner on his dad's ship shot the practice drone into the water reminded me of a story my father told about World War II. Dad was on the aircraft carrier USS *Bunker Hill* being trained on machine guns. An aircraft was towing a glider for the soldiers to shoot at, but no one was hitting the



moving target. When it was my father's turn, he fired ahead of the glider. One of the bullets hit and cut the towline! The glider landed in the Pacific, and my father landed in deep trouble.

**JOSEPH C. DUCKWORTH,**  
*Davisville, West Virginia*

## 35 Lessons I've Learned in 35 Years of Marriage

A lifelong bachelor, I've often heard the complaint, mostly against husbands, that chores are not shared equally. Which puzzles me because I'm the guy no one wanted to marry, yet when I'm hungry, I make a meal. When the pans need to be washed, I wash them. When something is not where I expect it to be, I don't ask, "Honey, where did you put ...?" because wherever it is, I put it there (and I can't imagine calling myself honey). I offer these thoughts as a reminder that, however you're feeling, there's always another point of view.

**PAUL FORSLUND,** *St. Paul, Minnesota*

## Learning to Trust Again

As a U.S. soldier who moves every few years, I can attest that service members are often put in positions to rely on neighbors and coworkers in substantial ways (e.g., childcare, house sitting, dog walking) before they have a chance to form meaningful relationships. Trust is key to surviving the transient Army lifestyle.

**CHARLES HALVERSON,**  
*Charlottesville, Virginia*



## YOUR DADS' BAD JOKES

Your collection of dads' favorite corny comments made me remember what my father, Gerard Fischetti, often said at the dinner table. Before taking seconds, he would politely ask whether everyone had had their share. Then he would point to his hand, grin, and say, "See this scar?" (My sisters and I never could see his alleged scar.) "I got it in the Army when I reached for a second pork chop."

**SUSAN MARIE DAVNIERO,**  
*Lindenhurst, New York*

My name is Amy, and every morning when my dad got me up for school, he would say "Ready, Aim? Fire!" Yes, apparently for him, this never got old.

**AMY FLANIGAN,** *Cleveland, Ohio*

## WHAT IS THE TRUE MEANING OF LIFE?

We all want our time on Earth to have a purpose, but what does that mean for you? Making others happy? Doing great work? Leaving the world better than you found it? Tell us your story at [rd.com/lifemeaning](http://rd.com/lifemeaning) and we might publish your response.

**NO  
WRONG  
ANSWERS!**



# EVERYDAY

---


# HEROES



A teen helps a younger boy see that their shared difference is no handicap to success

## The Five-Fingers Club

BY MATTHEW BAIN FROM THE *DES MOINES REGISTER*


 JAYCE CROWDER began noticing when he was in kindergarten that he looked different from his classmates. They had two hands. He had one.

It started when one boy teased him, says his mother, Cortney Lewis. Jayce's bubbly enthusiasm soured to sullenness. He'd return to their Des Moines, Iowa, home with questions: Why am I different? Why me? *Why?*

"He actually told us he was mad at God for making him that way," his mother says. "That was a huge dagger to the heart."

Lewis admits she didn't know what

to do at that point. How could she provide answers to her son's questions when she had never found those answers herself?

A few weeks later, Lewis came home from her job as an orthodontic assistant and turned on the TV to a news story about a six-foot-three eighth grader from Washington, Iowa. Trashaun Willis, then 14, had become an Internet sensation after posting videos of his slam dunks, and, like Jayce, he was missing most of his left arm. Lewis called Jayce in. He was riveted, 

*Trashaun (left),  
Jayce, and  
the motto that  
binds them*



watching dunk after monstrous dunk.

At the time, it seemed that watching Trashaun would simply be an inspiring moment for Jayce—he'd see a thriving role model with a seemingly similar congenital defect. And had it stayed just that, Lewis would have been happy. But little did she know that a family friend had already reached out to the *Des Moines Register*, asking the newspaper to help set up a meeting with Trashaun to build Jayce's confidence.

The boys met at Washington Middle School on a Saturday afternoon a couple of months later, in April 2017, and instantly bonded. Both of them had had amniotic band syndrome in the womb, a rare condition that caused strands from their mothers' amniotic sacs to wrap around their left elbows, stunting growth beyond that point.

The day was not spent wallowing in self-pity—it was dedicated to fun. They rode bikes around the school's hallways, took photos, played hide-and-seek, and shot baskets. Trashaun taught Jayce to finish with a high release and put some backspin on the ball. He even gave Jayce a shirt that says "Ten fingers are overrated."

At one point, Trashaun did get serious with Jayce. He talked about

their left arms—or lack thereof. He told Jayce he was perfect the way God made him. He said not to let anyone drag him down and that words don't need to shake his confidence.

"It reassured me," says Lewis. "I know in my heart that everything's going to be OK. Trashaun has grown up to be a wonderful kid. And I know Jayce is too. As a parent, that's all you want to know: that everything's going to be OK."

Since that meeting, Lewis has seen a pronounced difference in her son, who is now seven and in

second grade. He recently started wrestling and loves it. Lewis points to Trashaun's influence. Meeting him, she said, made Jayce "understand that there are others like him."

As for Trashaun, his relationship with Jayce made him look forward to helping more kids, perhaps as a youth coach with NubAbility, a nonprofit dedicated to coaching kids with limb differences.

"Honestly, it means a lot to know that I changed Jayce's life," Trashaun says. Still, he never dreamed that his videos would have such an impact. "I just thought my friends would see [my videos] and be like, 'Oh, he dunked it!'"

He certainly did.

“*As a parent, that's all you want to know: that everything's going to be OK.*”

R

# Swept Away

BY ANDY SIMMONS

IN STORM-RAVAGED Santa Clarita, California, last March, Margarito Martinez approached Road Runner Road carefully. A swollen creek had flooded it. Martinez, driving a Toyota SUV, figured he'd be OK. Big mistake.

Halfway across, the rushing waters grabbed hold of his vehicle, sweeping it off the road and washing it down a rocky streambed. It finally stopped a good 80 feet away, when the water somehow lifted the SUV and wedged it in the ground at a 45-degree angle. Bruised, shaken, and trapped inside with the muddy water rising quickly, Martinez was certain he was going to die.

On the road right behind Martinez were a party-rental delivery worker and his niece. They watched the horror unfold, and when Martinez's SUV came to rest in the middle of the gushing creek, the man leaped to act. First, he grabbed heavy-duty straps from the back of his van and secured the teetering SUV to nearby posts. Then he climbed atop Martinez's vehicle and banged on a rear window with his fists. Frustrated, he turned to his niece and yelled, "Give me a rock!"

Over and over he smashed the rock into the window, to no avail. "We were scared that something else was going to come down and take the SUV, take him, take my uncle," Krystina Reyes, 27, told CBSLA. (Her uncle



*Martinez (right) being helped from his flooded car by an anonymous hero*

has not publicly revealed his name.)

Reyes's uncle shouted to Martinez to move away from the window. He braced himself—right foot on the spare tire, left in the wheel well. He leaned back and threw the rock. Finally, the glass broke and the man kicked in the remaining shards. Soon, a soaked Martinez emerged through the window frame, and the men escaped to dry land.

"God is great," an emotional Martinez said later. "I surrendered to him to save me." And he saved Martinez by sending a determined, anonymous delivery driver. **R**

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# VOICES & VIEWS

Department of Wit

## Wanted: A Personal Assistant

BY MARY CELLA

FROM THE *NEW YORK TIMES*



MARY CELLA  
*is a stand-up  
comedian and  
a writer.*

☞ I'M A VERY BUSY WOMAN looking for an assistant to help me with certain important tasks. This is not your average assistant job. What I'm looking for is someone to take care of some of my more personal business so that I may focus on my true passion: grocery shopping.

Please apply if and only if you are willing and able to accomplish the following tasks:

■ **WORK** I would love to have a nine-to-five job. However, I find sitting in an office all day unbearable. An ideal assistant would secure a high-paying office job and excel in that setting, even going so far as to eagerly accept every invitation to after-work drinks.

■ **ATTEND DOCTORS' APPOINTMENTS** I'm looking for someone to not only set up but also attend all medical >>>

appointments for me. As I realize this may be illegal and perhaps even impossible, I would consider a candidate who is willing to get weighed in my stead, and then I'd proceed with the rest of the experience myself.

#### ■ GO ON FAMILY VACATIONS

I love my family, especially when I don't have to spend time with them. Thus, I will require my employee to attend all family vacations in my place. Since I'll miss out on spending time with my nephews, a good assistant will live-stream them for me the entire time while discreetly muting the live-stream whenever they start fighting.

■ **EXERCISE** I am determined to get in better shape but find working out strenuous and tiring. The right candidate will exercise for a minimum of an hour every day and allow me to reap the benefits of his or her vigorous activity.

■ **EAT** Just kidding—I love eating!

■ **MAINTAIN FRIENDSHIPS** As a bad planner who's often too lazy to get off her couch even when she has a function to attend, I'm looking

for someone who's able to not only spend time with my friends but also nurture those very important relationships. That means my employee must be a good listener who's able to withhold his or her opinions about said friends' significant others.



*The right candidate will exercise for an hour a day and allow me to reap the benefits.*

■ **DATE** I'm looking for love but find dating tedious and intimidating. Ideally, my employee will get a drink with a potential mate so he or she can do the tiresome work of getting to know someone and deciding whether I'll like him. If the romantic candidate advances past a third

date, I'd be willing to step in and proceed with the relationship from there, excluding birthdays, holidays, and other high-pressure situations.

■ **HAVE A BABY** I'm eager to have a child, but being pregnant and giving birth seems hard. Likewise, raising a child seems daunting. I'd prefer to spend an hour or two with my child each day while someone else tackles the incredible responsibility of child-rearing. Once my child turns 18, I will happily assume all parenting duties, excluding any financial obligations.

■ **DIE** I just don't think it's for me. **R**



# Exercise Smart After Summer

Post summer days that are cooler and shorter are just around the corner, which can mean a drag on your workouts. Use these tips to beat your workout boredom throughout the fall season.



## TRY A NEW WORKOUT

Workouts can be boring especially when you're stuck in a routine.

To keep it fresh, try a high-energy dance workout routine, and bring a friend so you're less likely to skip.



## VISIT A VIRTUAL GYM

No more excuses. You and your partner can break a sweat together right in your living room with virtual gyms— you don't even have to leave your door!



## WEAR A FITNESS TRACKER

This tiny device is a simple addition to your everyday life as you count your daily steps and heart rate. A fitness tracker can help keep you motivated to reach your fitness goals!

*Always consult your healthcare provider before starting a new fitness regimen.*



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# PHOTO

OF LASTING  
INTEREST

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## A Heavenly Moon

Some astrophiles—or, if you'd rather, astronomy geeks—say that an annular solar eclipse isn't nearly as spectacular as the full-on variety. Maybe this photo will change their minds. An annular eclipse happens when the moon is too far from Earth to cast a complete shadow as it slides between us and the sun. The result is a glowing ring of fire that is stunning, dangerous (don't look at it directly!), and rare: Photographer Colleen Pinski captured this one over New Mexico back in May 2012, and the next annular eclipse visible from the States isn't expected until 2023. By the way, the person stepping into Pinski's frame was pure serendipity. You might even call it a divine intervention.

PHOTOGRAPH BY COLLEEN PINSKI



A field of flowers opens one woman's eyes  
to the world of the possible

# The Daffodil Lesson

BY JAROLDEEN EDWARDS FROM THE BOOK *THINGS I WISH I'D KNOWN SOONER*

IT WAS A BLEAK, rainy day, and I had no desire to drive up the winding mountain road to my daughter Carolyn's house. But she had insisted that I come see something at the top of the mountain.

So here I was, reluctantly making the two-hour journey through fog that hung like veils. By the time I saw how thick it was near the summit, I'd gone too far to turn back. Nothing could be worth this, I thought as I inched along the perilous highway.

"I'll stay for lunch, but I'm heading back down as soon as the fog lifts," I announced when I arrived.

"But I need you to drive me to the garage to pick up my car," Carolyn said. "Could we at least do that?"

"How far is it?" I asked.

"About three minutes," she said. "I'll drive—I'm used to it."

After ten minutes on the mountain road, I looked at her anxiously. "I thought you said three minutes."

She grinned. "This is a detour."

Turning down a narrow track, we parked the car and got out. We walked along a path that was thick with old pine needles. Huge black-green evergreens towered over us. Gradually the peace and silence of the place began to fill my mind.

Then we turned a corner and stopped—and I gasped in amazement.

From the top of the mountain, sloping for several acres across folds and valleys, were rivers of daffodils in radiant bloom. A profusion of color—from the palest ivory to the deepest lemon to the most vivid salmon—blazed like a carpet before



*With 12 children (and, later, 76 grandchildren), JAROLDEEN EDWARDS didn't write her first book until her last child started school. She died in 2008, having published 12 books.*



us. It looked as though the sun had tipped over and spilled gold down the mountainside.

At the center cascaded a waterfall of purple hyacinths. Here and there were coral-colored tulips. And as if this bonanza were not enough, western bluebirds frolicked over the heads of the daffodils, their tawny breasts and sapphire wings like a flutter of jewels.

A riot of questions filled my mind. Who created such beauty? Why? How?

As we approached the home that stood in the center of the property, we saw a sign that read: “Answers to the Questions I Know You Are Asking.”

The first answer was: “One Woman—Two Hands, Two Feet, and

Very Little Brain.” The second was: “One at a Time.” The third: “Started in 1958.”

As we drove home, I was so moved by what we had seen, I could scarcely speak. “She changed the world,” I finally said, “one bulb at a time. She started almost 40 years ago, probably just the beginning of an idea, but she kept at it.”

The wonder of it would not let me go. “Imagine,” I said, “if I’d had a vision and worked at it, just a little bit every day, what might I have accomplished?”

Carolyn looked at me sideways, smiling. “Start tomorrow,” she said. “Better yet, start today.” **R**

---

This article originally appeared in the September 1997 issue of *Reader's Digest*.

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^ Quality of Life Survey data measured the patient's self-assessed quality of life and measurable quality of improvement at three months.



A girl burns her foot playing at an inn's private beach. Who is responsible?

## The Case Of the Hot Coals in The Sand

BY VICKI GLEBOCKI

ONE AUGUST DAY during a summer camping trip, Katherine Pearson and her family stopped at the Inn at Watervale on Lake Michigan to hang out at the resort's private beach. The beach is typically reserved for paying guests, but the inn's owner, Dori Turner, had worked with Pearson on a conservation project and had given her an open invitation to use it for free. Pearson and her husband relaxed on beach towels and read while their daughter, Sophie, played in

the sand nearby with her friend Bailey Ann Marie Noble, who'd come along for the weekend. The two ten-year-olds had been playing for about an hour when, all of a sudden, Pearson heard one of the girls scream. "I looked to my left, and Bailey was rolling around in the sand," she later explained. As she ran toward the child, Pearson called out, "Did you get stung?" Bailey yelled back, "I stepped in hot coals!"

Fires are fairly common on this Michigan beach. The inn's staff ➤➤

placed protective fire rings to contain blazes, but individual patrons would often start their own. What's more, instead of using water to extinguish those fires, as the inn requested, people would simply toss sand on the flames, which often left embers buried and hidden from view. Bailey had stepped on some of those hidden coals.

When Pearson saw Bailey's foot, she thought it "looked horrible." She immediately took the child to the lake, put her foot in the water, and called 911. The hospital later determined that Bailey had suffered second-degree burns plus one third-degree burn the size of an eraser on her left foot.

Nine months later, Bailey's mother, Kerri Hunter Otto, filed a

lawsuit on her daughter's behalf in Benzie County Circuit Court. She claimed that the inn's owners had been negligent. The inn argued that Bailey's mother couldn't make a negligence claim, because the inn was protected by the Michigan Recreational Land Use Act (RUA). The RUA says that a person who hasn't paid to use a facility for "fishing, hunting, trapping, camping, hiking, sightseeing, motorcycling, snowmobiling, or any other outdoor recreational use" can't sue if he or she gets injured. Playing on the beach, the inn maintained, counted as "other outdoor recreational use."

*Was the inn responsible for the burns that the girl sustained on its private beach? You be the judge.*



## THE VERDICT

No, the inn was not. Initially, in October 2015, the trial court sided with the inn and dismissed the case, but then the state's court of appeals disagreed. It found that the RUA did not apply, because playing on a beach is not "of the same kind, class, character, or nature" as the activities listed in the act, such as fishing and hiking. So the inn took the case to the state's supreme court. "Everyone knows that going to the beach on Lake Michigan in the summertime is an example of outdoor recreational use," said the inn's attorney, John Worsfold. Further, the family didn't pay to use the land. If they had, says Worsfold, "negligence would have applied." The supreme court agreed: "With any recreation on or in vast, vacant natural habitats, there is an assumed risk of injury. The shoreline of Lake Michigan is no different." **R**



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# Your True Stories

IN 100 WORDS

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## LUCKY COIN

**M**y husband lost his wedding ring while working in the yard. We looked everywhere for it but decided it was no use to continue searching by hand, so I bought a metal detector. When the machine didn't seem to be working, I tossed a nickel into the grass. My husband moved toward it with the detector, but nothing happened. I bent down to pick up the nickel and saw his ring about a foot away. I couldn't believe my luck. I'll never forget that moment—and I'm going to keep that nickel forever.

JOANN NELSON, *Tacoma, Washington*

## TAKING ONE FOR THE TEAM

**J**ack, my eight-year-old nephew, was chosen as Student of the Week at his school. As part of the honor, a guest was invited to read a book to his class. My sister asked me to go. When I got there, I was surprised that Jack did not seem excited to see me. I read the book and left, feeling hurt and confused. I then received an



e-mail from my sister: “I didn’t want to tell you this before you left,” she wrote, “but when I asked Jack who he thought his guest might be, he guessed Tom Brady.”

MARCIA MURPHY,  
*Burlington, Massachusetts*

## IN THE HOT SEAT

**M**y wife and I were driving from the subzero cold of our home in Wisconsin to a winter vacation in

Arizona. During the long drive south, the weather was getting warmer and warmer. Eventually, the outside temperature was in the low 60s, and we felt hot. We marveled at how our bodies were so acclimated to the Wisconsin cold that this moderate temperature seemed so hot to us. In fact, we were feeling uncomfortably warm and thinking about putting on the air conditioner when suddenly my wife exclaimed, “Oh my gosh, the seat heaters are on!”

RANDY BERDAL, *Eau Claire, Wisconsin*

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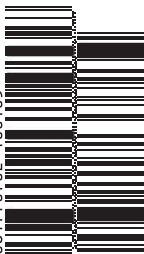
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FINISH THIS SENTENCE

# The best lesson I ever

**Never  
volunteer**

for something you  
don't want to be  
stuck doing for the  
whole year.

**DELLA FOGEL**

Trinidad, CA

**Don't put  
your finger**

under the stapler,  
because someone else  
might push it down.

**SAONCYRAE NEVILLE**

Casper, WY

Salt Lake City, UT

San Andreas, CA

**From  
a history  
teacher**

who encouraged  
me to stay in  
college with a note  
that read,  
"A mind is a terrible  
thing to waste."

**INGRID HJELMERVIK**

You don't  
have to be best  
friends with  
everyone,  
but you can  
**always  
be kind.**

**ANNIE HALL**

How to  
**read  
upside  
down,**

so I could peek  
at my grade in  
the teacher's  
grade book.

**NANCY PAWLOWSKI**

# learned at school was ...

## How to do crossword puzzles,

thanks to my favorite nun. I still do them at 71 years old.

JOSH EMMETT

## Proper grammar—

a lost art these days!

ELLIS ANDERSEN

Minneapolis, MN

Colgate, WI

Clawson, MI

## Stand upwind

when cleaning chalkboard erasers outside.

BRYAN KLEBBA

Berlin, PA

## Never buy lunch

at the cafeteria on meat loaf day.

DANA DATKO

Elkton, MD

Springfield, MO

## Statistics,

from my math teacher. It's great knowledge for poker!

NANCY CONLEY

## Not to let others define you.

My high school counselor said I wouldn't do well at a four-year university. Then I went on to make the dean's list every semester!

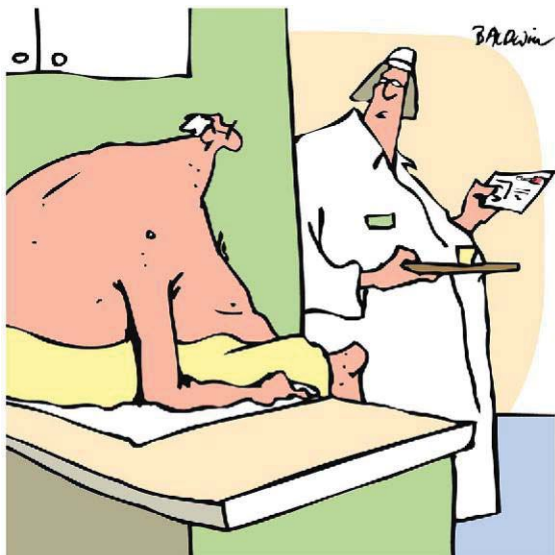
MELANIE SALAVA

RiverView, FL

Join our Inner Circle Community at [tmbinnercircle.com](http://tmbinnercircle.com) for the chance to finish the next sentence.

# Life

IN THESE UNITED STATES



*"It's a postcard from your doctor. He says he'll be right with you."*

**DURING A CLASS** about the effects of weather, my high school science teacher asked, "Does anyone know the first sense you lose when struck by lightning?"

A classmate put her hand up and answered, "Your sense of humor?"

Source: reddit.com

**AFTER A HEALTH SCARE**, I hugged my wife and whispered, "If something happens to me,

the presents in my closet are yours."

She whispered back, "If anything happens to you, *everything* in your closet is mine."

DEAN SIMPSON, *Guide Rock, Nebraska*

**SCENE:** Bar

**Me:** What's the Wi-Fi password?

**Bartender:** You need to buy a drink first.

**Me:** OK, I'll have a Coke.

**Bartender:** Three dollars.

**Me:** There you go. So what's the Wi-Fi password?

**Bartender:** "You need to buy a drink first." No spaces, all lowercase.

SYLVIA MCCLAIN, *Grand Prairie, Texas*

**HEADLINE** from the *Seattle Post-Intelligencer*: "Mom Warns Son to 'Watch Out for Idiots,' Rear-Ends His Motorcycle."

**ON THE WAY** to meet my husband at a restaurant, I realized that I didn't have my phone and immediately panicked. I needn't have worried. He saw my phone on the couch at home and brought it with him. When he arrived, I checked my texts. There was only one, and it was from him: "I'm on my way, and I have your phone."

MICHELLE STEINMETZ, *Ocala, Florida*



## REMEMBERING GRANDPA'S FOOD FIGHTS

Friday night was Swanson Fried Chicken TV Dinner Night, no exceptions. If Grandma wanted to go out for dinner, he would bring a TV dinner along and make the restaurant heat it up.

🐦@TTSO\_JAMES  
(JAMES KORSMO)

We were cleaning out his fridge, and he found a jar of tartar sauce with an expiration date of 1974 (this was in the late '90s). He scraped off all the mold/congealed stuff

from the top and announced, "Still good!" It's still in his fridge.

🐦@KA\_TREP (KIM)

My grandpa covertly followed my mother to the grocery store, walked behind her until she put pickles in the cart, and screamed, "We've got pickles at home!"

🐦@BANANAPEELE  
(ANNA PEELE)

My grandpa hated Budweiser, but he started buying it exclusively when my dad and his siblings were


in their late teens and 20s because they also hated Bud, and it meant there was beer in the fridge when he wanted one.

🐦@BRITTALIH (BRITT)

Grandpa would buy a bottle of Robitussin cough syrup, empty it, and then, without rinsing, fill the bottle with blackberry brandy. Said it tasted better that way. He tricked me into a sip 26 years ago, and I still can't drink brandy.

🐦@JHOOKWASTAKEN  
(JAY HOOK)

Got a funny story about friends or family? It could be worth \$\$\$.  
For details, see page 3 or go to [rd.com/submit](http://rd.com/submit).



**DON'T LET YOUR BLADDER**

**ALWAYS STOP YOU FROM**

**SEIZING THE MOMENT.**



URGENCY



FREQUENCY



LEAKAGE

Ask your doctor about Myrbetriq® (mirabegron), the first and only overactive bladder (OAB) treatment in its class.

In clinical trials, those taking Myrbetriq made fewer trips to the bathroom and had fewer leaks than those not taking Myrbetriq. Your results may vary.

**TAKE CONTROL OF YOUR OAB SYMPTOMS BY TALKING TO YOUR DOCTOR ABOUT MYRBETRIQ TODAY.**

#### **USE OF MYRBETRIQ (meer-BEH-trick)**

Myrbetriq® (mirabegron) is a prescription medicine for adults used to treat overactive bladder (OAB) with symptoms of urgency, frequency and leakage.

#### **IMPORTANT SAFETY INFORMATION**

Myrbetriq is not for everyone. Do not take Myrbetriq if you have an allergy to mirabegron or any ingredients in Myrbetriq. Myrbetriq may cause your blood pressure to increase or make your blood pressure worse if you have a history of high blood pressure. It is recommended that your doctor check your blood pressure while you are taking Myrbetriq. Myrbetriq may increase your chances of not being able to empty your bladder. Tell your doctor right away if you have trouble emptying your bladder or you have a weak urine stream.



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## IMPORTANT SAFETY INFORMATION (CONTINUED)

Myrbetriq may cause allergic reactions that may be serious. If you experience swelling of the face, lips, throat or tongue, with or without difficulty breathing, stop taking Myrbetriq and tell your doctor right away.

Tell your doctor about all the medicines you take including medications for overactive bladder or other medicines such as thioridazine (Mellaril™ and Mellaril-S™), flecainide (Tambocor®), propafenone (Rythmol®), digoxin (Lanoxin®) or solifenacin succinate (VESicare®). Myrbetriq may affect the way other medicines work, and other medicines may affect how Myrbetriq works.

Before taking Myrbetriq, tell your doctor if you have liver or kidney problems. The most common side effects of Myrbetriq include increased blood pressure, common cold symptoms (nasopharyngitis), dry mouth, flu symptoms, urinary tract infection, back pain, dizziness, joint pain, headache, constipation, sinus irritation, and inflammation of the bladder (cystitis).

**For further information, please talk to your healthcare professional and see Brief Summary of Prescribing Information for Myrbetriq® (mirabegron) on the following pages. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit [www.fda.gov/medwatch](http://www.fda.gov/medwatch) or call 1-800-FDA-1088.**

Like us on Facebook   
and visit [Myrbetriq.com](http://Myrbetriq.com)



**Myrbetriq®**  
(mirabegron)  
extended-release tablets  
25 mg, 50 mg



## **Myrbetriq® (mirabegron) extended-release tablets 25 mg, 50 mg**

### **Brief Summary based on FDA-approved patient labeling**

Read the Patient Information that comes with Myrbetriq® (mirabegron) before you start taking it and each time you get a refill. There may be new information. This summary does not take the place of talking with your doctor about your medical condition or treatment.

### **What is Myrbetriq (meer-BEH-trick)?**

Myrbetriq is a prescription medication for adults used to treat the following symptoms due to a condition called overactive bladder:

- Urge urinary incontinence: a strong need to urinate with leaking or wetting accidents
- Urgency: a strong need to urinate right away
- Frequency: urinating often

It is not known if Myrbetriq is safe and effective in children.

### **Who should not use Myrbetriq?**

**Do not** take Myrbetriq if you have an allergy to mirabegron or any of the ingredients in Myrbetriq. See the end of this summary for a complete list of ingredients in Myrbetriq.

### **What should I tell my doctor before taking Myrbetriq?**

**Before you take Myrbetriq, tell your doctor about all of your medical conditions, including if you:**

- have liver problems or kidney problems
- have very high uncontrolled blood pressure
- have trouble emptying your bladder or you have a weak urine stream
- are pregnant or plan to become pregnant. It is not known if Myrbetriq will harm your unborn baby. Talk to your doctor if you are pregnant or plan to become pregnant.
- are breastfeeding or plan to breastfeed. It is not known if Myrbetriq passes into your breast milk. Talk to your doctor about the best way to feed your baby if you take Myrbetriq.

**Tell your doctor about all the medicines you take**, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Myrbetriq may affect the way other medicines work, and other medicines may affect how Myrbetriq works.

Tell your doctor if you take:

- thioridazine (Mellaril™ or Mellaril-S™)
- flecainide (Tambacor®)
- propafenone (Rythmol®)
- digoxin (Lanoxin®)
- solifenacin succinate (VESIcare®)

### **How should I take Myrbetriq?**

- Take Myrbetriq exactly as your doctor tells you to take it.
- You should take 1 Myrbetriq tablet 1 time a day.
- You should take Myrbetriq with water and swallow the tablet whole.
- Do not chew, break, or crush the tablet.
- You can take Myrbetriq with or without food.
- If you miss a dose of Myrbetriq, begin taking Myrbetriq again the next day. Do not take 2 doses of Myrbetriq the same day.
- If you take too much Myrbetriq, call your doctor or go to the nearest hospital emergency room right away.

### **What are the possible side effects of Myrbetriq?**

Myrbetriq may cause serious side effects including:

- **increased blood pressure.** Myrbetriq may cause your blood pressure to increase or make your blood pressure worse if you have a history of high blood pressure. It is recommended that your doctor check your blood pressure while you are taking Myrbetriq.
- **inability to empty your bladder (urinary retention).** Myrbetriq may increase your chances of not being able to empty your bladder if you have bladder outlet obstruction or if you are taking

other medicines to treat overactive bladder. Tell your doctor right away if you are unable to empty your bladder.

- **angioedema.** Myrbetriq may cause an allergic reaction with swelling of the lips, face, tongue, throat with or without difficulty breathing. Stop using Myrbetriq and tell your doctor right away.

The most common side effects of Myrbetriq include:

• increased blood pressure	• dizziness
• common cold symptoms (nasopharyngitis)	• joint pain
• dry mouth	• headache
• flu symptoms	• constipation
• urinary tract infection	• sinus (sinus irritation)
• back pain	• inflammation of the bladder (cystitis)

Tell your doctor if you have any side effect that bothers you or that does not go away or if you have swelling of the face, lips, tongue, or throat, hives, skin rash or itching while taking Myrbetriq.

These are not all the possible side effects of Myrbetriq.

**Call your doctor for medical advice about side effects. You may report side effects to the FDA at 1-800-FDA-1088.**

#### **How should I store Myrbetriq?**

- Store Myrbetriq between 59°F to 86°F (15°C to 30°C). Keep the bottle closed.
- Safely throw away medicine that is out of date or no longer needed.

**Keep Myrbetriq and all medicines out of the reach of children.**

#### **General information about the safe and effective use of Myrbetriq**

Medicines are sometimes prescribed for purposes other than those listed in the Patient Information leaflet. Do not use Myrbetriq for a condition for which it was not prescribed. Do not give Myrbetriq to other people, even if they have the same symptoms you have. It may harm them.

You can ask your doctor or pharmacist for information about Myrbetriq that is written for health professionals.

For more information, visit [www.Myrbetriq.com](http://www.Myrbetriq.com) or call (800) 727-7003.

#### **What are the ingredients in Myrbetriq?**

**Active ingredient:** mirabegron

**Inactive ingredients:** polyethylene oxide, polyethylene glycol, hydroxypropyl cellulose, butylated hydroxytoluene, magnesium stearate, hypromellose, yellow ferric oxide and red ferric oxide (25 mg Myrbetriq tablet only).

#### **What is overactive bladder?**

Overactive bladder occurs when you cannot control your bladder contractions. When these muscle contractions happen too often or cannot be controlled, you can get symptoms of overactive bladder, which are urinary frequency, urinary urgency, and urinary incontinence (leakage).

Marketed and Distributed by:

**Astellas Pharma US, Inc.**

Northbrook, Illinois 60062



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Revised: April 2018

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*SWEET RAISINS*

*CRUNCHY BRAN FLAKES*

***PLOT TWIST***  
*WE ADDED BANANA SLICES*



# ART *of* LIVING

Crayons, sneakers, wine corks—even one man's tool collection—can be put to good use in the right hands

## Recycle... Anything!

BY JEN MCCAFFERY





*Dave Merry among his old friends at the St. Paul Tool Library in Minnesota*

raised three children. The table saw, the jointer plane, the drill press, and the dozens of other power and hand tools had pride of place in his meticulously

DAVE MERRY and his tools have been through a lot together. When he was 19, he built a model airplane with a real working engine that won first prize at the South Dakota State Fair. That was an especially sweet moment. Dave's big brother, George Merry, who'd helped him build his first plane and taught him everything about tools, had died by suicide four years before. George was only 21. Maintaining the connection to his tools was a way for Dave to keep his brother's memory alive.

And the tools built new memories too. They helped Dave, now 80, renovate and repair his home in St. Paul, Minnesota, where he and his wife, Annette Merry, lived for 46 years and

organized workshop. "I had a whole setup, and it was beautiful," says Dave, a retired technical writer, test engineer, and minister.

“

*The founders thought it would take a year to collect enough tools. It took one day.*

But then Annette experienced a bout of seizures that left her relying on a walker to get around, and the Merrys decided to move into assisted living. Dave's workshop was obviously a minor consideration given Annette's condition, but the family knew that giving it up, on top of everything else, would hurt.

"My parents lost so much that we really didn't know how to help him lose this, too," their daughter, Sharon MacFarlane, told KARE 11.

It was the Merrys' pastor who came up with a possible solution.


He'd heard about some people who were setting up a tool library—a nonprofit facility that would lend out tools just as a regular library lends books. Might Dave be interested in donating his?

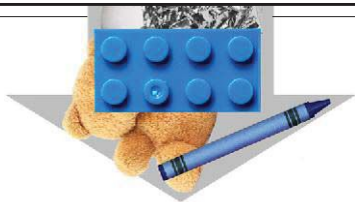
"I said yes," Dave says.

The people creating the St. Paul Tool Library were thrilled. They had expected it would take a year to collect enough tools to make their facility fully functional. Instead it took one day: the day Dave donated his. The library's founders drove over to the Merrys' house and picked everything up themselves.

The library is housed in the basement of the long-shuttered American Can Factory. Members pay an annual fee (from \$20 to \$120) for unlimited tool use and a varying number of visits to the workshop. And they get an extra benefit: Dave Merry.

"Almost every time we're open, Dave's here," says one of the founders, Peter Hoh. Dave comes as often as he can to offer his expertise to aspiring woodworkers, space-challenged DIYers, and anyone else needing a place to work on a project. "It means a lot to me to be able to go and use my tools," he says. "But it means just as much to help somebody else use the tools properly."

As Hoh puts it, "This is his workshop now." 



## 10 More Surprising Things You Can Recycle

BY MARISSA LALIBERTE

### ■ ALUMINUM FOIL

Aluminum is very easily recycled. When you drop a can into your recycling bin today, it can be back in your pantry as part of a new can in 60 days, reports the Aluminum Association. Unfortunately, we throw away enough foil each year to build a fleet of aircraft. Many cities recycle foil right alongside cans. Just wash it, crumple it into a ball, and drop it into your bin. Better yet, use it for your next leftovers.

### ■ ATHLETIC SHOES

Donate your run-down kicks to a homeless shelter, to a school program, or to [oneworldrunning.com](http://oneworldrunning.com), which will pass them along to needy athletes around the world. If yours are really wrecked, get them to Nike's Reuse-a-Shoe program, which will turn them into running tracks, turf fields, gym floors, and playground surfaces. Just drop off beat-up sneakers (any brand) at a Nike store.

### ■ BATTERIES

Batteries are made from metals such as lithium and cadmium, which can pollute soil and water and harm wildlife (and humans). Rechargeable

batteries are especially hazardous. To find a drop-off location near you, call 800-RECYCLING or visit [recyclenation.com](http://recyclenation.com).

### ■ COMPACT FLUORESCENT BULBS

You should never throw these light bulbs into the trash. Broken bulbs contain potentially toxic levels of mercury, which can seep into the ground and contaminate the water supply. Fortunately, compact fluorescent bulbs can last for years. When they burn out, you can recycle them at Home Depot, IKEA, Lowe's, and some local hardware stores.

### ■ CRAYONS

You can send broken and stubby crayons to the National Crayon Recycle Program, where they will be melted down into new ones. Leave the wrappers on, if possible (otherwise, it's hard to tell black from blue from purple). Learn more at [crazycrayons.com](http://crazycrayons.com).

### ■ INK AND TONER CARTRIDGES

Used printer cartridges will take more than 1,000 years to decompose in a landfill, according to [tonerrecycle.net](http://tonerrecycle.net). Too bad that's where up to 80 percent of them wind up. Some can be refilled; look on the package to see. If not, you can recycle them at Best Buy, Office Depot, and Staples. Or you can mail them to [tonerrecycle.net](http://tonerrecycle.net); for instructions, click on Get Started Now.

### ■ PAINT

Don't dump cans with paint left in them—the contents could be toxic. You might donate your leftovers; start with your local community theater or school drama programs. Water-based paint can be recycled and turned into

new paint. Check [earth911.com](http://earth911.com) for a program near you, or ask at your local hardware store or paint store.

### ■ TOYS

Project Smile ([projectsmile.org](http://projectsmile.org)) and Stuffed Animals for Emergencies ([stuffedanimalsforemergencies.org](http://stuffedanimalsforemergencies.org)) give donated toys to children in traumatic or emergency situations. Project Night Night ([projectnightnight.org](http://projectnightnight.org)) tucks them into care packages for homeless youngsters. Second Chance Toys ([secondchancetoys.org](http://secondchancetoys.org)) keeps still-working plastic toys out of landfills by giving them to children in need.

### ■ TVS

Thrift stores generally don't want TVs, as the old dinosaurs won't sell. Environmental laws block TVs from landfills; they must be deconstructed at special facilities. You can drop off small sets at Office Depot stores, and if Best Buy delivers your new TV, it will recycle your old one for a \$14.99 fee.

### ■ WINE CORKS

Most corks are made from the bark tissue of woody plants, so you can toss them into a compost bin. If you have a lot, you can send them to Yemm & Hart, a company that turns old corks into new floor tiles and other items. It'll even pay you a nominal fee (50 cents per pound, or about half a cent per cork). Note: They only accept boxes that weigh at least 15 pounds—that's about 1,500 corks.

Unsure whether something can be recycled? Check [recyclenation.com](http://recyclenation.com) (800-RECYCLING), [earth911.com](http://earth911.com) (800-CLEANUP), or [epa.gov/recycle](http://epa.gov/recycle). **R**



# Portable Oxygen For The Way You Want to Live



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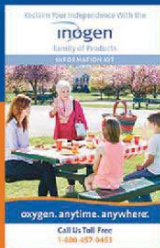
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If you lack lung power, these drills (used for chronic obstructive pulmonary disease patients) can help

## 3 Exercises To Make Breathing Easier

BY ASHLEY LEWIS



### USE YOUR DIAPHRAGM

Your diaphragm is the muscle that controls breathing, and because it is located right above your abdomen, you can strengthen them together. Lie on your back with your knees bent, keeping one hand on your stomach and the other on your chest. Inhale deeply, slowly pulling the air into your abdomen. (The hand on your belly should rise higher than the hand on your chest as you inhale.) Exhale through your mouth. Try to wait seven seconds before inhaling again.

### IMAGINE YOU ARE ROWING A BOAT

This exercise strengthens the upper back muscles and opens your chest cavity, allowing for full lung volume. Sit on the floor with your legs in front of you, knees slightly bent. Loop a resistance band (available at most sporting-goods stores) around the bottoms of your feet and crisscross it in front of you in an X. Holding an end in each hand, extend your arms, then pull backward until your hands meet your chest. Repeat at least six times three days a week.

### WALK FOR 20 MINUTES

Walking doesn't just get your heart pumping and work your leg muscles—it also builds up the area around your lungs to help them function better. To get the most out of your stroll, stand straight, with your head up and your shoulders back, and maintain a heel-to-toe stride. These tiny tweaks prevent your rib cage from compressing, allowing your lungs to fully expand. Incorporate deep breathing to increase your air intake. Work up to walking three or four days a week.





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\*Fingersticks are required for treatment decisions when you see Check Blood Glucose symbol, when symptoms do not match system readings, when you suspect readings may be inaccurate, or when you experience symptoms that may be due to high or low blood glucose.

REFERENCES: 1. FreeStyle Libre User's Manual. 2. Data on File. Abbott Diabetes Care.

### INDICATIONS AND IMPORTANT SAFETY INFORMATION

The FreeStyle Libre Flash Glucose Monitoring system is a continuous glucose monitoring (CGM) device indicated for replacing blood glucose testing and detecting trends and tracking patterns aiding in the detection of episodes of hyperglycemia and hypoglycemia, facilitating both acute and long-term therapy adjustments in persons (age 18 and older) with diabetes. The system is intended for single patient use and requires a prescription.

**CONTRAINDICATIONS:** Remove the sensor before MRI, CT scan, X-ray, or diathermy treatment.

**WARNINGS/LIMITATIONS:** Do not ignore symptoms that may be due to low or high blood glucose, hypoglycemic unawareness, or dehydration. Check sensor glucose readings with a blood glucose meter when Check Blood Glucose symbol appears, when symptoms do not match system readings, or when readings are suspected to be inaccurate. The FreeStyle Libre system does not have alarms unless the sensor is scanned, and the system contains small parts that may be dangerous if swallowed. The FreeStyle Libre system is not approved for pregnant women, persons on dialysis, or critically-ill population. Sensor placement is not approved for sites other than the back of the arm and standard precautions for transmission of blood borne pathogens should be taken. The built-in blood glucose meter is not for use on dehydrated, hypotensive, in shock, hyperglycemic-hyperosmolar state, with or without ketosis, neonates, critically-ill patients, or for diagnosis or screening of diabetes. Review all product information before use or contact Abbott Toll Free (855-632-8658) or visit [www.freestylelibre.us](http://www.freestylelibre.us) for detailed indications for use and safety information. FreeStyle, Libre, and related brand marks are trademarks of Abbott Diabetes Care Inc. in various jurisdictions. Other trademarks are the property of their respective owners. The product images are for illustrative purposes only.



Her distinctive nose cast a shadow on her confidence until wisdom intervened

## Love and the Gift of Acceptance

BY PATRICIA GARCIA FROM VOGUE.COM

☞ I'M SCANNING old photographs, trying to figure out the exact moment when my nose, the exaggeratedly pointy, slightly asymmetrical bane of my existence, first sprouted.

It's summer vacation after seventh grade, and I'm at a zoo with my family. We're hiding in the shade when we spot a group of flamingos standing around a pond. "Hey, look!" my brother shouts at me while pointing at the pink crowd. "Your real family!" I glance down at my skinny knees before figuring out he thinks our

resemblance lies elsewhere. My parents ask me to stand in front of my newfound relatives and direct me to bend my legs into a similar pose. "Now turn your face to the side," my mom says. *Click.*

I'm 14. I'm having a Caesar salad and iced tea for lunch at my aunt's house. "Why don't you have a boyfriend yet?" she asks, as if this were a choice of mine. "We were talking about you the other day and saying how pretty you are, Patricia," she tells me in between sips of her iced tea.

"But we all agreed that if you just took off a little bit of length from that nose, you could be beautiful."

It's 2005 and the performer Ashlee Simpson has just gotten a fantastic nose job. I look at her before-and-after pictures, and I'm convinced I need to get one for myself. During a phone call with my mom, I tell her I'm determined to fix my nose. "I thought you had grown out of this by now," she says, disapproval in her voice. When we still lived under the same roof, I would beg her to take me to see a doctor. My mother—who barely uses makeup, has a naturally straight smile, and has never bought an antiaging cream in her life—would laugh and tell me there was an easier way to fix my predicament. "If you believe you're beautiful, people will see you that way," she would say—as if it were that simple, as if it were magic.

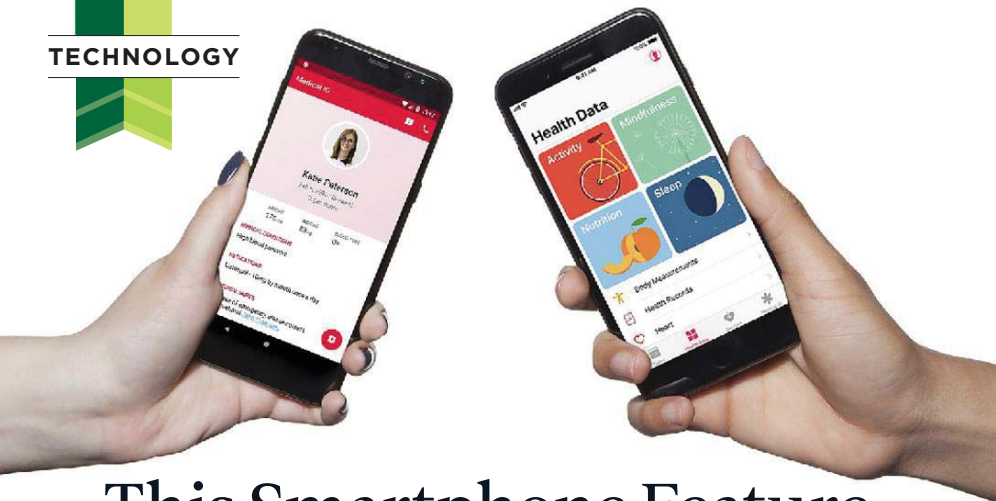
I must have worn her down because she finally agrees to book me an appointment. A man in a white coat with a tersely smooth face and an unnatural hue of dark hair is shoving a magnifying lens up my nostrils. "Do you have difficulty breathing?" he asks. "Because you have quite the deviated septum." He prods and turns my head up and down and from one side to another with his gloved hands. The nurse takes a photo of my face looking straight ahead; another one in profile, my least favorite angle. The doctor asks my mother and me to join

him in his office, where he downloads the images and begins to play around with my nose's appearance: slimming it down, pinching the tip, erasing a bump I had failed to notice before. "You have a very nice, thin nose," he says, even though he's deleting every trace of it in front of me. "The problem is that it's too big, so we have to work a lot on bringing it down to a better size." He puts the mouse down, finally, and shows me his finished work. I balk. I've seen that nose before on so many other people. I hate it. I hate the person looking back at me on that screen. I want to get out of that office as quickly as possible. We thank the doctor for his time and make excuses to get out of scheduling a follow-up appointment. We exit the building, and I never mention a nose job again. I realize this was my mother's plan all along.

I'm 23 and dating a guy with a perfect nose. He's a photographer, and he likes to take my picture when I'm caught off guard. One night he shows up at my apartment and snaps a photo as I'm opening the front door. "I love this and I love you," he writes in an e-mail with the photo attached. In it, I'm smiling with my face turned to the side, and the light of the flash has settled entirely on my protruding beak. I put it up as my profile pic on Facebook. "*Bella!*" my aunt writes in the comments.

I marry the photographer.

**R**



# This Smartphone Feature Could Save Your Life

BY JULIANA LABIANCA

**IT HAPPENS TOO OFTEN:** An unresponsive patient arrives at the emergency room, and doctors don't know the person's name or medical history or how to contact the next of kin. The person's phone—which could provide at least some of that information—is password protected.

But there's a simple solution, and it's woefully underused. It's called Medical ID, and it's a free smartphone feature (or app, depending on the phone) that allows first responders to access your emergency contacts and medical information without having your passcode. Once you set it up, all they have to do is tap Emergency (or In Case of Emergency) on your phone's locked home screen or passcode-prompt screen.

**IF YOU USE AN IPHONE:** Locate the built-in Health app—it's the one with the pink heart on a white background. Tap Medical ID, then tap Create Medical ID and fill in your information. If you have no allergies and take no medications, enter "none known" or "none" so first responders won't wonder whether you skipped the question. Then tap Done.

**IF YOU USE AN ANDROID:** Some phones may come with their own Medical ID feature; check your user manual. If yours doesn't, download the Medical ID (Free) app. Its icon has a bright red star on a white background. Open the app, and you'll see a profile for "John Doe." Tap Edit and answer each question. When you're done, tap the check mark. **R**

ANDROID: COURTESY MEDICAL ID APP; IPHONE: COURTESY APPLE

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- ✓ A dry, non-productive cough
- ✓ Persistent hacking or chronic pain in the lung or chest area
- ✓ Chronic shortness of breath
- ✓ Sudden weight loss
- ✓ Fever
- ✓ Fatigue
- ✓ Hoarseness or coughing up blood

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# World of Medicine

## Strong Handgrip, Healthy Brain

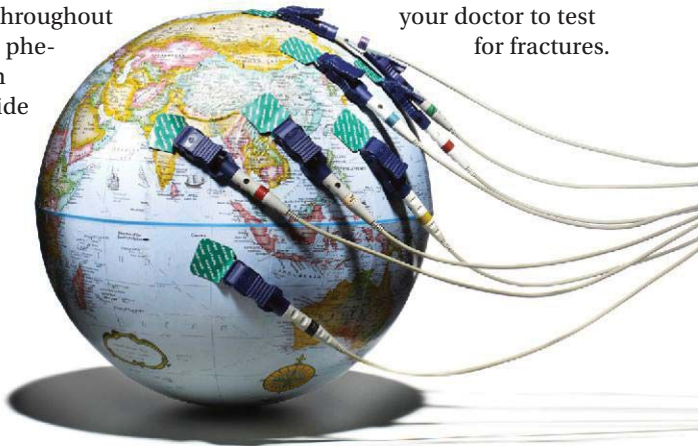
A study of nearly half a million people ages 37 to 73 in the United Kingdom found that those with a stronger handgrip performed better on tests of reaction speed, logic, and memory. The researchers even found a connection between handgrip (a measure of muscular strength) and better brain health in people suffering from schizophrenia, which interferes with normal brain function.

## Obesity Kills Taste Buds

A new Cornell University study found that obese mice had 25 percent fewer taste buds than did lean mice, a result of the chronic inflammation that obesity triggers throughout the body. If the same phenomenon happens in people, it could provide one explanation for obesity: A weakened sense of taste causes people to add more sugar and fat to their foods to intensify flavor—which, in a vicious cycle, packs on even more pounds.

## Back Pain Could Stem from Undetected Fractures

Tiny spinal fractures caused by osteoporosis often evade discovery, according to a recent study published in the *Journal of Bone and Mineral Research*. Nearly 4,400 older men were followed for more than four and a half years, during which time 28 were diagnosed with fractures in their spines. X-rays revealed that another 169 had breaks that had gone undetected. The majority of the men with fractures—diagnosed or not—reported aching backs. Past studies have found an even higher spinal-fracture rate among older women. If you have a backache that has lasted longer than six weeks, ask your doctor to test for fractures.





## Aspirin's Bleeding Risk

An Oxford University study of patients taking antiplatelet blood thinners (such as low-dose aspirin) to prevent a heart attack or a stroke found that patients over age 75 suffered from the side effect of disabling or fatal bleeding three times more often than did patients under 75. However, previous studies have shown that taking a prescription heartburn medication known as a proton pump inhibitor (PPI) can cut the risk of upper gastrointestinal bleeds by 70 to 90 percent in patients receiving antiplatelet drugs long-term. People over 75 who have been prescribed aspirin or another antiplatelet

medication should talk to their doctor about taking a PPI along with it.

## Maternal Deaths Higher With Weekend Deliveries

Researchers at the Baylor College of Medicine analyzed more than 45 million pregnancies in the United States between 2004 and 2014. They confirmed a much higher rate of maternal deaths during weekend deliveries than weekday deliveries. The lead study author speculated that on the weekend, "care of the pregnant patient may not be the primary concern of some treating physicians, who may find it a distraction from office, surgery, or personal activities." **R**

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Debbie Ocean (Sandra Bullock) recruits a crew of specialists to plan and execute a heist in New York.

**PG-13**

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ALL IN

# A Day's Work



**AN UTTERLY CONFUSED** woman called our local fire station about getting a haircut.

"I'm sorry, you have the wrong number," I said.

"Is this the salon near the fire station?" she asked.

"No, this is the fire station."

"Oh! Are you cutting hair in there now?" **KAREN STRAND**, *Lacey, Washington*

**"YESTERDAY WAS** my 18th birthday!" a customer said after walking into our convenience store. He then asked for some e-cigarette products and handed me his ID to prove he

was indeed of age. I scanned the ID, but it came back expired. Now thoroughly deflated, he asked, “Does that mean I’m not 18?”

DAVID HANSEN, *Des Moines, Iowa*

**A CUSTOMER** walked into the post office wanting to mail a package. “Two-day shipping will cost \$12.95 to get it there by Friday,” my coworker Billy told her.

The customer, clearly looking to save a few bucks, said, “The package doesn’t have to get there till Saturday. Is there any way to make that happen?”

Billy nodded. “Sure. You can bring it back tomorrow.”

DAVID CUTCHER, *Royal Palm Beach, Florida*

**SWIMMING COACHES** share the most infuriating excuses they’ve heard for missing practice:

■ “I had a swimmer tell me he missed practice because of bad dreams.”

■ “The swimmer was too full from the trip we coaches took them on to the Cheesecake Factory.”

■ “‘Sorry I couldn’t make practice. I had to break up with my girlfriend on Skype.’”

■ “I had a swimmer, in the middle of winter, wipe out on his bike on his way to early-morning practice because it was too slippery. When I asked why he rode his bike in the snow, he admitted it was to hopefully wipe out and not be able to practice.”

Source: *Swimming World*

**TEACHING IS NOT** for sensitive souls. While reviewing future, past, and present tenses with my English class, I posed this question: “‘I am beautiful’ is what tense?”

One student raised her hand. “Past tense.”

REEMA RAHAT, in *Reader’s Digest International Edition*

## NEWSPAPER CORRECTIONS THAT’S ENTERTAINMENT EDITION

“This story has been corrected to show that John Brown, not James Brown, led the raid on Harpers Ferry.”

Associated Press

“A television review on Friday about a new Amazon series, *Goliath*, included an inaccurate discussion of the show’s plot structure. The critic mistakenly watched the first two episodes out of order.”

*New York Times*

“A story in Friday’s *Journal Sentinel* on Jerry Kramer being nominated for the Pro Football Hall of Fame incorrectly named Ringo Starr as a center for the Packers instead of Jim Ringo.”

*Milwaukee Journal Sentinel*

Anything funny happen to you at work lately? It could be worth \$\$\$\$. For details, see page 3 or go to [rd.com/submit](http://rd.com/submit).

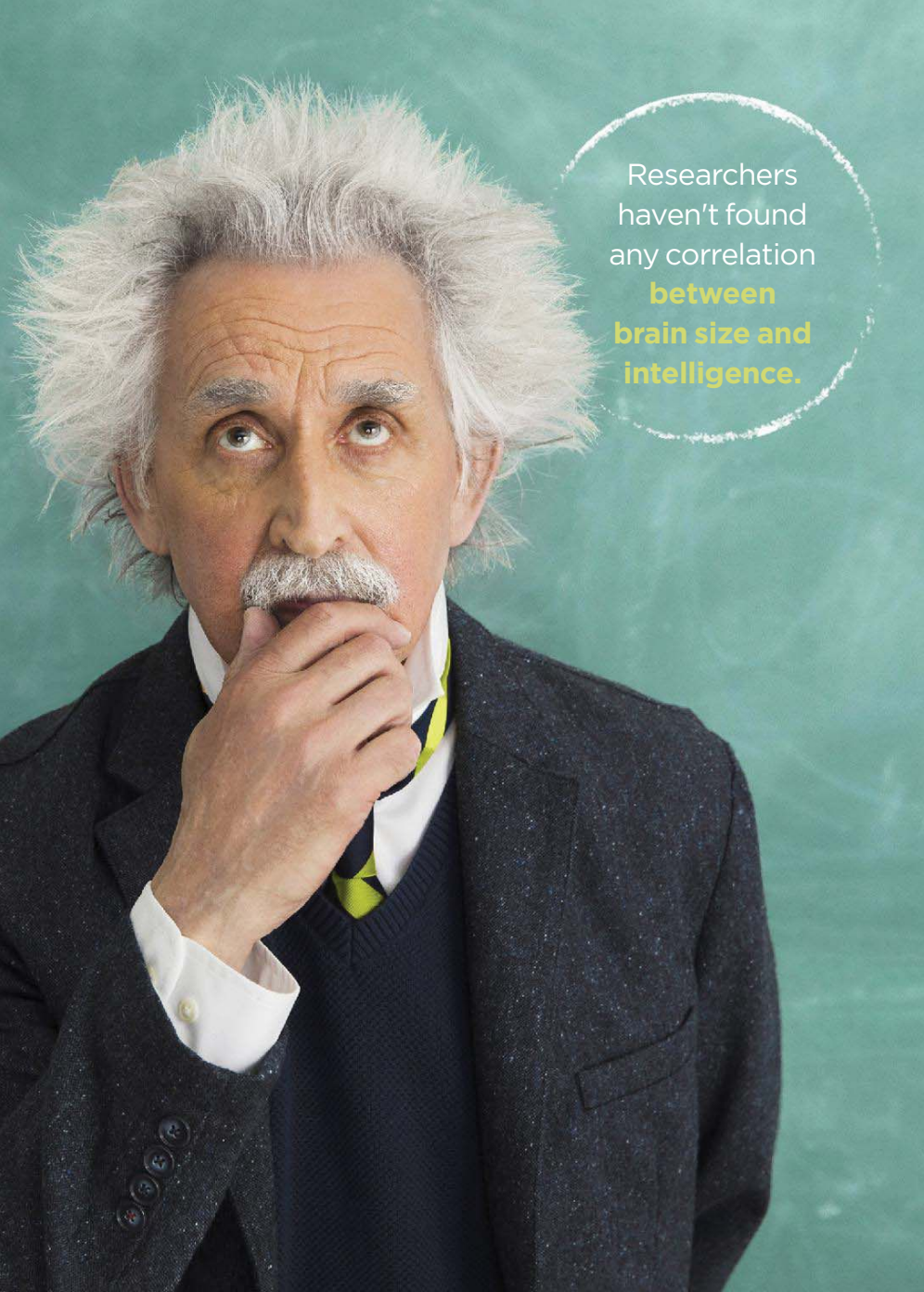
THE  
GENIUS  
ISSUE

# 50 WAYS TO GET SMARTER ABOUT YOUR BRAIN

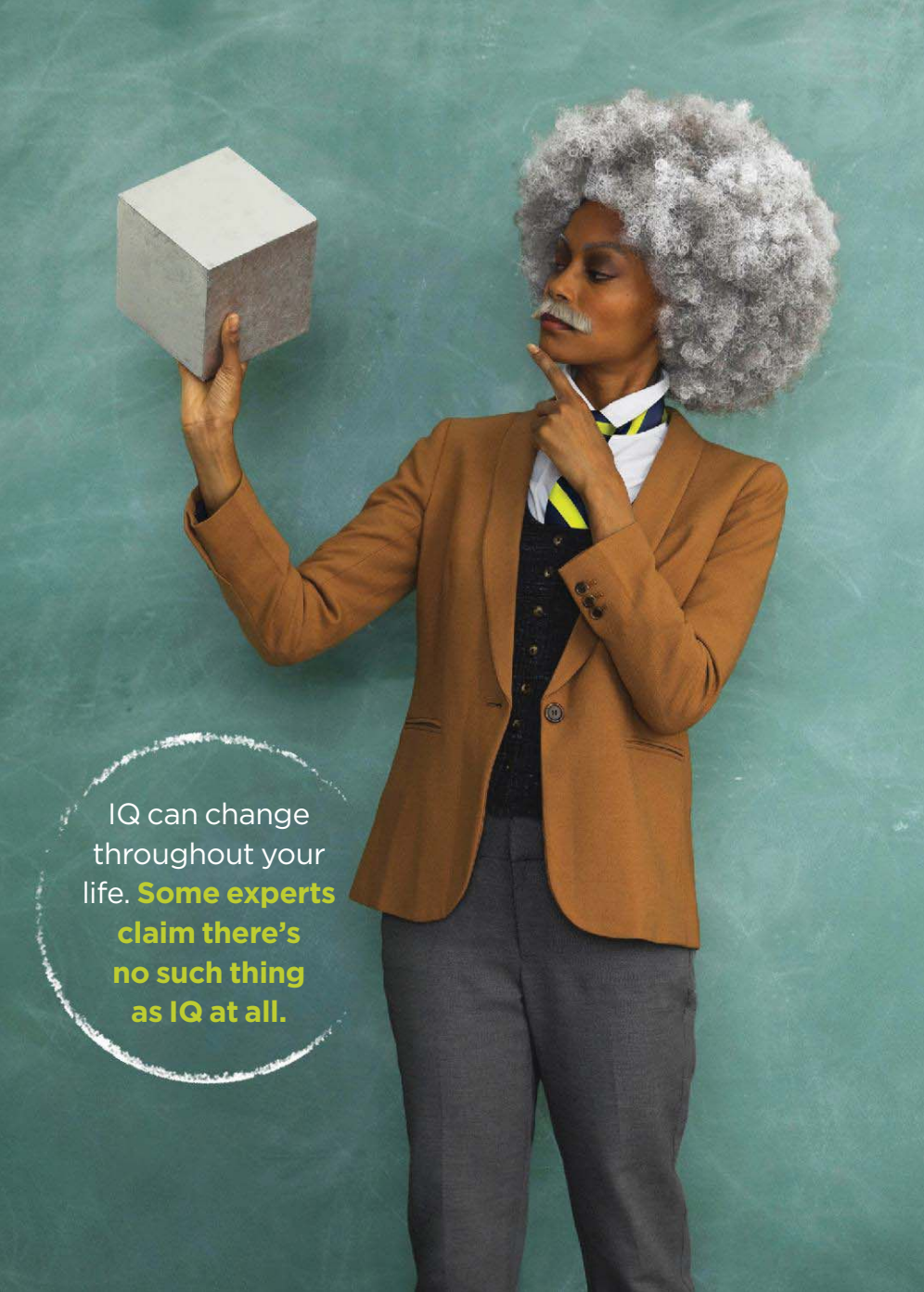
As scientists probe the mysteries inside our heads, their discoveries are providing new insights into how we can all sharpen our mental machinery

BY TINA DONVITO AND JENN SINRICH

PHOTOGRAPHS BY RUSS AND REYN



Researchers  
haven't found  
any correlation  
**between**  
**brain size and**  
**intelligence.**

A woman with a large, voluminous grey afro wig and a thin white mustache is the central figure. She is dressed in a brown blazer over a dark vest, a white collared shirt, and a yellow and blue striped tie. She holds a large, light-colored concrete block in her right hand, balanced on its edge. Her left hand is raised to her chin in a thoughtful gesture. The background is a green chalkboard with faint white chalk marks. In the bottom left corner, a white chalk circle contains text.

IQ can change  
throughout your  
life. **Some experts  
claim there's  
no such thing  
as IQ at all.**

## THE BASICS

### ● YOUR BRAIN IS FAT

In fact, your brain is the fattiest organ in your body, consisting of a minimum of 60 percent fat. That's why a good balance of omega-3 and omega-6 fatty acids is vital for brain and overall body health. "Fat stabilizes the cell walls in the brain and carries, absorbs, and stores fat-soluble vitamins in your bloodstream," explains Brandon Brock, DCM, a chiropractic neurologist and the medical director of Innovative Health and Wellness in Dallas. "It also reduces inflammation and helps the immune system function properly."

### ● WE CAN GET SMARTER AS WE GET OLDER

Rawan Tarawneh, MD, an assistant professor of neurology in the division of cognitive neurology at the Ohio State University, points out that although some mental processes decline as we age, not all do. "Some of our brain functions—such as short-term memory, processing speed, and visuospatial functions—show some decline with healthy aging," she says. "On the other hand, language functions tend to remain well preserved as we get older." In fact, research from Harvard University and the Massachusetts Institute of Technology shows that arithmetic skills don't peak until age 50, and vocabulary and cumulative intelligence (all the facts and knowledge we've acquired) peak even later, into our early 70s.

### ● BIGGER ISN'T NECESSARILY BETTER

Comparing the brains of great thinkers, writers, and mathematicians posthumously hasn't yielded conclusive evidence that the size of the brain has a correlation to intelligence.

### ● IQ CAN GO UP—OR DOWN

Although the origins of intelligence are still being researched, it does seem clear that your IQ, or intelligence quotient, can change throughout your life. In fact, some experts argue that there's no such thing as IQ at all. Instead, experiences and learning, as well as the testing itself, can change over time.

### ● INTELLIGENCE MIGHT START WITH IGNORING DISTRACTIONS

A study from the University of Rochester found that people with higher IQs were better at detecting the movements of small objects on a screen but worse at detecting movements of larger background objects. This may be because in nature, large movements such as the wind in the trees are irrelevant, but the harder-to-see animal that's about to pounce is essential. In our info-laden modern world, the ability to focus only on what's important might give some people an edge.

### ● THE BRAIN CAN ADAPT

In the same way that someone who loses both hands can learn to pick things up with his or her toes, the brain can "recruit" different parts of itself to compensate for damaged areas when needed, a phenomenon

known as brain plasticity. For example, experiments have shown that people who were born blind use the visual parts of their brains for tasks other than seeing.

### ● **A GROWN-UP BODY DOESN'T ALWAYS HOUSE A MATURE MIND**

The prefrontal cortex is responsible for higher-order thinking: judgment, problem solving, decision making, complex planning, and impulse control, Dr. Tarawneh says. But that part of the brain isn't fully developed until around age 25.

## STRANGE BUT TRUE

### ● **THE BRAIN DEVELOPS BACKWARD**

The brain is built from the bottom up, with simpler neural connections forming first. It also matures from the back of the head to the front, with the prefrontal cortex the last to finish developing. In the first few years of life, more than one million new neural connections form every second.

### ● **OUR BRAINS ARE SHRINKING**

Paleoanthropological research proves our brains are about 10 percent smaller than those of Cro-Magnons, who lived 20,000 to 30,000 years ago. Scientists aren't entirely sure why. One theory is that smaller brains are more efficient.

### ● **THE BRAIN FEELS NO PAIN ...**

Ever wonder how brain surgeons are able to perform surgeries on patients who are awake? Even though the

brain contains layers of coverings and blood vessels that have pain receptors, the brain itself has zero, says Beth McQuiston, MD, a neurologist and a medical director at Abbott Laboratories in Abbott Park, Illinois. Patients may still be given a nerve block and/or a local anesthetic during surgery to protect the surrounding tissue from pain.

### ● **... AND IT'S GREEDY**

Your brain may account for only about 2 percent of your body weight, but it uses approximately 20 percent of your body's oxygen and calorie intake.

### ● **TRUE LOVE LIGHTS YOU UP**

Being in love isn't an abstract emotion. Your brain knows when it's happening. "In people who are romantically in love, functional MRI brain scans can show activity where dopamine, the 'feel-good' neurotransmitter, is present," says Dr. McQuiston.

### ● **YOU CAN—AND SHOULD—TRAIN YOURSELF TO BE HAPPY**

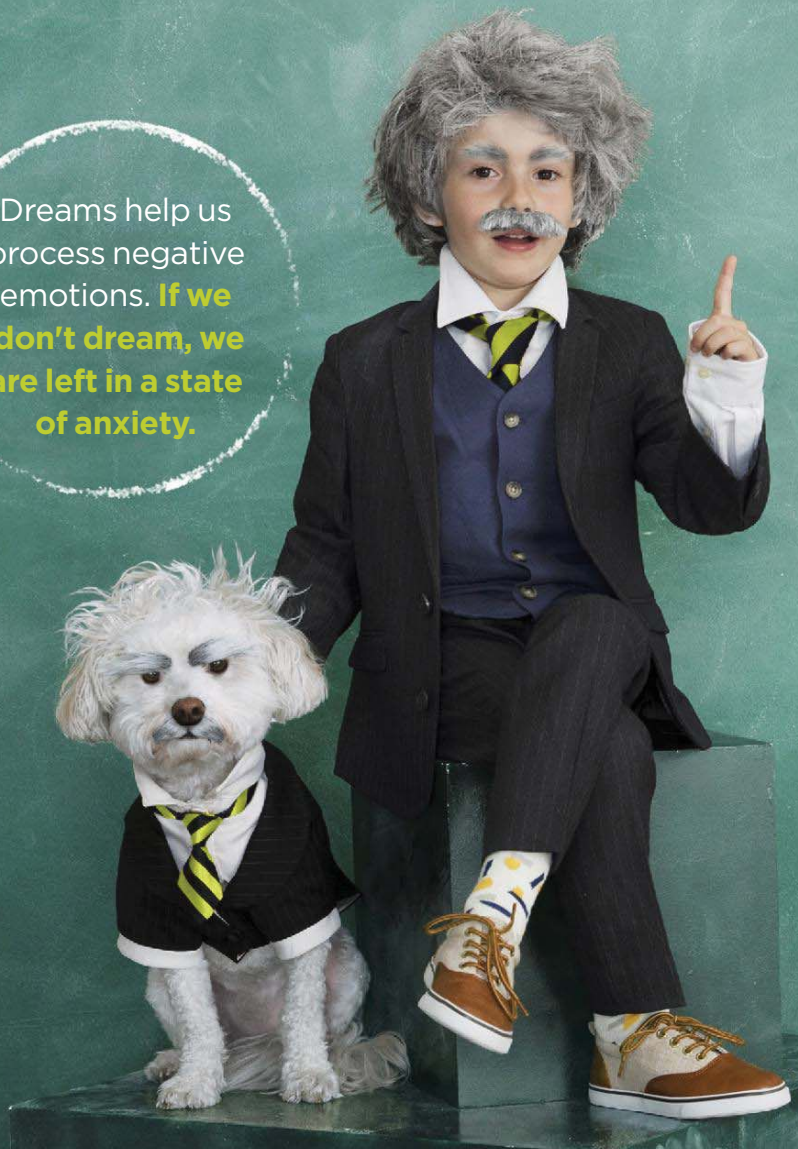
Our brains are predisposed to see the glass as half-empty. This "negativity bias" might have helped our ancestors recognize threats to their survival. But in today's world, our brains benefit from a more positive outlook. In a small study, participants who practiced being mindful about positive experiences increased the amount of gray matter they had in the brain regions involved in learning, memory, and emotion regulation.

### ● **YOU AND YOUR BESTIES MIGHT BE ON THE SAME WAVELENGTH**

Scientists who scanned a group of



Dreams help us process negative emotions. **If we don't dream, we are left in a state of anxiety.**



## CORRECTING 5 BIG BRAIN MYTHS

### **1 You use way more than 10 percent of your brain.**

When it comes to commonly repeated misconceptions, the idea that you use only 10 percent of your brain is right up there. In fact, says Dr. Tarawneh, “while brain regions are not necessarily all active at the same time, all brain regions are used to some extent over the day, depending on what we are doing.”

### **2 You've got more than five senses.**

Beyond the big five (vision, hearing, smell, touch, and taste), there are several other ways we perceive the world, neurologists say. One is equilibrium, or balance, which is regulated by the vestibular system in the inner ear. Another is proprioception, the sense of where our bodies are in space, which keeps us from bumping into things. Others include our sense of pain, our sense of temperature, and our sense of time. There are also internal

senses, which tell us when we're hungry or thirsty or when we have to go to the bathroom.

### **3 Amnesia doesn't cause you to forget who you are.**

Instead of losing their self-identity, amnesiacs actually lose the ability to recall the past (which is known as retrograde amnesia) or the ability to learn new information (anterograde amnesia). A study from the United Kingdom found that amnesiacs may also have problems imagining scenarios for the future (such as whether they would enjoy a party) because these are often based on past experiences.

### **4 There's no such thing as a “left-” or “right-brained” person.**

The myth of having a dominant brain hemisphere may have come from experiments performed in the 1960s on people who'd had the connections between the two

halves of their brains severed (which at the time was a treatment for severe epilepsy). But most of our brains aren't split in two, so the halves function as a unit. Each half may perform separate functions within a task—for instance, our ability to express and understand language happens in the left hemisphere, but other aspects of language processing, such as intonation, rhythm, and stress of words, occur in the right. For you to carry out most tasks successfully, the two hemispheres of your brain need to interact.

### **5 Helmets don't prevent concussions.**

According to the Weill Cornell Concussion and Brain Injury Clinic, a helmet doesn't stop the brain from banging around inside your skull, which is the cause of a concussion. So what is the point of wearing one? Helmets prevent skull fractures, which can also injure your brain.

graduate students found that the brains of close friends responded in remarkably similar ways as they viewed a series of short videos: the same ebbs and swells of attention and distraction, the same peaking of reward processing, and the same telltale signs of boredom.

#### ● **MUSICIANS CAN MIND-MELD TOO**

There's a scientific reason why the musicians in your favorite bands blend harmoniously. A team of scientists at the Max Planck Institute for Human Development in Berlin used electrodes to record the brain waves of 16 pairs of guitarists as they played the same musical sequence. Even though the two individuals in each pair played different parts, their brain waves synchronized. "This study suggests that there's a neural blueprint for coordinating actions with others," explains Dr. Brock.

#### ● **THINKING IS POWERFUL—LITERALLY**

"Neurons in the brain make enough electricity each day to run a light bulb [about 20 watts]," Dr. Brock reports.

#### ● **YOU ARE MORE EFFICIENT THAN A COMPUTER**

A robot with a processor that's as intelligent as the human brain would require at least ten megawatts to operate—about 500,000 times the amount of energy the human brain needs. And the brain works faster than the world's greatest computer. "The information going to your brain from your arms and legs travels at 150 miles per hour," says Dr. Brock.

#### ● **"BRAIN FREEZE" IS REALLY A THING ...**

When your brain senses a drop of temperature on your palate, it leaps to action. "Your brain quickly increases blood pressure in an effort to tell you to slow down to prevent unwanted changes due to temperature," says Dr. Brock. It's that increased pressure that can make you feel momentarily uncomfortable.

#### ● **... AND SO IS INTUITION**

When you think you have a "gut feeling," are you just imagining it? Turns out, there's something to it. According to research, hunches are the result of our brains' receiving and processing information so fast that our conscious minds don't even realize it.

#### ● **SOME MENTAL DISORDERS MAY HAVE THE SAME CAUSE**

In a study that reviewed the brain scans of nearly 16,000 people, researchers at Stanford University School of Medicine found a pattern among psychiatric conditions—including schizophrenia, depression, and addiction—that previously had been considered very different. Patients with those illnesses all had less gray matter than healthy individuals in the same three brain structures. What's more, the affected parts of their brains are all associated with higher-level executive functions such as planning, decision making, and resisting counterproductive impulses. Researchers are now exploring the possibility that these disorders could have similar causes—and treatments.

## ● BRAIN HEALTH MAY START IN THE GUT

Science is uncovering more and more information about how the bacteria in the gut, known as the microbiome, affect the brain. “Animal studies indicate that gut bacteria may affect everything from mood to our response to stress,” says fitness expert and dietitian Erin Palinski-Wade, RD, CDE. “A diet rich in prebiotics and probiotics may help to alter gut health to fight depression and anxiety.”

## ● MANY PARTS OF YOUR BRAIN ARE “AWAKE” DURING SLEEP

“Even when we are sleeping, areas such as the frontal cortex, which controls our higher-level thinking and awareness, and the somatosensory cortex, which allows us to sense our surroundings, are active,” says Dr. Tarawneh.

## THINGS THAT ARE GOOD FOR YOUR BRAIN

### ● DREAMS

Brain activity during dreaming increases to a similar level as when we are awake, says behavioral sleep therapist Richard Shane, PhD. That may help you solve problems and boost your ability to cope with struggles and stress. A Harvard Medical School study showed that participants who achieved REM sleep (when dreaming usually happens) were better able to detect positive emotions in

other people, while those who did not were more sensitive to negative emotions. The study’s author suggests that dreams help the brain process negative emotions safely. If we fail to dream, then we fail to let go of these emotions and are left in a constant state of anxiety.

### ● GUM CHEWING

In a 2013 study in the *British Journal of Psychology*, researchers had two groups of people listen to a 30-minute recording that included a sequence of numbers. After listening, the participants were asked to remember the sequence. But only one group chewed gum—and people in that group had higher accuracy rates and faster reaction times than the non-gum chewers. The researchers say that chewing gum increases the flow of oxygen to regions of the brain responsible for attention.

### ● SOCIAL INTERACTION

A 2015 review of previously published research showed that less frequent social interaction was associated with a higher incidence of new cases of dementia. Volunteering, visiting with friends and family, and staying active in social groups can help keep your brain healthy as you age.

### ● VIDEO GAMES

A recent review of research found that gamers show improvements in the brain regions involved in attention. There’s also evidence that playing video games can increase the size and efficiency of the regions of the brain that control visuospatial skills.

**Love literally  
lights up your brain,**  
flooding it with the  
“feel-good”  
substance called  
dopamine.



Researchers are even developing video games that can modify regions of the brain that control mood—there’s one video game designed to treat depression. But be careful—video games can also be addictive because of the structural changes they cause in the brain’s reward system.

#### ● **SEX**

As if you needed another excuse: Sex may help your brain think better as you age. A new study found that adults ages 50 to 83 who were sexually active scored better on cognitive tests than those who weren’t. Sex may also reduce anxiety and depression and help you sleep, which benefits brain health as well.

#### ● **VACATION**

Studies show that time off helps you be more productive. “Our brains are not machines that can work endlessly without a glitch,” says psychologist Deborah Serani, PsyD, the author of *Depression in Later Life* and a professor at Adelphi University. Downtime “allows the regulatory systems of your brain to chill out,” she says.

#### ● **MEDITATION**

“Brain-mapping studies show that meditation reduces anxiety, depression, and stress,” Serani says. “Meditation also sharpens attention and improves cognitive functioning.” One study showed that a long-term meditation practice can help save your gray matter from atrophying with age, perhaps because it stimulates the formation of synapses or because it reduces

the harmful immune response caused by chronic stress. Another study found that meditation could also improve concentration and memory.

#### ● **LAUGHTER**

“There’s a long history of research showing that laughter increases feel-good hormones dopamine and serotonin,” Serani says. This in turn decreases pain and improves resiliency.

#### ● **EXERCISE**

In one study of adults ages 65 and older, those who exercised four times a week cut the risk of dementia in half compared with those who either weren’t active at all or were active only one day a week. Plus, “exercise at every age has been shown to improve memory, concentration, and other cognitive functions,” says Palinski-Wade. This appears to be linked to an increase in circulation, bringing oxygen and nutrients to the brain while also helping remove waste.

#### ● **HEALTHY EATING**

A recent study found that older adults who followed the Mediterranean diet—rich in vegetables, fruit, whole grains, and fish—retained more brain cells than older adults who didn’t follow the diet. Another study found that compounds in extra-virgin olive oil, an important part of the Mediterranean diet, “may reduce brain inflammation as well as prevent the buildup of plaque and neurofibrillary tangles, which are suspected to contribute to the symptoms of Alzheimer’s,” Palinski-Wade

says. In addition, “DHA and EPA omega-3 fatty acids from salmon and other fish have been found to be protective to the brain and contribute to improved memory function in older adults,” she says.

## THINGS THAT ARE BAD FOR YOUR BRAIN

### ● SLEEP DEPRIVATION

In repeated studies of participants who went 24 hours without sleep, “cognitive functioning and response speed were equivalent or worse than if they had a blood alcohol content of .10 percent [.02 percentage points higher than the legal limit for drunk driving],” Shane says. (The National Institute of Medicine estimates that drowsy driving is responsible for nearly 20 percent of serious car-crash injuries.) And you don’t need to be up for 24 hours straight to be impaired. Other research has shown that the cumulative effect of consistently getting six or fewer hours of sleep can lead to similar results.

### ● ALCOHOL

It’s not because drinking kills large numbers of brain cells, as is commonly believed. Rather, alcohol significantly diminishes the production of new cells. A 30-year study from the United Kingdom found that having as few as two to three drinks per day does long-term damage to your brainpower.

### ● SUGAR

Although your noggin needs glucose to function, too much has been shown to have detrimental effects. “In teens, just one soda per day was associated with a decline in test scores,” says Palinski-Wade. Too much sugar may also accelerate aging of cells, according to Harvard Medical School.

### ● MIGRAINES

Brain scans of patients with common migraines or migraines with aura (symptoms that occur before the onset of the headache) found that they were 34 to 68 percent more likely to experience white matter brain lesions than those who did not have migraines, according to researchers from the University of Copenhagen. Some tiny brain lesions are nothing to worry about, but others may be associated with multiple sclerosis, stroke, tumors, and other diseases.

### ● MULTITASKING

“Multitasking hijacks your frontal lobes, the brain’s higher-order thinking center,” says Sandra Bond Chapman, PhD, the founder and chief director of the Center for Brain Health at the University of Texas at Dallas. “You think you are doing two or more tasks at the same time, but your brain is actually switching rapidly from one task to the other,” causing you to take longer to do each one. Multitasking reduces creativity, increases errors, lowers your ability to focus on what is most important, and increases problems with sleep, stress, and memory, she says. **R**

# ANATOMY OF A TRUE GENIUS

From their potty mouths to their dark humor, super-smart people share traits you might not consider to be signs of intelligence

BY **MARISSA LALIBERTE**

## WANDERING MIND

People whose minds wander the most score highest on basic IQ tests, according to a study in *Neuropsychologia*. Like the proverbial absentminded professor, someone who is spacey but smart has the brain capacity to stop paying attention, then go right back to a conversation without missing a beat, says study coauthor Eric Schumacher, PhD.

## POTTY MOUTH

A study in *Language Sciences* found that the more taboo words the participants could think of, the larger their overall vocabulary.





### SLEEPY EYES

Do you think that night owls are just undisciplined? A 2011 review found that students who went to bed late instead of turning in early did the best on intelligence tests measuring reasoning, math and language skills, and more. (If they didn't earn the highest grades, that's probably because early class times left them sleep-deprived.)

### BIG FUNNY BONES

People who wrote the funniest captions for cartoons also scored best on abstract-reasoning tests, with even stronger advantages in verbal-skills tests, according to a study published in the journal *Intelligence*.

### BLACK HEART

Bright people are more likely to find dark jokes funny, according to a study in the journal *Cognitive Processing*. The brain needs to get the irony of a dark joke first, then reinterpret it to find the humor, and researchers say an efficient brain is better at that.

### VIDEO-GAMING HANDS

Yes, gamers do tend to be highly intelligent—well, some gamers, at least. Those who score well in strategy-heavy games do better than average on IQ tests, according to a British study. Being a wiz on more action-packed games, however, doesn't correspond to higher intelligence. **R**





THE  
GENIUS  
ISSUE

# BRAIN GAMES

## FOR BRAINPOWER

Your brain isn't a muscle—in fact, it's mostly fat!—but the right kind of mental exercise can help keep it in shape. These puzzles are designed to give your problem-solving, reasoning, and concentration skills a workout. And they come in varying degrees of difficulty, so pace yourself!

# 1...100

## COUNTING DIGITS

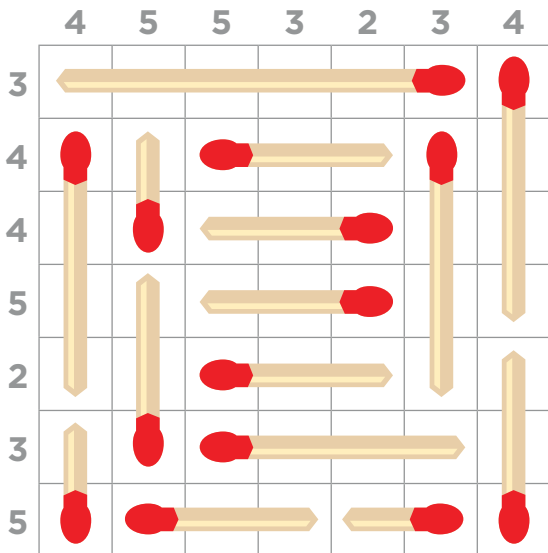
(Easy)

How many times does the digit **5** occur in the numbers from 1 to 100?

## MATCH PLAY

(Difficult)

The grid contains matches of different sizes, any of which may be completely unburned, partially burned, or completely burned. Matches burn from the head (the red end) to the tail without skipping segments. The numbers outside the grid indicate the number of burned segments in the corresponding row or column. Can you shade in the burned segments to “match” the numbers?



## LOST TIME (Medium)

Sophie and Caroline made arrangements to meet at a café at 2 p.m. Sophie thinks her watch is 25 minutes fast, although it is actually 10 minutes slow. Caroline thinks her watch is 10 minutes slow, while it is actually 5 minutes fast. What will happen if they both aim to arrive exactly on time?



## METEOR SHOWERS BRING SPRING FLOWERS

(Medium)

Space dust has landed on Earth, carrying with it seeds for exotic new alien flowers. One of them still lacks a name. If the xenobotanists follow the same rules they used to create the other terms, what should they call the last flower?



ASPERFILUM  
NEPTUGORII



ASPERCHRYST  
JUJICALTAE



COSMODENDRA  
URANOGORII



BELSACHRYST  
MARBRISTO



BELSAFILUM  
URANOCALTAE

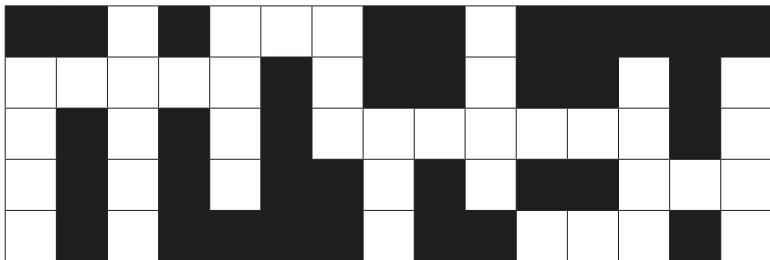


?

## QUICK CROSSWORD

(Easy)

Place the words listed below  
in the crossword grid.

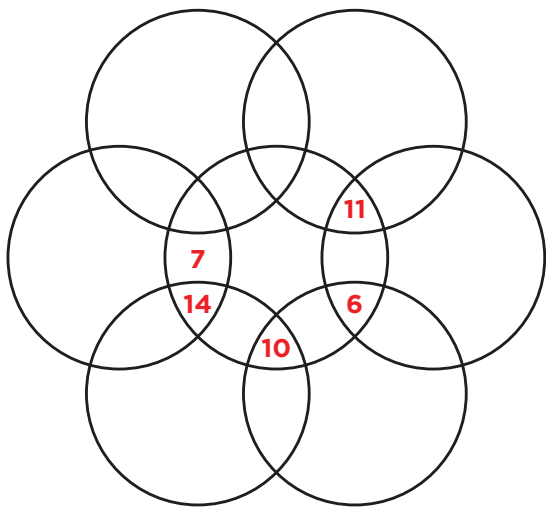


ALT ALTO BLUES GIG GROUPIE JAZZ JIG LEAD PAD RIG SALSA SOUL SPIN



## THE LONG AND SHORT OF IT *(Easy)*

Six neighborhood children—Leisha, Benito, Delia, Charlotte, Weldon, and Zina—were measured yesterday. Weldon is taller than Delia but shorter than Zina. Leisha is taller than Benito but shorter than Delia and Weldon. Benito is not the shortest. List the kids in order of height from tallest to shortest.



## BUBBLE MATH *(Medium)*

A whole number between one and seven belongs in each of the seven bubbles. Each number occurs once. The sums of some of the numbers are revealed in the areas where their bubbles overlap. Can you figure out which number goes in each bubble?

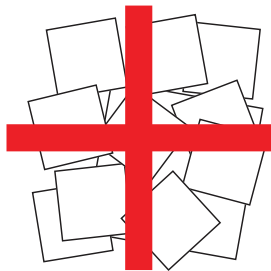


Which puzzles do you like best? Tell us at [rd.com/puzzles](http://rd.com/puzzles).

## CROSSHAIRS

*(Easy)*

None of the white squares in this diagram have their edges lined up. One of the squares is a different size from the others. Can you find it?





## FAMILY RELATIONS *(Easy)*

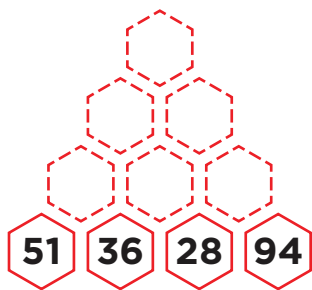
Carmela receives a text message from an unfamiliar number, so she texts back, “Who is this?”

The strange response: “It’s one of your female relatives. Your mother’s mother is my father’s mother-in-law.” Even assuming that this information is true, it doesn’t help Carmela pinpoint an individual, since there are two relationships it could describe. What are they?

## WORD SUDOKU *(Medium)*

Complete the grid so that each row, each column, and each three-by-three frame contains the nine letters from the black box at the top. The hidden nine-letter word is in the diagonal from top left to bottom right.

A C E G H I L S T								
					L	H	G	
			T	C			S	
E		C				S		
		I		E				L
		G	S					
	G		C	T				
L	I					A		G
	H		I		G		T	



## MORE OR LESS *(Difficult)*

Place the hexagons below into the pyramid so each number is either greater than the sum of the two numbers below it or less than the difference between them. For instance, if two adjacent numbers were 20 and 50, any number higher than 70 or lower than 30 could be on top of them. (And no, do not turn 98 upside down to make it 86!)



## COFFEE ADDICTS *(Easy)*

Kate and Faizal both believe that they need a cup of coffee every three hours to stay awake and function. They both drink their first cup at 8 a.m. and another one every three hours thereafter until they go to sleep. Considering the following facts, who is spending more on coffee each week?

- Kate stays up until 10 p.m. Sunday through Thursday and until midnight on Friday and Saturday. Faizal stays up until 10 p.m. every day.
- Kate pays \$3 per cup of coffee. Faizal drinks higher-grade organic coffee and pays \$4 per cup.



## GREAT MINDS LOVE GAMES

Doing a crossword or a Sudoku every day to keep your mind sharp may seem like a recent concept. In fact, people have been challenging their brains with puzzles as far back as 3,600 years ago, when the ancient Egyptians developed math problems on papyrus and wooden tablets. Here are some other fun facts about brain games in history:

■ The first crossword puzzle was printed in the *New York World* on December 21, 1913, but not everyone was a fan. In 1924, the *New York Times* described crosswords as a “sinful waste in the utterly futile finding of words the letters of which will fit into a prearranged pattern.” (The *Times* didn’t publish its first crossword until 1942.)

■ Sudoku means “single number” in Japanese (because you use each number only once per row and column). Based on an 18th-century Swiss game, it was adapted and released as Sudoku by a Japanese publisher in 1984.

■ Lewis Carroll is best known as the author of *Alice’s Adventures in Wonderland*, but he was also a gifted mathematician who

developed games of logic that combined his analytical and storytelling skills.

■ Mark Twain tried his hand at developing a board game of historical trivia called Mark Twain’s Memory Builder. It didn’t sell anywhere near as well as *Adventures of Huckleberry Finn*, but you can visit [timeonline.uoregon.edu/twain/index.php](http://timeonline.uoregon.edu/twain/index.php) to try it.

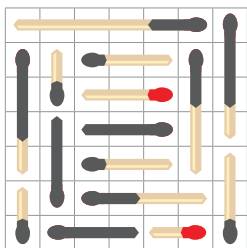
# ANSWERS



## COUNTING DIGITS

**TWENTY TIMES.** The digit 5 appears 10 times as a last digit (5, 15, 25 ... 95) and 10 times as a first digit (50, 51, 52 ... 59).

## MATCH PLAY



## LOST TIME

Sophie will be **35 MINUTES LATE**. Caroline will arrive at 1:45 p.m., **15 MINUTES AHEAD OF TIME**.

## METEOR SHOWERS BRING SPRING FLOWERS

### COSMOFILUM JUPIBRISTO.

The first half of the top term tells the color of the flower's center; the last half is the petal color. The first half of the bottom term tells the shape of the flower's center; the last half is the shape of the petals.

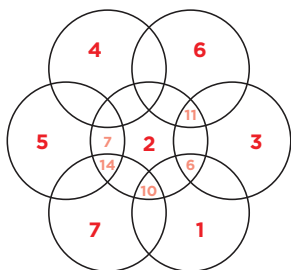
## QUICK CROSSWORD

	B	J	I	G		S							
S	A	L	S	A		I		O	L	A			
P		U		Z		G	R	O	U	P	I	E	L
I		E		Z		G	R	O	U	P	I	E	L
N		S				G			P	A	D		O

## THE LONG AND SHORT OF IT

Zina, Weldon, Delia, Leisha, Benito, Charlotte.

## BUBBLE MATH



## CROSSHAIRS

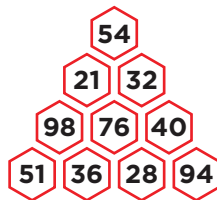


**FAMILY RELATIONS**  
SISTER OR FIRST COUSIN.

## WORD SUDOKU

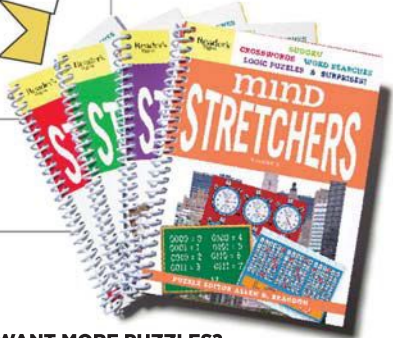
A	C	L	G	H	S	T	E	I
I	T	S	E	A	L	H	G	C
G	E	H	T	C	I	L	S	A
E	A	C	L	G	H	S	I	T
T	S	I	A	E	C	G	H	L
H	L	G	S	I	T	C	A	E
S	G	E	C	T	A	I	L	H
L	I	T	H	S	E	A	C	G
C	H	A	I	L	G	E	T	S

## MORE OR LESS



## COFFEE ADDICTS

**FAIZAL.** He spends \$140 per week, while Kate spends \$111.

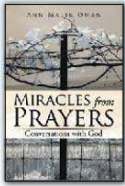


## WANT MORE PUZZLES?

Our *Mind Stretchers* books are available at [rdstore.com/braingames](http://rdstore.com/braingames) and wherever books are sold.

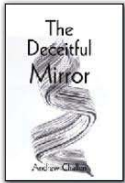


## NEW STORIES AWAIT JUST FOR YOU



**Miracles from Prayers**  
*Conversations with God*  
 Ann Malik Oman  
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 Hardback | Paperback | E-book  
 \$29.99 | \$19.99 | \$3.99

Prayer is one of your most precious and valued tools to reach out to God. By praying and learning to pray well, you will have the most amazing relationship with our heavenly Father. Believe in Miracles from Prayers!



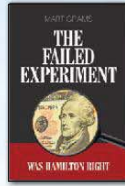
**The Deceitful Mirror**  
 Andrew Challen  
[www.authorhouse.co.uk](http://www.authorhouse.co.uk)  
 Hardback | Paperback | E-book  
 \$25.94 | \$12.90 | \$4.99

*The Deceitful Mirror* is a spiritual poetry collection that deals with the human condition and Christian witness, with poems structured in order to proceed from the human condition to Christian response.



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It was open season on organized crime and labor racketeers. After James Rydal Hoffa, president of Teamsters International, disappeared in 1975, there were no definitive answers as to what happened for years. The question remains: where is the body?



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 Mart Grams  
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Were the ideas of Alexander Hamilton right? Is man incapable of self-rule? Does he need to be taken care of, watched, manipulated? Find out how America can retake the government from the Deep State.



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*Growing Up in the Soo's East End in the 1950s*  
 Mike McCarthy  
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 \$24.99 | \$15.99 | \$3.99

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**Operation Wappen**  
*A War That Never Was*  
 Robert K Maddock Jr., MD FACP  
[www.xlibris.com](http://www.xlibris.com)  
 Hardback | Paperback | E-book  
 \$51.99 | \$41.99 | \$3.99

A Story about CIA / MI6 Middle East 1957 military adventure to overthrow the Syrian Government & a return of knights to the battlefield like Osama bin Laden. The author was an eyewitness.

THE  
GENIUS  
ISSUE

The minds at DARPA are creating another batch of sci-fi-worthy tools to fend off most any kind of enemy (and shape up civilian life too)

# INVENTING THE SOLDIER OF THE FUTURE

BY DEREK BURNETT

**TO GET THE UPPER HAND** in any scenario, the U.S. military has often relied on the most outlandish innovations the mind can conjure. Stealth technology, bionic limbs, and a little thing called the Internet all started with the military—specifically, as brainchildren of the Defense Advanced Research Projects Agency (DARPA), the 60-year-old fount of new technology in soldiering. *RD* reviewed the next wave of advances, looking for those destined to spread.

**1 POWER WALKERS**  
Spend time speaking with foot soldiers, and you'll eventually hear about lugging an overstuffed backpack for miles in terrible weather through rough terrain. But the age-old problem of overburdened troops is deadly serious: An army on the move can be dangerously slowed and

weakened by strain injuries or just by soldiers struggling under their loads.

So the minds at DARPA threw down this gauntlet to the scientific community: Build some kind of wearable contraption that would help combatants transport their burdens. It needed to be thin and supple enough to fit under battle uniforms and equipment.

*DARPA's Warrior  
Web exoskeleton  
could help soldiers  
and civilians carry  
heavy loads.*



To come up with a solution, Ignacio Galiana, PhD, and his researchers at Harvard's Wyss Institute for Biologically Inspired Engineering immersed themselves in studying a simple act we take for granted: walking. They scrutinized the leg muscles' perfectly timed bursts of energy to understand how a walker might get a little assist. "What we learned," says Galiana, "is that small changes in timing—just a few milliseconds—could make a difference between assisting and hindering someone."

So Galiana and team developed a suit that is essentially a wearable robot: the Warrior Web exoskeleton. Tiny sensors embedded in the fabric take readings every millisecond or so on how the wearer is moving. The data are fed to a computer housed in a fancy fanny pack. Retractable spooling cables extend from the waist pack to the ankles. "When the system senses fatigue, the cable applies pressure to joints that mimics muscle movement, so you spend less energy moving your legs," the Spanish-born Galiana says. "The system is learning how you're walking and adapting the timing and parameters to make sure the assistance is maximizing the benefit you get." The program is in its final stages; prototypes have been delivered to the Department of Defense.

And someday these suits might help civilians too. The Wyss Institute has licensed the technology to a private medical-device company to help

stroke victims walk again. The invention could also give a weak or elderly person enough of a boost to power his or her way from the store to the car with a load of groceries.

## 2 PLANTS THAT SPY

Imagine an innocuous-looking field of poppies at the outskirts of a hostile foreign capital. Suddenly a surveillance drone zooming in on the field finds that all the flowers are leaning in the same direction. The poppies have been genetically engineered to bend toward the presence of sarin gas, so American analysts strongly suspect that the country is developing a poison-gas program.

Without question, the ability to detect chemical, biological, radiological, nuclear, and explosive threats is paramount to national security. But ... with plants? Who comes up with these ideas? Meet Blake Bextine, PhD, a professor of biology at the University of Texas at Tyler, who heads up the Advanced Plant Technologies (APT) program at DARPA.

"The idea for APT came from conversations I had with the military. One of the needs they talked a lot about was surveillance. Existing sensors had two problems: They were made from costly metals and plastics, and they relied on batteries," explains Bextine. "Plants get their energy from the sun, of course, and they're infinitely scalable."

Bextine is used to the outlandish. In 2014, he starred in the reality TV



*Scientists are engineering thistles that bloom early if a land mine is nearby.*

show *Tethered*. The concept: Two polar opposites are forced to survive in the wilderness while bound together by a six-foot cable. “I was put with a practicing shaman,” Bextine says. For 11 days, the pair climbed up and down hills, hiked over mountains and into valleys, jumped off cliffs, ran into waterfalls, and, for the most part, got along. “My way of approaching things was scientific thought; his way was to pray for things.”

Learning to work with others to overcome obstacles was good practice for his time at DARPA. “We don’t fix small problems,” he says. “We’re supposed to be doing the big ideas, future-possibility ideas, so we think a little differently than most people.”

As “different” as plant technology is, its foundation is solid: Plants are highly sensitive to what’s going on around them, making them excellent sentinels. The trick, of course, is to use

genetic engineering to create varieties that will exhibit some predictable, detectable change when exposed to a threat. “Plant-modification platforms have really taken off in the last five to ten years,” says Bextine. “Science is at the right time to do this.”

APT is just getting under way, but if it’s successful, Bextine says we may see thistles that bloom two months early because there are land mines in their field. Closer to home, plants could serve as warning systems for virulent strains of flu, while stream-side weeds might alert authorities to the presence of toxins in the water.

“A colleague of mine has said that at DARPA, if you don’t produce the next Internet, you get a B. As a program manager, I want to make sure I get an A, and I think APT is a program that has the possibility of doing that.”

### 3 WALL-CLIMBING COMMANDOS

It’s midnight, and a commando team needs to place a sniper on the roof of a glass-walled office building. But the enemy has all the entrances secured, and the element of surprise is crucial. Not to worry: From his pack, the sniper pulls out a lightweight kit, straps some paddles to his hands, and begins scaling the smooth, flat exterior like an exotic lizard. But not just any lizard.

“A couple years ago, my son requested a gecko for his birthday, and I have to say, I am awed by this thing,”



*Andy Torbet tests DARPA's gecko-like rig.*

program manager David Carter, PhD, told scoutcambridge.com. “It puts any engineering we can do to shame. It can leap and catch itself with one foot. It’s quite remarkable.”

Today, Carter and his team of engineers at Draper Laboratory in Cambridge, Massachusetts, working with DARPA, are using state-of-the-art nanotechnology methods to mimic his son’s pet. They studied the tiny hairs on the gecko’s feet that allow it to grip very smooth surfaces—such as plate glass windows—and came up with a material called MicroHold. Then they added it to paddles with suction cups to reduce slippage.

Earlier this year, British explorer Andy Torbet scaled a ten-story glass building using the lizard-like rig. “We were fairly confident we’d do well, but it was a little nerve-racking,” Carter admitted to bizjournals.com. “There

was a lot of grit and grime on the windows.”

Speaking of grimy windows, MicroHold could well be the solution to safely cleaning those too. It might also help you hang pictures without marring your drywall or mount speakers on the glass wall of your sunroom.

“This is about the most fun thing an engineer can get paid to do,” says Carter. “We’ve gone from the fundamental physics of how the gecko adheres to the engineering challenge of scaling up to larger and larger size.”

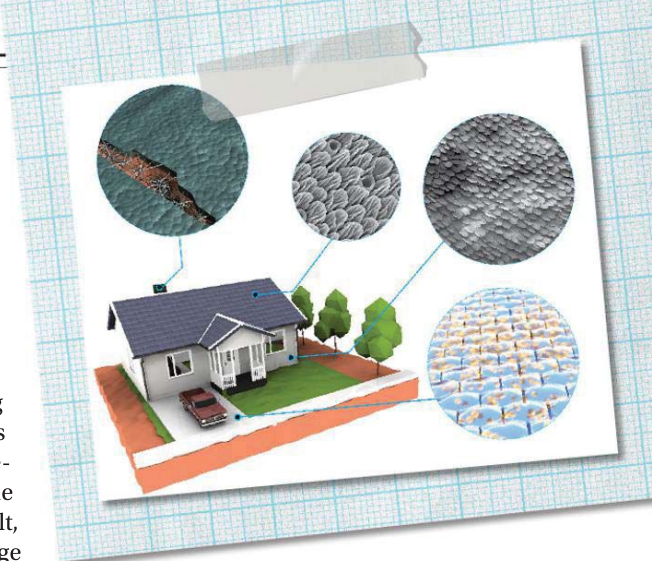
## 4 BUILDINGS THAT GROW THEMSELVES

Sequoia seeds: DARPA program manager Justin Gallivan, PhD, is fascinated by them. Specifically, how incredible it is that a tiny seed holds all the genetic material required to shape a 300-foot-tall forest giant. So when Gallivan heard that a company called Ecovative had discovered that some mushroom cells would feed off farm waste, bind to it, and ultimately “grow” into molded packing materials and furniture parts, he had an idea. What if, instead of using the lowly mushroom, cells from the mighty sequoia could be induced to do something like that? Would it mean that, instead of trucking in lumber to a building site, you could make a structure from living materials that you grew right there?

Gallivan is not a biologist. In fact, the last biology class he took was in

ninth grade. Still, as a professor of chemistry at Emory University, he could easily imagine the defense applications. The military often builds structures in remote and inhospitable parts of the world. Getting the building materials there is costly and time-consuming, and once the structures have been built, they're subject to damage from storms, accidents, and wear and tear.

The nonmilitary possibilities of the program, known as Engineered Living Materials (ELM), are just as exciting. A hurricane will destroy thousands of homes in some corner of the globe. With ELM, humanitarian workers may well show up not with truckloads of lumber but with a set of lightweight cardboard molds and some seeds. They'll add water and within three days have bricks, blocks, tiles, and shingles that are alive and ready to be assembled



*One day, we might own homes where damaged chimneys heal themselves, roofs breathe to control airflow, and driveways eat spilled oil.*

into buildings. “Could you take a seed and grow a living two-by-four reliably every single time?” Gallivan wonders. “Could you program it so if you wanted two-by-eights, you’d just use a different seed?” An even more out-there possibility: creating buildings whose “skins” heal themselves when cut by, say, a hurricane.

Gallivan hopes to have proof that ELM is viable by 2020. **R**

\*  
\* \*

## PANIC IN AISLE 6!

Using self-checkout lane so I don't have to interact with anyone.

Scan first item.

Register: ... “Please wait for assistance.”

**@KATEWHINEHALL (KATE HALL)**

THE  
GENIUS  
ISSUE

# THE POWER OF FAKE PILLS

Surprising new research shows that placebos work even when you know they're not real

BY ROBERT ANTHONY SIEGEL  
FROM *SMITHSONIAN*

PHOTOGRAPHS BY MATTHEW COHEN







“**H**ERE THEY ARE,” John Kelley said, taking a paper bag off his desk and pulling out a big amber pill bottle. Inside were the pills we’d designed: a magical concoction put together to treat my chronic writer’s block and the panic attacks and insomnia that have always come along with it.

I’ve known Kelley since we were undergrads together. Now he’s a psychology professor at Endicott College in Massachusetts and the deputy director of PiPS, Harvard’s Program in Placebo Studies and Therapeutic Encounter. It’s the first program in the world devoted to the interdisciplinary study of the placebo effect.

The term *placebo* refers to a dummy pill passed off as a genuine pharmaceutical or, more broadly, any sham treatment presented as a real one. By definition, a placebo is a deception, a lie. But doctors have been handing them out for centuries, and patients have been getting better, whether through the power of belief or suggestion—no one’s exactly sure. Even today, when the use of placebos is considered unethical by many medical professionals, a survey of 679 doctors showed that about half of them

prescribe medications such as vitamins and over-the-counter painkillers primarily for their placebo value.

Interestingly, the PiPS researchers have discovered that placebos seem to work well even when a practitioner doesn’t try to trick a patient. These are called open-label placebos, or placebos explicitly prescribed as placebos.

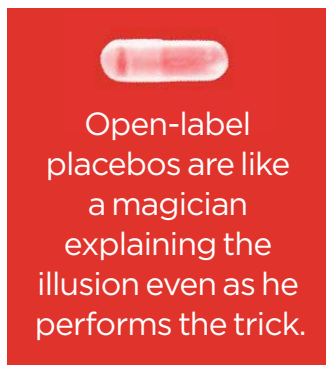
So I had turned to my old friend for help with my writer’s block. “I think we can design a pill for that,” he’d told me initially. “We’ll fine-tune your writing pill for maximum

effectiveness, color, shape, size, dosage, time before writing. What color do you associate with writing well?”

I closed my eyes. “Gold.”

“I’m not sure the pharmacist can do metallic. It may have to be yellow.”

Over the next few weeks, we’d discussed my treatment in greater detail. Kelley had suggested capsules rather than pills, as they would look more scientific and therefore have a stronger effect. He also made them short acting: He believed a two-hour time limit would cut down on my tendency to procrastinate. We’d composed a set of instructions that covered not only how to take them but also what they were going to do. Finally, we’d ordered



the capsules, which cost a hefty \$405, though they contained nothing but cellulose. Placebos are not covered by insurance.

Kelley reassured me: "The price increases the sense of value. It will make them work better."

I called the pharmacy to pay with my credit card. After the transaction, the pharmacist said to me, "I'm supposed to counsel customers on the correct way to take their medications, but honestly, I don't know what to tell you about these."

"My guess is that I can't overdose."

"That's true."

"But do you think I could get addicted?"

"Ah, well, it's an interesting question."

We laughed, but I felt uneasy. Open label had started to feel like one of those postmodern magic shows in which the magician explains the illusion even as he performs the trick—except there was no magician. Everyone was making it up as they went along.

**O**NE OF THE key elements of the placebo effect is the way our expectations shape our experience. As Kelley handed over the pills, he wanted to heighten my expectancy, as psychologists call it, as much as possible. He showed me the very official-looking stuff that came with the yellow capsules: the pill bottle, the label, the prescription, the receipt from the pharmacy, and the instruction

sheet we had written together, which he read to me out loud. Then he asked whether I had any questions.

Suddenly we were in the midst of an earnest conversation about my fear of failure as a writer. There was something soothing about hearing Kelley respond, with his gentle manner. As it turned out, that's another key element of the placebo effect: an empathetic caregiver. The healing force, or whatever we are going to call it, passes through the placebo, but it helps if it starts with a person, someone who wants you to get better.

Back home, I sat down at the dining room table with a glass of water and a notebook. *Take two capsules with water ten minutes before writing*, said the label. Below that: *Placebo, no refills*.

I unfolded the directions: *This placebo has been designed especially for you, to help you write with greater freedom and more spontaneous and natural feeling. It is intended to help eliminate the anxiety and self-doubt that can sometimes act as a drag on your creative self-expression. Positive expectations are helpful but not essential: It is natural to have doubts. Nevertheless, it is important to take the capsules faithfully and as directed because previous studies have shown that adherence to the treatment regimen increases placebo effects.*

I swallowed two capsules and then, per the instructions, closed my eyes and tried to explain to the pills what I wanted them to do. I became worried

that my anxieties about their not working might prevent them from working.

Over the next few days, I felt my anxiety level soar while at work and when filling out the self-report sheets. *On a scale of zero to ten, where zero is no anxiety and ten is the worst anxiety you have ever experienced, please rate the anxiety you felt during the session today.* I was giving myself eights out of a misplaced sense of restraint, though I wanted to give tens.

Then, one night in bed, my eyes opened. My heart was pounding. The

clock said 3 a.m. I got up and sat in an armchair and, since my pill bottle was there on the desk, took two capsules, just to calm down. They actually made me feel a little better. In the morning, I e-mailed Kelley, who wrote back saying that, like any medication, the placebo might take a couple of weeks to build up to a therapeutic dose.

**T**ED KAPTCHUK, Kelley's boss and the founder and director of PiPS, has traveled an eccentric path. He became embroiled in radical

## WHERE "OPEN" PLACEBOS SHOW PROMISE

Much of the research into the effectiveness of open-label placebos has been conducted by Ted Kaptchuk and his colleagues, with encouraging results for a number of different conditions:

● **Irritable bowel syndrome:** Study subjects who took two placebo pills daily reported greater improvement in symptoms after just 11 days than did those who simply continued their usual treatment (such as fiber or antispasmodics). In other research, 44 percent of patients given sham acupuncture for irritable bowel syndrome experienced relief. That jumped to 62 percent

when the practitioner was supportive and sympathetic.

● **Chronic lower-back pain:** Patients who took clearly labeled placebo pills twice a day reported greater pain reduction and reduced disability compared with those who just continued their usual treatment (which often included nonsteroidal anti-inflammatory drugs or other painkillers).

● **Migraine:** Those taking a placebo (whether it was labeled as such or as medication) got just as much pain relief as those taking medication.

● **Fatigue caused by cancer treatment:** Those who took placebo pills twice daily reported a 29 percent improvement in fatigue level, higher than the 23 percent reported by those who took medication or treated their fatigue in other ways.

politics in the 1960s and studied Chinese medicine in Macao. After returning to the United States, he practiced acupuncture in Cambridge, Massachusetts, and ran a pain clinic before being hired at Harvard Medical School. But he's not a doctor, and the degree he earned in Macao isn't recognized here.


Kaptchuk's outsider status has given him an unusual amount of intellectual freedom. In the intensely specialized world of academic medicine, he routinely crosses the lines between clinical research, medical history, anthropology, and bioethics. "They originally hired me at Harvard to do research in Chinese medicine," he told me. His interests shifted when he tried to reconcile his own successes as an acupuncturist with his colleagues' complaints about the lack of hard scientific evidence. "At some point in my research, I asked myself, 'If the medical community assumes that Chinese medicine is "just" a placebo, why don't we examine this phenomenon more deeply?'"

Some studies have found that when acupuncture is performed with retractable needles or lasers, or when the pricks are made in the wrong spots, the treatment still works. By conventional standards, this would make acupuncture a sham. If a drug doesn't outperform a placebo, it's considered ineffective. But in the acupuncture studies, Kaptchuk was struck by the fact that patients in the sham treatment group were actually getting

NEW!

**BIG  
VANILLA  
LATTE  
FLAVOR**

**BIG FOOD  
FOR  
BIG DAYS**


A hand is shown pouring pink capsules from a yellow pill bottle. The capsules are falling in a curved path against a solid red background. Some capsules have already landed on a light-colored surface at the bottom of the frame.

Like real  
pharmaceuticals,  
placebos  
actually trigger  
neurochemicals  
in the brain.

better. He points out that the same is true of many pharmaceuticals. In experiments with postoperative patients, for example, prescription pain medications lost half their effectiveness when the patient did not know that he or she had just been given a painkiller. A study of the migraine drug rizatriptan found no statistical difference between a placebo labeled rizatriptan and actual rizatriptan labeled placebo.

What Kaptchuk found was something akin to a blank spot on the

map. “In medical research, everyone is always asking, ‘Does it work better than a placebo?’ So I asked the obvious question that nobody was asking: ‘What is a placebo?’ And I realized that nobody ever talked about that.”

Working with Kelley and other colleagues, he has found that the placebo effect is not a single phenomenon but rather a group of interrelated mechanisms. It’s triggered not just by fake pharmaceuticals but by the symbols and rituals of health care

itself—everything from the prick of an injection to the sight of a person in a lab coat.

And the effects are not just imaginary, as was once assumed. Functional magnetic resonance imaging, which maps brain activity by detecting small changes in blood flow, shows that placebos, like real pharmaceuticals, actually trigger neurochemicals such as endorphins and dopamine and activate areas of the brain associated with analgesia and other forms of symptomatic relief.

“Nobody would believe my research without the neuroscience,” Kaptchuk told me. “People ask, ‘How does a placebo work?’ I want to say by rituals and symbols, but they say, ‘No, how does it really work?’ and I say, ‘Oh, you know, dopamine’—and then they feel better.”

To better understand the physiology, PiPS has begun sponsoring research into the genetics of placebo response. After meeting with Kaptchuk, I went across town to the Division of Preventive Medicine at Brigham and Women’s Hospital to see the geneticist Kathryn Tayo Hall. Hall studies the gene for catechol-O-methyltransferase (also called COMT), an enzyme that metabolizes dopamine. In one study, she found that the type of COMT enzyme patients possessed seemed to determine whether a placebo would work for them.

Is the COMT gene “the placebo gene”? Hall was quick to put her

**BIG DAYS  
ARE RIPE  
WITH  
POTENTIAL**



**BIG FOOD  
FOR  
BIG DAYS**



findings into context. “The expectation is that the placebo effect is a knot involving many genes and biosocial factors,” she told me, not just COMT.

There is another layer to this, Hall pointed out: Worriers—people with higher dopamine levels—can exhibit greater levels of attention and memory but also greater levels of anxiety, and they deal poorly with stress. Warriors—people with lower dopamine levels—can show lesser levels of attention and memory under normal conditions, but their abilities actually increase under stress. The placebo component thus fits into the worrier/warrior personality types as one might expect: Worriers tend to be more sensitive to placebos; warriors tend to be less sensitive.

I told Hall, a little sheepishly, about my one-man placebo trial, not sure how she would react. “Brilliant,” she said, and showed me a box of homeopathic pills she takes to help with pain in her arm from an old injury. “My placebo. The only thing that helps.”

**WHAT MIGHT THE** future of placebos look like? Kaptchuk talks about doctors one day prescribing open-label

placebos to their patients as a way of treating certain symptoms without the costs and side effects that can come with real pharmaceuticals. Other researchers are focusing on placebos’ ability to help patients with hard-to-treat symptoms such as

nausea and chronic pain. Still others talk about making conventional medical treatments even more effective by using the symbols and rituals of health care (such as getting an injection from someone in a white lab coat) to add a placebo effect.

Hall would like to see placebo research lead to more individualized medicine; she suggests that isolating a genetic marker could allow doctors to tailor treatment to a patient’s individual level of placebo sensitivity. Citing the research showing that an empathetic caregiver is key, Kelley hopes to refocus our attention on the relationship between patient and caregiver, reminding us all of the healing power of kindness and compassion.

After I took my magic pills for two weeks, the writing capsules seemed to kick in. I found my sentences were awkward and slow, and I disliked them as much as ever, but I did not throw them out: I did not want to



Worriers—people with higher dopamine levels—tend to be more sensitive to placebos.



admit to that in the self-reports I was keeping, sheets full of notes such as “Bit finger instead of erasing.” When the urge to delete my work became overwhelming, I would grab a couple of extra capsules and swallow them (I was way, way over my dosage—had in fact reached *Valley of the Dolls* levels of excess). “I don’t have to believe in you,” I told them, “because you’re going to work anyway.”

One night, my 12-year-old daughter was having trouble sleeping. She was upset about some things happening with the other kids in school; we were talking about it, trying to figure out how best to help, but in the meantime, she needed to get some rest.

“Would you like a placebo?” I asked.

She looked interested. “Like you take?”

I got my bottle and did what John Kelley had done for me in his office, explaining the scientific evidence and showing her the impressive label. “Placebo helps many people. It helped me, and it will help you.” She took two of the shiny yellow capsules and within a couple of minutes was deeply asleep.

Standing in the doorway, I shook two more capsules into the palm of my hand. I popped them into my mouth and went back to work. **R**

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# FILL UP FOR BIG DAYS



## BIG FOOD FOR BIG DAYS



# Laughter

THE BEST MEDICINE



*"It's a text from my microwave ... Leftovers for dinner again tonight."*

**A POODLE AND A COLLIE** are walking down the street when the poodle suddenly confides to his friend. "My life is a mess," he says. "My owner is mean, my girlfriend is having an affair with a German shepherd, and I'm as nervous as a hamster."

"Why don't you go see a psychiatrist," suggests the collie.

"I can't," says the poodle. "I'm not allowed on the couch."

Source: gundogmag.com

**THERE'S A GUY IN TOWN** who walks around talking to himself using only figurative language. We call him the Village Idiom.

Submitted by **ALBERT SLOAN**, Morris, Illinois

**AUTOCORRECT** can go straight to he'll.

Submitted by **CONSTANCE NORMANDEAU**,  
Colebrook, Connecticut

**THREE TERRIBLE JOKES** you won't forget no matter how hard you try (and you will try) ...

**Ed:** I bought the world's worst thesaurus yesterday.

**Fred:** How bad is it?

**Ed:** Not only is it awful, it's awful.

**Q:** Did you hear about the racing snail who got rid of his shell?

**A:** He thought it would make him faster, but it just made him sluggish.

**Hiring manager:** And where do you see yourself in two years?

**Candidate:** Jeez, I don't know. Do I look like I have 2020 vision?

**A NORTH KOREAN** defector moves in to an apartment in Chicago, and his new neighbor asks what his apartment back home was like.

"Oh, it was perfect," the defector says. "I could not complain."

"What about your job?"

"Oh, my old job was perfect. I could not complain."

"And the food?"

"Oh, the food was perfect. I could not complain."

"So if everything was perfect in North Korea, why did you move?"

The man says, "Here I can complain."

Source: humoropedia.com

## BET THAT WAS AN AWKWARD RIDE



🐦@DECENTBIRTHDAY

**WILL I UNDERSTAND** the sixteen chapel if I have not seen chapels one through fiteen? 🐦@TROJANSAUCE

**TWO MEN ARE HIKING** through the woods when one of them cries out, "Snake! Run!"

His companion laughs at him. "Oh, relax. It's only a baby," he says. "Don't you hear the rattle?"

Submitted by **STEVE SMITH**,  
New York, New York

**HEY**, nice try, people named Tristan. Or should I say, Stan Stan Stan.

🐦@GROWLYGREGO

Your funny joke, list, or quote might be worth \$\$\$\$. For details, see page 3 or go to [rd.com/submit](http://rd.com/submit).

THE  
GENIUS  
ISSUE

A car crash left Molei Wright functionally decapitated. Even if her body survived, her mind might never be the same. Her boyfriend was willing to take that chance.

# ARE YOU STILL IN THERE?

BY BILL HANGLEY JR.

THE SNOW CAME earlier than they'd expected, but Jeremy Osheim wasn't worried. He'd driven this route a thousand times, and he knew exactly what to do. Take it easy. Watch the road. You'll get there when you get there, and when you do, it's gonna be awesome.

It was January 2016, and Jeremy and his girlfriend, Molei Wright, were leaving Denver for a weekend of fun with friends on the slopes in Breckenridge, Colorado. They were two like-minded Colorado natives: ambitious, gregarious, and





*Molei and Jeremy  
in May 2018 at  
Red Rocks Park  
in Colorado*

thoughtful, both lovers of books, plays, music, the outdoors. Jeremy, then 29, was a PR specialist who moonlighted as a mixed martial arts fighter; Molei (pronounced “Molly”), then 28, was the first in her family to graduate from college and worked selling mutual funds to financial advisers. They’d been together for less than a year, but it had taken only a few dates to realize that they clicked. They’d never formally professed their love for each other, but Jeremy was pretty sure that Molei was the one. As the car began the twisting climb toward the resort town, Jeremy felt an overwhelming wave of gratitude.

“Life was really great,” he says. “Probably the best moment of my life, just feeling so good about what was ahead for us. Then, within a blink of an eye, everything was shattered.”

The truck that hit them came out of nowhere. One minute, Jeremy’s Mitsubishi Montero was rolling smoothly through the falling snow; the next, he was sitting by the side of the road in a mangled SUV, pinned to his seat by the steering wheel, his body screaming with pain. To his right he saw Molei. Her eyes were open, but Jeremy could tell they saw nothing. He could think of only one thing to say: “Don’t die. I love you. Don’t die ...”

**S**TATISTICALLY, she should have died. Inside her neck, Molei’s vertebrae had basically been crushed. Her head was attached to her shoulders by nothing but skin and muscle. Doctors call it cervical occipital dislocation. The more common description is in-

ternal decapitation. The odds of survival: a hundred to one.

Henry Rodriguez, a vacationing Army lieutenant trained in emergency medicine, was driving on the same highway not far behind the Mitsubishi and pulled over instantly when he saw the wreck.

While his wife calmed the trapped and ter-

rified Jeremy, Rodriguez worked swiftly. One wrong move could have left Molei dead or paralyzed. Protecting her head and neck, he carefully extracted her from the twisted wreckage—“scrap metal,” he said at the time—and laid her on the road by the side of the car, covering her with coats to keep her warm.

For 45 harrowing minutes, as snow whirled down from the ink black sky, Rodriguez pounded her chest to bring her heart back to life. As the ambulance rushed to her, she showed flickers of consciousness and movement. Those signs would soon be gone. The fact that she made it to Lakewood’s St. Anthony Hospital alive was a miracle.



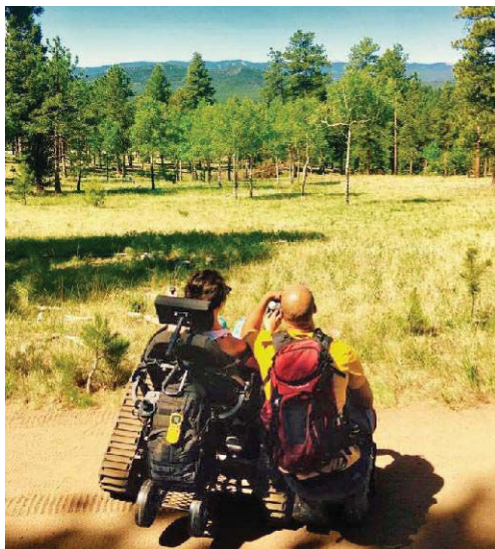
“One doctor said, ‘I need to be honest. There’s a chance she’s not going to make this.’”

**B**Y THE time her mother, Mo Wright, finally saw her, Molei had sunk into a coma and was hooked up to a half-dozen tubes and machines. The doctors could tell Mo almost nothing beyond the obvious: It was extremely serious. At any moment, fever, infection—anything—could carry her off. And even if her body stabilized, her brain might never recover.

“One doctor took me aside and said, ‘I need to be honest. There’s a chance she’s not going to make this,’” says Mo. “And I remember saying, ‘Molei is a fighter. She’s competitive. She’s not one to just lie back and take this.’”

But doctors knew it might not be up to Molei. In addition to her shattered neck, Molei had suffered fractures in her ribs and other vertebrae, bruises on her lungs, and damage to the major arteries bringing blood to her brain. Scans showed what Philip Yarnell, MD, a trauma neurologist since 1967, called multifocal shearing injury inside her skull—hemorrhages all across the surface, blood vessels, and brain stem.

Like anyone who has suffered a traumatic brain injury, she’d entered a realm of mystery. How well a given mind recovers is completely unpredictable. In fact, doctors have a saying: If you’ve seen one brain injury, you’ve seen one brain injury. Sometimes



*Molei (left) in a track chair—a motorized wheelchair with treads that lets her travel in rough terrain*

victims come back fully capable and healthy. Sometimes they linger forever in the twilight of consciousness.

And sometimes their brains survive but their personalities don’t. “They get angry, they have temper problems, their families are afraid to be around them,” says Dr. Yarnell. Such cases can be devastating, shattering relationships and ending marriages. “You’re with one person, and then you’re with another, and it’s not the one you started with.”

Dr. Yarnell knew the Wright family would want answers. But he knew that only time would tell the full story.

“You don’t give a long-term prognosis,” he says. “You can be fooled.”

So as Molei lay silent and still, the best the doctors could do to save her brain was to save her body: Drugs to fend off fevers and infections. Machines for food and oxygen. Surgeries for injuries. Constant monitoring for signs of consciousness. And above all, patience.

“We don’t have a medicine to make the brain heal,” Dr. Yarnell says. “We try to let the brain heal by itself.”

**I**N THE weeks after the crash, a pattern set in. Molei lay in her bed being fed through a tube, breathing on a ventilator. Dr. Yarnell and his team would come in every day to test her reactions and see whether her brain was responding. Poke her arms and feet. Pinch her shoulders. Move objects in front of her face to see whether her eyes would track them.

But as the doctor’s log documented, Molei showed little reaction:

*February 6:*

*Not following commands.*

*February 11:*

*Not following commands.*

*February 15:*

*Not following commands.*

“It was killing us,” Mo says. “Every morning I would get in the car and drive to the hospital, and every morning was my lowest moment ... What are they going to tell us?”

Jeremy, who by now had recovered from his own serious injuries—a broken hip and scapula, as well as heart and lung contusions—followed the nurses’ cues and talked to Molei as if she could hear him, clinging to the slender hope Dr. Yarnell had given them: that she could recover.

“I just kept thinking, She’s going to come back to me. I know it, I know it,” he says.

But with every passing day, Jeremy also knew that Molei’s chances of recovery grew worse. At one point, her wrists and hands started to curl inward, a phenomenon called posturing

that can indicate serious irreversible regression.

“I was heartbroken,” says Jeremy.

And then, about three weeks after the crash, Molei began to show signs of life:

*February 25:*

*Moving the right leg spontaneously.*

*February 29:*

*A focused gaze.*

*March 1:*

*Off the ventilator all day. Looks to both sides.*

The signs were tiny—sometimes so tiny that only Dr. Yarnell could see them.

But they were enough. Somebody was in there. But was it Molei?



The signs were tiny, but they were enough. Somebody was in there. But was it Molei?



**M**OLEI CAN still remember seeing the date on the whiteboard at the foot of her bed and realizing that three full months of her life had disappeared.

"It said, 'Hello, Molei! Today is Wednesday, May 18,'" she says. "It was confusing ... like, Wait! What happened to February and March and April?"

Molei didn't know it, but she was now in Craig Hospital in Englewood, one of the nation's leading rehabilitation centers for brain and spinal injuries. Three months after the crash, Dr. Yarnell had seen enough consistent response to get Molei admitted to Craig. There, therapists worked to revive her with regimens of wake-up drugs and physical therapy.

Molei was largely in a fog the first several weeks after coming to. She knew she was still Molei, but she also knew she couldn't connect with staff or even loved ones, and she didn't know whether she ever would.

And then one day, Jeremy made her laugh. It happened in the workout room at Craig. Jeremy had taken her there himself.

By this point, Molei was in a sort of half-conscious limbo. She couldn't direct her own movements or talk. But if Jeremy or her therapists moved her limbs, she could sit up and even



*Jeremy and Molei, about five months before the accident, overlooking the Rocky Mountains*

stand. That day, Jeremy was doing just what he'd been doing for weeks: helping and hoping.

First he hoisted her from the bed and onto a kind of hanging chair that moved on tracks, which in turn took her to a wheelchair. From there, it was down to a room full of padded platforms designed for massage and therapy. His plan was to stretch her limbs a bit while he talked to her. So he laid her on the therapy bed, sat at her feet, and started flexing her legs, chattering and spouting, as he called it, "nonsense," just as he'd been doing for months.

He wasn't surprised when Molei's body suddenly spasmed and she sat up abruptly. Without even thinking, Jeremy responded, "Hey, we're not doing sit-ups. What are you doing?"

And she laughed.

Jeremy's eyes lit up. "Oh my God!" he shouted. "You hear me! You're in there!"

It was a watershed moment. "I don't know if I've ever laughed so much or smiled so hard," he says. "I knew then that she knew who I was. She thought my stupid jokes were funny still. She knew who I was."

It was a breakthrough for Molei as well. "The way he laughed back, I just knew," she says. "He could tell, 'Hey, she's still in there!' I'm not just this girl in a coma."

In the weeks that followed, Molei improved dramatically. Soon she was watching, listening, focusing, and responding. She still couldn't talk, so she tried to communicate using the sign language she'd learned in college. Jeremy knew some sign language, too, so he understood the first thing she told him.

"It was, 'I love you,'" Molei said. "That's the first thing I said to him."

**M**OLEI HAD spent a total of six months in hospitals after the crash, including two months at Craig, where she learned to eat (carefully), talk (slowly), and walk short distances with a walker. Cognitive rehabilitation therapy—puzzles, tests, medication for focus and attention—had helped

her mind come back to life. The brain is a remarkable thing, Dr. Yarnell often says. If you keep exercising it, it can find all sorts of ways to work around its problems.

So when the doctors said she was ready, she moved back to her family's

home. There were setbacks and frustrations; the simplest decision, such as whether to use the walker or the wheelchair to get to the living room, could be fraught with stress or danger. But every month, Molei made progress. And eventually, once again, the everyday became the norm: using the bathroom, folding laundry,

riding the exercise bike. As her body revived, her mind sharpened, just as Dr. Yarnell had predicted.

In what may have been her biggest step of all, Molei moved in with Jeremy, 18 months after the crash. The life they'd once imagined sharing began to take shape. And even if it isn't exactly the life they'd expected, Jeremy says, the love they share is just as deep—maybe deeper.

"I liken it to going to war with someone," says Jeremy. "We went through something that is unfathomable to other people. I shared some things with her that I can't quite explain."

Today, Molei Wright still faces her share of challenges. Her left side is



If you keep exercising the brain, it can find all sorts of ways to work around its problems.

still weak, her grip uncertain; her fused spine means she can't turn her neck. Dr. Yarnell says Molei will probably always have some cognitive deficits. Multitasking will tire her out. Holding down a high-stress job might never be possible.

And yet she now manages the couple's household along with her own recovery. She meets with friends, shares books and podcasts with Jeremy, and volunteers to visit classrooms and talk to students. She's training for a bike race. She's considering a new career as an occupational therapist.

She's the Molei Jeremy fell in love with, the one who'd never settle for anything less than the best. "You just can't turn off this wild ambition," he says. "You can't go through something like this and be exactly the same person, but the core of who she is is the exact same."

This past February, two years after she and Jeremy almost died in the



*"It was liberating," Molei said of skiing again after the accident. "I was like, 'Oh my gosh, this is happening!'"*

snow driving to Breckenridge, Molei finally arrived at the resort town. Using outriggers (poles with skis on them), she skied down the mountain, plowing through the snow as the trees blurred by and her cheeks tingled in the delicious crisp air.

She wasn't a crash victim anymore. She was just Molei Wright, out in the sun with the man she loved, conquering the mountain she'd first set out to run two years earlier. **R**



## GOING OLD-SCHOOL

I hate when I see an old person and then realize  
I went to high school with them.

 @KENTWGRAHAM



THE  
GENIUS  
ISSUE

No, you are not dreaming.  
You really can boost your  
brainpower while you snooze.  
Try these seven tips.

# WAKE UP SMARTER

BY JESSICA MIGALA AND ELISA ROLAND

## CHANGE THE COLOR OF YOUR NOISE

White noise (such as the hiss of a radio tuned to an unused frequency) can help you sleep more soundly, but what scientists call pink noise could help you remember more. According to a small study from Northwestern University, the lower-frequency sounds of pink noise, such as the rush of a waterfall or steady rain, improved older adults' deep, slow-wave sleep, the stage considered important for consolidating memories. When study participants listened



to pink noise while they slept and then took a memory test the next morning, they scored three times higher than participants who didn't sleep with that kind of background sound. Don't live near a waterfall? Download an app such as the aptly named Pink Noise.

### DRIFT OFF WITH A WHIFF

You already know that the smell of an apple pie coming out of the oven can send your memory straight back to Mom's kitchen. It turns out that smells, experienced at the right time, can also strengthen your recall. In one study, people played a memory game while a rose scent wafted through the room.

They were then exposed to the same scent during slow-wave sleep. When they played the game the next day, they remembered more of the game's information than when they had sniffed the rose scent during a non-slow wave sleep stage. The researchers say that the olfactory system activates prior memories in the hippocampus, making it easier to store new data during slow-wave sleep. Pick up a diffuser, fill it with your favorite scent, and use it while studying and while sleeping. Now you're ready to make memories.

### RAISE ONE GLASS

Studies have shown that drinking before trying to learn something new

STYLIST: SARA FOLDENAUER;  
HAIR AND MAKEUP: KERRY-LOU BREHM

## THE SWEETEST DREAMS

When it comes to supine inspiration, it's hard to beat these ten people and the genius ideas that came to them in their sleep.

● **Paul McCartney**  
"Yesterday"

● **Robert Louis Stevenson**  
*The Strange Case of Dr. Jekyll and Mr. Hyde:* During a drug-induced nightmare, the writer screamed so loudly that his wife, Fanny Stevenson, woke him up. Startled, he said, "Why did you wake me? I was dreaming a fine bogey tale." Fanny later burned

her husband's first draft—she thought it was nonsense. He feverishly rewrote the 30,000-word tale over a three-day period. The book sold so well that it lifted the Stevensons out of debt.

● **Dmitri Mendeleev**  
**Periodic table of elements:** "Only in one place did a correction later seem necessary," Mendeleev wrote in

his diary of the table of elements he saw in his dream.

● **Elias Howe**  
**Sewing machine needle:** Frustrated by his attempts to develop a machine that could stitch together fabric, Howe dreamed that he was about to be executed for his failure. The guards escorting him to the executioner's block waved

will impede your memory, while drinking to excess (more than one drink a day for women and two for men) also adversely affects the brain. But there is a drinking habit that may help performance. In a 2017 University of Exeter study, 88 participants were given made-up words to learn one evening. Some of them then drank alcohol before going to sleep, while others abstained. The next morning, those in the drinking group remembered more of the words than the teetotalers did. Why? The study authors theorize that alcohol puts brain cells into a state that allows them to better consolidate memories, and that sleep enhances the effect.

## EAT BY DAY, SLEEP BY NIGHT

Humans have evolved to eat and be active during the day. So if you regularly eat late at night, you may find that your brainpower suffers. At least that's what researchers from the University of California, Los Angeles, discovered in mice. When the rodents ate at hours they normally wouldn't, it threw off the timing of the circadian clock in the hippocampus, the area of the brain responsible for memory, and they performed poorly on memory tests compared with mice who ate at the appropriate times. If research confirms that the finding applies to humans, too, avoiding the midnight snack could be a key to brain-enhancing sleep.

spears—and each spear had a hole at the sharp tip. That was when Howe got the idea to pass the thread through the point of the needle instead of the blunt end.

### ● **Mary Shelley**

#### *Frankenstein*

### ● **Jack Nicklaus**

**Perfect swing:** During a slump, Nicklaus dreamed that he was owning the links in a way he hadn't been for some time in real life. After analyzing the dream, the six-time Masters champ realized he was gripping the

club differently in the dream from how he normally did. "I tried it the way I did in my dream, and it worked," he said. "I feel kind of foolish admitting it."

### ● **Samuel Taylor**

#### *Coleridge*

### ● **Kubla Khan**

### ● **Keith Richards**

#### *"(I Can't Get No)*

**Satisfaction**": Here's how he described the history-making moment to NPR: "I go to bed as usual with my guitar, and I wake up the next morning, and I see that the tape [in his

cassette tape recorder] is run to the very end. And I think, Well, I didn't do anything. Maybe I hit a button when I was asleep. So I put it back to the beginning and pushed play, and there, in some sort of ghostly version, [were the opening lines to "Satisfaction"]. It was a whole verse of it. After that, there's 40 minutes of me snoring."

### ● **Stephenie Meyer**

#### *Twilight*

### ● **René Descartes**

#### *Analytical geometry*

## CRAM BEFORE SLEEPING

Want to make sure you remember what you're learning? Review it right before bed, then sleep on it. In one study, college students who memorized word pairs at 9 p.m. and then went to sleep for the night were able to recall more pairs 24 hours later compared with those who studied them at 9 a.m. and didn't go to bed until that night. Turns out sleep helps "stabilize newly learned memories," the researchers note.

## DREAM ABOUT IT

To make learning in your sleep even more effective, hope that you dream about newly acquired information during the non-rapid eye movement (NREM) stage of sleep. Because material is encoded into your hippocampus during this time, details that you dream about then are more likely to stick with you when you are awake. In one study, people were trained to learn the layout

of a complex maze and then tested on it five hours later. Those who napped before the test and then remembered having dreams related to the task performed better than those who hadn't dreamed about it. (They also did better than those who stayed awake and simply thought about the maze.)



Sleep helps  
"stabilize  
newly learned  
memories,"  
say  
researchers.

## SLEEP SEVEN HOURS

Sleep can obviously affect your brainpower in several ways, but that doesn't mean more sleep is necessarily better. In a study involving women ages 70 and over, those who slept

fewer than five hours or more than nine hours a night fared worse on cognitive tests than those who logged seven hours of shut-eye. Sleeping too much or too little can be an indication of lower-quality, more fragmented sleep, which can take a toll on brain health. In the study, those at the extremes effectively aged their brains two years. **R**

\*  
\* \*

## ON THE MONEY!

A news headline you hardly ever see:  
"Psychic Wins the Lottery Again."

🐦 @NEILTYSON

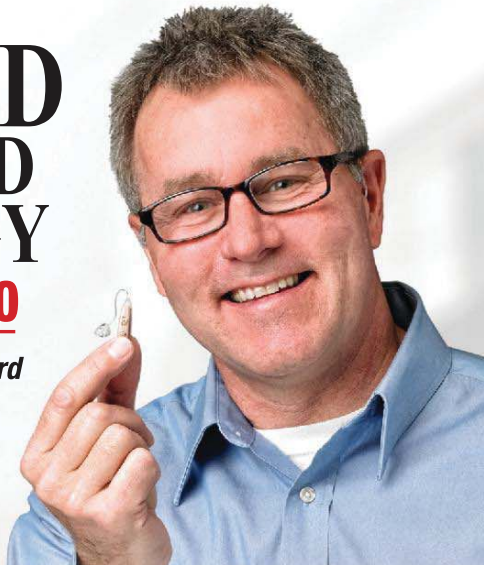


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— Don W., Sherman, TX



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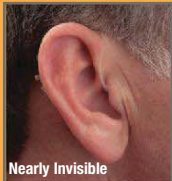
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Remembering Stephen Hawking

# BRILLIANT & FUNNY

BY MARC PEYSER

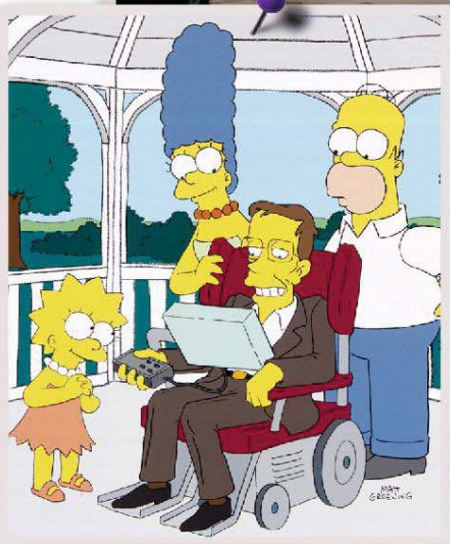
THERE'S NO RULE that says a guy who spends his days formulating equations to explain black holes, unified field theory, and other mind-bending mysteries of the universe can't also be a cutup. Still, it was always surprising when physicist Stephen Hawking showed up on TV and cracked a joke.

Hawking was perhaps the most famous scientist in the world when he died earlier this year at age 76. His 1988 book, *A Brief History of Time*, sold ten million copies and made him an unlikely superstar even to people who sweated through high school science.

But humor was always a big part of Hawking's effort to bring physics to the masses. In his 2010 book, *The Grand Design*, for instance, he recounts how, in 1277, the Catholic Church declared

scientific laws such as gravity to be heretical, since they seemed to diminish God's omnipotence. "Interestingly," the text adds puckishly, "Pope John [XXI] was killed by the effects of the law of gravity a few months later when the roof of his palace fell in on him."

Leonard Mlodinow, Hawking's co-author on *The Grand Design*, points out that physics and humor are more closely related than you'd expect. "Humor often relies on looking at



*(Clockwise from top)  
Hawking floating in the  
"vomit comet," rolling  
over Jim Carrey's foot,  
and guest starring on  
The Big Bang Theory  
and as a character on  
The Simpsons*

things in different ways or making odd or unexpected associations,” says Mlodinow, who has just published a new book, *Elastic: Flexible Thinking in a Time of Change*. “In physics, the same thing happens.”

In a sense, the element of the unexpected was Hawking’s secret humor weapon. It wasn’t only the absurdity of an egghead scientist shouting, “If you are looking for trouble, you found it!” before punching a guy, which an animated Hawking did on *The Simpsons*. It was also that Hawking kept smiling even though he spent more than 50 years in a wheelchair.

He was only 21 when he was diagnosed with the degenerative motor neuron disease ALS. For most people, the condition would have been a calamity. But Hawking rolled over adversity as if it were just a pebble under his wheelchair. “Life would be tragic,” he once said, “if it weren’t funny.”

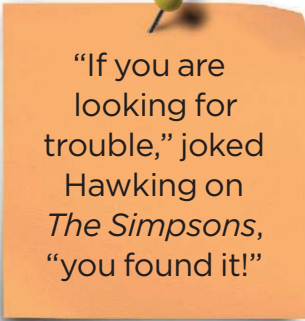
And so he cracked jokes. There was the time when talk show host John Oliver asked him about parallel universes. “Does that mean there is a universe out there where I am smarter than you?” Oliver quipped. Hawking’s dry reply (made all the funnier by the affectless timbre of his computer-generated voice): “Yes. And also a universe where you’re funny.”

Hawking liked physical humor too. He reportedly enjoyed wheeling his chair over the feet of people who annoyed him, including Prince Charles. “A malicious rumor,” Hawking said. “I’ll run over anyone who repeats it.”

“He loved adventure and fun,” says Mlodinow, who once took Hawking on a punt-boat trip down the river Cam in Cambridge, England, despite the obvious danger of the boat capsizing. “You know about when he went on the vomit comet? It’s a plane that flies in a parabolic path so you are weightless, like you are in space.

A lot of people barf, but he loved that sort of thing.” And he was 65 at the time.

Hawking’s greatest hit, humor-wise, was probably the cocktail party he threw in 2009. It was a “welcome reception for future time travelers,” he said, so naturally he sent out the invitations the day after the party. No one showed up—yet. “Maybe one day someone living in the future will find the information and use a wormhole time machine to come back to my party, proving that time travel will one day be possible,” Hawking explained. And if that happens, don’t be surprised if Hawking is there too. After all, he never missed a chance to have fun.



“If you are looking for trouble,” joked Hawking on *The Simpsons*, “you found it!”

# Laugh Lines

CHUTES AND LAUGHTER

I think it's wrong that only one company makes the game of Monopoly.

STEVEN WRIGHT

"Two can play at that game."  
—guy who's confused about solitaire

🐦 @LEONEARLGREY

"Lucy, in the sky, with diamonds."  
—John Lennon, the world's worst Clue player

🐦 @HOME\_HALFWAY

I was playing chess with my friend, and he said, "Let's make this interesting." So we stopped playing chess.

MATT KIRSHEN

I'm great at Trivial Pursuit. But what good is that going to do you in life? It has the word *trivial* in the name.

CHRISTIAN FINNEGAN

Hi, ambulance?  
I think I've swallowed three Scrabble tiles. Just an FYI.

🐦 @JAZZYTRUMPETER





THE  
GENIUS  
ISSUE

# A FOOTBALL FAMILY LETS GO OF A DREAM

How an 11-year-old's brain injury rattled one devout gridiron family

BY DANIEL DUANE FROM *MEN'S JOURNAL*

**I**T WAS A CRISP Sunday afternoon in Missoula, Montana, and Mike Callaghan stood in the blustery sunshine doing the thing he loved best: coaching his 11-year-old son Brogan's football team. Brogan Callaghan was the Panthers' 2015 season quarterback, but he was the kind of football prodigy who also played defense—linebacker, in fact, a position his father had once played with the Montana State University Bobcats over in Bozeman.





The game against the Chargers was in the second quarter. Brogan had just thrown a touchdown to tie the score at 14 and then quickly switched over to defense. As the opposing team's offense lined up, Mike noticed their running back go into motion early. "Sweep!" Mike yelled from the sidelines, but Brogan was already on it, slipping right around a big offensive tackle. Brogan was just about to take down the runner when he was slammed from behind—an illegal hit that flexed his spine, snapped his head forward, and sent him colliding into one of his own teammates. He went down hard, banging the back of his head into the dirt.

Mike went straight for the referee, screaming that this was the second time that player had made the same illegal block. "That's twice," Mike yelled. "You've got to call that."

But another Panthers coach, Eric Dawald, noticed something more alarming: Brogan wasn't getting up. Dawald rushed onto the field and found the boy on his back, barely conscious. Brogan opened his eyes and looked up. "I can't see," he said.

Brogan's mother, Shannon Callaghan, was chatting with friends in the bleachers when she heard

somebody say, "I think that's Brogan." She ran to the field, reaching her son at the same time her husband did.

Brogan looked up at his parents. "I can't feel my legs," he said. An ambulance drove onto the grass, and a paramedic removed the face mask

from Brogan's helmet. They asked him what day it was, and Brogan answered incorrectly. They asked his birthday, and he didn't know that either.

Some of his teammates were crying as the paramedics strapped their quarterback to a backboard, placed an oxygen mask over his face, and loaded him

into the ambulance. Shannon climbed in, and they sped the boy across the Clark Fork River to St. Patrick Hospital.

Mike drove separately, his mind racing through worst-case scenarios: We'll buy a one-level house. I'll change jobs so I can be home more, learn to care for a paraplegic child. Another thought intruded: I was the coach. This happened on my watch. How did I do this to my kid?

While the emergency room doctors evaluated Brogan, Shannon's and Mike's parents arrived at the hospital. After filling them in about Brogan's condition, Shannon turned to Mike's father. James Callaghan was an oral surgeon who had played



Once settled at the emergency room, Brogan looked up at his father and said, "Who are you?"



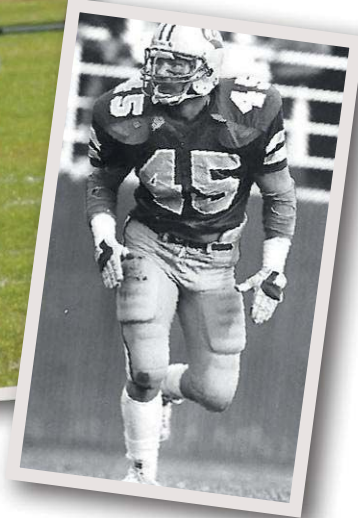
football in college and loved watching his grandson play as much as he had loved watching Mike. In fact, in all of Mike's years of playing youth football, his father had missed just one game, when Mike was in the sixth grade. "I don't ever want Brogan to play football again," Shannon told her father-in-law. "And you have to back me up on this." James told her it was none of his business.

Finally settled at the emergency room, Brogan looked at his father and asked, "Am I paralyzed?"

I think you are, Mike thought. "You're going to be all right," he said. He watched a tear roll down his son's cheek and thought, He knows.

Brogan looked up at Mike and said, "Who are you?"

**F**OR YEARS, many doctors believed that children were less likely than adults to suffer serious head injuries in football, for the simple reason that they weigh less and run more slowly than adults do. Now it's well understood that until about age 14, a kid's head is much larger than an adult's compared with his or her body, yet the neck is weaker, which means the



*Two generations of athletes: Brogan at age 11 (left); Mike playing for Montana State University in the early '80s*

head bounces around more in response to collisions. Researchers at Virginia Tech found that seven-year-old football players experienced head blows comparable in force to the impacts suffered by college players.

To make matters worse, the nerve fibers in children's brains are not yet coated with the protective sheathing known as myelin. As a result, "it's easier to tear apart neurons and their connections in children at lower impact," says Robert Cantu, MD, the author of *Concussions and Our Kids* and a leading researcher of chronic traumatic encephalopathy (CTE), the brain-wasting disease that has

been diagnosed in more than 100 deceased NFL players. The threat to emerging neural connections is particularly problematic between the ages of 10 and 12, when the brain circuitry that helps shape personality is being developed. “If you injure your brain during that time,” Dr. Cantu says, “there is a high likelihood that you will not reach your maximal genetic endowment intellectually, and you’ll perhaps not have the same personality with regard to depression, anxiety, and panic attacks.”

Brogan’s doctors were unsure about the cause of his paralysis, but they agreed that he had suffered a traumatic brain injury. Fortunately, by the evening, Brogan could move his legs, sit up in bed, and walk across the room. The following morning, Mike woke up feeling optimistic. Then a doctor arrived and asked Brogan his name. Brogan got his first name right but couldn’t remember his last name—or why he was in the hospital. Still, after a two-day stay, he was well enough to go home.

A week later, when the family returned to the hospital for a follow-up visit, Mike found himself unexpectedly relieved when the doctor said that Brogan would have to sit out the rest of the football season. “I

remember being thankful that the doctor told him so I wouldn’t have to,” Mike says. “I was sort of off the hook.”

Missing a single season was one thing. Still, the idea that Brogan might never play again—clearly what Shannon wanted—was nearly impossible for Mike to contemplate. For one thing, Brogan loved the game and had the makings of a real standout. What’s more, the sport had been central to Mike’s life for as long as he could remember. He started as a fifth grader in the Little Grizzly league; his coach from those days remained one of his closest con-



Injuring your brain as a child could stop you from reaching your maximal intellect.

fidants. Among his dearest friends were teammates from Hellgate High and Montana State. During Mike’s junior year, in 1984, the MSU Bobcats won the NCAA Division I-AA national championship—a feat Montana football fans still talk about.

Of course, football ends hard: You wake up one day and it’s over. Nobody plays tackle ball in middle age. Mike took up coaching at 31, even though he had no kids of his own. He started with his nephew’s team of fifth and sixth graders. Soon a few of his old football buddies, including Eric Dawald, came to help. They loved having a reason to hang out after work, teaching the fundamentals and feeling



*Brogan and his mom, Shannon, grab a bite to eat after school.*

that old excitement on game days. When one of the group had a son, the others promised to keep coaching as long as the kid played, a pact that soon extended to every son any of them might ever have. Boys they'd coached went on to play at local high schools, the University of Montana, Montana State, and even the pros.

Mike had mostly given up on having children of his own when, at age 40, he met and married Shannon. An interior architect and former competitive swimmer, Shannon had grown up in rural Havre, Montana, with a pair of football-obsessed brothers. She loved the way Mike welcomed Griffin, her nine-year-old son from a previous

marriage, onto his team. When Brogan was born, in 2003, Mike insisted his buddies renew their vow to keep coaching.

Brogan started playing flag football in the fourth grade, in 2013. By that time, the relationship between football and brain trauma was well established. Three years earlier, a Missoula kid named Dylan Steigers, who'd started out in local youth leagues, went off to play at Eastern Oregon University and took a big hit in a scrimmage. He died the next day.

Shannon, meanwhile, had been getting warnings from her older brother, Scott Brown, a former high school running back and now an anesthesiologist



*When Brogan (left) and Mike throw the ball around now, it's strictly for fun.*

and pain specialist in Portland, Oregon. "I'd see these 40-year-olds coming in just maimed, having these big surgeries from playing football in high school, college, the pros," he says. Brown became convinced that letting a kid play tackle football was akin to child abuse. He implored his siblings to keep their kids off the field.

But Shannon felt trapped—nobody could tell her husband what to think about football. Most of the CTE research, Mike argued, had been done on the brains of former players known to have problems. He had attended one of USA Football's Heads Up Football clinics, where he'd been schooled in the latest safe-tackling techniques.

And he would never consider letting a concussed kid play before a complete recovery.

**T**HREE WEEKS after his injury, Brogan was cleared to go back to school, but he could last only an hour or so a day. He sometimes flew into sudden, inexplicable rages, and Shannon mostly stopped working to care for him. Mike spent his days at the office and continued to coach the Panthers in the evening. He coached out of a sense of obligation, both to his fellow coaches and to the players. But now it felt different: He watched every tackle with anxiety, waiting for the child to get up and walk it off.

Both of Shannon's brothers, meanwhile, were relentless. Howard Brown sent his sister one news article after another about kids such as Evan Murray, a 17-year-old New Jersey quarterback; Ben Hamm, a 16-year-old linebacker from Bartlesville, Okla-

homa; and 17-year-old Kenney Bui from the Seattle suburbs, all of whom died within a month of one another early that fall. All told, 17 kids died playing football that season.

One night, Shannon tried to share these stories with her husband. "We are not talking about this," he said.

It wasn't until seven weeks after the injury that Brogan was able to form new memories. He started neurological rehab therapy and scored terribly on cognitive tests, which included closing his eyes and touching his nose. Math worksheets that would have taken five minutes before the injury now took an hour and left Brogan exhausted. Riding on a stationary bicycle gave him a headache.

In February, Mike and Brogan sat on the couch to watch the Super Bowl. Shannon overheard Brogan begin a sentence with the phrase, "When I play in the NFL ..."

"That's not going to happen," Shannon said.

Later she heard her husband tell Brogan, "But when you play in high school ..."

"It's not going to happen," she said. "We don't have to decide this now," Mike replied.

Later still, Brogan asked his mom, "Why won't you let me play?"

"Because God gave you that big brain so you can do something amazing in this world."

"He also made me a good football player," Brogan said.

"But that can't be your future."

Mike turned to Shannon. "But what about his dream?"

Shannon thought, Whose dream is it?

**B**UT MIKE could not let go of football. He thought about all the things he wanted his son to experience: the friendships, the teamwork, the victories.

And despite their differences, Shannon understood. "Mike wants his kid to be a football star," she says. "And Brogan would be the star. He's a leader and damn good, and everyone looks up to him."

Mike struggled to imagine what his own life would be like without football. What would he do on weeknights and Sunday mornings in the fall?



Shannon felt trapped—no one could tell Mike what to think about football.

When would he see his friends? Who would he be? “Every time I thought about it, my mind just went blank,” he says.

In August, Mike got a call from officials at Missoula Youth Football: Did he plan to coach the next season? After months of agonizing, almost entirely to himself, he’d finally made a decision. “Brogan’s not going to play, and I’m not going to coach,” he said.

Mike couldn’t bear to think of it as a permanent decision, telling his son that it was only for the one season. But Brogan was unconvinced. “You know it’s forever,” he said. “Mom’s never going to let me play again.”

**M**IKE AND BROGAN still watch football together—high school games on Fridays, Montana State on Saturdays, and their former team on Sunday afternoons. “It’s kind of hard because I’m not playing,” Brogan says. “I think about what I would do against the teams when I watch.” He has hurled himself into basketball and started taking tennis lessons. Brogan admits that he hasn’t yet fully recovered. Schoolwork doesn’t come as

easily as it once did, but Shannon isn’t worried. “Brogan missed 234 classes in the sixth grade,” she says, “and he finished with three A-pluses and three As.” Now, instead of going to Stanford University to play football, he wants to go to the University of California, Berkeley, to study architecture—his mother’s passion.

Mike says he often thinks back to a day a few weeks after Brogan’s injury. League officials asked how he wanted to handle that fateful, unfinished game. “A big part of me was, ‘I don’t want to handle it,’” Mike says. But the kids cared about completing the game, and Mike felt it would have been selfish to refuse.

That meant bringing the teams back to the field behind the county fairgrounds. The Panthers and the Chargers lined up exactly where they’d been the moment Brogan was injured—but with Brogan now on the sidelines with his father. The referee set the game clock to where it had stopped and blew the whistle, and they played the remainder of the game. The Panthers lost. For the first time in his life, Mike didn’t care. **R**

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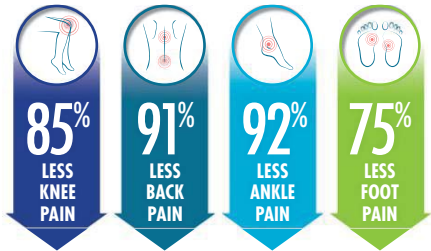
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# WHO KNEW

## 13 Things You Didn't Know About Space Travel

BY MICHELLE CROUCH

**1** The first astronauts to Mars may be departing sooner than you realize. In March, President Trump ordered NASA to get people there by 2033, and the agency is building a new rocket known as Space Launch System. It will be one heck of a ride. The heat energy produced by the system's solid rocket boosters during the two-minute liftoff alone could power 92,000 homes for an entire day.

**2** Meanwhile, at least four private companies are racing to be the first commercial taxi service to take paying customers into space: Boeing, Elon Musk's SpaceX, Jeff Bezos's Blue Origin, and Richard Branson's Virgin Galactic. The first flights will most likely be to the near edge of space—more than 100 miles above

Earth—where tourists can experience weightlessness and marvel at the view. If you want to take a ride, prepare for sticker shock: Virgin Galactic is selling tickets for \$250,000. About 700 people have signed up.

**3** Beginning next year, it could be possible to make a cell phone call from space. A German company has teamed with Nokia to build the first 4G network on the moon in 2019. The system will allow astronauts to send videos back home. Other companies are planning satellite constellations that could make the Internet available to everyone on Earth.

**4** Spending time in space takes a toll. In microgravity, you lose bone and muscle mass, and your





*Commander Chris Hadfield turns a mouthful of water into a free-floating bubble aboard the International Space Station in 2013.*

blood redistributes in your body, which can strain the heart. You also get hit by a considerable amount of radiation. NASA estimates that, at minimum, an astronaut is exposed to as much radiation as he or she would get from 150 chest X-rays.

**5** Another physical challenge: More than half of American astronauts suffered from vision problems, especially after long-duration space station flights. Researchers say the issues could be related to fluid shifts in the body that put pressure on the eye nerves. The pressure can also permanently flatten the shape of the eyeball.

**6** On the bright side, after about a month in space, big chunks of skin (calluses) fall off your feet, leaving them as soft as a baby's. Could space travel be a mini fountain of youth? When researchers looked at astronaut Scott Kelly's DNA, they found that the ends of his chromosomes got longer during his 340 days in space. That was surprising because they usually shorten as we age. "More research is needed, of course, but it certainly cracks open the question of whether spending time in space could reverse the aging process," says Colorado State University's Susan Bailey, PhD, who conducted the research.

**7** Another perk of space travel: You get taller. Without gravity compressing his spine, Kelly stretched two inches on the International Space Station, according to his book *Endurance: A Year in Space, a Lifetime of Discovery*. Unfortunately, you shrink to your original height almost immediately upon your return.

**8** But what about the accommodations up there? A U.S. company, Orion Span, recently began taking reservations for a luxury space hotel that could open by 2022. For just \$9.5 million, you get a 12-day stay and three months of training before you go. Russia's space agency also announced a space hotel module that will attach to the International Space Station, to be delivered in 2021.

**9** There's a heavy-duty dress code. A NASA space suit weighs about 280 pounds on Earth, though in microgravity it feels like nothing.

**10** Astronauts have more than 200 food and drink options, but "astronaut ice cream" is an intergalactic myth. In space, they get the real stuff.

One food that's not recommended: bread. In 1965, two NASA astronauts had a corned beef sandwich and crumbs flew everywhere, a hazard that could have interfered with the flight equipment. (Tortilla wraps are now the sandwich maker of choice.)

**11** Water is at a premium in space. In fact, what you drink is made from your own filtered sweat and urine. Since 2008, more than 22,500 pounds of water have been recycled from the space station crew's urine.

**12** By the way, that shooting star you wished upon may be a turd. Excrement produced on the space station is freeze-dried and discharged into space periodically. When it nears Earth, it burns up in the atmosphere and, according to NASA, looks just like a shooting star.

**13** Decided to stay on terra firma? You can still check out the space station. Because it's powered by a full acre of solar panels, you can sometimes see it flying at dawn or dusk, even in a big city. Find sighting schedules at [spotthestation.nasa.gov](http://spotthestation.nasa.gov). **R**

\*  
\* \*

## THAT'S ONE MISSTATEMENT LAID TO REST

Not sure why "You've made your bed, now lie in it" is supposed to be a bad thing. It sounds pleasant. I'll even lie in a bed I didn't make.

[@THECATWHISPRER](https://twitter.com/THecatWhisperer) (MARK)

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Lidar—a high-tech cousin of radar—uses light waves to peel back the layers of time

# Fascinating Facts About Unseen Cities

BY NICOLA DAVIS FROM THE *GUARDIAN*

 WE USUALLY think of archaeology as involving intrepid explorers and lots of painstaking digging. But today, long-hidden cities are being revealed from the air, where modern archaeologists use laser beams to spot evidence of ancient life buried beneath thick vegetation.

Lidar, short for “light detection and ranging” (and a cousin of radio-based radar), involves directing a rapid succession of laser pulses—between 100,000 and 400,000 per second—at the ground from an airplane or a drone. Software captures the time and wavelength of the pulses reflected from the surface and combines it with GPS and other data to produce a precise three-dimensional map of the landscape below. These high-tech explorations have revealed long-buried Mayan cities, including Tikal, in the dense jungle of Guatemala, and Caracol, in Belize.

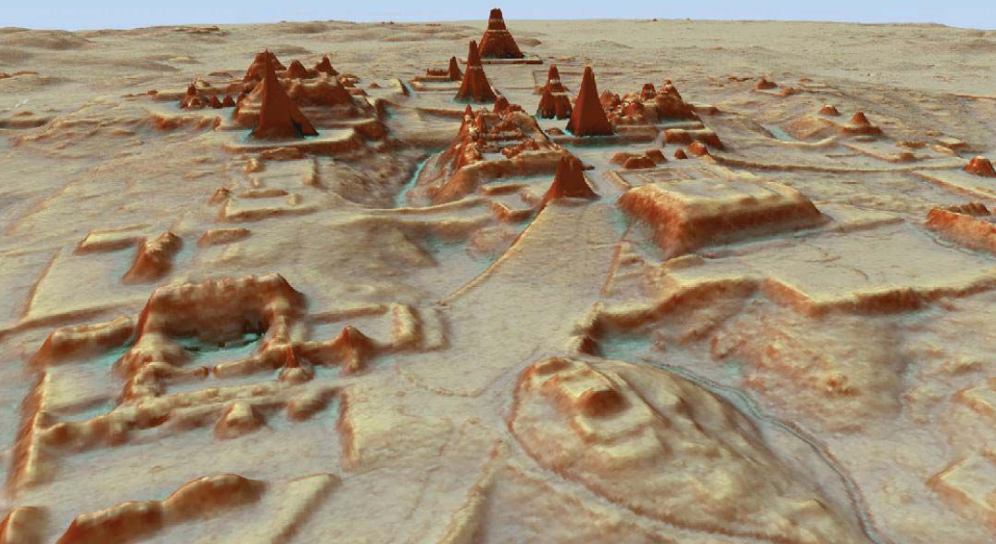
In recent years, lidar exposed a sprawling ancient city in western Mexico called Angamuco. The

discovery of this long-lost Mexican metropolis is especially significant. Built by the Purépecha, who were rivals of the Aztecs, Angamuco was a major civilization in the early 16th century, before Europeans arrived.

“To think that this massive city existed in the heartland of Mexico for all this time and nobody knew it was there is kind of amazing,” says Chris Fisher, an archaeologist at Colorado State University who led the expedition.

The city extended over ten square miles before it was covered by a lava flow. “That is a huge area with a lot of people,” says Fisher. “You are talking about 40,000 building foundations, which is [about] the same number of building foundations that are on the island of Manhattan.”

Archaeologists were surprised when they saw Angamuco’s city plan. The Purépecha’s monuments—the city’s pyramids and plazas—were largely concentrated in eight zones around the edges rather than being located in one large center. Why this



*Lidar revealed long-buried facets of Tikal, Guatemala, among other lost cities.*

almost Los Angeles-type sprawl? Historians want to know the answer to that too.

The revelation of Angamuco is a prime example of the power and promise of lidar. Archaeologists discovered signs of the buried city in 2007 and initially attempted to explore it using a traditional “boots on the ground” approach. But the team soon realized that with the rugged terrain, it would take at least a decade to outline the entire metropolis.

In 2011, they began using lidar to map nearly 14 square miles, revealing an astonishing array of features, from pyramids and temples to road systems, garden areas, and even ball courts. This gave them the “map” they needed to know where

to explore further. So far, Fisher and his team have verified more than 7,000 architectural features over a 1.5-square-mile area, with excavations undertaken at seven locations. The earliest artifacts include ceramic fragments and other remnants dating as far back as AD 900.

All told, researchers now believe that more than 100,000 people lived in Angamuco from about AD 1000 to AD 1350. That makes it the biggest city in western Mexico at the time—or at least the biggest city we know about so far.

“Everywhere you point the lidar instrument, you find new stuff,” says Fisher. “Right now, every textbook has to be rewritten, and two years from now, [they’re] going to have to be rewritten again.”

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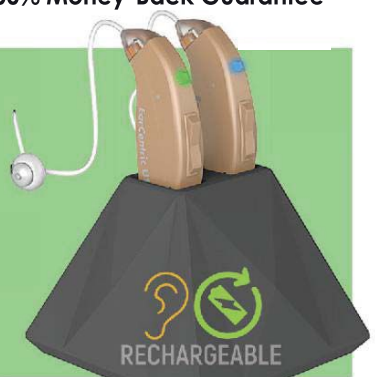


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IT PAYS TO INCREASE YOUR

# Word Power

*Sharpen your pencil and put on your thinking cap—it's time to head back to school. We've selected a roster of words that will challenge learners of all ages. Will you make the grade or draw a blank? Turn the page for answers.*

BY EMILY COX AND HENRY RATHVON

**1. parochial** (puh-'roh-kee-uhl) *adj.*—A: rigorous. B: elementary. C: run by a church.

**2. conscientious** (kon-shee-'en-shuhs) *adj.*—A: extremely careful. B: alert. C: well educated.

**3. pore** (pohr) *v.*—A: quote at length. B: study intently. C: write by hand.

**4. carrel** ('kehr-uhl) *n.*—A: library nook. B: songbook. C: punctuation mark.

**5. curriculum** (kuh-'rih-kyuh-luhm) *n.*—A: lecture hall. B: highest grade. C: set of courses.

**6. pedantic** (pih-'dan-tik) *adj.*—A: misbehaving. B: making a show of knowledge. C: highly poetic.

**7. glean** (gleen) *v.*—A: divide equally. B: erase. C: gather.

**8. rudiments** ('roo-duh-ments) *n.*—A: wrong answers. B: small classes. C: beginner's skills.

**9. syntax** ('sin-tax) *n.*—A: dictionary. B: sentence structure. C: math equation.

**10. semantic** (sih-'man-tik) *adj.*—A: related to meaning in language. B: collegiate. C: in essay form.

**11. pedagogy** ('peh-duh-goh-jee) *n.*—A: art of teaching. B: debate tactic. C: study of children.

**12. syllabus** ('sih-luh-buhs) *n.*—A: word part. B: class outline. C: textbook.

**13. woolgathering** ('wool-ga-thuh-ring) *n.*—A: taking notes. B: memorizing. C: daydreaming.

**14. cognizant** ('cog-nuh-zent) *adj.*—A: engrossed. B: aware. C: automated.

**15. empirical** (im-'peer-ih-kuhl) *adj.*—A: theoretical. B: quick to learn. C: based on observation.

 To play an interactive version of *Word Power* on your iPad, download the Reader's Digest app.

## Answers

**1. parochial**—[C] run by a church. Years of wearing *parochial* school uniforms left me hating plaid.

**2. conscientious**—[A] extremely careful. Carly is so *conscientious*—this sloppy book report isn't like her.

**3. pore**—[B] study intently. Sam *pored* over his European history notes the night before the midterm.

**4. carrel**—[A] library nook. In graduate school, I'd practically sleep in a *carrel* before final exams.

**5. curriculum**—[C] set of courses. The first class in Pierre's cooking *curriculum* is Sauces, Soups, and Stews.

**6. pedantic**—[B] making a show of knowledge. Professor Riordon knows a lot, but I find his bookish teaching style a bit *pedantic*.

**7. glean**—[C] gather. From what I *glean* from her essays, Shauna has done a lot of traveling.

**8. rudiments**—[C] beginner's skills. First-year students at Hogwarts must learn the *rudiments* of wizardry.

**9. syntax**—[B] sentence structure. This sentence a rather tortured *syntax* has.

**10. semantic**—[A] related to meaning in language. "What's the *semantic* difference between *clown* and *fool*?" our English teacher asked.

**11. pedagogy**—[A] art of teaching. "There are no lucrative awards for *pedagogy*," said Mr. Wilcox, "but I find it very rewarding."

**12. syllabus**—[B] class outline. This *syllabus* has no homework assignments listed—woo-hoo!

**13. woolgathering**—[C] daydreaming. If you hadn't been *woolgathering* in class, you wouldn't have flunked.

**14. cognizant**—[B] aware. "I'm *cognizant* of the facts of your case," the vice-principal told Mason, "but they don't excuse cheating."

### NON-WORKING CLASS

Cramming for tests, slaving over papers—school can be a grind. But the word *school* comes from the Greek *shkole*, meaning "idleness." In ancient Greece, *shkole* referred to how the well-to-do spent their spare time: in philosophical discussion. *Shkole* became the Latin *schola* ("meeting place for teachers and students"), which in turn gave us *school*.

**15. empirical**—[C] based on observation. Brody's science project presents *empirical* evidence that eating chocolate is good for you.

### VOCABULARY RATINGS

**9 & below:** pupil  
**10-12:** scholar  
**13-15:** professor



# Humor in Uniform



*“How did Operation Remember to Pick Up Milk go?”*

**THREE REASONS** this grunt’s spouse loves the nomadic military life:

- 1.** Who doesn’t like doing math to figure out what time businesses open and close? (“1830 hours is what time o’clock, again?”)
- 2.** I’ve always wanted to have kids that doubled as travel souvenirs. “Well, my first was born in Texas, my second in Germany ...”
- 3.** Green is my favorite color. Especially in socks.

JESSICA HALL, on [nextgenmilspouse.com](http://nextgenmilspouse.com)

**MY DAD AND UNCLES** were all in the Army during wartime, but only two of the three served overseas. One day, at an event honoring veterans, a young man asked where they had been stationed.

“I served in Japan,” said Uncle Sid.

“I served in Korea,” said Uncle Jerry.

“Baltimore,” said Dad. “Keeping it safe for democracy.”

LORI SHANDLE-FOX, Raleigh, North Carolina

Your military anecdote might be worth \$\$\$! For details, go to [rd.com/submit](http://rd.com/submit).

# Quotable Quotes



Money doesn't buy happiness, but it can provide more comfortable despair.

**LAURA WASSER,**  
*divorce lawyer*

**YOUR WORLD IS ONLY AS SMALL AS YOU MAKE IT.**

**GABRIELLE UNION,** *actor*



The best way to cheer yourself is to try to cheer somebody else up.

**MARK TWAIN,** *author*

**Compromising is OK, but compromising who you are as a human is not.**

**KELLY CLARKSON,**  
*singer*



**The more you talk, the less people listen.**

**MITCH LANDRIEU,** *mayor of New Orleans*

I'm one of those people who get up on the right side of the bed in the morning. I get up and have a cup of coffee and go to the gym before I can talk myself out of it.

**DICK VAN DYKE,** *actor*



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