Steam engine 489 crosses a trestle on the Cumbres & Toltec Scenic Railroad, training wanna-be steam locomotive train engineers of all types.
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Lowrider cars are more than just tricked-out versions of the originals. Lowrider cars came into fashion in the years after World War II. Teens and young adults tinkering in their garages produced the low-set hot rods that fueled the trend. Today, they have morphed into museum-quality works of art. This example, called Our Family Car, is a customized 1950 Chevrolet Sedan. Chicano (Mexican-American) artist Gilbert "Magu" Lujan used his own family's vehicle for this piece. Albert de Alba, Senior's El Rey is a work of interior design art in the form of a 1963 Chevrolet Impala. And the delicate brushwork (airbrush, that is) on Jesse Valadez's '64 Impala Gypsy Rose is suitable for framing. These and other rolling masterpieces are featured in a traveling exhibition entitled "The High Art of Riding Low" at the Petersen Automotive Museum in Los Angeles, California.
United States: River Renewal

Portland, Oregon, is well known as a nature-loving, outdoorsy city. But the river that flows through downtown has never been part of that green reputation. Weekly sewage overflowed into the Willamette River, turning it into a bacterial stew. Residents were repulsed by the idea of swimming there. Now the completion of a $1.4 billion sewage pipe is flushing away swimmers’ worries. This summer saw a roster of public swimming events and a flood of announcements that the river is finally safe for human use. A new city beach with lifeguards also opened on the waterfront, within walking distance of trendy cafés and shops. But the city still has a public relations hurdle to overcome. “There is absolutely still a public perception out there (that says), ‘I will not go in the river,’” says Diane Dulken, spokeswoman for Portland’s Bureau of Environmental Services. Water tests are conducted weekly to ensure there’s no further contamination.

U.S./Canada: Home on the Border

Live in two nations at once! Unique cross-border home for sale! Comes with 24-hour armed security provided by both Canada and the United States! Built in 1782, this almost 7,000-square-foot fixer-upper sits on less than a quarter acre straddling the border between Beebe Plain, Vermont, and Stanstead, Quebec. The homeowners have dual citizenship. But they want to move nearer their children in Ontario. When the house was built, people moved freely across the border. Not so today. The house is directly across from the Canadian Border Services port of entry and adjacent to a U.S. Border Protection post. It’s now vacant, but agents did recently allow its residents to move back and forth freely—as long as they never left the lot. A gate at the back of the property has to stay wired shut. Leaving the yard means going through one of the other border checkpoints before departing for another destination.

South Africa: Burning for Good

The smoking image of a grasshopper emerged in the South African grassland. Alert firefighters stood by. It was a performance artwork promoting controlled burning for South Africa’s savannah ecosystems. Research scientist Sally Archibald explores the use of fire in creating productive grazing areas. Artist Hannelie Coetzee was inspired by Archibald’s work. Coetzee made the 12-acre environmental artwork in response, using real fire and real firefighters to create it. The burn was enacted with a live audience present. They had to hike in almost four miles to watch. Archibald says controlled burns clear space for new plant growth to feed animals. The artwork proves how precisely it is possible for experienced fire fighters to manipulate the burn—keeping other areas safe from fire. Archibald is now looking into the impact of the burns on insects. That’s why Coetzee chose to burn the grasshopper shape into this production.
Australia: Buy Back in the Outback

Coal and iron ore are Australia’s most lucrative exports. In 2008, a Chinese mining company paid big bucks for rights to explore coal seams in Liverpool Plains—Australian farming country. A price boom at the time made the deal far more valuable than any crop farmers could grow. So Shenhau Watermark Coal paid the New South Wales state government 300 million Australian dollars (about $238 million in U.S. funds)—sparking outrage from local farmers. Mining was intended to be restricted to ridge lines and not touch the fertile farmland below. But farmers fear the disruptive excavations will pollute or destroy underground aquifers that water their fields. So the state government has said it will buy back more than half the mining company’s license in order to protect the future of agriculture there. Shenhau “expressed its disappointment” at the government’s decision but will continue to mine the much smaller area.

Japan: Robot Takes on Fukushima

An underwater robot has a job far too dangerous for humans. It entered a badly damaged nuclear reactor at Japan’s crippled Fukushima nuclear plant. The robot nicknamed “Little Sunfish” captured images of the impact of the reactor’s meltdown, including key structures that were knocked out of place. It completed a day’s exploration inside the primary containment vessel of the Unit 3 reactor at Fukushima. That section was destroyed in March 2011 by an earthquake and tsunami. Next, Little Sunfish will go deeper inside to look for melted fuel within the structure. It will snap photos and relay back images and radiation readings. It will take decades of information gathering and planning to remove the fuel and completely shut down the nuclear unit. Robots like Little Sunfish can endure radiation levels so high that they would instantly kill a person.

Iraq: Saving Mosul

Iraqi forces—with the help of the United States—finally succeeded in wresting the ancient city of Mosul out of Islamic State control in July. The victory came after a nine-month fight that included blasting the historic Old City to rubble in many areas. The militant Islamists were deeply entrenched throughout the city, which stands across the Tigris River from the biblical Nineveh. Saving the city meant almost destroying it. Nearly a third of the Old City—more than 5,000 buildings—was damaged or completely destroyed in the final weeks of bombardment. Satellite imagery shows the destruction from above. Once, more than three million people lived here. Hundreds of thousands are now displaced. Iraqi Prime Minister Haider al-Abadi promises reconstruction will begin soon. But the oil-dependent country is struggling with financing the recovery. Oil prices worldwide are low, meaning less income for Iraq to rebuild with.
If the hot dogs in this New York City bodega feel a little fuzzy, don’t worry; it’s not a health hazard. It’s art.

Lucy Sparrow is a British felt artist. She cuts, sews, and embroiders felt into intricate designs.

For her latest project, Sparrow recreated the contents of a city bodega (a small grocery store) in felt. Her “8 Till Late” is a life-sized, interactive art installation.

Sparrow handmade all 9,000 items stocking the shelves in “8 Till Late.” Her pieces include nearly everything found in the small stores that dot New York City. There are felt boxes of detergent and aspirin; felt jars of peanut butter and loaves of bread; felt pizza slices and pretzels; as well as a felt fridge filled with felt ice cream treats. There’s even wispy felt cotton candy and tiny wads of felt popcorn.

“8 Till Late” set up shop in a 1,200-square-foot space at The Standard Hotel in New York City this summer.

“It’s truly amazing how much stuff is in there,” says Brooklynite Margaret Stegall. She made a subway trek to visit Sparrow’s bodega. “And everything, everything is felt!”

What makes the “8 Till Late” even more interesting is how the installation changes as shoppers interact with it. Felt potato chips get moved to the dairy case; a felt can of beans is abandoned near the ketchup.

Sparrow hopes the exhibit generates conversation about what happens when small mom-and-pop stores fade away.

“A sense of community is being lost when these places disappear,” she laments.

For the bodega project, Sparrow sewed for months. Some weeks she worked 16 hours a day. But it’s work Sparrow enjoys. She says felt “evokes nostalgia with people.”

Sparrow’s favorite items in the shop are the products in the meat case. All have eyes and faces. But the most noteworthy may be the cat.

“I had at least 20 people say to me that having a bodega cat was probably the most important thing about this installation,” Sparrow says, “so I had to get that right.”

Sparrow’s felt feline stands atop the meat case, eyeing the felt sausages.

Stegall visited “8 Till Late” to window-shop. But she quickly caught the excitement of the bustling bodega. At 11:00am on a weekday, it was packed with customers. One bought felt yogurt; another bought felt cereal. Stegall selected a felt KitKat and placed it near the felt register as the cashier announced to shoppers, “We just ran out of Spam”—felt, of course.
Who will look after this bear now? Michael Bond, the creator of Paddington, the marmalade-loving teddy from Darkest Peru, passed away in late June. He was 91.

For more than 50 years, the gentle story of the little bear who arrived on a London train station platform with suitcase and duffel coat touched the hearts of children. Bond says Paddington was inspired by a last-minute Christmas gift.

On Christmas Eve, 1956, Bond saw a small, stuffed bear alone on a shelf in a London store. He felt sorry for the as-of-yet unwanted toy, so he bought it for his wife. At the time, Bond was a cameraman for the British Broadcasting Company. But he also desired to be a writer.

The lonely little bear sparked ideas that Bond jotted down. In the storyteller’s mind, the bear represented refugees who streamed through British train stations before and after World War II. Many of the children had name tags hung around their necks.

Over the course of a week, Bond produced eight vignettes which he thought could be the chapters of a book. He was right. He shared his writing with his agent, who sent it to a publisher. In 1958, *A Bear Called Paddington* was in print with illustrations by Peggy Fortnum. More novels followed. Then a television show. Then a movie. Countless Paddington toys have been produced as well.

But what happens now that the author has passed away? Will the beloved character meet his end too?

Ann-Janine Murtagh, executive publisher of HarperCollins Children’s Books, says of the author that he “will be forever remembered for his creation of the iconic Paddington, with his duffel coat and wellington boots, which touched my own heart as a child.” She also says that Paddington “will live on in the hearts of future generations.”

HarperCollins owns publishing rights for the books. To date, the books have sold more than 35 million copies. They exist around the globe, translated into 40 different languages—even Latin! And Michael Bond’s daughter, Karen Jankel, made an agreement last summer to keep Paddington alive and well in other outlets too.

Prior to June 2016, Jankel was owner and director of Paddington and Company. She oversaw the usage of Paddington’s character in movies, television shows, games, and toys. But so many people love Paddington that she decided to send him on to bigger adventures. A larger media company, Studio Canal, bought Paddington and Company. Studio Canal plans to look after this bear for a long time to come.
There’s a saying that goes, “Imitation is the sincerest form of flattery.” But flattering or not, imitation jewelry and art is harming some Native American craftspeople. Now the federal government is getting involved to protect the interests of tribal artists.

Promoting counterfeit goods as if they are authentic constitutes fraud. According to two U.S. senators, that fraud undercuts the real art’s value.

Those senators, Tom Udall and Martin Heinrich, are seeking legal reform in New Mexico. They held a hearing in the American Indian arts hub of Santa Fe. Law enforcement officials and Native American artists have found a disheartening influx of counterfeit jewelry, weavings, and art knock-offs there.

“We’ve got a serious problem,” says Udall, vice chair of the Senate Indian affairs committee. “Fake Indian arts and crafts are flooding the markets. . . . It’s forcing Native Americans to quit their crafts.”

Udall hopes to modernize the existing Indian Arts and Crafts Act. He wants it to target international jewelry counterfeiters and to allow policing online sales of fake goods. The act already makes it a crime to falsely market art as Native American-made.

Counterfeit art is really big business. William Woody is in federal law enforcement. He says counterfeiters don’t even blink at the present fines if caught. The current $250,000 maximum fine is, according to Woody, “a pit- tance.” Woody speculates that as much as 80 percent of the U.S. Indian art market is counterfeit. The retail value of fake imported goods easily exceeds $20 million from just two known networks. They were identified after authorities raided art galleries in Albuquerque and Arizona.

Presently, the law only goes after the fakers. It doesn’t protect buyers who unknowingly purchased the counterfeits, so buyer beware!

Why does it matter if a basket or necklace isn’t made by actual Native Americans? Many who seek authentic goods believe that they are helping preserve the traditions and identities of the tribal groups producing them. They think their purchase provides income for individual Native Americans working to support themselves and their families.

But in reality, that purchase often funds international counterfeiters from countries like the Philippines. There, workers are underpaid to produce items not related to anything of historical significance. Meanwhile, the real artisans don’t reach the buyers who could be supporting them.

Falsely taking an identity for a product is both lying and stealing. It misrepresents the product origin, and it intercepts income that would have gone to an honest artist. Neither is the way God intends people to go about business.
They appear every 300 feet or so along a busy highway just outside New Delhi—children advertising boiled corn for sale. Most seem too young to be employed legally. They are known as India’s corn boys.

Twelve-year-old Prakash sprawls amid discarded cornhusks. He doesn’t seem bothered by the sweltering heat or the buzzing flies. “We all work together and live together,” he says, gesturing toward 15 or so other boys working the road.

Every morning, employers drop the boys off with sacks of boiled corn. They spend long days flagging down drivers in this city of more than 27 million people. The boys don’t leave until their sacks are empty—even if it means hawking cobs for 12 hours or more.

Are all as young as Prakash? No one is sure. Often the boys won’t admit their ages. They fear losing their jobs. Selling corn can pay about $80 per month—far more than they could earn back home in their rural villages.

One corn seller named Bhure says he receives job offers from some of his customers. They promise him double what he earns.

Child labor is a problem in India, as it is in other parts of the world. India’s constitution outlaws child labor in dangerous industries. But legal work age, changing working conditions, and other factors make stopping bad practices difficult.

Several human rights organizations claim that children work in many of India’s biggest industries: carpet weaving, coal mining, gem cutting, fireworks manufacturing, and silk making. Often children are working to pay off their parents’ debts.

According to experts, child labor not only hurts children. It also hurts a country’s economy. Children who work don’t go to school. Uneducated children become illiterate adults. And those adults cannot perform the highly skilled technical work necessary to run a country.

Jesus clearly loved children. He told His disciples, “Let the little children come to me and do not hinder them, for to such belongs the kingdom of heaven.” (Matthew 19:14) How sad it must make Him to see children mistreated.

Along a New Delhi road, a boy in a green shirt pulls an ear of corn from a bag. He slathers the cob with oil and sprinkles it with spices. He says his parents work on a farm, but he must sell corn. “I came here to earn money, as there isn’t any at home.”

When asked about selling corn all day, he says, “It doesn’t feel right. But what can I do? This all there is to do.”
A telecom company in the Netherlands is going the extra mile with the “No Distracted Driving” philosophy: Its new bike lock completely disables mobile networks. That is, riders can’t use their phones any time their bikes are unlocked. The company aims to protect young people—who regularly pedal on busy streets while looking down at their phones.

The Dutch Traffic Safety Association reports that one in five bicycle accidents involving children is caused by smartphone use.

Dutch telecommunications company KPN worked together with the nation’s traffic safety authority to change that. Together they’ve developed a bike lock and a smartphone app.

The Smart Lock has no physical key. A rider can unlock it only by using the app. The app opens the lock and blocks the KPN cellular network at the same time. After that, the cyclist’s phone can be used only to call emergency services. Once the bike is re-locked using the app, the cellphone works again.

By blocking the network, the lock and app halts not only the phone calls but also the beeps and buzzes that alert users to new messages. Those sounds can be as distracting as phone calls.

“If you want to assure yourself of not being disturbed by . . . notifications, which can take away your attention from the traffic around you, then this is a good solution,” says Victorina de Boer, a KPN spokesperson.

Reactions are mixed about the Smart Lock. Some dislike the idea that riders can’t listen to music or access maps. KPN’s app does prevent streaming content. But it doesn’t stop users from listening to music stored on their phones. Maps need to be saved offline ahead of time.

KPN tested the app and lock over the summer. The company says Smart Lock should go on sale by the end of the year for around $110.

Smart Lock will initially be available only for Android phones. But de Boer says KPN is also looking into the possibility of a version for Apple’s software.

The lock currently services only KPN cellular clients. “But of course we’re open to working together with other providers on this. Anything to increase the safety of children on their [bikes] in traffic,” de Boer says.

Helping bike riders pay attention is a worthy goal. But whether consumers will exchange their beloved cellphones for safety remains to be seen.
Folks in Oregon might not want to know where their elk or venison burger came from. It may be from just down the road—literally.

Oregon passed a roadkill bill in June. The measure says that motorists who crash into deer or elk may now harvest the mangled meat for food.

It’s not as strange as it sounds. About 20 other states allow people to take meat from animals killed by vehicles. Fans say roadkill can be high-quality, free-range, grass-fed grub. Animal rights activists say it’s healthier than farm-grown meat, which may contain antibiotics and hormones to increase growth.

Pennsylvania claims top honors in the country for roadkill. Records say the state had more than 126,000 vehicle-wildlife accidents in 2015 alone.

“We have a lot of roads and a lot of deer,” says Travis Lau. He is the spokesman for the Pennsylvania Game Commission. Lau admits the actual total number is uncertain.

Pro-roadkill lawmakers in Oregon cited Pennsylvania’s statistics to bolster their case. Pennsylvanians can take deer or turkeys that are killed on the road—if they report the incidents to the commission within 24 hours.

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Despite the testimony of activists and officials, some Oregonians oppose the bill.

Vivian Kirkpatrick-Pilger thinks the bill is unnecessary. She says people have been salvaging roadkill in Oregon ever since vehicles and animals have been colliding. She says they’ve never needed a law or permit to do so.

But the Oregon Department of Fish and Wildlife insists that before the bill, the only people allowed to keep roadkill were licensed furtakers.

Officials say no one was supposed to eat roadkill animals.

The no-roadkill rules were meant to discourage people from purposefully hitting animals with a vehicle. “It’s not a legal method of hunting,” the department’s website says.

Oregonian Les Helgeson dislikes the grille-to-grill bill for another reason: taste. He says roadkill “would not be palatable, much less pass any sense of health standards for human consumption.” But others say roadkill tastes just fine.

Oregon’s new law requires permits for salvaging roadkill meat for human consumption.

The state will begin issuing permits no later than January 1, 2019. And lest any hunters be tempted to run down a deer for its rack... all antlers must be handed over to the state’s wildlife agency.

In Oregon, a deer nearly gets on the menu.
Coal-fired smoke swirls in plumes. The air smells of heat and engine grease. Nearby, a metal behemoth heaves and clangs while 11 men, mostly middle-aged and clad in overalls and steel-toed boots, stand ready for a day of class. The men have come to the tiny rail village of Chama, New Mexico.

New Jersey sheep farmer Tom Chenal gazes at a waiting locomotive. “It’s a strange beast,” he says. It almost seems alive to him, “like it’s got a heartbeat or something.”

Chenal and the others signed up for a rare and remote school near the Colorado-New Mexico border. Over four days at the Cumbres & Toltec engineer and fireman school, instructors will prepare these men to operate a steam locomotive. Before arrival, the students read hundreds of pages of manuals as homework.

On day two, they’ll get the opportunity to operate the multi-ton Engine 487 on actual tracks.

The Cumbres & Toltec Scenic Railroad dates back to 1880. It was built to help tap the resources of the southern Rockies. Designated as a National Historic Landmark, it’s the highest and longest steam-operated railroad in the country. In addition to the school trains, tourist trains also lumber daily between Chama and Antonito, Colorado, during the summer and fall seasons.

Ed Beaudette manages the railroad’s engineering and operations. He says the “whole operation here is very much a time capsule . . . look around and then you are back in 1925.”

**Hands-On Work in High-Tech Times**

It may seem odd in this age of high-tech advancements to think about pursuing a job with a railroad. But for many, the appeal of the train age has never waned. Most of the students in this group operated model trains in their childhoods.

Rather than look at computer readings to gauge speed, power, and navigation, an engineer feels the rails beneath
the machine and sticks his head out the window to see the upcoming track and grade.

When the men aren’t in the locomotive, they ride in one of the cars and compare notes. Even Lockheed Martin software engineer Ed Lichtenfels of Littleton, Colorado, appreciates the durability and simplicity of the steam engine. Lichtenfels helped develop software for the MAVEN Mars probe. But here on the railroad, there are no crashing hard drives or out-of-date computers to worry about. It’s all a matter of hands-on work combined with gaining real-time experience. He finds the total engagement with the job satisfying.

Multi-Sensory Appeal

Operating what one of the men calls “a hulking beast” is both very physical and a delicate balancing act: the right mix of water, steam pressure, and heat.

“This is loaded with subtlety, the sensitively of the throttle, the sensitivity of the brakes. They’re exquisitely sensitive,” Chenal says.

John Grigsby, a saw mill operator from Arkansas, listens to the train. “You don’t have to have a speedometer because there isn’t one . . . the railroad kind of tells you what to do.”

While one adjusts the throttle, another is doing the backbreaking work of shoveling coal into the furnace. A third adjusts the knobs and wheels that let steam into the pressurized engine at just the right rates. Though much of the passing landscape is serene, with alpine meadows, canyons, and aspen groves, instructors say the thrill for new students is nothing short of a mild sort of terror—even when they aren’t passing along the edge of the 800-foot Toltec Gorge. There’s just so much power and potential speed in the hands of novices.

“As soon as they actually get something moving, the terror tends to go away. . . . They come off all smiles,” says seasoned conductor Chris Aira. Then comes the adrenaline rush.

Past Knowledge for Future Achievement

It may seem like a step backward, but retired aerospace engineer Chris Weiser is here learning what the mechanics are that make a locomotive move. That’s because he’s switching from designing and building light-weight aircraft to building a heavy steam locomotive in Ridgway, Colorado. The depot there was once part of the Rio Grande Southern railway which ran from Durango to Ridgway.

Why the change for Weiser?

“We want to put it back,” he says matter-of-factly.

Tom Chenal agrees that the knowledge from the past is valuable today. “I was curious how our predecessors did it, and the more that I learned, the more I am in awe of what they accomplished.”

Let the wise hear and increase in learning. — Proverbs 1:5
Ken Shefveland’s body was swollen with cancer. Treatment after treatment failed. Finally doctors tried a drastic approach: They removed some of his immune cells, engineered them into cancer killers, and unleashed them into his bloodstream.

Immune therapy is the latest trend in cancer care. And creating “living drugs” that grow inside the body into an army that seeks and destroys tumors is the next frontier.

A month after Shefveland’s treatment, doctors couldn’t find any signs of lymphoma in his body.

“I’m in full remission—how wonderful is that?” Shefveland says.

Early studies of a new treatment are hopeful. Treatment consists of one-time infusions of supercharged immune cells. These cells, called CAR-T, seem to help many patients with treatment-resistant leukemia or lymphoma.

“It shows the unbelievable power of your immune system,” says Dr. David Maloney, the doctor who treated Shefveland with CAR-T.

It also shows the unbelievable power of the one who created the human immune system. God made that vast network of cells, tissues, and organs—to defend the body against infection or disease. Immunotherapies stimulate the system to go to work.

T cells are key immune system soldiers. T cells attack bacteria and parasites and anything else trying to harm the body. Today’s immunotherapy drugs help T cells fight. But the CAR-T approach aims to give patients stronger T cells to begin with.

For the new therapy, a patient must have his or her own blood collected. A machine filters out white blood cells, including T cells.

Scientists then infect the T cells with an inactive virus. The virus carries genetic instructions to grow a “Chimeric Antigen Receptor.” That CAR will bind to the target cancer cells and attack them. The goal is to keep those CAR-T cells multiplying in the patient’s body.

Sometimes as CAR-T cells swarm the cancer, an immune overreaction triggers fever, plummeting blood pressure, and in had cases organ damage. Patients can also experience confusion, hallucinations, or other side effects.

Sadly, there have also been a few deaths from unexplained brain swelling caused by the treatment.

Doctors are working to control harmful symptoms without completely shutting down the cancer attack.

Too few patients have been studied to know how long positive results will last. But early studies with CAR-T in the United States and China show promise.

The Food and Drug Administration may approve the CAR-T treatment this year. Ken Shefveland says, “This is the hope of any cancer patient, that if you stay in the game long enough, the next treatment’s going to be just around the corner.”
Researchers in New York cabbage patch have big plans. They’re preparing the first release on American soil of genetically modified insects—engineered to die before they reproduce.

Genes are units of biological information—like a code for life. They control which traits offspring will have—such as eye color in humans, wingspan in birds, or drought resistance in plants. When scientists add, subtract, or modify genes, changes big or small occur. Lab-altered products are called genetically modified organisms, or GMOs.

Scientists have been able to fiddle with the genes of many organisms. GM rice is more nutritious. GM cows produce allergy-free milk, and GM barley grows in cold, dry areas.

Now some scientists are focusing on the diamondback moth. The diamondback is a ravenous consumer of cabbage, broccoli, and other cruciferous crops. It’s also immune to nearly every poison in the agricultural arsenal.

“It costs $4-5 billion a year globally to manage this pest,” says Anthony Shelton. He has studied diamondback moths for 40 years.

Shelton has been doing field tests of gene-altered moths in New York since 2015. Until now, tests happened only in net-covered plots. The nets kept the moths from straying. Now Shelton is awaiting a permit from the U.S. Department of Agriculture to release the moths in a 10-acre cabbage patch at the research center.

The lab-bred moths are the creation of biotech firm Oxitec. The same firm deployed modified mosquitoes in Brazil, Panama, and the Caribbean in the fight against dengue fever and other diseases. Oxitec hopes to conduct the first U.S. release of the gene-altered mosquitoes in Florida later this year.

Oxitec’s engineered moths have a “self-limiting” gene. It makes females die before they mature. Lab-bred males are released to breed with wild females. That reduces the population over time—since no female baby moths can survive.

Oxitec also added a gene to the moth’s genetic code: a protein that glows red in ultraviolet light. Scientists will see the glowing mutant moths easily and know whether they’re outside the test site.

Most organic farmers oppose using any genetically modified organisms. Some are concerned about farm workers and consumers who might swallow dead larvae that could remain on produce.

Other critics wonder how the moths could affect wildlife that eats them and what the long-term results of releasing GM moths might be. But almost everyone realizes something must be done about the veggie-munching moths. “They’re getting harder and harder to control,” says Shelton. He’s hoping the new moths will slow the devastation—and save us some Brussels sprouts.
Green Heinz ketchup? Colgate lasagna? Clear Pepsi? You don’t need to be an expert to know these products weren’t successful. So why are they in a museum in the Swedish town of Helsingborg?

The wacky parade of rejects is the brainchild of curator and psychologist Samuel West. According to West, 80 to 90 percent of new products fail, never to be heard of again. But, West says, “If there’s anything we can do from these failures, it’s learn from them.”

That’s very true in science and experimentation. Failures are prerequisites for successes. Research scientists say they learn much from disproving hypotheses—and that new knowledge sets up the next experiment. Eventually, after disproving a body of ideas, they arrive at a discovery of fact.

The same is often true of innovation and marketing. If at first you don’t succeed, try, try again. But learn from the mistakes—and that may take some research.

Why did the men’s eau-du-toilette (a light cologne) from the maker of Harley-Davidson motorcycles fail? It turns out that the men who own the prestigious, rumbling cycles felt the fragrance didn’t fit the image they were going for. (Imagine that…)

What about Google Glass—the augmented reality headset with built-in camera? How did anything from internet giant Google qualify as a failure?

“Google released it too early,” says West. “It was full of bugs.” That’s another solid lesson: Don’t rush to market with an idea that isn’t fully formed.

Experts warn that innovation is tough and failure is part of the process. “You’re working on the edge of tomorrow,” says Nicolai de Gier. The professor at the Royal Danish Academy of Fine Arts claims “part of trying is failing, so it’s just a very natural thing and very important thing.”

West says many companies featured in his museum aren’t thrilled about being there. They don’t want to admit their past failures. But others have booked large group visits—hoping to learn from their own and other mistakes in recent history.

“IT’s liberating for us. When we try out a new skill or learn something, it’s OK to fail,” he says.

Christians know that feeling of liberation well. Being free to fail is part of being completely covered by Jesus’ perfection for all our sins and shortcomings. And that empowers believers for action—whether that’s trying to invent something new or simply walking through life loving others as we have been loved. See Ephesians 5 for what that kind of action looks like.
If home is where you hang your hat, Kangol is struggling to afford its pricey new U.S. digs.

The hat brand is favored by numerous celebrities. But even with that free advertising, Kangol has had some high operating costs over the last year.

Previously, Kangol hats were manufactured in China. The brand made a big move last year to a Pennsylvania factory. The Bollman Hat Co. had acquired Kangol in 2001. Executives billed the move as an effort to create more U.S. manufacturing jobs.

But labor costs went up. Profits went down. Way down. Kangol loses money on every kangaroo-logo cap knitted at the factory in Adamstown, near Philadelphia.

Bollman CEO Don Rongione calls the transition “a bigger challenge than what we could’ve ever dreamed.”

But he expects a relatively quick turnaround as workers get better at making the popular caps. Employee Amaryllis Garman is an example.

Inside Bollman’s 19th century, red-brick factory in Pennsylvania Dutch country, Garman carefully places knitted fabric on a machine. The machine joins the ends to form the familiar Kangol flat cap, while Garman ensures a straight seam. The job requires patience and hand-eye coordination.

When Garman started, she could make 10 hats daily. She’s up to about 250.

But the early struggles illustrate why the labor-intensive garment industry left the United States in the first place.

Rongione points first to delivery speed.

Trends come and go in the fashion world. Successful suppliers get product into customers’ hands before they lose interest. Shipping from China can take weeks—potentially costing sales in that time. Time really is money, and lost time is lost money.

But even with some jobs coming back to the United States, it will be nearly impossible to reclaim all the manufacturing employment positions of past years.

Increased automation makes production cheaper. That offsets some cost of increased wages. But it also means that far fewer people are needed to produce the same volume of clothing.

Steven Frumkin of the Fashion Institute of Technology in New York says, “We’re never going to employ as many people because of efficiencies and equipment.”

Still, Bollman wants to keep its hat in the ring of U.S. workers—and some jobs are better than none.
Sometimes the hunter becomes the hunted. That’s the case for one of creation’s most powerful beasts. Sharks off the South African coast are fierce predators. But they’re being killed by an even bigger threat: orcas, or killer whales.

Scientists have studied orcas for years. They are the largest members of the dolphin family. Orca males can be over 30 feet long. Orcas are highly social and possess large brains. They have the ability to learn and to locate objects using sound waves. These intelligent mammals often have a softer image than the ocean animals they hunt. Sharks are viewed as savage. But orcas are often seen frolicking at waterparks. They seem to have a permanent smile painted on their friendly looking black-and-white faces.

But orcas are apex predators. That means no animal preys on them—they’re at the very top of their food chain. An orca’s prey can include octopuses, birds, turtles, other mammals, and even sharks.

“Different orca cultures specialize on different prey and different hunting strategies,” says Boris Worm, a marine research ecologist in Canada. He continues, “Of course, a white shark would be a difficult prey to tackle due to its power and size, but orcas . . . use group hunting strategies that can outsmart almost any prey.”

Scientists autopsied three washed-ashore shark carcasses. Each had a gaping wound on its underbelly. Each was missing its liver. Scientists believe orcas inflicted the bites. The missing organs suggest the killers targeted the nutrient-rich oil and fat in the livers and discarded the rest. Orcas probably won’t hunt great white sharks on a regular basis, says George Burgess, director of the Florida Program for Shark Research. He says the rough texture of shark flesh grinds down the enamel on orca teeth over time.

Still, orcas have been seen attacking cow sharks off New Zealand and South America as well as South Africa. Additionally, photographers have filmed orcas attacking great white sharks around the Farallon Islands off California and Neptune Islands off Australia.

South African cage-diving operators reported a drop in great white shark sightings around the time that the three sharks were killed. That’s a sign that other sharks had left the area, at least for a while, probably because of the orcas.

God created His world to sustain itself—with food and water and sunlight in abundance. Burgess, the Florida expert, isn’t worried about orcas’ shark-eating habits. He recognizes that sharks hunt and are hunted. “It’s all part of the give-and-take of the natural world.”

“The Earth is the Lord’s and all it contains, the world, and those who dwell in it.” — Psalm 24:1, NIV

Researchers examine a dead great white, its liver devoured by an orca.
Pricey Pandas

Munching on bamboo, tumbling over logs, and staring out from adorable black-and-white faces—pandas surely are cute. But did you know that giant pandas—every last one of them—belong to China? And the Chinese government takes big bucks for letting other countries “borrow” its bears.

This summer, Chinese President Xi Jinping presented two giant pandas to the Berlin Zoo. German Chancellor Angela Merkel welcomed the newcomers, calling them “special ambassadors” for the two countries.

Pandas Meng Meng and Jiao Qing arrived in Berlin only after serious negotiations between China and Germany. But they won’t stay forever. That’s because China doesn’t part permanently with its iconic pandas.

Giant pandas are native only to China. They live in a few mountain ranges in the central part of the country. The word panda means “big bear cat.” The largest can grow to be up to six feet long and 350 pounds. Black-and-white fur allows pandas to hide amid the rocks and snow of their mountain habitat. Like most bears, pandas are omnivorous (eating plants and meat) not noodle-noshing like Po, of cartoon kung fu fame. A panda’s actual diet is about 99% bamboo.

In the 1950s, China realized that pandas packed a diplomatic punch. Zoos around the world wanted the rare bears, and there was only one place to get them. Countries learned that sitting down at the bargaining table with China just might score them a panda pair.

China started out giving its pandas away. The United States received its first pandas in 1972. Ling-Ling and Hsing-Hsing were gifts to President Richard Nixon for his work on bettering relations between America and China.

But in 1984, China changed the panda plan. It decided to lend the animals out—for a price. Zoos could “rent” the bears. Then they had to be returned. Not only that, any babies born while the pandas visited also had to go back to China.

Today, pandas are still sent abroad as goodwill ambassadors. Zoos in 15 different countries currently participate in the panda-lending program. All have high-dollar contracts with China to keep the pandas for a few years.

Not everyone likes the panda payments. Experts say the cost of renting one giant panda is $1 million per year. And even though U.S. zoos accept the bears only if China puts half the cash back into panda preservation—many believe panda money isn’t well spent.
The early Christian catacombs are some of the most popular tourist sites in Rome. Inside the famous catacombs of Domitilla, some interiors have been restored. Visitors to the site can experience revived images from the lives—and deaths—of Rome’s early Christian community.

The catacombs of Domitilla are located close to the also-famous Appian Way. They were named for a member of a Roman family that had commissioned the space as burial grounds. For most cultures at the time, dead bodies were burned. But due to the Christian belief in the resurrection of the physical body, cremation was rejected. Burial for the believing dead required much space—and that had to be outside the city limits. Decaying flesh could introduce disease to communities.

But the rapid spread of Christianity created a very real problem by the second century: Where could the young church find space to bury all its dead, as the need arose? It chose to go underground.

The catacombs of Domitilla were excavated out of a soft volcanic rock outside of Rome. Drovers of workers went underground to carve out tunnels and chambers. As the soft rock was exposed to air, it underwent a hardening process that left it strong and sturdy. The resulting network is the largest series of catacombs in Rome. It stretches out more than 7.4 miles, all beneath the Earth’s surface. The catacombs descend four levels, with 26,250 tombs dating from the second to the fifth centuries.

Now, after decades of delays, two separate areas in the vast labyrinth are open again. This time, they are for public viewing.

The renovated areas were restored by German and Austrian archaeological institutes.

Left: Archaeologist Antonio Bosio rediscovered the underground network of Domitilla. He left his name scrawled above one of the burial spaces.

Top: Burial spaces line the passageways of Domitilla catacombs. Left: The catacombs sprawl for more than seven miles on four levels underground. Right: An example of one type of burial cubical.

GLOBE TREK

teen.wng.org/world/teen-globetrek
Laser and scanning technology revealed and repaired ancient frescoes on the chamber walls. Even remnants of some frescoes that had been ripped away by thieves could be detected and recreated.

The images show how intertwined into daily life pagan mythology still was with the spreading Christian faith at that time. Bible scenes show Noah’s ark and Daniel being saved from lions. But there are also likenesses of Cupid over the crypts of children, for example. And there are images from daily life, as shown in the “room of the bakers.”

Here, laser technology revives vivid depictions of Christ and the Apostles. They are woven in with scenes from the life of a regular bread baker in Rome. Perhaps for the baker, the symbolism of communion bread and fellowship with Christ Himself took on a uniquely personal meaning.

Catholic cardinal, Gianfranco Ravasi, says, “These tombs represent the roots of our deepest identity—the roots of Rome and of Christianity.” They also show how challenging it must have been for believers to live out their new faith in a culture immersed in falsehood.

To an Israelite at the time of Jesus, Rome represented the entire pagan world. It was into that world that the apostles took the gospel. The images in the catacombs show that the news of the Savior was reaching and changing unbelieving cultures—even those steeped in hedonism (the constant pursuit of pleasure) and the idolatry of false gods. They also show the Christ who goes after His own—even into the grave.

“If I make my bed in Sheol [the abode of the dead], you are there,” says Psalm 139.

Almost 2,000 years after the tombs were built, Christians today can visit. We can see the same hope we have in our culture—with its own forms of darkness and idolatry—on display as it was for those believers. Christ the Savior alone overcomes the hopelessness and darkness of the fallen world. He redeems from every culture and overcomes the grave!

One area within the renovated catacombs is set aside as a small museum, which opened in late June. Visitors can view ancient Roman statues, parts of sarcophagi which held bodies of the dead, and other artifacts from the tombs. While reflecting on the reality of death, however, they will also see the greater reality of the hope of eternal life.
Malanga fritters, chili-laced shrimp, conch with watercress. Sound like a trendy restaurant in a big city? Not quite. This is the up-and-coming cuisine of an island better known for poverty than provisions. In Haiti, a new batch of chefs is cooking with more than just a dash of local pride.

For decades, Haitian food brought to mind simple, hearty fare. It may be simmered for hours over charcoal stoves at home or fried up at cheap, curbside eateries.

True Haitian cuisine is a spicy mashup of French, Spanish, African, and American customs. Now a new generation of Haitian chefs is reimagining the country’s cooking. They’re blending traditional delicacies like the milky cornmeal beverage called akasan and fiery carrot-and-cabbage pikliz with cooking techniques from around the world.

“It’s a real exciting time . . . for Haitian gastronomy. We have serious, bona fide culinarians who are creative and focused on raising the profile of our food,” says celebrity Chef Jouvens Jean. The Bahamas-born, U.S.-raised chef has recently moved to Haiti, the nation of his family’s origins.

The island does depend more on imported food than before. But local favorites like malanga root and chayote squash still flourish. They grow on pesticide-free farm-land plowed by oxen—because most farmers can’t afford the chemicals.

Haiti’s vibrant food culture is surprising to those who associate this Caribbean nation only with natural disasters and crushing poverty. Despite repeated earthquakes, floods, and hurricanes, Haiti never lost its recipes. Some dishes have roots stretching back to Haiti’s 1804 founding. During the dark days of bondage, Haitian slaves weren’t allowed to eat an aromatic squash soup—a favorite of their French masters. Now a pumpkin soup known as joumou is a typical Sunday dish. It’s also a must on Haiti’s independence day to celebrate the world’s only successful slave rebellion.

“When we got our independence, what better way to celebrate than to eat the very thing that we were unable to eat as slaves,” Haitian-born cookbook author Nadege Fleurimond says.

Pride in Haiti’s food culture is growing. “Suddenly, a lot of Haitian chefs don’t have this fear of saying ‘Haitian cuisine’ out loud. It is becoming a very popular thing,” says Georges Laguerre, who ran a Haitian eatery in Los Angeles.

Culinary student Peraldine Alceguerre is part of Haiti’s food future. As she slices juicy Haitian mangos for a pie, she says, “This is my country’s culture and I want to show it off.”
The restaurant in Incheon, South Korea, isn’t fancy. It’s across from an empty lot. Boxes of dried fish sit by the front window. A dirty mop stands in the corner. The walls are a sickening green color.

But people come from across South Korea to eat here. They come for the potato pancakes, the blood sausage, and for a fried street food with a long name. More than anything, they come for memories of a homeland they may never see again.

“This is the taste of where they came from,” says the restaurant’s owner. She is a refugee who wants to be identified only by her surname, Choi. “The food here tastes the way it does in North Korea.”

Choi left in 2012. She opened her restaurant two years later. And even though Northerners may abhor the nation they left, many also miss it—because how can you not miss home?

For most, life in the South is far from ideal. “Our lives here can be so difficult,” says a North Korean living in the South. Northerners can face injustice and unkindness. “But finding that restaurant made me so happy.” She doesn’t want her name used. It’s been years since she fled NK. But she’s still fearful for herself and relatives left behind.

Choi named her restaurant Howol-ilga, “People from Different Homelands Come To Gather in One Place.”

“The food here tastes the way it does in North Korea.”

“Marun Myongtae,” or dried pollack, a favorite among North Koreans

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Blood sausage, known as “soondae”

During the famine, the smell of frying injogogibap wafted from food stalls into streets filled with hungry people. Even today, some exiles dream about it. Choi explains. During the famine, food was something that always made people happy. “Eating is joyful.”

One of Choi’s best-loved dishes is injogogibap, a street food invented during the famine. It’s bits of leftover rice and fried tofu stuffed into hot dog-sized tubes. It’s the closest thing to meat most people could afford.
Going up? Elevators haven’t changed a lot since the 1800s. But one Willy Wonka-esque contraption in Germany not only goes up and down. It also zips sideways—back and forth—moving people in strange new ways.

ThyssenKrupp is a multinational conglomerate—a global company with interests in many areas. The company produces high-speed trains, ships, steel, driverless cars . . . and elevators.

When ThyssenKrupp engineers decided to develop a multidirectional elevator, people were skeptical. For 160 years, real-life elevators have gone only two ways.

Company CEO Patrick Bass admits, “There were some doubts.”

But ThyssenKrupp believed that technology from other industries might work with a multidirectional elevator. From that overlap, the “Multi” was born. An office high-rise in Berlin will house the world’s first Multi.

How does Multi work? Instead of the cables that pull a traditional elevator, the Multi uses magnetic levitation, called “maglev.” Maglev is the same technology that high-speed trains use to zoom along without touching the tracks.

Every Multi cabin has its own motor. Strong magnets guide the cabin along rails in the elevator shaft. During movement, the cabins seem to float in the shaft.

When the elevator needs to turn, a section of track rotates and clicks into place—much like a railway switch. A right-angle rotation of the section lets Multi go sideways.

Engineers can stack elevator cars. If one car blocks another, it can move left or right out of the way. Traffic can be managed like subway cars.

The new cable-free multidirectional marvel is turning the elevator world upside down . . . and every which way.

Not content with building the world’s coolest cars, rockets, and transport pods (see “MIT Wins Hyperloop Competition,” WORLDteens March/April 2016, http://teen.wng.org/node/1558), inventors at Tesla want to build the world’s largest battery. The battery may help solve an energy crisis.

Tesla, Inc., will partner with French renewable energy company Neoen. Together they’ll build a 100-megawatt battery farm in South Australia, one of Australia’s six states.

Tesla CEO Elon Musk promises to deliver the system within 100 days of signing the contract—or it will be free. Musk made the pledge via Twitter.

“The system will be three times more powerful than any system on Earth,” says Musk. He seems to embrace the go-big-or-go-home philosophy. “This is not like a minor foray into the frontier—this is like going three times further than anyone’s gone before.”

South Australia relies heavily on solar and wind energy. Officials there are scrambling to boost the state’s fragile power grid. During a megastorm last year, the entire state suffered a blackout.
On the third day, God created plants. Since creation, humans have tended God’s Earth, raising crops from the ground. Now humans have used their God-given brains to invent robotic helpers down (or up!) on the farm.

An old Pittsburgh steel mill now houses an indoor, vertical farming startup. RoboBotany is primarily a robotics, software, and analytics company.

Austin Webb, one of RoboBotany’s co-founders, says, “We’re techies, but we have green thumbs.”

Webb and his team envision a 20,000-square-foot farm in the former mill. They see robots scaling racks up to 25 feet high and producing 2,000 pounds of food per day. That's much larger than the 50-square-foot space RoboBotany started with. Still, their first tiny indoor farm produced enough arugula and cilantro to supply a local grocery store.

RoboBotany aims to make indoor, vertical farming more efficient and economical—to “deliver perfect, pure produce no matter the season or location.”

In a RoboBotany farm, robots pass up and down racks moving trays of plants into different growing environments. The plants are micro-versions of leafy greens like kale and spinach and herbs like cilantro and basil. They’re grown in synthetic mesh rather than soil. The roots hang freely from the bottom of the trays.

Farmers can dispense light, nutrients, and water in exact amounts at exact times.

In this strange environment, plants grow two to three times faster than outdoors, according to Webb. They use 95% less water. Plus, they have the nutritional value and taste to rival any traditionally grown produce, the proud plant papa says.

Indoor robotic farms allow researchers to monitor plant growth and collect massive amounts of data.

RoboBotany hopes to expand its crops to include other fruits and vegetables.

As Webb says, “You can’t just feed the world on lettuce.”

Robots Take Up Gardening

What is a megawatt, anyway?

Short answer: A megawatt (MW) is 1 million watts or 1,000 kilowatts (kW).

Long answer: A watt is a unit of power. Watts measure how quickly appliances produce (or use) energy. The higher the watts, the more energy produced (or used). That explains why a high-watt microwave works faster than a low-watt one.

Your desktop computer uses about 250 watts to run. Your hairdryer uses about 1,000 watts to produce heat. Dishwashers use 2,000-3,000 watts to heat water.

Imagine enough power to allow 1,000 people to dry their hair all at the same time. That’s a megawatt. Large machines and buildings use multiple megawatts of energy. To power aircraft carriers, computer server farms, electric railways, and large apartment buildings or commercial industries, power plants must go bigger still on the wattage they produce. Some large ones measure usage in gigawatts (GW). A GW is 1,000 MW—one billion watts. Now that’s a lot of hair dryers!
Elite rock climber Alex Honnold dreamed the same dream for eight years. In it, he was climbing a giant rock face—scaling the mighty El Capitan in Yosemite National Park without ropes or harnesses to catch him if he fell. But every time he looked at the real-life granite wall, his dream dissolved. The rock was too daunting.

But one day this summer, Honnold reached El Capitan’s summit using only his hands and feet. His record-breaking climb made him the first to scale the almost 3,000-foot granite wall alone and without safety equipment. Honnold began practicing indoor rock climbing at age 11. “I could see how for a non-climber it might seem completely insane. But I’ve devoted 20 years to climbing and probably six or seven to this particular project, so it’s not like I’m just some crazy kid who in the spur of the moment decided to do this crazy thing,” he says.

Crazy. Honnold says it himself. The climber takes risks you should never take. But soon you may be able to experience climbing famous rock faces in the safety of a gym—thanks to new technology that simulates difficult climbs from around the world.

After spending time hiking in the Alps, Dartmouth College computer scientist Emily Whiting wanted to relive those ascents back home. So she and a group of colleagues...
Wilkinson Sword has manufactured steel goods since 1772. The company now makes razors. Its most famous product was lost for over 150 years: Sword No. 12506.

Union Colonel Robert Shaw served during the U.S. Civil War. In April 1863, he became commanding officer of the first all-black regiment from the North, the 54th Massachusetts Voluntary Infantry.

Shaw received a sword made by master sword maker Henry Wilkinson in England. Shaw probably carried it into battle only twice—once in Georgia and again at Fort Wagner, South Carolina.

Shaw died at Fort Wagner. Confederate soldiers stole his belongings, including the sword. For many years, the weapon's whereabouts was a mystery.

Anne Bentley is a curator for the Massachusetts Historical Society. She studied the history of Shaw's sword. She wanted to know what became of it.

Last year, Bentley received an email. The writer was a relative of Shaw’s. Descendants from the colonel's extended family believed they'd found the sword.

Bentley thought the weapon inscribed “R.G.S.” was the Fort Wagner sword. Eventually they matched the sword's serial number to Wilkinson's records. Bentley believes a Confederate officer returned the sword to Shaw's parents. The sword ended up with his sister, Susanna Minturn.

Susanna Minturn's great-grandchildren found the sword in their mother's attic. When they saw the initials, one of them emailed Bentley.

God values remembering. The Bible exhorts Christians to remember His good gifts and His works.

Why does Shaw’s sword matter? Historians believe the courage of the African-American soldiers at Fort Wagner persuaded Congress to allow more black regiments.

President Lincoln credited the Massachusetts 54th—and the more than 180,000 African-Americans who fought for the Union—with ending the Civil War. That's worth remembering.

The Dartmouth team addressed problems that vex many climbers: the challenge of mastering a route that’s far away or too fragile to practice on.

“You would still have the physical experience of climbing it without causing the erosion and damage to the location,” says Whiting.

The team does 3-D reconstruction using hundreds of photos from different angles. They combine that with video showing climbers’ movements. That data helps researchers identify key parts of the climb, allowing them to create fabricated holds and attach them to a climbing wall.

So far, the team has replicated climbs in New Hampshire and Utah.

Eventually, researchers envision a large database of outdoor climbs that are available to climbing gyms. They want to improve the texture of the holds so they feel more like the actual rocks. Whiting also hopes to add virtual reality or projected images of the climb to a wall.

Climbers who have tried the new system say their outdoor ascent matched their indoor practice.

“I was kind of blown away at just how precisely the body movements on the indoor climb recreated the outdoor movements,” says Billy Braasch, a climber in the study.

Braasch says this could serve as a good practice tool, but he admits it might not be for everyone.

“One aspect of climbing that I really love is traveling to a new place and exploring new terrain,” he says. “There is something special about being in a new place and testing yourself against a new climb.”
Save the Vaquitas

Mexico is trying to protect a critically endangered species of porpoise. The vaquita marina is the world’s smallest and most endangered marine mammal. Only about two dozen remain in their habitat in the upper Gulf of California. Their numbers have been greatly reduced in the last decades by illegal gillnet fishing. Gillnets are used to catch totoaba fish, whose swim bladder sells for a high price in China. But that type of net is invisible to marine mammals, so it can ensnare and kill the little vaquitas as well.

Mexico has now enacted a permanent ban on gillnet fishing in the northern Gulf. If the ban is fully enforced, it will be illegal even to transport the nets into the area. Fishermen will also be required to report any lost gear of any kind to avoid harming the animals and the ecosystem there.

In Mexico City, a protest display makes the point: Can it be that there are only this many vaquita porpoises left in their native habitat?

Pearson Quiz My Reading: 1. a, 2. b, 3. a, 4. a

Words To Bank: 1. b, 2. a, 3. b, 4. c, 5. b, 6. c

Mind Stir:

Answers: Quiz My Reading: 1. a, 2. b, 3. a, 4. a

New

Beetle + Fungus = Avocado Trouble

One itty-bitty beetle may be the source of a disease that killed about 300 million redbay trees and threatens Florida’s avocado groves. Researchers from Mississippi and Florida say a single female fungus-farming beetle, her offspring, and the fungus she brought with her are the culprits. The redbay ambrosia beetle and her fungus are native to Asia. She arrived in Georgia in 2002 on a shipping container, experts say. Her offspring have spread west into Texas, south into Florida, and north to North Carolina. The fungus, called laurel wilt disease, attacks trees after the beetle burrows into the wood. The sign of infestation is rapidly wilting leaves, followed by tree death. Of the 28 species of avocado grown in Florida, all are susceptible to the fungus. There is no known treatment for the fungus. Burning infected wood—not moving it to new areas—may help limit the spread.

In Mexico City, a protest display makes the point: Can it be that there are only this many vaquita porpoises left in their native habitat?

AP Photo, Art. R. Bishop

Make Mine Well Done

How do you like your walrus? Well done, we hope. The Centers for Disease Control has entered a recommendation. Don’t eat your walrus undercooked! The recommendation comes after two outbreaks of trichinosis occurred in western Alaska in less than a year. The outbreaks sickened 10 people. All fully recovered. It was the first known multiple-case outbreak of trichinosis associated with walrus since 1992. Trichinosis is contracted by eating raw or undercooked meat from animals infected with a microscopic roundworm. High heat kills the parasite. The disease was, in the past, associated with eating undercooked pork. But since the late 1990s, undercooked wild game is the suspected cause in most cases.
Technology To Make Dreams Come True

There’s nothing like a good night’s sleep! Companies that make sleep-related products are harnessing new technologies to help customers get their Zzz’s. A smart pillow that vibrates when you snore? A bed that adjusts based on how you toss and turn? These are just a few of the inventions that slumber specialists have dreamed up. Interest in sleep has intensified. The number of sleep centers accredited by the American Academy of Sleep Medicine nearly tripled between 2000 and 2015. Insufficient sleep is a public health concern, federal officials say. More than one-third of American adults don’t get enough. Finding solutions is big business. Sleep Number company’s self-adjusting 360 Smart Bed costs up to $5,000. Some say it’s worth it. But before you make a purchase that large, you might want to sleep on it!

Bridging the Cuban Art Divide

Politics can complicate even art. In Miami, Florida, museums and cultural centers are trying to bridge a divide between Cuban artists. In the last century, many Cubans fled the Communist dictatorship of Fidel Castro in Cuba. Thousands live today in Miami, where they often feel marginalized—as people without a country. Artists from Cuba found an audience for their work in Miami. But there remained hard feelings against those who did not flee Cuba—but stayed, producing their art under the dictator. Now wealthy art patrons and institutions are trying to unify both sides of Cuban artists. A show at the Perez Art Museum Miami is bringing together art from both groups in an exhibit so extensive, it will be presented in three parts over 10 months. Many of the works show Cubans feeling trapped by political and geographical divisions. Some draw inspiration from the ocean as a symbol of danger. Island (sea-escape) by Yoan Capote depicts a choppy black sea. A closer look reveals that the dark waters are made entirely of a half million fish hooks sticking out from the canvas.

You’ve Been Slimed!

A truck hauling eels overturned on an Oregon highway, turning the coastal road into a slimy mess. About 7,500 pounds of the slippery hagfish—commonly known as slime eels—slipped and slithered onto cars and the roadway. Oregon State Police posted a photo on Twitter that showed damaged cars covered by the gooey eels. The Depoe Bay Fire Department used a bulldozer to clear the eels from Highway 101. When hagfish become stressed, they secrete a large amount of slime, as can be seen in the photo. At least five vehicles were affected by the spill, but no major injuries were reported. The road reopened after bulldozing and some heavy-duty hosing it off!

Island (sea-escape) by Yoan Capote, an artist living in Havana, Cuba.
1. Scientists have engineered diamondback moths that ___.
   a. reduce the moth population by making female moths die before they mature
   b. produce a flashing red light that can be seen in daylight or darkness

2. Scientists are experimenting with a new cancer treatment. The treatment involves supercharged immune cells called CAR-T. The goal is for the CAR-T cells to ___.
   a. boost the body’s immune system
   b. bind themselves to cancer cells, attack them, and keep multiplying

3. What is one possible negative that can occur with the CAR-T treatment?
   a. The body’s immune system can overreact and attack itself, potentially causing organ damage.
   b. Collecting the patient’s blood can cause iron deficiency called anemia.

4. Retired aerospace engineer Chris Weiser has gone back to school for an unusual class. What is he learning about?
   a. the mechanics of the steam locomotive
   b. the physiological effects of living long-term under conditions without gravity

1. arsenal
   a. military arms storage
   b. collection or supply
   c. storage shed

2. remission
   a. absence or resolution of disease
   b. surrender to disease
   c. recurrence of disease

3. behemoth
   a. mythological animal
   b. thing of monstrous size and power
   c. biblical beast from Job

4. novices
   a. interns
   b. apprentices
   c. beginners

5. seasoned
   a. marinated
   b. experienced
   c. bitter

6. predecessors
   a. biological ancestors
   b. those who follow after
   c. those who came before

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   a. mythological animal
   b. thing of monstrous size and power
   c. biblical beast from Job

4.  novices
   a. interns
   b. apprentices
   c. beginners

5.  seasoned
   a. marinated
   b. experienced
   c. bitter

6. predecessors
   a. biological ancestors
   b. those who follow after
   c. those who came before

1. Scientists in genetic research and engineering are making remarkable discoveries. From fighting diseases in humans to creating heartier and more nutritious foods, altering genes is producing a wide range of possible changes in our world. Do you think these are positive advances or dangerous attempts to alter God’s creation? How would you approach setting boundaries for what can and should be done?

2. Why do you think the steam engine school holds an appeal to individuals who have spent most of their lives working in high-tech fields like software programming and aeronautical engineering?
Does God have anything to say about how His children choose a college?

Of course He does!

Here is a biblical roadmap for making this important decision. The College Choice will help you decide where and how to spend the college years, and point you to God's Word for guidance.

"People are the products of their education. For believers, it is only reasonable that those who love the Lord and His Word would desire to be shaped by the truth, and not by what is in rebellion to it."

John MacArthur, Pastor-teacher of Grace Community Church in Sun Valley, CA
President of The Master's University and Seminary
Register for Boyce College Preview Day

Friday, October 20

Preview Day is a unique college experience that allows you to tour campus, meet professors and current students, sit in on classes, and have dessert and conversation with President R. Albert Mohler Jr. in his home. All attendees are entered to win a $1,000 scholarship. Come experience the mission, purpose, and life of Boyce College. Register now at boycecollege.com/preview.