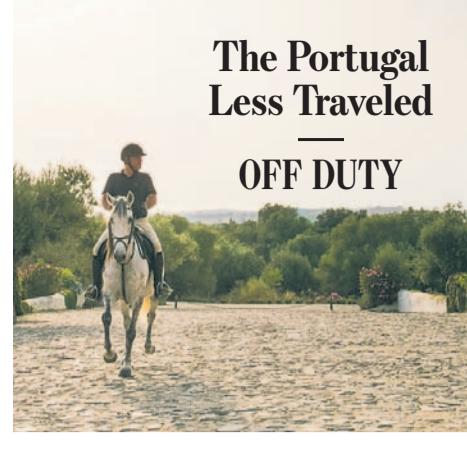


# WSJ

THE WALL STREET JOURNAL WEEKEND

The Portugal  
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OFF DUTY



Between  
Russia and  
The West  
REVIEW

DOW JONES | News Corp \*\*\*\*\*

SATURDAY/SUNDAY, AUGUST 11 - 12, 2018 ~ VOL. CCLXXII NO. 35

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## What's News

World-Wide

The Turkish lira fell to its lowest level ever on worries about the country's economic stability, sending tremors through Europe and emerging markets amid renewed jousting between Erdogan and Trump. A1, A6

♦ Trump threatened tariffs on Canadian-made cars if U.S. officials can't strike a deal with the country on overhauling Nafta. A8

♦ Mueller is bringing heightened scrutiny to Roger Stone, a longtime Trump adviser who claimed he had interactions with WikiLeaks' Assange. A4

♦ The U.S. has told China's HNA it has to sell its stake in a Manhattan skyscraper that houses a police precinct protecting Trump Tower. A4

♦ Taliban fighters stormed a strategic city in eastern Afghanistan ahead of an expected cease-fire. A5

♦ Calls grew for a probe into airstrikes in Yemen that killed at least 29 children. A8

♦ The budget deficit widened 21% in the first 10 months of the fiscal year compared with the year-earlier period. A3

♦ The president renewed his criticisms of NFL players who protest during the national anthem. A3

## Business & Finance

♦ A humming U.S. economy is pushing inflation up to levels that the Federal Reserve considers healthy, but Americans' paychecks are barely keeping up. A1

♦ Parts makers are lagging behind the boom in U.S. manufacturing, prompting some firms to idle production lines and digest higher costs. A1

♦ Elon Musk's idea for a Tesla buyout has put a spotlight on the electric-car maker's board of directors. B1

♦ VF Corp., the owner of Lee and Wrangler jeans, is exploring strategic options for its denim business. B1

♦ The S&P 500 and the Dow fell Friday, snapping a five-week streak of gains, as trade tensions and jitters about Turkey rippled across markets. B13

♦ The FDA approved the first drug that combats disease by silencing the genes driving it. B3

♦ Monsanto was ordered to pay \$289.2 million in a lawsuit over whether exposure to two of its powerful weed killers caused cancer. B3

♦ Venezuela's state oil company plans to appeal a U.S. ruling allowing one of the country's creditors to seize Citgo Petroleum. B13

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# Trump Turns Up the Heat On Turkey as Lira Plunges

By DAVID GAUTHIER-VILLARS  
AND JON SINDREU

The Turkish lira fell sharply to its lowest level ever on worries about Ankara's economic stability, sending tremors through Europe and emerging markets amid renewed jousting between the country's leader and President Trump.

The lira dropped as much as 17% against the dollar, extending a tumble that ranks as one of the steepest in world markets this year.

President Recep Tayyip Erdogan defended his unorthodox policies in two speeches Friday, vowing to prevail in what he called an "economic war." Mr. Trump said he would double steel and aluminum tariffs on Turkey, a move that would prevent Turkish exports from becoming cheaper with the lira's fall and exacerbating worries of a prolonged trade spat between the two NATO allies.

The U.S. appeared likely to keep up pressure after calling for months for the release of a U.S. pastor detained in Turkey. "Our relations with Turkey are not good at this time!" Mr. Trump wrote on Twitter.

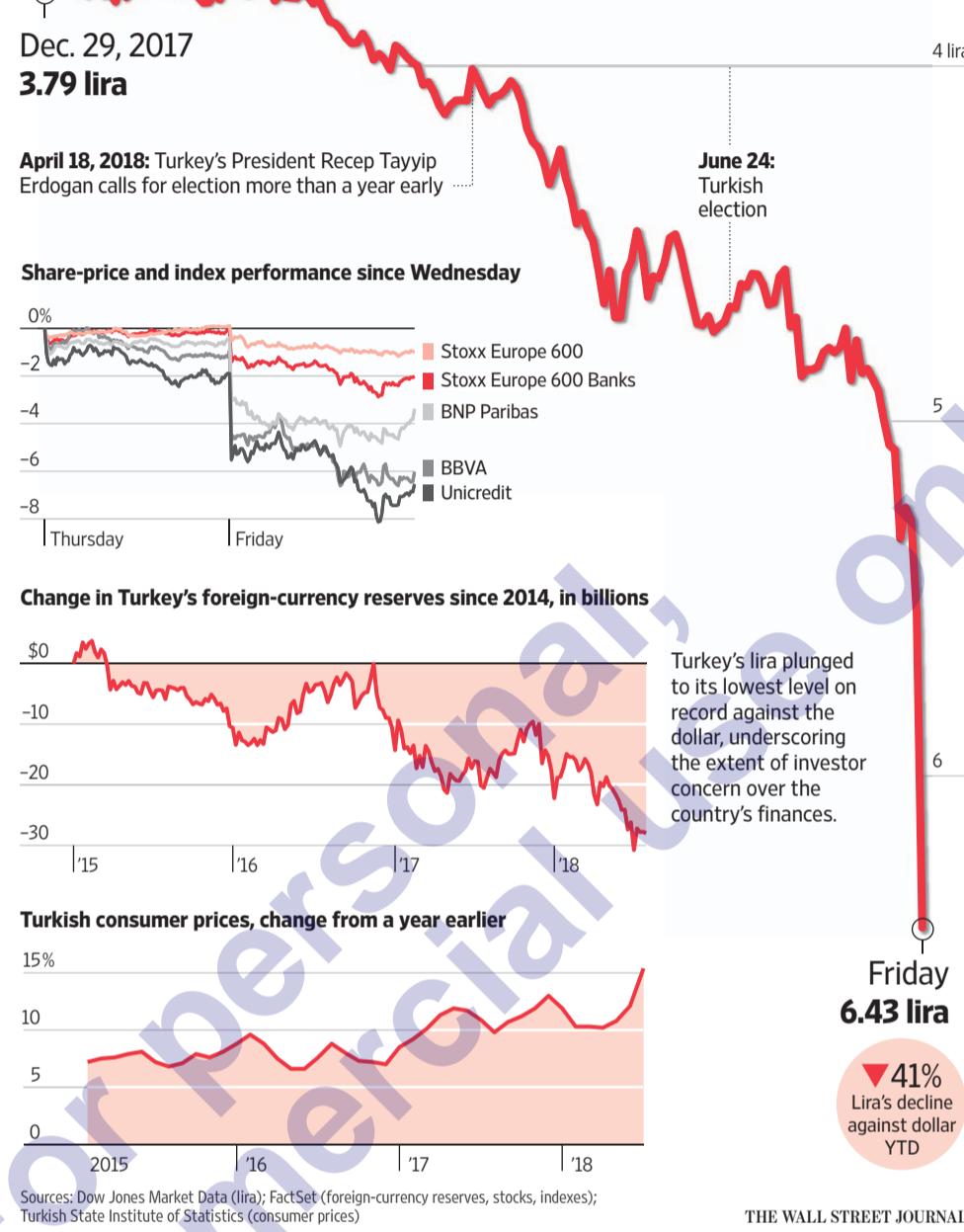
By the end of New York's trading day, a dollar bought 6.43 lira, a decline of 41% from the start of the year. The Dow Jones Industrial Average slumped 196 points or 0.8% to 25313, its third straight decline, while the dollar rose to a one-year high. In Europe,

Please turn to page A6

♦ Turkish turmoil has become tied to U.S. pastor's fate.... A6

♦ Heard on the Street: Strong dollar upends markets..... B14

How many Turkish lira \$1 buys  
Scale inverted to show the weakening lira



Sources: Dow Jones Market Data (lira); FactSet (foreign-currency reserves, stocks, indexes); Turkish State Institute of Statistics (consumer prices)

THE WALL STREET JOURNAL.  
Friday 6.43 lira  
▼ 41%  
Lira's decline  
against dollar  
YTD

## Stronger Inflation Eats Into Paychecks

By JOSH MITCHELL

A humming U.S. economy is pushing inflation up to levels that the central bank considers healthy. But there's a downside: Americans' paychecks are barely keeping up.

Consumer prices rose 2.9% over the past year, a rate last exceeded in late 2011, the Labor Department said Friday. Core prices—those outside of volatile food and energy-related expenses—climbed 2.4%, the biggest annual gain since September 2008.

The rising cost of things like rent, gasoline and health care is another sign the economy is kicking into a higher gear after years of slower growth.

Businesses raise prices when they feel Americans are able and willing to spend more. For much of the expansion, inflation remained stubbornly low, prompting an unprecedented stimulus campaign from the Federal Reserve to counteract its anemia.

But rising prices are now eating up much of Americans' wages gains, restraining their ability to spend in the future. For just the second time in four years, average hourly earnings—after inflation—fell over the past 12 months, a separate Labor Department report Friday showed.

Workers still came out ahead—barely—but only because they increased the number of hours they worked. Weekly earnings, adjusted for inflation, Please see page A2

♦ Heard on the Street: Prices rise, wages could be next... B14

# Parts Makers' Shortages Tap Brakes on Industrial Boom

By DOUG CAMERON  
AND AUSTEN HUFFORD

American factories are running short of parts.

Suppliers of everything from engines to electronic components are lagging behind the boom in U.S. manufacturing, which has lifted demand in markets such as energy, mining and construction. As a result, some manufacturers are idling production lines and digesting higher costs.

Many industrial companies

have reported strong sales and profits in recent weeks, and the pace of factory hiring has more than doubled this year compared with the first seven months of 2017.

However, deliveries from suppliers have slowed for 22 consecutive months through July, according to the latest survey of U.S. manufacturers by the Institute for Supply Management. Nearly 29% of the more than 700 respondents said it took longer for materials to arrive in July than in June. Machinery was

the hardest-hit sector.

These bottlenecks were evident in the earnings reports manufacturers delivered over the past few weeks.

Terex Corp. said its mobile-crane-making unit incurred a loss in the second quarter as parts shortages hurt efficiency at its plants. "The reality of it is that elements of our supply base could not keep up," Chief Executive John Garrison said on an Aug. 1 earnings call.

Machinery giant Caterpillar Inc. and power-equipment

Please turn to page A4

## French Freedom Fighters Press For the Rights of Parisian Rats

Rodents overrunning the City of Light have their defenders; 'Rat-Prochement'

By JOSH JACOBS  
AND MATTHEW DALTON

PARIS—Rats were popping up at supermarkets, parks and nurseries when a city official convened a crisis meeting last fall to discuss ways to cull the population.

That was the first time Geoffroy Boulard, mayor of the 17th arrondissement in northwestern Paris, realized the rodents are backed by a vocal lobby. Ten protesters stepped forward to denounce exterminators' plans to poison the animals. They urged a more humane method: Deploy birth-

control drugs.

Their position was "indefensible, given the scale of the infestation," says Mr. Boulard. "We can't get accustomed to having rats in public spaces."

The city's pro-rat activists disagree. *Rattus norvegicus*, the species of rat endemic to big cities, has the right to inhabit the City of Light like any other mammal, they say. The activists regard poisons and rat traps as a form of unusual cruelty. When the city stepped up exterminations 18 months ago, they unleashed an online petition garnering

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B1



Vive la résistance!

## GLOOMY DIAGNOSIS FOR IBM EFFORT ON CANCER

B1

## BATTERY PIONEER KEEPS GOING AT 96

B5

## EXCHANGE

REX CURRY/REUTERS

## Sizing Up the Richest of Them All



BILLION-DOLLAR QUESTION: Whether Amazon's Jeff Bezos can be called the richest person in modern history depends on how you assess past contenders for the title. The Numbers, A2

## One Man's Quest to Solve a Bitcoin Heist

When Mt. Gox blew, Kim Nilsson got angry

By JUSTIN SCHECK  
AND BRADLEY HOPE

Kim Nilsson was seething. It was 2014, and the software engineer discovered someone had disabled access to his bitcoins. A crime had apparently been committed, one that the police seemed unable to comprehend, much less solve.

The coins went missing from a failed bitcoin exchange called Mt. Gox, and hundreds of investors found themselves demoralized, if not broke. More than \$400 million had seemingly vanished into cyberspace.

Unlike many victims, Mr. Nilsson resolved to fight back, and he teamed up with a lawyer and another partner

who also lost bitcoins to track down the culprits. What ensued was a three-year journey through the internet's underbelly that ended last summer on a Greek beach. There, in the shadow of a 1,000-year-old monastery, FBI agents arrested a Russian man and charged him with laundering bitcoin worth some \$4 billion at recent exchange rates, one of the biggest crimes to be alleged in the brief history of cryptocurrencies.

Mr. Nilsson's bitcoin odyssey, from an optimistic adherent to a hardened computer sleuth, encapsulates the messy maturing process of cryptocurrencies as their value and use have exploded in recent years. His unearthing

Please turn to page A10

## U.S. NEWS

THE NUMBERS | By Jo Craven McGinty

## Bezos vs. Rockefeller, a Rich History Lesson



With a fortune exceeding \$150 billion, Amazon.com founder Jeff Bezos was recently declared the richest person in modern history.

But is he?

The answer depends on how you account for the wealth of past contenders for the title.

There are at least five ways to do that, and each provides a different result, according to Samuel H. Williamson, an economist and president of the website Measuring Worth.

Real wealth, the most familiar yardstick, accounts for the relative purchasing power of a particular sum by adjusting it for inflation based on the consumer-price index.

Using that measure, the fortune of John D. Rockefeller, America's first billionaire and Mr. Bezos' stiffest competition among latter day aristocrats, would equal only \$24 billion today.

Working in reverse, Mr. Bezos' fortune would amount to

about \$6.5 billion in 1916, when Rockefeller's riches first hit the \$1 billion mark.

But some experts argue that adjusting the worth of gazillionaires based on the price a bundle of goods and services an average household would buy, as the CPI does, is absurd.

"Jeff Bezos can afford all the things he wants," said Bill Bernstein, an investment manager and author of "The Birth of Plenty: How the Prosperity of the Modern World Was Created." "I doubt he will consume even a small fraction of his wealth."

The remaining measurements recommended by Dr. Williamson are: household purchasing power, relative labor earnings, relative income and relative output. But not all are helpful for comparing the astronomical worth of oil tycoons and e-commerce kings.

Judging the outsize resources of the ultrarich based on the purchases of an average household probably

doesn't make sense. Nor does comparing overflowing bankrolls to the earnings of unskilled or production workers, as the relative labor earnings measurement does.

But the remaining two measures, relative income and relative output, provide useful context for evaluating the worth of the yacht set. They rely on gross domestic product, the value of all the finished goods and services produced within a country's borders in a specific time period.

Relative income, a measure of status, is calculated by dividing the current GDP per capita by an earlier year's GDP per capita and then multiplying the result by a dollar value from the earlier year.

Using that measure, Rockefeller's fortune equals \$127 billion today—about 15% less than Mr. Bezos' worth.

"What you're saying is that \$1 billion in proportion to the GDP per capita in 1916 is the same" as \$127 billion in proportion to GDP per capita today, Dr. Williamson said.

## Big Bucks

J.D. Rockefeller's fortune hit \$1 billion in 1916. Here's how much it would be worth today using a variety of measures:

Share of GDP	\$407 billion
Relative to per capita GDP	127
Consumer Price Index	24 ← Jeff Bezos \$150 billion

Source: Measuringwealth.com  
THE WALL STREET JOURNAL.

Relative output, a measure of power, is calculated similarly, by dividing the current GDP by a past GDP and multiplying the result by a dollar value from the earlier year.

By that measure, Rockefeller's riches translate to \$407 billion—nearly three times as large as Mr. Bezos' worth.

The same information can be rendered as a percentage of GDP. Rockefeller's wealth represented 2% of the 1916

GDP. Mr. Bezos' wealth represents around 0.7% of today's GDP—if that much.

Much of Mr. Bezos' worth is tied up in shares of Amazon stock, and in July, when the Bloomberg Billionaires Index listed his net worth, there was speculation the high mark would be short-lived thanks to shifting stock prices.

"A hundred shares of stock might be priced at \$100; but if nobody is buying, it's not worth anything," Dr. Williamson said to illustrate the vagaries of the market.

In the distant past, other problems plagued the super wealthy.

Apart from recent members of the billionaires' club, the most serious contenders for richest person tend to be ancient figures such as Israel's King Solomon or Mali's Mansa Musa, men whose riches and economies are virtually impossible to document—and, some argue,

aren't comparable anyway.

"Imagine having a ton of gold in the middle of the 14th century in Mali," Mr. Bernstein said, referring to Musa. "Just getting it out of the country to buy stuff is hard enough. Even if you can get the wealth out, camels can't bring all the stuff back that you'd want to buy. I'd rather be sitting where I am with my comfortable middle-class income."

Nonetheless, Musa, a Muslim, is said to have embarked on a 4,000-mile journey to Mecca with a caravan of thousands distributing enough gold along the way to inadvertently disrupt the economy in Egypt for more than a decade.

But back to the superlative.

According to one of the more relevant measures of extreme wealth, Mr. Bezos is indeed the richest person ever in modern times. But according to another he isn't.

Which is correct?

That, it turns out, is a very rich question.

## One Year Later, Charlottesville Remembers Violence



CITY ON EDGE: Mourners embraced at a memorial honoring a woman who was killed by a driver as she protested the Unite The Right rally in Charlottesville, Va. Gov. Ralph Northam declared a state of emergency ahead of the anniversary this weekend.

## Inflation Is Eating Into Wages

Continued from Page One

grew 0.1% in the past year.

"It seems like any time we get any kind of raise, any kind of opportunity, expenses rise," said Simeon Weinraub, a 49-year-old self-employed video producer.

His landlord this month raised by 10% the rent on the house he shares with his pregnant wife and two kids in Pasadena, Calif. Mr. Weinraub and his wife, a charter-school superintendent, make almost \$200,000 combined.

But with monthly rent now at \$2,750, child care at about \$1,000, and other expenses, the family feels squeezed, he said, adding: "It doesn't feel like it's sustainable."

Many economists expect inflation to slowly rise but remain tame, in part because the Fed plans to gradually raise interest rates to prevent the economy from overheating. Friday's report likely bolsters the central bank's plans for two more rate increases this year.

The Fed prefers inflation at 2% annually—as measured by a separate Commerce Department gauge.

## Paltry Paychecks

Inflation ate up all of the gains in workers' hourly pay in July.



Inflation by that measure appears to be roughly at the Fed's target after years running below it.

Rising consumer costs could upend any political messaging ahead of the November midterm elections. Gross domestic output grew at a 4.1% annual rate in the second quarter, the strongest quarter since 2014, and economists project growth will clock in at 3% for 2018 as a whole.

President Trump, a Republican, has pointed to the GDP numbers as a sign his economic agenda—including deregulation, a tax cut and efforts to revamp trade deals—is working.

He also points to a histori-

cally low unemployment rate of 3.9%.

But along with such strong growth can come faster inflation, which cuts into purchasing power, and Democrats are pointing to modest wage growth as a sign the economy's gains aren't being spread evenly.

"Workers are not benefiting from the Trump economy," the

Democratic National Committee said in a statement after Friday's report.

Many economists believe workers' wages will pick up. For one, the recent rise in inflation is partly due to higher energy costs, which tend to be volatile and could recede. Also, home sales have fallen and apartment construction has boosted inventory in some cities. Such developments could bring down rents and slow home-price growth, which have been among the biggest drivers of inflation in recent years.

Meanwhile, companies, which have raised wages in recent years as unemployment fell, may have to raise them further as workers become harder to find.

For now, price increases appear to be modest but not crippling.

In Boston, Tommie Chavis's landlord has raised his rent by \$100, or 4%, over the past year for the apartment he shares with three roommates. They are set to pay \$2,600 a month soon.

Mr. Chavis, 24, who recently earned a master's degree and is applying to dental school, is about to start a full-time job at Target to help cover costs.

"It's annoying, but if it was not split four ways it would be a hassle," Mr. Chavis said of the rental increase. He says he has kept the lid on his other costs—for example, his gym membership is only \$10 a month.

## U.S. WATCH

## CALIFORNIA

## Judge Rejects Deals In Fatal Oakland Fire

Judge James Cramer on Friday rejected the plea deals of two men who were charged with 36 counts of involuntary manslaughter after a 2016 California warehouse fire.

In handing down his decision, Judge Cramer said 48-year-old Derick Almena didn't accept "full responsibility and remorse" for the fatal blaze which occurred during an unlicensed concert at the dilapidated Oakland warehouse known as the "Ghost Ship."

The plea deal had called for Mr. Almena to be sentenced to nine years in prison and 28-year-old Max Harris to six years. Relatives of victims who died in the fire had criticized the proposed sentences as too lenient.

Authorities have alleged Mr. Almena rented the warehouse and illegally converted it into an entertainment venue and residences before the fire. Mr. Harris was accused of helping him collect rent and schedule concerts.

Authorities said they were unable to determine a cause of the blaze.

Mr. Almena's attorney said he would take the case to trial. A spokesman for the city attorney, declined to comment.

—Associated Press

## OREGON

## FBI Agent Acquitted Of Lying in Shooting

An FBI agent has been found not guilty of lying about firing shots at a militia leader who participated in the 2016 armed takeover of an Oregon wildlife refuge.

A jury on Friday returned the verdict on W. Joseph Astarita.

Mr. Astarita was charged with making false statements and obstruction of justice after telling investigators he didn't fire two shots that missed Robert "LaVoy" Finicum, a key figure in the group that seized the eastern Oregon refuge while protesting the imprisonment of two ranchers.

Oregon State Police fatally shot Mr. Finicum seconds later. Mr. Astarita denied firing the shots.

Federal prosecutors had argued that Mr. Astarita was a rookie on the elite Hostage Rescue Team who panicked as Mr. Finicum came close to running over his colleague at a police roadblock.

—Associated Press

## SUPREME COURT

## Kavanaugh Hearings To Begin on Sept. 4

The Senate Judiciary Committee will begin hearings on Brett Kavanaugh's nomination to be the next Supreme Court justice on Sept. 4, the panel announced Friday.

The hearings, which are expected to last three or four days, will give senators a chance to question Judge Kavanaugh as well as hear from former colleagues, outside legal experts and the American Bar Association.

The White House, in a statement, said, "Judge Kavanaugh looks forward to addressing the Judiciary Committee in public hearings for the American people to view."

Democrats said that the hearing date was too soon to allow a reasonable consideration of the judges' qualifications and that senators haven't received access to all the relevant documents from the nominee's career.

—Byron Tau and Brent Kendall

incorrectly said the statement was made earlier this month.

**Lawyer Patrick Conner's** last name was misspelled as Connor in a Page One article Friday about the trust that will control Viacom Inc. and CBS Corp. when media mogul Sumner Redstone dies or is deemed incapacitated.

Readers can alert The Wall Street Journal to any errors in news articles by emailing [wsjcontact@wsj.com](mailto:wsjcontact@wsj.com) or by calling 888-410-2667.

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## U.S. NEWS

# New Protests In NFL Draw Trump's Ire

President tweets after demonstrations at preseason games; 'players are at it again'

BY ANDREW BEATON

President Trump renewed his criticisms of NFL players who protest during the national anthem, writing Friday in a pair of tweets that players should stand "proudly" for the anthem or be suspended without pay.

The remarks came after the first full week of the NFL's preseason began Thursday night, with a handful of players demonstrating during the national anthem to call attention to racial inequality and social injustices. Mr. Trump's comments echo similarly sharp criticisms he made last fall.

Mr. Trump wrote in two tweets: "The NFL players are at it again - taking a knee when they should be standing proudly for the National Anthem. Numerous players, from different teams, wanted to show their 'outrage' at something that most of them are unable to define. They make a for-

tune doing what they love... Be happy, be cool! A football game, that fans are paying sooo much money to watch and enjoy, is no place to protest. Most of that money goes to the players anyway. Find another way to protest. Stand proudly for your National Anthem or be Suspended Without Pay!"

The criticisms come after the National Football League tried and failed to implement a new national anthem policy during the off-season, following two seasons in which the player protests became what some saw as a distracting controversy.

NFL owners voted in May to enact new rules that said players would be required to stand and show "respect" for the anthem if they remained on the field while it was played—and that their teams could choose to discipline them, financially or otherwise, if they didn't. The policy also said that players who didn't wish to do so could remain in the locker room.

But the NFL Players Association took issue with the new rule. The NFLPA said it wasn't consulted on the policy change and planned to challenge whether it was consistent with the collective bargaining agree-



The Miami Dolphins' Robert Quinn and other NFL players protested by kneeling or raising a fist during the national anthem Thursday night.

ment. Just two weeks before the rule was altered, people from the league told the NFLPA that no such change was going to happen, a person familiar with the matter said.

The NFLPA filed a grievance on July 10 to challenge the new policy. Meanwhile, it slowly became clear that the new policy could become problematic for the league because it allowed for different standards to be

enforced across the different teams. Some owners indicated that they wouldn't penalize their players if they continued to protest. Others, such as Cowboys owner Jerry Jones, said that their team's players must stand and be on the field.

Later in July, the Associated Press reported that the Miami Dolphins had created a rule that could allow the team to fine or suspend protesting

players. In response to immediate backlash, owner Stephen Ross said the sentence was a "placeholder" and the team hadn't made a decision on what it would do, "if anything," at that point.

In the immediate wake of that drama, the NFL agreed to put its new anthem policy on hold—just two months after it was enacted in the first place and before the preseason be-

gan. As part of the detente, the NFLPA agreed to put its grievance on hold while it engaged with the NFL in talks on a new potential policy.

"While those discussions continue, the NFL has agreed to delay implementing or enforcing any club work rules that could result in players being disciplined for their conduct during the performance of the anthem," the NFL said.

## Inside a Texas Detention Facility for Immigrant Families

BY ALICIA A. CALDWELL

DILLEY, Texas—In the past 10 months, more than 25,000 immigrant mothers and their children caught illegally crossing into the U.S. at the border with Mexico have spent their first weeks in the country living in a sprawling compound of trailers, tents and playgrounds.

The children go to school most days and their parents meet with lawyers and immigration advocates who volunteer at the U.S. Immigration and Customs Enforcement detention center. Almost everyone will ask for asylum in the U.S., a process that could take several years.

For most, the stay will last no more than 20 days, because of a federal court ruling that bars the government from detaining children with their parents for any longer.

The South Texas Family Residential Center in Dilley and a second family detention center about 95 miles to the east in Karnes have become focal points in President Trump's continuing efforts to

crack down on illegal immigration and quickly deport people caught crossing the border illegally. Both are operated by contractors and overseen by ICE.

The Trump administration wants the families' stay at the detention centers to end only when an immigration judge decides if they should be deported or allowed to stay and live in the U.S. But so far, neither the judge in California who ordered the 20-day limit nor Congress has acted to change the rules.

So families rotate in and out of the facility, which can hold as many as 2,400 mothers and children. Daniel Bible, an ICE official in charge of detaining and deporting unauthorized immigrants in this part of Texas, said since October only 122 people have been deported from the center. The others are released to relatives or on their own, many with an ankle monitor and a court date to appear for their asylum hearing after their stay here.

ICE officials allowed a group of reporters into the de-



The detention center in Dilley, Texas, can hold as many as 2,400 mothers and children.

Alicia A. Caldwell/The Wall Street Journal

tention facility Thursday and provided a guided tour. At one of the indoor gyms, the door was propped open by a speaker blasting a Jimmy Buffett song. The classrooms were outfitted like most typical schools, with science projects on display for the older children and the alphabet on a wall for the youngest.

Michael Sheridan, an ICE manager and program analyst at the center, said any child, 4 to 17 years old, attends school as long as they are at Dilley. Classes include English as a second language, social studies, math and science. The average stay at Dilley is about 15½ days right now, he said. Detainees may move about

the 55-acre compound freely during the day. They wear either their own clothes or T-shirts, jeans and shoes given to them upon arrival. There are no cells or locked areas.

Immigration advocates have long objected to family detention centers and faulted the conditions. Numerous groups have pushed to have both

Karnes and Dilley closed since the facilities were opened, during the Obama administration, when a crush of families were caught crossing the border illegally in 2014.

The Trump administration has said zero-tolerance and family separation were part of a broader effort to deter would-be border crossers from trying to sneak into the U.S. The Obama administration also used family detention as a deterrence.

It is unclear if the effort is having any impact on border crossings.

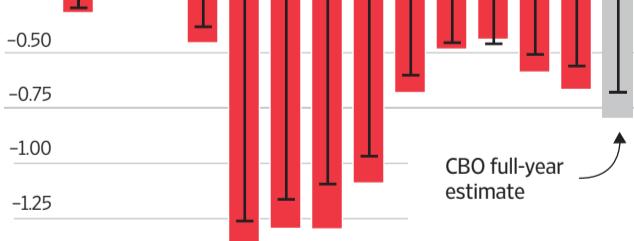
Katy Murdzka, advocacy coordinator of the Dilley Pro Bono Project, said parents interviewed by her group worry about how the U.S. government will treat them once they arrive but opt to come anyway because conditions in their home country are so dire.

"They don't make this decision lightly," Ms. Murdzka said. "They're doing it feeling they don't have any choice. We're still seeing so many families who said they were afraid to come, but they had no other choice."

## Budget Deficit Increased 21% in Period

### Red Ink

Federal budget deficits are growing as spending rises and revenue falters.



Note: Fiscal year ends Sept. 30.

Sources: Treasury Department; Congressional Budget Office (estimate)

BY SHARON NUNN

WASHINGTON—The U.S. government's budget deficit widened in the first 10 months of the fiscal year compared with the year-earlier period.

The deficit, or the difference between the amount of money the federal government spent and what it took in, totaled \$684 billion in October through July, the Treasury Department said Friday. That was 21% more than the deficit of \$566 billion in the year-earlier period.

July's deficit was \$77 billion, 79% wider than July 2017's deficit of \$43 billion. This hefty increase stems partly from a difference in timing of certain government

payments.

Government revenue fell 3% last month compared with a year earlier, while spending grew 10%.

Deficits are rising partly because business and individual tax rates were cut last year while government spending has been ramped up.

Since the beginning of the year, when the tax cuts went into effect, the deficit widened 29% from the 2017 period.

White House representa-

tives argue reductions in tax rates spur economic growth and raise tax revenue by boosting taxable household and business income, though lower rates also mean less tax generated for each dollar of income.

## Razor-Thin Kansas Vote Becomes Legal Fight

BY ANDREW DUEHREN

Kansas Gov. Jeff Colyer dug in for a legal fight over this past week's Republican gubernatorial primary, hiring an outside lawyer for the vote-counting process with Secretary of State Kris Kobach leading the incumbent by less than a tenth of a percentage point.

The Colyer campaign hired Todd Graves, a Kansas City attorney who works on election law.

Mr. Colyer has ramped up pressure on Mr. Kobach as

election officials review the vote count and tally the remaining ballots. Mr. Colyer in a letter Thursday asked Mr. Kobach to recuse himself from advising county election officials on the matter, saying it had come to his attention that Mr. Kobach was making statements that "may serve to suppress the vote."

Mr. Kobach, who was endorsed by President Trump, formally recused himself Friday from his duties as secretary of state until the end of the primary process and des-

ignated Assistant Secretary of State Erick Rucker to fulfill his election responsibilities—a move that the Colyer campaign said was still insufficient. Mr. Kobach declined Mr. Colyer's request to transfer responsibility for the election to the Kansas attorney general.

Mr. Kobach rebutted Mr. Colyer's allegations in a letter of his own Friday.

"While I am certain that your motivation in writing me is sincere, unfortunately your campaign letter expresses incorrect allegations that my of-

fice has given inaccurate advice to local election officials regarding the handling and counting of mail-in and provisional ballots," Mr. Kobach wrote.

The vote count will continue to fluctuate for days or possibly weeks. Bryan Caskey, the Kansas director of elections, said there are roughly 9,000 provisional ballots to examine. Under Kansas law, candidates can request a recount free of charge if the margin of victory is less than one half of a percentage point.

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## U.S. NEWS

# Tower Near Trump's Must Be Sold

The U.S. government has told Chinese conglomerate **HNA Group** Co. it has to sell its majority stake in a Manhattan skyscraper whose tenants include a police precinct tasked with protecting Trump Tower, according to people familiar with the matter.

*By Keiko Morris,  
Julie Steinberg  
and Esther Fung*

The Committee on Foreign Investment in the U.S., which reviews whether foreign investments in the U.S. represent national security risks, informed the Chinese company a couple of months ago it had to divest itself of its holding in the building, according to these people. CFIUS, as the committee is known, didn't explain to HNA why it had to sell the property, one of these people said.

At the behest of CFIUS, HNA set up a blind trust and transferred its ownership stake in the building to that trust, a person familiar with the matter said. The trust has its own board of directors,

which has a fiduciary duty to the trust, not to HNA.

HNA is now trying to find a buyer for the building to comply with the CFIUS order, though the company wasn't given a deadline to sell, these people said.

The Chinese conglomerate in 2016, before Mr. Trump's election, acquired a 90% stake in the 21-story tower on Third Avenue in a deal that valued the building at \$463 million, according to public records. The building is a few blocks away from Trump Tower and houses the New York Police Department's 17th precinct, whose duties include security for Trump Tower. President Trump maintains a residence in that Fifth Avenue building.

A spokesman for HNA said the company has "respect for the confidentiality of the CFIUS process," and that the company doesn't view the situation as a fire sale.

"There is no seizure or forced sale of 850 Third Avenue under way or pending," the spokesman said. "There are unique facts and circum-



**HNA Group's building at 850 Third Ave. houses a police precinct tasked with protecting Trump Tower, which is blocks away.**

stances regarding the location of this particular property that did not exist at the time of purchase which have raised certain concerns, and HNA Group is taking measured steps to address them."

CFIUS didn't respond to requests to comment, and a Treasury spokesman didn't immediately respond to requests to comment.

HNA is in talks with people interested in the building, a person familiar with these talks said, though it isn't clear how much a potential buyer would pay.

CFIUS, an interagency committee led by the Treasury, is able to force a sale after a transaction is completed by making a recommendation to the president. President Obama

issued an executive order in 2012 directing a Chinese-owned company to divest itself of an acquisition of four wind farms in Oregon based on their proximity to naval base.

Lawyers generally recommend that foreign buyers engage with CFIUS and its review process while a deal is pending, because, without a prior CFIUS clearance, the president could require a divestiture or impose other adverse conditions after closing. Congress recently bolstered the committee's authority to counter a range of Chinese activities, including its ability to vet real-estate transactions near sensitive U.S. facilities.

A White House spokesman didn't respond to requests to comment. A spokesman for the NYPD wasn't immediately available to comment.

MHP Real Estate Services, which owns a minority stake in the Third Avenue tower and manages it, said the operation of the building has continued as usual.

*—Katie Honan  
contributed to this article.*

# Scrutiny Deepens on President's Adviser

**BY SADIE GURMAN  
AND SHELBY HOLLIDAY**

Special counsel Robert Mueller is bringing heightened scrutiny to Roger Stone, a longtime adviser to President Trump who claimed he had interactions with WikiLeaks founder Julian Assange during the 2016 presidential campaign.

On Thursday, Mr. Mueller subpoenaed the man Mr. Stone claims was his back channel to WikiLeaks throughout the campaign—New York comedian and radio personality Randy Credico. The subpoena was confirmed by Mr. Credico's attorney, Martin Stolar.

Separately, self-described "Manhattan Madam" Kristin Davis, who has close ties with Mr. Stone, testified Friday before the grand jury hearing evidence in Mr. Mueller's Russia investigation, her spokeswoman said.

Ms. Davis's spokeswoman, Lainie Speiser, declined to elaborate beyond confirming her testimony.

The probe is looking at alleged Russian interference in the campaign and any possible coordination with Trump associates. Russia has denied meddling in the election.

Mr. Mueller's interest in Mr. Stone stems largely from his interactions with WikiLeaks and the online persona Guccifer 2.0. In an indictment, the special counsel's office alleged Guccifer 2.0 was a front for Russian intelligence officials who hacked material later released by WikiLeaks.

The Wall Street Journal has reviewed emails showing Mr. Stone told Mr. Credico in September to "please ask Assange" for information that would be damaging to Democratic presidential nominee Hillary Clinton. In October, weeks before the 2016 election, WikiLeaks began releasing the emails of Mrs. Clinton's campaign chairman, John Podesta.

Mr. Credico has denied being a conduit between WikiLeaks and Mr. Stone. Mr. Stone has said WikiLeaks never gave him any information and that he never had special access to the website's material.

Mr. Stone said Friday that while Mr. Credico told him in the summer of 2016 that WikiLeaks planned to release "substantial information on Hillary Clinton" that October, Mr. Credico didn't tell him "what the source, content or scope of the WikiLeaks disclosures would be."

Also Friday, an aide to Mr. Stone, Andrew Miller, was held in contempt of court for refusing to testify before the grand jury. A judge had rejected Mr. Miller's argument that Mr. Mueller's appointment was unconstitutional and ordered him to answer questions.

# House Republicans See Hope in Minnesota

**BY JOSHUA JAMERSON**

ELY, Minn.—As Republicans fight to maintain their House majority in the midterm elections, Minnesota provides a rare spot for them to flip a couple of Democratic seats to offset losses that may come elsewhere.

Voters in two sprawling, rural Minnesota congressional districts backed President Trump by about 15 percentage points each in 2016. The GOP's effort is aided by two high-profile Democratic departures: Rep. Rick Nolan of the state's Eighth District, in which Ely sits, is retiring, and Rep. Tim Walz of the First District is leaving Congress to run for governor.

Of Mr. Nolan's district, Corry Bliss, executive director of the Congressional Leadership Fund, a super PAC closely aligned with House Speaker Paul Ryan, said: "I would argue that's our best pickup opportunity in the country."

Democrats need a net gain of 23 seats to retake control of the House, and more than 60 GOP-held seats have been deemed competitive by the nonpartisan Cook Political Report.

There are two Republican-held Minnesotan districts—together encompassing a swath of the Twin Cities metro area—deemed at risk of flipping Democratic. Rep. Jason Lewis (R., Minn.) is facing Democrat Angie Craig, who is running unopposed in next week's primaries. She already has raised more money than the one-term congressman. Republican Rep. Erik Paulsen, who is the top fundraiser in his district, likely will go head-to-head with a well-financed opponent in Democrat Dean Phillips, an entrepreneur.

Those potential losses make



**Pete Stauber, GOP candidate for the House in Minnesota's Eighth District, has positioned himself as a strong ally of President Trump.**

winning one or both of the Democratic-held tossup districts all the more important for the GOP.

President Trump is popular in the Eighth District, which brushes up against the Canadian border and runs south through some of the nation's richest mining country. Mines in the Mesabi Iron Range region are ramping up capacity to meet growing demand for ore in steel mills as far away as Lake Erie. The Republican running here for Mr. Nolan's seat, Pete Stauber, has positioned himself as a strong ally of the president, and Mr. Trump has campaigned with him.

That is why Tim Thunstedt, an art dealer from Little Falls, Minn., plans to support him. Mr. Thunstedt said he sees Mr. Stauber as an ally to Mr. Trump on trade, border security and protecting the U.S. Immigration and Customs Enforcement, or ICE.

"We used to be Democrats," Mr. Thunstedt said. "But it's further to the left than I'd like to see. If we don't have borders, we don't have a country."

At Ely's recent Blueberry and Art Festival, Mr. Stauber ran into at least one voter who wanted to send to Congress someone who would serve as a check on Mr. Trump. "I am a conservative at

heart," said Steve Hansberry, 64, a former facilities manager at the Federal Bureau of Prisons. "But there's vile coming out of that Oval Office."

The Democrats' challenge in the Eighth District is complicated by a fractured primary, in which one long-shot candidate, North Branch Mayor Kirsten Hagen Kennedy, has called for abolishing ICE. Some other candidates have taken a more-moderate approach.

"I don't want to make this a referendum on Trump or not," said Joe Radinovich, a Democrat who is considered one of the most viable candidates in

the primary. But he also opposes the tax cuts Mr. Trump signed into law, which he views as "designed for the wealthy."

The Congressional Leadership Fund has reserved roughly \$2.5 million in fall TV ad buys to bolster Mr. Stauber, one of its larger reservations to date. The National Republican Congressional Committee has reserved more than \$1.2 million.

The Democratic Congressional Campaign Committee, the House Democrats' campaign arm, has reserved \$6 million for the Minneapolis/St. Paul region, which includes a sizable chunk of the district.

# Factories Face Parts Shortages

*Continued from Page One*

maker Eaton Corp. are among those struggling to keep up with orders as supply-chain kinks join labor shortages and cost pressures from transportation and import tariffs as threats to the sector's recovery.

Eaton last week cut financial guidance for its \$2.5 billion hydraulics unit as a result.

Caterpillar said it is paying more for smaller or incomplete orders from suppliers that have struggled to meet demand. Interim Chief Financial Officer Joseph Creed said in an interview that castings—the metal building blocks for engines and other large vehicle parts—were in particularly short supply.

Delays are forcing some manufacturers to curb output. Oshkosh Corp. idled production of its mobile cranes several times in the past quarter. "We think we'll probably continue to see some of that in the fourth quarter, although we do expect some progress



**Heavy-equipment manufacturer Caterpillar has said supply-chain kinks are slowing its production.**

sion," Oshkosh CEO Wilson Jones said on a July 31 investor call.

Like their customers, many suppliers to companies that make products including trucks and tractors shed workers after the financial crisis. Now some suppliers say they are struggling to find skilled staff and remain hesitant to ramp up production because they worry a machinery-sector recovery that began in late 2016 is now drawing to a

close.

Leggett & Platt Inc., a maker of the part that moves the pronged metal lifts at the front of forklifts, acknowledged it is struggling to meet "very, very strong" demand for parts from its recently acquired Precision Hydraulic Cylinders business. Leggett, based in Carthage, Mo., is paying its workers more in overtime to expand production hours and is considering more permanent measures to increase capacity.

Aerospace and car companies are also compiling big order books and experiencing supplier delays. Boeing Co. recently had more than two dozen partly finished 737 airliners parked outside its Renton, Wash., assembly plant and an adjoining airport awaiting engines and other components.

A shortage of specialized workers including welders and truck drivers is exacerbating the crunch. The number of job

openings in manufacturing climbed to 482,000 in June, the Federal Reserve Bank of St. Louis said Tuesday, the highest level in 17 years.

A monthlong crunch in supplies of some basic electronic components is also cascading through the manufacturing sector, as more industrial equipment is linked to the web to provide data that can be used to predict maintenance and replacement needs.

Most of those components are manufactured in Asia, where producers are already working flat out to supply the consumer-electronics sector. "The electronics supply-chain environment remains challenging and we continue to see constraints across several component categories," said Mike McNamara, CEO of **Flex** Ltd., a maker of so-called smart-technology products.

"The lead times have significantly lengthened and we see increasing shortages," he said on the company's earnings call last month.

"The good news is that demand is really strong," said Tom Derry, chief executive of the Institute for Supply Management, which publishes a closely watched monthly survey on U.S. industrial conditions.

"The irony is we reached the limits of our ability, in the

current configuration we have, to keep up with demand," he added.

Years spent making supply chains as lean and efficient as possible are hurting big customers now as demand climbs, industry consultants said.

"Suppliers have not been willing to jump on adding capacity because they've been burned badly before," said Shiv Shivarman, a managing director at consultant AlixPartners LLC who advises auto and machinery makers on supply chains and production processes. "You will see many companies limping for a while."

Some companies are stockpiling parts to head off future challenges, potentially exacerbating the supply pressures.

"We built some inventory last quarter because we had seen the lead times extend and we are trying to protect our customers," said Andrew Silvernail, CEO of **Index** Corp., a maker of pumps, valves and meters that is based in Lake Forest, Ill.

Still, executives expressed confidence that booming order books will encourage suppliers to boost output, either by increasing wages to attract staff or investing in more capacity.

"We are getting better. Our suppliers are getting better. We're doing a much better job of shortening lead times," said Craig Arnold, Eaton's CEO.

## WORLD NEWS

# Afghan Forces Repel Taliban Siege of City

U.S. airstrikes and local commandos drive back militants; death toll disputed

BY CRAIG NELSON  
AND EHSANULLAH AMIRI

KABUL—Taliban fighters stormed a strategic city in eastern Afghanistan on Friday, laying siege to government buildings and security installations in a show of strength ahead of an expected ceasefire later this month.

Over more than six hours of heavy fighting, during which some residents huddled in their homes in terror, the U.S. carried out airstrikes to help Afghan security forces beat back the early-morning attack on Ghazni, the capital of Ghazni province located 80 miles southeast of Kabul.

By midmorning, the city of some 143,000 people was calm except for sporadic gunfire, a provincial security official said by telephone. "I'm at my office now, and I haven't heard any in 10 minutes," he said. On Ghazni's outskirts, however, fighting between government and Taliban forces continued late into the day.

Earlier, in the dark of night following a multipronged attack by the Taliban, the situation was far more fraught. A member of the provincial council, Nasir Faqiri, had said the city would face "disaster" unless central government authorities in Kabul sent help to prevent landmarks in the city from falling under the militants' control.

Some 60 commandos of an elite Afghan military unit would arrive four hours after Mr. Faqiri's warning, but meanwhile, residents in the city retreated to the recesses of their homes as the fighting raged, fearing the worst.

"We couldn't sleep all night. We were waiting for the Taliban to knock on our door," said one man, who said the militants had burned several



Taliban fighters attacked the provincial capital of Ghazni on Friday. The Taliban have been unable since 2015 to seize the capital of any of the country's 34 provinces.

buildings and security checkpoints. Another man, a shopkeeper, said he and his family hid in their basement.

Some four hours into the fighting, Taliban spokesman Zabiullah Mujahid said on Twitter that insurgents had taken over a majority of the government's administrative offices in Ghazni, along with the police headquarters and district police stations. Dozens of government security forces had been killed, he added.

Government officials in Kabul said late Friday that it was impossible to determine the casualty toll because tele-

phone connections to Ghazni had been severed. Nasrat Rahimi, an Interior Ministry spokesman, denied reports that 14 police officers had died in the fighting.

U.S. Army Lt. Col. Martin O'Donnell, spokesman for the U.S.-led military coalition in Afghanistan, said initial reports indicated "minimal" casualties among Afghan security forces.

In a statement sent to reporters, Col. O'Donnell confirmed the overnight Taliban attacks on "multiple government centers" in Ghazni, saying Afghan security forces had held their ground and main-

tained control of all the facilities. The American airstrikes were carried out by attack helicopters and a drone, he said.

While the Taliban are present in vast areas of Afghanistan, the group has been unable since 2015 to seize the capital of any of the country's 34 provinces. Still, it is a formidable fighting force, and all but a few Afghan and U.S. officials say that only a negotiated political settlement will end the fighting, now in its 17th year.

In May, Taliban fighters attacked the provincial capital of Farah province, on Afghanistan's western border with

Iran. Several hundred locally based troops and police regained control of the city after more than two days of heavy fighting.

The battles in Farah and Kunduz, the northern city briefly seized by the Taliban in 2015, were demonstrations of Taliban resilience and some of the continued weaknesses of the expanding, U.S.-trained and armed Afghan forces. But both cities are relatively remote. Ghazni is closer to the capital and located on the main road linking Kabul and Kandahar, Afghanistan's second-largest city.

The Taliban and the gov-

ernment of President Ashraf Ghani are expected to soon announce unilateral cease-fires to coincide with the three-day commemoration this month of the Muslim festival of Eid al-Adha. Similar cease-fires in June prompted stunning scenes across Afghanistan of fighters from the rival forces embracing each other and snapping selfies.

Attempting to harness the goodwill generated by the June truces to advance a nascent peace process, U.S. officials last month met directly with Taliban officials in Doha, the capital of the Gulf state of Qatar.

## Indonesia President Chooses A Conservative Running Mate

BY BEN OTTO

JAKARTA, Indonesia—The decision by Indonesia's moderate president to pick a conservative Islamic leader as his running mate underscores the rise of Islamist power in the country but adds a measure of stability for investors spooked by recent religion-fueled protests.

President Joko Widodo, a member of Indonesia's most secular party, tapped Ma'ruf Amin, the 75-year-old head of the leading Muslim clerics council and spiritual adviser to the nation's largest Muslim organization, on Thursday to join his bid for a second five-year term.

The choice of Mr. Amin offers Mr. Widodo, a Muslim, protection against criticism from some quarters that he lacks sufficient Islamic credentials in the world's largest Muslim-majority nation. This has been a frequent line of attack by opponents since the former furniture maker seized the political stage six years ago as Jakarta's governor and then president.

But Mr. Amin has also been an adversary, fueling a campaign that led Mr. Widodo's ally and successor as Jakarta's governor, a Christian from the often persecuted Chinese minority, to be jailed last year for blaspheming Islam. The cleric backed massive street protests by conservative Muslims.

Mr. Widodo noted Thursday that the ticket offered voters his nationalism and Mr. Amin's Islamism, checking two boxes on a list that he hopes will attract voters.

Mr. Amin would have limited powers as vice president, but his election would mark a departure for Indonesia's largely secular politics, bringing conservative Muslims to the forefront of the political stage and advancing their interests beyond minor parties and the advisory roles in past administrations.

Analysts said he would play a role in pushing social policies to the right, such as tight-



President Joko Widodo center left, with Ma'ruf Amin on Friday.

ening halal restrictions or giving new life to movements to ban alcohol and criminalize unmarried sex.

Mr. Widodo didn't choose Mr. Amin "to advance a socially conservative agenda, but that may be the ultimate result if indeed he becomes vice president," said Doug Ramage, managing director of Bower GroupAsia in Indonesia.

Mr. Amin lacks a party to

**Ma'ruf Amin, 75**  
years old, heads the leading Muslim clerics council.

push policy in parliament, "but he would be a moral voice if there is a policy change on something like alcohol," said Achmad Sukarsono, senior analyst at Control Risks. The president "would try not to confront that moral voice."

On Thursday, Mr. Amin stressed the importance of adhering to the constitution and a state ideology advocating tolerance and pluralism. "We have to keep the country peaceful and safe," he told a news conference.

Indonesia's economy has

been stuck near 5% growth for several years, partly from lower demand from key trading partners. The rupiah has been hit by investor flight from emerging markets and is currently trading near its weakest level in 20 years.

Businesses say the two candidates, if elected, would add to stability in the trillion-dollar economy, primarily by defusing any further religious-based street unrest. But they expressed concern over Mr. Widodo's weak political position. The president had proposed a different running mate but relented in the face of rebelling coalition partners.

Mr. Widodo will square off against his opponent from 2014, former general Prabowo Subianto. Mr. Subianto, who had widely been expected to bring the Islamists under his own umbrella, instead announced that he would run with Sandiaga Uno, a wealthy private-equity investor and Jakarta's deputy governor. The vote is in April.

Harry Su, head of equity capital markets at Samuel Sekuritas Indonesia, said both picks had surprised the market. "Most important for the market is that the race be amicable," he said.

*—I Made Sentana contributed to this article.*



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## WORLD NEWS

# Turkish Turmoil Tied to Pastor's Fate

By DION NISSENBAUM

**WASHINGTON**—Turkey's economic woes have become inextricably entangled with the fate of one man: Andrew Brunson, an American pastor whose prolonged detention in Turkey on espionage charges has become a top concern for President Trump.

Months of fruitless negotiations over Mr. Brunson recently compelled the Trump administration to develop options for turning the screws on Turkey, an approach officials dubbed "a bullet a day" until Mr. Brunson was freed, according to people familiar with the discussions.

U.S. officials have repeatedly made it clear to their Turkish counterparts that the way to contain the damage—to Turkey's economy and to U.S.-Turkish relations—is to free Mr. Brunson without delay.

But it remains unclear how the two sides can resolve the standoff. Some U.S. officials say that while heightened tariffs imposed Friday aren't directly tied to the pastor's fate, they want to use Turkey's economic crisis to keep up the pressure.

"Turkey has little to gain from continuing to hold Pastor Brunson—and much to lose," a spokesman for the White House National Security Council said Friday.

Mr. Brunson was detained by Turkish police in October 2016 as part of a sweeping crackdown following a failed military coup that July. The 50-year-old North Carolina native was charged with supporting two terrorist groups in Turkey, one accused of orchestrating the coup and another led by Kurdish separatists battling the Turkish military.

U.S. officials denounced the charges as a sham, and analysts say Turkish authorities have produced thin evidence to back up the accusations.

Mr. Brunson's freedom became a top priority for Christian evangelicals in the U.S., a key support bloc for the president and Vice President Mike Pence. His cause also has attracted attention in Congress.

Jay Sekulow, one of Mr. Trump's top attorneys, represents Mr. Brunson. On Friday, he expressed hope while serving as guest host of Sean Hannity's radio show that the U.S. and Turkey were "getting close to a resolution."

Relations between the two countries have been strained for a while by Turkey's demand that the U.S. deport Fethullah Gulen, the reclusive Turkish cleric living in Pennsylvania whom Mr. Erdogan has accused of ordering the failed coup. U.S. officials have repeatedly rebuffed Turkey's



Andrew Brunson, a U.S. pastor, was detained in Turkey in 2016 as part of a government crackdown in the wake of a failed coup.

MUSTAFA ALKAC/DEPO PHOTOS/ZUMA PRESS

## Sticking Points Between Allies

Besides the case of Andrew Brunson, an American pastor accused of espionage by Ankara, here is a look at key issues dividing Turkey and the U.S.

### SYRIA

Turkey has repeatedly clashed with the U.S. over its policy in Syria, where the American military works hand-in-hand with Kurdish militants that Ankara considers terrorists. Early in his tenure, President Trump angered Turkey by approving plans to arm the Syrian Kurdish forces. Turkey responded by launching a military

operation in Turkey that undermined U.S.-led efforts to fight Islamic State. Turkey and the U.S. have worked out an uneasy alliance in Syria.

### INCIRLIK

The U.S. military and its NATO allies use Turkey's Incirlik Air Base in southern Turkey to carry out airstrikes against Islamic State. The base has been central to the U.S.-led effort to defeat the militant group, and securing approval from Ankara to use Incirlik in 2015 was a difficult negotiation. Turkish nationalists have long pushed Mr. Erdogan to kick the U.S. out.

### FETHULLAH GULEN

The U.S. is home to Fethullah Gulen, a Turkish cleric

whom Turkey has accused of orchestrating the failed July 2016 coup. Mr. Gulen lives a reclusive life on a Pennsylvania compound. After the failed coup, Turkish President Recep Tayyip Erdogan and Turkish leaders demanded the U.S. send Mr. Gulen back to Turkey to face charges that he organized the failed putsch from afar. Mr. Gulen has denied the charges, and the U.S. has repeatedly rebuffed Turkey's request.

### HALKBANK

The U.S. and Turkey are at odds over American investigations into the Turkish banking system. One Turkish banker, Mehmet Atilla, is serving a prison sentence in the U.S. for violating U.S. sanctions against Iran. A witness in the case was Reza Zarab, an ally of Mr. Erdogan who was arrested in 2016 when he flew to the U.S. Mr. Zarab agreed to cooperate with prosecutors and helped put Mr. Atilla behind bars. The U.S. and Turkey have been in prolonged talks over a fine against Halkbank, where Mr. Atilla worked, but the talks have stalled.

### ERDOGAN'S BODYGUARDS

When Mr. Erdogan came to Washington last year, he was met by protesters. During the protest, members of Mr. Erdogan's security detail were accused of beating demonstrators.

—Dion Nissenbaum

demands and said Ankara has failed to provide evidence to support its request. But Mr. Brunson's case brought simmering tensions to a boil.

Initially, the Trump administration offered Turkey incentives. The White House convinced U.S. lawmakers to shelve a plan earlier this year that would have imposed sanctions on Turkey for holding Mr. Brunson.

The administration also let

Turkey know that prosecutors had dropped charges filed against 11 of 15 bodyguards working for Mr. Erdogan who had been accused of beating protesters when the Turkish president came to Washington last year.

The efforts produced no breakthroughs. Turkey held Mr. Brunson without charges until March, when prosecutors filed a 62-page indictment that accused the pastor of espio-

nage, aiding terrorist groups and trying to convert Muslims.

After months of talks, U.S. officials thought they had reached an understanding with Turkey to free Mr. Brunson last month when he appeared in a Turkish court.

As Mr. Brunson's hearing approached, Mr. Trump met Mr. Erdogan in Brussels at the North Atlantic Treaty Organization summit.

In private talks, Mr. Erdog-

gan asked for Mr. Trump's help in securing the release of a Turkish citizen who had been held by Israel for a month after being accused of trying to funnel money to Hamas, the Islamist Palestinian militant group, according to people familiar with the matter.

On July 14, Mr. Trump called Israeli Prime Minister Benjamin Netanyahu to ask him to free the Turkish citi-

zen, Ebru Ozkan, these people said. Ms. Ozkan was deported to Turkey the next day.

Turkish officials denied that Mr. Erdogan had asked Mr. Trump for help with Israel.

Turkish officials expected the Trump administration to send Mehmet Atilla, a Turkish banker serving a 32-month prison term for evading U.S. sanctions against Iran, back to Turkey to complete his sentence, according to people familiar with the talks.

Turkey also expected the U.S. State Department to request leniency from the Treasury Department in imposing a potentially crippling fine on Halkbank, the Turkish bank ensnared in the sanctions evasion case, the people said.

Chances of a U.S.-Turkey agreement fell apart again when Turkey sought broader assurances that the U.S. would halt any further investigation of Halkbank, where Mr. Atilla worked. The Trump administration balked.

Later in July, when Mr. Brunson was sent back to prison after his hearing, Mr. Trump blasted the decision on Twitter as a "total disgrace."

On July 25, Turkey freed Mr. Brunson and placed him under house arrest at his home in the port city of Izmir. That only made things worse. U.S. officials were again upset that he wasn't sent home

"That was the straw that broke the camel's back," said Soner Cagaptay, director of the Turkish Research Project at the Washington Institute for Near East Policy. "It went from being a bureaucratic crisis to being a presidential one."

Mr. Trump warned Turkey that day he would respond.

"The United States will impose large sanctions on Turkey for their long time detainment of Pastor Andrew Brunson, a great Christian, family man and wonderful human being," Mr. Trump said in a tweet that day. "This innocent man of faith should be released immediately!"

Administration officials offered no objections last month when Congress moved to block plans to sell Turkey up to 100 of America's advanced F-35 jet fighter.

Last week, the Trump administration accused Turkey's justice and interior ministers of human-rights abuses and imposed economic sanctions on both men, sending Turkey's lira plunging.

On Friday, Mr. Trump announced plans to heighten tariffs on Turkey while Turkish Finance Minister Berat Albayrak, Mr. Erdogan's son-in-law, was unveiling a new economic program.



Economic plans released by Finance Minister Berat Albayrak on Friday failed to ease investors' concerns.

The chairman of Istanbul's Chamber of Industry, Erdal Bahcivan, sounded the alarm Friday, saying the falling lira was threatening businesses as well as Turkey's financial system. "Measures to protect the real economy must be put in place urgently," he said Friday.

Turkish sovereign bonds declined in price, with yields on 10-year debt exceeding 20% on Friday, the highest yield since 2008 and up from roughly 12% at the start of May.

Some analysts predicted the country would have no choice but to resort to stringent measures such as capital controls or seeking outside help from the IMF, though such aid would come with strings attached.

"I think they're going to need the IMF, and the sooner the better," said Paul McNamara, investment director for emerging-market debt at GAM International Management.

A Turkish official said the government had no plan to seek IMF assistance.

Investors are monitoring what the Turkish government will do to stem the rout, but plans disclosed Friday by Finance Minister Berat Albayrak—Mr. Erdogan's son-in-law—failed to ease concerns.

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But delivering a speech from a small town in the Black Sea province—his second televised address of the day—Mr. Erdogan struck a defiant tone.

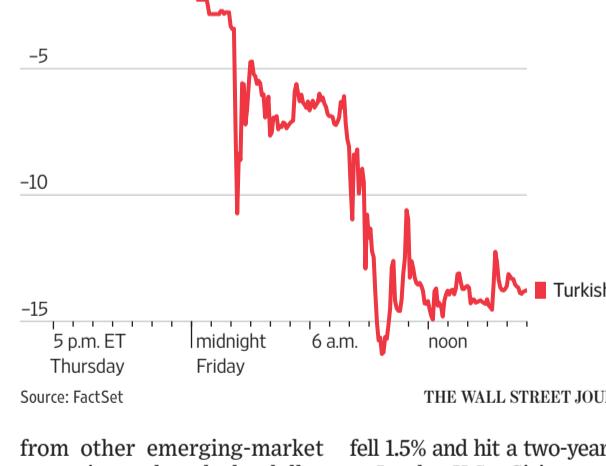
"Despite all the attacks against our country, we will continue to grow in the second quarter and we will end 2018 with record economic growth," he told supporters in Gumushane. "Those who think they can bring us to our knees with economic manipulation don't know this nation."

The immediate impact of a weaker Turkish economy on the global economy is expected to be relatively small. Carsten Hesse, economist at German bank Berenberg, said that even a 20% fall in euro-zone exports to Turkey would subtract only 0.1 percentage point from the bloc's growth.

Some fund managers are concerned that fears about Turkey will trigger outflows

## Fallout

Performance of the Turkish lira and the euro against the dollar



Source: FactSet

THE WALL STREET JOURNAL.

fall 1.5% and hit a two-year low.

In the U.S., Citigroup Inc. dropped 2.7% and the KBW Nasdaq Bank Index, which tracks large U.S. commercial banks, slid 1.3%.

Charlie Robertson, global chief economist at Renaissance Capital, said that the longer-term "contagion effect" would be limited because Turkey has a small presence in the widely tracked MSCI Emerging Markets index, so investors exiting Turkey won't be forced to sell assets in other developing nations.

Money managers also said Friday's moves were accentuated by thin trading. The differences between quoted prices to buy and sell lira was "wide enough to park a bus," said Mr. McNamara, meaning that a \$10 million sale was enough to move the currency a full percentage point.

—Yeliz Candemir contributed to this article.

# U.S. Turns Up Heat On Turkey

Continued from Page One

Turkey's woes hit shares in Spanish, Italian and French banks with large exposure to the Turkish economy.

The lira's rough ride was a far cry from Mr. Erdogan's promise that the near-absolute executive powers he gained upon winning re-election under an amended constitution in June would allow him to fix Turkey's economic challenges. The soured relationship between Messrs. Erdogan and Trump has only exposed the economic vulnerabilities that have built up under his leadership.

Despite accelerating inflation, which hit 16% last month, Turkey's central bank has kept its main lending rate steady since the election, fueling investor concern that it lacked the necessary independence from the government to fulfill its mandate.

Analysts and investors increasingly fear that Turkish businesses will struggle to pay down a debt load exceeding \$300 billion because the bulk of it isn't backed by a steady revenue stream.

Turkey's external debt ranks among the largest among developing economies as a share of annual output, and its foreign-reserve pot is among the smallest, data from the World Bank and the International Monetary Fund show.

The chairman of Istanbul's Chamber of Industry, Erdal Bahcivan, sounded the alarm Friday, saying the falling lira was threatening businesses as well as Turkey's financial system. "Measures to protect the real economy must be put in place urgently," he said Friday.

Turkish sovereign bonds declined in price, with yields on 10-year debt exceeding 20% on Friday, the highest yield since 2008 and up from roughly 12% at the start of May.

Some analysts predicted the country would have no choice but to resort to stringent measures such as capital controls or seeking outside help from the IMF, though such aid would come with strings attached.

"I think they're going to need the IMF, and the sooner the better," said Paul McNamara, investment director for emerging-market debt at GAM International Management.

A Turkish official said the government had no plan to seek IMF assistance.

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Some fund managers are concerned that fears about Turkey will trigger outflows

from other emerging-market countries and push the dollar even higher, while stock investors are weighing the risk of a Turkish economic rout on the banking systems of nearby countries.

European banking shares dropped after it emerged that the European Central Bank was examining the banks' exposure to Turkey. Spain's BBVA SA fell 5.2%, France's BNP Paribas SA dropped 3%, and Italy's UniCredit SpA slid 4.7%.

During the eurozone's sovereign-debt crisis between 2010 and 2015, concerns over the financial frailty of Greece hit markets worldwide. A limited depreciation of China's currency in 2015 also sparked stock-market selloffs.

Some other emerging-market currencies also weakened, with the South African rand and the Hungarian forint falling about 2.6% and 1.7%, respectively. The Russian ruble

fell 1.5% and hit a two-year low.

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## WORLD NEWS

# Probe Finds Coal, Iron Slipped Past U.N. Sanctions

BY ANDREW JEONG

DAEJEON, South Korea—Three South Koreans illegally imported North Korean coal and iron via Russia in violation of sanctions, South Korean customs officials said, exposing a crack in the U.S.-led campaign to cut off trade with the Pyongyang regime.

Using forged customs documents and facilitating payments through a shell company in Hong Kong, the individuals brought in from North Korea over 35,000 tons of coal and pig iron valued at almost \$6 million from April to October last year, South Korean customs authorities told reporters Friday.

**North Korean coal was said to be shipped via Russia to South Korea.**

The suspects appeared to have tried to profit by selling the cheaper North Korean coal at much higher prices in South Korea, the officials said, without identifying the companies or individuals. The customs agency said it would recommend indicting three individuals and their companies—two coal importers and one transportation firm—on charges of smuggling, illicit importation and forgery.

As North Korea's expanding nuclear program heightened tensions last year, the U.S. led a global push to isolate the regime through economic sanctions intended to cut off its trade in raw materials such as coal, oil, iron and lead.

But the sanctions imposed by the United Nations Security Council haven't been water-

tight. Aerial surveillance and satellite imagery have found North Korean vessels receiving oil via ship-to-ship transfers on the high seas, while ships believed to be aiding North Korea have been seen delivering coal to ports in Russia and Vietnam.

Friday's announcement came after a 10-month investigation by South Korean authorities that began when they received what a senior customs official said was U.S. intelligence information.

The coal and iron were delivered through seven shipments on vessels that now bear the flags of North Korea, Belize, Kiribati and Hong Kong, according to ship-tracking website MarineTraffic.

The coal was loaded at the North Korean ports of Songlim, Wonsan, Chongjin and Daean, and shipped to the Russian ports of Nakhodka, Vladivostok and Kholmsk, investigators found. It was then shipped to five different South Korean ports.

Cargo bills uncovered in raids on the companies provided evidence of the shipments from North Korea to Russian ports, South Korean authorities said, adding that one of the suspects later acknowledged the coal and iron was sent on to South Korea.

Some of the imported coal was bought by Korea South-East Power Co., a subsidiary of the country's largest utility, customs officials said. Authorities said they wouldn't press charges on the company, as it appears the government-run firm bought the North Korean coal unwittingly.

The episode shows how North Korea has sought to evade sanctions through transshipments of raw materials that could provide a much-needed financial lifeline to the regime of leader Kim Jong Un.



North Korean leader Kim Jong Un, right, and the Hwasong-15 intercontinental ballistic missile, shown in 2017.

KOREA NEWS SERVICE/ASSOCIATED PRESS

# Kim's ICBM Progress Slows

BY MICHAEL R. GORDON

North Korea's moratorium on missile test flights has precluded it from testing the technology it would need to strike the U.S. with a nuclear-tipped ICBM, a top U.S. military officer said Friday.

While North Korea has demonstrated that it has nuclear weapons and long-range missiles, it hasn't shown that it has mastered the complicated steps of delivering a warhead to the U.S. mainland, said Air Force Gen. Paul Selva, the vice chairman of the Joint Chiefs of Staff.

To do that, Pyongyang must develop and test a reliable targeting system and a survivable re-entry vehicle, the portion of a missile that contains a nuclear warhead and which is designed to withstand the stress of re-entering the atmosphere.

"Our assessment is he has

not closed those last two pieces of the kill chain," Gen. Selva told the Air Force Association, referring to North Korean leader Kim Jong Un.

U.S. and North Korean talks on eliminating North Korea's nuclear and missile programs have been stymied, and Pyongyang has continued to produce fissile material for nuclear weapons.

But Gen. Selva's comments underscore that some of the gestures North Korea has made—specifically, suspending nuclear and missile tests—have security benefits for the U.S.

"We have not seen a demonstration of a reliable R.V.," said Gen. Selva, referring to the re-entry vehicle. "And we have not seen a demonstration of a reliable arming, targeting and fusing system that would allow the system to survive and actually detonate when he wants it to detonate."

North Korea last year test

fired intercontinental ballistic missiles that have the range to reach the U.S.

But in carrying out those launches, it fired the missiles on "lofted" trajectories, in which they reached a high altitude but didn't cover a great distance horizontally.

As a consequence, those test flights didn't replicate the flight path a missile would take if it was fired at the U.S. On such a trajectory, a re-entry vehicle would go faster and would be subject to higher temperatures, experts say.

North Korea also hasn't conducted a missile test flight since November.

"It has had an impact," Gen. Selva said of the moratorium. "But we don't know what impact it's had on his logic," he added, referring to Mr. Kim.

Even though North Korea hasn't fully developed its ICBM capabilities, Gen. Selva said, it may think the system is good enough and try to use it in a crisis. So the Pentagon's missile-defense system needs to be prepared to intercept it, he said.

"We have to assume he might shoot one," Gen. Selva said. "We would have to be prepared to defend. But we might actually make the choice not to shoot because we assert based on what we know about the system and its trajectory that it's not going to hit anything."

Joseph Bermudez, a military analyst for 38 North, a website on North Korean affairs, said Pyongyang already has reaped political gains from its ICBM program despite its limitations.

"North Korea's ballistic-missile program has already enabled it to achieve its strategic goal of being perceived as an existential threat to the U.S.," he said. "North Korea is at the center of the international stage."

## Romania Protesters Call on Government to Resign



Tens of thousands of Romanians flocked to an antigovernment protest organized by expatriates Friday, urging the left-wing government to resign and call an early election. Those supporting the demonstration in Bucharest said they were angry at how Romania is being governed. Critics say the country has lost ground in fighting corruption since the ruling Social Democratic Party assumed power in 2016.

## WORLD WATCH

## CANADA

### Job Creation Surges, Beating Estimates

Job creation soared above expectations in July as large gains in part-time, public-sector positions helped nudge down the unemployment rate.

The Canadian economy added a net 54,100 jobs in July on a seasonally adjusted basis, Statistics Canada said. Market expectations were for a gain of 17,000 jobs, according to economists at Royal Bank of Canada.

Canada's jobless rate, meanwhile, was 5.8% in July, down from 6% in the previous month. Market expectations were for an unemployment rate of 5.9%.

Friday's report added to expectations that the Bank of Canada will raise its key interest rate again before the end of this year.

Several economists said the surge in part-time positions undermined the strength of the overall gains. While the job numbers "will keep markets guessing" between a September and October rate increase, CIBC World Markets economist Avery Shenfeld said, "there are lots of reasons to question just how good the data really are."

—Kim Mackrael

## SYRIA

### At Least 22 Killed in Airstrikes, Group Says

Government airstrikes on opposition-held territory in northwest Syria killed at least 22 people, a monitoring group said, as the U.N.'s children's agency warned a new battle in the war-torn country could affect the lives of one million children.

Government forces unleashed a wave of airstrikes across Idlib, Aleppo and Hama provinces after days of building up ground forces at the edge of opposition territory, the Syrian Observatory for Human Rights said. The group said 14 people were killed in Aleppo province and eight others in the province of Idlib.

Fears have been building for days of a government offensive against the last major bastion for the opposition, centered in the Idlib province and along the edges of the Aleppo and Hama provinces.

U.N. agencies are warning a campaign to capture Idlib would aggravate an already dire humanitarian situation. Food, water and medicine are already in short supply in the largely rural Idlib province.

—Associated Press

## ZIMBABWE

### Opposition Contests Vote Results in Court

Zimbabwe's main opposition party on Friday filed a legal challenge to the results of the country's first election without Robert Mugabe on the ballot, alleging "gross mathematical errors" and calling for a fresh vote or a declaration that their candidate Nelson Chamisa was the winner.

The court now has 14 days to rule, and Justice Minister Ziyambi Ziyambi said the inauguration, once planned for Sunday for President Emmerson Mnangagwa, is "on hold" until then.

Lawyers for the Movement for Democratic Change party arrived at court less than an hour before the deadline to submit papers.

"We have a good case and cause!" Mr. Chamisa said on Twitter.

The Zimbabwe Electoral Commission has said Mr. Mnangagwa and the ruling ZANU-PF party won the July 30 election, with the president receiving 50.8% of the vote and Mr. Chamisa receiving 44.3%.

—Associated Press



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## WORLD NEWS



Boys in northern Yemen inspected graves prepared for 29 children who were killed Thursday in a Saudi coalition airstrike that hit a school bus and a market.

## Trump Threatens Car Tariffs On Canada

BY WILLIAM MAULDIN

President Trump on Friday threatened tariffs on Canadian-made cars if U.S. officials can't strike a deal with the country on overhauling the North American Free Trade Agreement.

In a tweet, the president also said a Nafta deal with Mexico "is coming along nicely."

Earlier Friday, U.S. officials met Mexican counterparts in Washington to resolve disagreements between the two countries on Nafta.

The Trump administration has sought to portray Canada as dragging its feet in talks, part of what observers say is an effort to put pressure on Ottawa to make trade concessions.

Canadian and Mexican officials and other people close to the talks say they expect senior Canadian officials to return to the negotiating table as soon as the U.S. resolves issues on auto trade and labor standards with Mexico.

While he praised Mexico's president-elect, Andrés Manuel López Obrador, in Friday's tweet, Mr. Trump went on to criticize Canada, saying its "Tariffs and Trade Barriers are far too high" and "Will tax cars if we can't make a deal!"

Applying special tariffs to cars made in Canada would end decades of preferential treatment between the two neighbors through deals that predated Nafta.

In response to the president's tweet, a spokesman for Canadian Foreign Minister Chrystia Freeland said Friday Ottawa is encouraged by the progress being made by the U.S. and Mexico on auto issues.

"It's the only way we will get to a deal," the spokesman said.

## Calls Grow for Yemen Attack Probe

By ASA FITCH

Calls grew louder for an investigation into airstrikes in Yemen that killed at least 29 children, as the United Nations and Western officials weighed their response to the attack by a Saudi-led military coalition.

Alistair Burt, the U.K.'s minister of state for the Middle East and North Africa, tweeted his concern about the attack and urged a transparent investigation. The U.K., he said, "calls on all parties to prevent civilian casualties and to cooperate with [the] U.N. to reach a lasting political solution in Yemen."

The Saada attack was one of the deadliest single incidents for children during Yemen's war and has put Saudi Arabia and its allies, which include the United Arab Emirates and Bahrain, in an uncomfortable spotlight.

Local health authorities put the total death toll at 50, with 77 wounded.

nation of the incident, according to an Associated Press report.

The Saudi-led coalition, which is fighting in Yemen to oust the Iran-supported Houthi rebels who control the capital, said the strikes had been referred for investigation to its Joint Incidents Assessment Team, according to the official Saudi Press Agency.

The Saudi coalition created and oversees that body, and its conclusions aren't considered independent.

Some 6,592 Yemeni civilians have been killed since the war began, mostly by airstrikes, according to a statement Friday from the U.N. High Commissioner for Human Rights. Yemen has become the world's worst humanitarian crisis, with more than three-quarters of the population in need of

some kind of aid, the U.N. said.

The growing civilian toll in Yemen has led to increased criticism abroad—including from within the U.S., which backs the Saudi coalition with logistical and intelligence support. The U.K. supplies weapons to the coalition.

Several members of Congress have raised concern about new weapons sales to Saudi Arabia in light of civilian deaths caused by airstrikes.

The killing of dozens of children under age 15 has added indignation to the misery. "This is horrible and completely unacceptable," Lise Grande, the U.N.'s humanitarian coordinator in Yemen, said in a statement Friday. "We feel deeply for the families of the victims.

Their loss is unimaginable."

A statement carried by the Saudi Press Agency said the coalition would "exert all efforts to preserve civilians" as it always has, citing an unnamed senior coalition official.

The coalition had earlier described the strikes as attempts to target Houthi militants responsible for launching a ballistic missile at southern Saudi Arabia on Wednesday evening.

Saudi forces intercepted the missile near the city of Jizan, but falling debris killed one person and wounded 11 more.

The Houthis fired two more missiles at Jizan that Saudi Arabia intercepted on Friday, a coalition spokesman said, according to the SPA.

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## OBITUARIES

JOËL ROBUCHON  
1945 – 2018

## French Chef Exalted Unpretentious Cooking

**J**oël Robuchon, the chef who held more Michelin stars than any other, wanted to be judged above all by his take on a humble staple of French cooking, mashed potatoes.

Mr. Robuchon, with his love of the foods of his working-class French childhood, led a revolution in fine dining, championing dishes that appeared simple but were the product of exacting, complex recipes. He exported his philosophy of accessible French cuisine to the world with an empire of restaurants spanning Europe, North America and Asia.

"Mashed potatoes made my reputation. I owe them everything," he said in 1994. "Like the madeleine of Proust, everyone remembers the mash of their

mother, of their grandmother."

Mr. Robuchon's kitchens were intense working environments, punctuated by his legendary outbursts at staff, and in them he trained a generation of famous chefs, including Gordon Ramsay, Éric Ripert, Michael Caines and Tom Aikens. On one occasion, by his own admission, Mr. Robuchon threw a plate at Mr. Ramsay, after the British chef failed to execute a dish of langoustine ravioli correctly.

"Perfection does not exist," Mr. Robuchon said in a 2016 interview. "One can always do better."

Mr. Robuchon died Monday at a hospital in Geneva. He was 73. The cause of death was pancreatic cancer, a spokeswoman said.

—Josh Jacobs

KENNETH HENRY RAVIZZA  
1948 – 2018

## Sports Shrink Counseled Athletes and Executives

**K**en Ravizza, a sports psychologist, told baseball players never to admit they were in a slump. Instead, he advised, say you're due for a hit.

"Attitude is a decision," said Dr. Ravizza, who taught kinesiology at California State University, Fullerton, and served as a thinking coach to the Chicago Cubs and other teams in sports ranging from rugby to water polo.

His own days as an athlete ended when he blew out a knee playing college football. He earned a doctoral degree in kinesiology at the University of Southern California in 1973 and became a professor. After watching gymnasts work out at Fullerton, he mentioned to their coach what he saw as insufficient focus.

Soon he was counseling gymnasts, baseball players and other athletes.

His message also resonated off the field. He coached heart surgeons, musicians, military officers and corporate executives.

He began working with the California Angels baseball team in 1985 and in the past several years worked for the Cubs. He once gave college baseball players a miniature toilet so they could flush negative thoughts.

Dr. Ravizza died July 8 after a heart attack. He was 70.

Cubs Manager Joe Maddon recalled one of Dr. Ravizza's mottos: "It's your choice to approach your day with a positive vibe or a negative vibe."

—James R. Hagerty

BY JAMES R. HAGERTY

**W**endy Kopp was riding a train to New York one winter morning 17 years ago when a chatty older man sat next to her. She tried to cut the conversation short and get back to work on her laptop. He persisted. She finally told him all about the charity she founded, Teach for America, which sends teachers to work in low-income areas.

Her seatmate, H.F. "Gerry" Lenfest, ended up donating more than \$14 million to Teach for America.

Giving away money became Mr. Lenfest's mission after he sold the cable-TV company Lenfest Communications in 2000. He and his wife, Marguerite, preferred to give most of their wealth away in their lifetimes rather than creating a perpetual foundation whose trustees might stray from their vision. So far, their gifts total more than \$1.2 billion.

Mr. Lenfest, who died Aug. 5 at age 88, relied on his instincts about people in making gifts. His wife was more deliberative. She kept a note on the refrigerator reminding him to remember two words when people asked for money: "no" and "why."

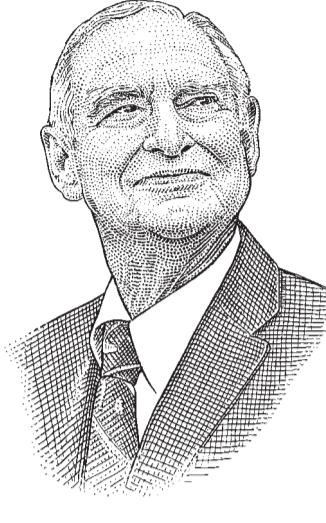
In 2014, Mr. Lenfest acquired the ailing publisher of the Philadelphia Inquirer, Philadelphia Daily News and Philly.com for about \$88 million. Two years later he donated that company to a nonprofit, now known as the Lenfest Institute for Journalism, charged with preserving quality journalism in Philadelphia and testing ideas that might sustain fact-based news reporting elsewhere.

"I can't think of any cause that we support that's more important than the support of the newspapers," Mr. Lenfest said in 2014.

He rode city buses and flew coach. It wasn't only about being frugal, said his son Brook. Mr.

H.F. LENFEST  
1930 – 2018

## He Made Fortune on Cable, Then Gave It Away



Lenfest found people in coach more open to conversation.

**H**arold Fitzgerald Lenfest, known as Gerry, was born May 29, 1930, in Jacksonville, Fla. His father, who sold marine engines, moved the family to Scarsdale, N.Y., and Gerry split his childhood between that posh suburb and a farm his father bought in Hunterdon County, N.J. Gerry

proved an ace marketer of Girl Scout cookies when asked to assist his shy sister.

After his mother died when he was 13, he started skipping school. His father sent him to Mercersburg Academy, a boarding school he credited with shaping him up.

He studied economics at Washington and Lee University, where he graduated in 1953, and served as an officer in the U.S. Navy. He earned a degree at Columbia Law School in 1958. Before and during his college years, he worked as a farm hand in Iowa, an oil-field roughneck in North Dakota and a mate on an oil tanker.

After law school, he began a career at the law firm Davis Polk. In 1965, he joined Triangle Publica-

tions, owned by Walter Annenberg, as a staff lawyer. Triangle owned TV and radio stations, the Philadelphia Inquirer and Daily News, and TV Guide and Seventeen magazines.

Mr. Lenfest took charge of Seventeen in 1970. The magazine's wholesome beauty tips had lost relevance in the hippie era, and Seventeen delved into edgier topics, including abortion.

Cable TV was in its infancy and its prospects clouded, but Mr. Lenfest was tempted when Mr. Annenberg decided to sell a tiny cable business in Lebanon, Pa. "I always wanted to do my own thing and I think I would have bought a Chinese laundry if it'd come up," he said in an oral history. He bought the business for about \$2.3 million in 1974.

Initially, he ran the business from his home, with help from his wife. It spread to include about 1.3 million customers in Pennsylvania, New Jersey and Delaware before it was acquired by Comcast Corp. in 2000 for about \$5.6 billion.

Among institutions that received gifts from the Lenfests are Columbia University, the Philadelphia Museum of Art, the Museum of the American Revolution and the Curtis Institute of Music.

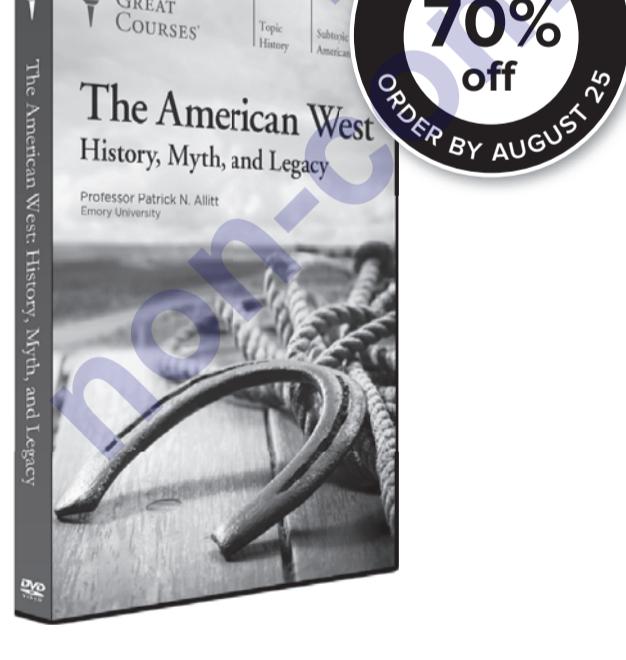
Mr. Lenfest is survived by his wife, two sisters, a brother, three children and four grandchildren.

After becoming billionaires, Mr. and Mrs. Lenfest continued living most of the year in a three-bedroom house in Huntingdon Valley, Pa., that they bought in 1966 for \$35,000. At one point, Mr. Lenfest later told the Inquirer, he had an architect design a much grander home. A crew dug a hole for the basement. Then Mr. Lenfest had second thoughts about the need for so much space. "You know what?" he told the architect. "Fill up the hole."

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## IN DEPTH

# Rats Have Defenders In France

*Continued from Page One*  
almost 26,000 signatures.

"We are very disturbed," says Jo Benchirrit, a retired psychologist who created the petition to save the rats. The defense of rights for rats is only seen as "abnormal," she says, "because others are able to live among the banality of such cruelty."

The resistance movement is good news for Paris's robust rat population. There is no formal count, a city hall official says. One rat-control expert's estimate puts it at about four million, a 1.8 rat-to-human ratio.

Rat population numbers tend to be unreliable. The data that does exist suggests the Paris infestation could rival that of New York City's, which has been estimated to be from several hundred thousand to several million.

Paris offers some key amenities for the rodents. It has a dense human population that,



MATTHEW DALTON/THESWJ

**'We really need to find a balance to live together,' says Claudine Duperret of the group Rat-Prochement, here with Milou.**

along with crowds of tourists, produces plenty of leftovers. Its ancient foundations date to the Roman Empire, providing the creatures extensive subterranean living space.

The problem, city officials say, is the rodents are asserting their place above ground en masse due to underground construction projects, the rising of the Seine River and people not disposing of rubbish correctly.

"We don't want to kill the entire rat population in Paris," says the city-hall official. "There's no point. We just want to control their expansion."

Sightings of rats dining on garbage next to Paris's monuments or darting along the Seine are commonplace.

"We really need to find a balance to live together," says Claudine Duperret, a 59-year-old logistics manager who has a

600-member-strong Facebook group dubbed Rat-Prochement: Save the Rats that takes in homeless rats. Ms. Duperret lives with three—Mousty, Léon and Milou—she says were "rescued" from the streets.

Ms. Duperret and her cohorts will need to overcome centuries of European conflict between human and rat. In the Middle Ages, people were helpless to stop the creatures from invading pantries and destroying crops. Lacking effective poisons, authorities took to bringing legal charges against rats for their misdeeds, according to *"The Criminal Prosecution and Capital Punishment of Animals,"* a lengthy history by E.P. Evans.

The rats weren't defenseless in such cases. When an ecclesiastical court in Autun, France, brought charges in the 16th century against a group of rats for destroying the local barley crop, a well-known lawyer named Bartholomew Chassenée was appointed by the court to represent them. Mr. Chassenée mounted a vigorous response.

"He urged, in the first place," Mr. Evans wrote, "that inasmuch as the defendants were dispersed over a large tract of country and dwelt in numerous villages, a single summons was

insufficient to notify them all."

In the 20th century, scientists concluded rats carrying fleas transmitted the plague in the Middle Ages. Though some scientists now doubt rats were to blame, the stigma has been difficult to shake.

This year, negative media coverage has taken its toll. In January, a Paris trash collector video recorded hundreds of rats swarming in a large garbage container by the Musée d'Orsay, one of which leapt toward him.

"It can't go on like this," he says in the video, which went viral after he sent it to the French newspaper Le Parisien. "It's a huge plague."

Ms. Duperret and other activists dismiss unease as a form of "rat phobia." Her rats live in cages and take turns roaming around her apartment.

Since she took in her first rat 11 years ago after her daughter wanted one as a pet, she has saved some 25, she says. She brings them with her on trips around the city and occasionally on holidays.

"I had a fantastic relationship with my first rat, Tycho," she says. "He died of old age."

Sometimes Ms. Duperret has difficulty finding a burial spot. Socrates, a pet rat that died

eight months ago, and three others now sit in her kitchen freezer, awaiting interment.

Most rats saved by Rat-Prochement members were raised as pets and then abandoned on the streets, the group says. Some are also albino rats that have escaped or been released from laboratories.

The 2007 Walt Disney animated film "Ratatouille," the story of a country rat who becomes a Parisian-restaurant chef, generated a surge in children keeping rats as pets, Ms. Duperret says. But months later, many children lost interest and members of the group mobilized to take in the unwanted animals.

"Rats are not meant for children," Ms. Duperret says. "They are very intelligent," she added, referring to rats.

Olga Bugni-Livolsi, a 49-year-old archivist, took in an injured street rat and nursed it back to health. The animal, Tina, then destroyed two cages and retreated to the bathroom, where it chewed a hole in the wall.

Tina since died, and the incident hasn't diminished her affection for rats. "We're not asking people to love rats like us," she says. "What we're asking is for people to reduce the number of rats without killing them."

# The Case Of the Lost Bitcoin

*Continued from Page One*  
ing of an apparent multibillion-dollar theft and money laundering scheme at the very center of bitcoin's world shows just how dangerous its largely unpoliced digital wilderness can be for investors.

In the nine years or so since bitcoin made its debut, cryptocurrency worth more than \$15 billion at peak prices has been stolen, much of it in hacks like those that precipitated Mt. Gox's collapse. That tally doesn't include thefts that haven't been publicized, or cryptocurrency used in other illegal activities, like buying stolen credit cards or paying hackers.

The rip-offs represent just one of the threats now facing bitcoin, which has electrified the financial world with its promise of a decentralized, anonymous payment system intended to render banks obsolete.

Anonymity is evaporating as people transact on big, centralized exchanges that collect detailed user data—and provide it to government investigators. Speculators have driven huge price fluctuations that make bitcoin unviable as a currency and dangerous as an investment.

Then there is crime: With little government oversight and no way of reversing bitcoin transactions, thieves have developed creative ways not just of breaking into exchanges, but of using bitcoin to facilitate all sorts of other schemes. Credit-card thieves sell stolen cards for bitcoin; hackers—including some from North Korea—have taken data for ransom to be paid in bitcoin, cybersecurity researchers say.

## True believer

For true believers such as Mr. Nilsson—a 36-year-old Swede who lives and works in a cramped Tokyo high-rise—it has been a comedown.

Mr. Nilsson and others in Japan's enthusiastic digital-currency community crowded into bitcoin in a moment of post-financial-crisis optimism. Founded by an enigmatic coder—or coders—going by the name Satoshi Nakamoto, bitcoin exists only online as a string of code in a digital ledger, called a blockchain, outside the mainstream financial system.

The ledger is maintained by thousands of computers throughout the world. Transactions are publicly viewable, but the people behind them aren't. The arrangement ensures that a person can't use the same bitcoin to pay for a good or service more than once. While bitcoins can be seen moving between "addresses" identified by strings of letters and numbers, the names of wallet owners remain out of sight.

In theory, the process is decentralized. There is no need for a trusted intermediary, such as a bank or credit-card company, to ensure the validity of exchanges; the blockchain does that.

In practice, many bitcoin

transactions are facilitated through exchanges.

Mt. Gox, based in Tokyo, was one of the first and largest such exchanges. It provided a platform to buy and sell bitcoins as well as a service to maintain users' password-protected digital wallets, where bitcoins are stored. In 2012, Mr. Nilsson bought his first bitcoin from a friend. A year later he started buying the cryptocurrency from Mt. Gox, accumulating a small cache.

With a tuft of chin beard, and the dark wardrobe of a 1990s hacker or a fan at a Rush concert, Mr. Nilsson has lived in Tokyo on and off for about a decade.

Unknown to buyers at the time, Mt. Gox was headed for trouble. Hackers gained access to private keys in 2011 and began to steal bitcoins from online wallets—some 630,000 over four years.

## Tokyo meeting

Mt. Gox owner Mark Karpeles, a French expatriate in Tokyo, tried to conceal the thefts until early 2014. Mt. Gox halted withdrawals and filed for bankruptcy.

The debacle, the biggest in bitcoin's short history, left hundreds of victims. Daniel Kelman, a Brooklyn-educated lawyer who was living in Taiwan, lost 44.5 bitcoins, or about \$400,000 today, and traveled to Tokyo hoping to get to the bottom of the theft.

At a bitcoin meetup in a skyscraper bar, the lawyer met Jason Maurice, a floppy-haired Hawaiian. Mr. Maurice, who goes by "Wiz," passed on the name of a colleague, Mr. Nilsson, who had the programming chops to solve Mt. Gox.

"It quickly devolved to just being me sitting around working on the technical front," says Mr. Nilsson. Without money for new technology or an office, he conducted the investigation out of his 650-square-foot apartment.

Mr. Nilsson developed a program to index the blockchain, which allowed him to quickly search each transaction's input, output and addresses.

Though patterns began to emerge, they were hard to decipher because the blockchain doesn't identify who's behind each transaction.

A lucky break kept him going. Parts of Mt. Gox's database leaked. Mr. Nilsson obtained previous records of trades, withdrawals, deposits and users' balances.

The investigation was dominating his life. Still working his full-time day job, his nights became Coke Zero-fueled sessions before three glowing screens, one with lines of code, another with a spreadsheet to record key information, and a third to write narrative notes.

After months of work, Mr. Nilsson had nearly two million addresses associated with Mt. Gox—but no idea who used each address, or for what purpose. He needed insider help.

By then, Japanese law enforcement was investigating Mt. Gox. Its chief, Mr. Karpeles, was laying low. Mr. Kelman had reached out over a bitcoin channel on the messaging program Internet Relay Chat that he knew Mr. Karpeles frequented.

Eager to clear his name, Mr. Karpeles agreed to meet with Messrs. Nilsson and Kelman. He



SHIHO FUKADA FOR THE WALL STREET JOURNAL

**'It's a bit of a sad, sordid story.'**

**Kim Nilsson worked from a cramped apartment in Tokyo to trace bitcoin he lost in the Mt. Gox collapse.**

confirmed account information Mr. Nilsson compiled, and helped him develop a complete list of Mt. Gox addresses.

Mr. Karpeles declined to comment, but has previously denied embezzling funds from Mt. Gox.

Mr. Nilsson went through the remaining thousands of wallets and determined that while Mt. Gox should have had about 900,000 bitcoins, it instead had fewer than 200,000. And he saw coins went missing as early as 2011. "Knowingly or not," he wrote in a 2015 blog post, "Mt. Gox was technically insolvent since at least 2012."

Hoping to shake loose more information, in April 2015 he published findings on a blog. He believed someone other than Mr. Karpeles stole the bitcoins. "So," the post concluded, "Who did it then?"

Soon after, he got an unexpected message. Gary Alford, an agent with the U.S. Internal Revenue Service, was known in crypto circles as the investigator who identified the owner of Silk Road, an online marketplace where you could buy drugs and weapons with bitcoin. It was one of the biggest ever bitcoin-related prosecutions, and Mr. Alford followed

the investigation to the Silk Road investigation to some of the same places where Mr. Nilsson was searching for his lost currency.

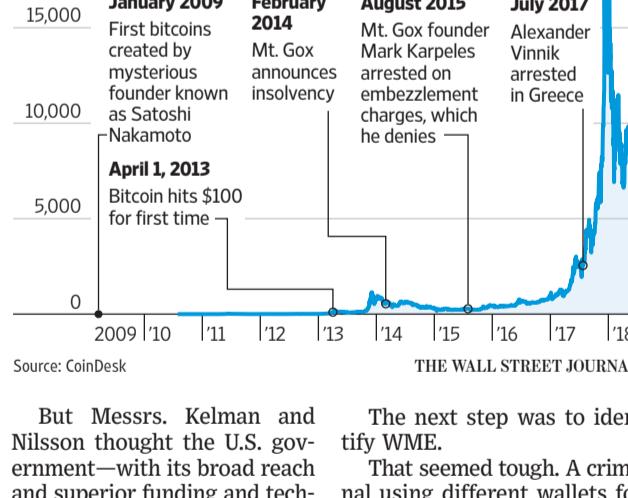
It was an uncomfortable moment. Mr. Nilsson got into bitcoin in part to get away from regulators. "There is a stigma about the IRS, obviously, in the kind of circles I move in," he says.

bitcoin connected to the Silk Road investigation to some of the same places where Mr. Nilsson was searching for his lost currency.

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## Wild Ride

Bitcoin's value in dollars has fluctuated dramatically in the cryptocurrency's short life.



Source: CoinDesk

THE WALL STREET JOURNAL

searchers.

"No one knew who BTC-E was. No one knew who the owners were. We thought it might be in Bulgaria, or maybe Cyprus," says Tigran Gambaryan, an IRS investigator who is now lead agent on the Vinnik investigation.

Agents traced blockchain transactions and subpoenaed bank records. They determined that between 2013 and 2015, an account linked to BTC-E and a Russian citizen was involved in cash transfers to banks in Cyprus and Latvia, jurisdictions money launderers use as a waypoint to major banks on the continent.

## Sealed indictment

By the end of 2016, the prosecutors had enough to indict Mr. Vinnik. They filed a sealed federal indictment in January 2017 accusing Mr. Vinnik and unnamed accomplices of laundering about \$4 billion via BTC-E. When Mr. Vinnik took a Greek vacation, the FBI and local police were ready.

On July 25, undercover officers in casual clothing encircled Mr. Vinnik on a beach and arrested him. They seized two laptops, two tablet computers, five cellphones and one router—possible evidence in understanding BTC-E, according to a Greek law-enforcement official, citing court filings.

In Greek court hearings, Mr. Vinnik's Russian lawyer denied the charges, said his client isn't a BTC-E employee, and asserted he is fighting the U.S. dominance of the global financial system.

Mr. Nilsson remains frustrated. He expected bitcoin to let him avoid governments, financial institutions and crooks. Instead he and his handful of bitcoins are embroiled with all three. "It's a bit of a sad, sordid story," he says.

—Nektaria Stamouli in Athens contributed to this article.

But Messrs. Kelman and Nilsson thought the U.S. government—with its broad reach and superior funding and technology—might be able to help.

Instead, "it was like a one-way street," Mr. Kelman says.

Mr. Nilsson doubled down. He traced the flows of coins that left Mt. Gox into other exchanges, including one called BTC-E.

He saw that some coins stolen from Mt. Gox had been deposited into other Mt. Gox accounts—and that one of those had received a cash deposit with a note attached that read simply "WME."

At that point, Mr. Nilsson shifted from blockchain analysis to old-fashioned internet trawling.

Some more digging revealed a WME who claimed to have been operating currency-exchange businesses in Moscow.

"Hello, I am engaged in exchanges for more than 10 years, now I started working with bitcoins. I can exchange them for anything," WME wrote in 2011 on the Bitcointalk.org board.

Drilling deeper, Mr. Nilsson found WME wallets were connected to crypto exchange BTC-E.

The next step was to identify WME.

That seemed tough. A criminal using different wallets for each transaction and being careful to never leave information linking a pseudonym with a real identity could be tough to catch.

WME apparently wasn't careful. Through what Mr. Nilsson calls "careless identity handling," there was a trail of clues.

First were the postings linking WME to specific accounts. Then Mr. Nilsson found a 2012 message-board post in which an outraged "WME" claimed another trading platform "scammed and run off with my money."

At the bottom of one message, the other platform told WME where it deposited his money: An account owned by "VINNIK ALEXANDER."

Mr. Nilsson passed the name—with a typo—to the IRS agent, Mr. Alford.

What he didn't know at the time was that BTC-E was a target for government investigators an ocean away.

BTC-E was the exchange of choice for criminals worldwide, say cybersecurity re-

## OPINION

## Arizona Republicans Brace for a Storm

By Allysia Finley

*Phoenix*

**A**nyone who's lived in Arizona is familiar with the summer monsoons that sweep across the desert, bringing a tsunami of sand. The rain can come on suddenly but is usually presaged by hurricane-force gusts carrying dark, thick plumes. Some people say they can sense a storm coming by the electricity in the air.

For Republicans, this year's midterm elections have that sort of ominous feel. Liberal intensity has been building across the country, fueled by revulsion at Donald Trump. Longtime GOP redoubts are suddenly up for grabs in special elections. Republicans this week appear to have eked out a victory in Ohio's 12th Congressional District, which the GOP had won in 2016 by more than 35 points.

Arizona, the land of Barry Goldwater, has long leaned right. Between 1952 and 2016, Democrats carried the state in only one presidential election, in 1996. Today Republicans control the governorship, both chambers of the Legislature, both U.S. Senate seats and five of nine House seats. But demographic changes are pulling the electorate leftward, even as Mr. Trump is polarizing voters.

### Changing demographics and dismay with Trump give Democrats a chance for governor and Senate.

Hispanics make up nearly a third of the state's population and more than 40% in the two biggest cities, Phoenix and Tucson. Mr. Trump carried Arizona by a mere 3.5 points in 2016, compared with Mitt Romney's 9-point margin in 2012. Many Republicans and independents in the suburbs are repelled by the president's abrasive personality and restrictionist immigration policies. Caught in the political maelstrom are Gov. Doug Ducey and Rep. Martha McSally.

Ms. McSally is running for the GOP nomination to succeed Sen. Jeff Flake. A second-term congresswoman from Tucson, she would seem to be a GOP dream candidate: a former Air Force fighter pilot who can return liberal fire. Her military background is a major asset in a state with 1,200 aerospace and defense companies.

During a recent town-hall meeting at the Mesa headquarters of Geco, a small defense contractor, Ms. McSally regales some 50 workers with an anecdote of her

first encounter with Mr. Trump in the Oval Office. After she introduced herself to the president as the only female veteran in the GOP House conference, he bombarded her with questions about jet fighters, including the plane she had flown, the A-10 Warthog.

"I decided to talk to him like a fighter pilot, not like a politician. And I said, 'It is a bad-ass airplane with a big gun on it.' Sorry I am swearing," she says with a sly smile. "Then the president asked, 'We're still flying it right?' Well, the last administration tried to put it in the boneyard,' she told him. "And then I just decided to speak boldly: 'But you're going to have to pry it out of my cold, dead hands.'

For a moment, she says, Mr. Trump was speechless: "And then he looked back and said, 'You just saved it.'" Air Force Secretary Heather Wilson affirmed at a congressional hearing that she expects A-10s will continue to be flown "well into the 2030s."

But even with the A-10 saved, Ms. McSally remains worried. PACing across a makeshift stage, she laments that the Air Force is short 2,000 pilots and that defense-budget cuts have left those who remain insufficiently equipped and trained: "Our pilots are not flying. They don't have the parts. They don't have the personnel. Pilots want to fly! We have gone from around 134 squadrons from around Desert Storm to 55 right now."

Later, she rattles off some of the House GOP's accomplishments: enacting tax reform, expanding health savings accounts, and passing a bill to give Medicaid back to the states through block grants. The last, she adds, "unfortunately didn't get through the Senate, but we need to keep moving on it." She conspicuously avoids mentioning the culprit for the bill's defeat: Arizona's senior senator, John McCain.

"It gets lost in the clutter of all the nonsense that goes on cable TV and Washington, D.C., and the 'resistance' to the Trump administration, but this is all good news," she says. "Arizona's economy is booming."

That "nonsense," however, is Ms. McSally's problem—or at least one of them. Few voters are aware of how much she and her fellow Republicans in Congress have accomplished, because the news is consumed with President Trump's eruptions.

At the same time, the president has inflamed immigration politics and made it more difficult for Republicans like Ms. McSally to carve out a moderate position. As the Aug. 28 primary approaches, she has been running to the right on the issue to avoid being outflanked



Rep. Martha McSally is the front-runner for the Republican Senate nomination.

by her opponent, former state Sen. Kelli Ward, who has called Ms. McSally a "Republican in Name Only." In reply, Ms. McSally emphasizes her sponsorship of a stillborn House bill that would have sharply limited family-based immigration, increased interior enforcement, and appropriated \$30 billion for a border wall with Mexico.

"We are a border state," she tells me after a tour of Geco's plant. "We are ground zero here for the cartel activities that are coming through ranchers' property that I represent and impacting the rest of the state in an awful way."

**M**s. McSally is the primary's front-runner, but not a shoo-in. A poll by ABC15 and OH Predictive Insights shows her ahead of Ms. Ward, 35% to 27%. But the congresswoman owes her lead in part to the presence of Joe Arpaio, who is polling at 15%. Mr. Arpaio is the former Maricopa County sheriff who lost his bid for a seventh term in 2016, was convicted of contempt of court in a case arising from allegations that his officers racially profiled Latinos, and then received a presidential pardon last August.

One danger is that Ms. McSally could emerge from the primary victorious but weakened from the internecine warfare. Already, the ABC poll shows her trailing the likely Democratic nominee, Rep. Kyrsten Sinema, by 4 points.

Gov. Ducey is in danger, too. He won by 12 points in 2014 and has assembled an impressive record in office, but he has likewise struggled to navigate the Trump era.

Mr. Ducey is a plain-vanilla Republican, unlikely to rouse or repulse many voters. A native of Toledo, Ohio, he moved to the Grand Canyon State during the early 1980s to attend Arizona State University. After working his way through college at Anheuser-Busch and doing a stint at Procter & Gamble, he built Cold Stone Creamery into a national ice-cream franchise.

For almost four years now, the governor has applied a managerial style to fine-tune the gears of government, cut spending and recruit businesses. Though Arizona's economy was slow to recover from the housing crisis, it has been growing like gangbusters for the past couple of years.

Employment has increased by 3.6% since January 2017—twice as much as in California. Since 2015, Mr. Ducey says, nearly 50 California businesses have set up shop in Arizona, bringing 18,000 jobs: "I'd be remiss if I didn't thank my partner in growing Arizona's economy—California Gov. Jerry Brown."

Mr. Ducey has kept a low national profile by avoiding controversial fights, the exception being this spring, when the Arizona Education Association went on strike to demand higher salaries. Mr. Ducey quickly dispelled the protests by promising teachers a 20% raise over the next three years.

But Democrats hope to translate the liberal energy that the protest whipped up into defeating the governor. His likely Democratic opponent, David Garcia, locked up

the support of the teachers union by promising to give schools more money and eliminate the tax-credit scholarship program.

What else is in play? The November ballot will include a referendum to block legislation expanding education savings accounts. Liberals have submitted signatures for an initiative to raise income taxes on high earners. Democrats are also hoping to flip the state Senate, where Republicans hold a 17-13 majority.

Mr. Ducey could become a victim of his own political success. Arizona has become awash with newcomers, including many California retirees, yuppies and Hispanics who can't afford the progressive paradise next door. Thus the Phoenix suburbs, longtime GOP bastions, are becoming less conservative. Consider the Eighth Congressional District, northwest of the city. In 2016, GOP incumbent Trent Franks won re-election by 37 points. In a May special election after Mr. Franks resigned, Republican Debbie Lesko won the seat by 5 points.

The governor plays down the prospect of a coming Democratic sweep. "When you look at the numbers in the last election, Arizona has remained red," he tells me. "I do think we've had a lot of growth—a lot of people have moved here from California. Perhaps some of them have forgotten why they left California." He adds: "I think we've also had growth in our Hispanic population, and these are rooms where I'm very comfortable to go in and make the case about economic growth and development."

**A**ll the same, he acknowledges the political winds may not be at his back: He repeatedly emphasizes what he calls his "bipartisan" accomplishments, including the teacher pay raise and a law to reduce opioid abuse and cut the rape-kit backlog at hospitals. He cites his strong relationship with Claudia Pavlovich Arellano, the governor in the neighboring Mexican state of Sonora.

As for Mr. Trump, he'd rather not talk about the subject: "The politics of Washington D.C.—the divide-and-conquer mentality of Congress—can get in the way of the positive message that we have here out of the governor's administration."

Herein is the peril for Republicans in November: that their positive message of economic growth and opportunity will get swamped by whatever dust storm, as bad as any monsoon, the president kicks up.

*Ms. Finley is a member of the Journal's editorial board.*

## The Obama Center Can Afford More Than \$1 Rent



CROSS COUNTRY  
By Mark Glennon

One author at Politico, who called presidential libraries a "scam," wrote that Mr. Obama "will rip off the band-aid, removing government from what it has no business paying for."

Now comes news that Illinois taxpayers will put up at least \$174 million for roadway and transit reconfigurations needed to accommodate the Obama Center. If you don't live in Illinois, you may be smirking—but you'll be footing the bill, too. Eighty percent of such spending is generally reimbursed by the federal government, and Illinois officials confirmed to me that they expect to receive \$139 million from Washington if they request it.

All that taxpayer money—and for what? Originally, Chicagoans imagined they'd be getting a true presidential library, akin to those they might have visited for Ronald Reagan in California or John F. Kennedy in Boston. But unlike those libraries, the Obama Center won't be run by the National Archives and Records Administration. It won't even house Mr. Obama's records, artifacts and papers, which will be digitized and available online. Instead the center will be owned and operated by the Obama Foundation.

This wasn't always the plan. In a 2014 request for proposal, the Obama Foundation said that the planned presidential library "will include an Institute that will enhance the pursuit of the President's initiatives beyond 2017." This institute now seems to have taken over the project. As the Chicago Tribune reported in February: "Obama said he envisions his center as a place

where young people from around the world can meet each other, get training and prepare to become the next generation of leaders." No doubt, his definition of "leaders" will be political.

Which raises the question of why the state and city are giving the Obama Center official support. Back when it was still being sold as an official presidential library, the city of Chicago took steps to allow the project to be built in Jackson Park. Under a deal approved by the City Council in May, the Obama Foundation will lease 19.3 acres in perpetuity for \$1. A nonprofit group called Protect Our Parks has filed a federal lawsuit alleging that this violates state law. The suit calls the Obama Center a "bait and switch," since the "public purpose" of a presidential library no longer exists.

Then there's the road and transit money. Last fall WTTW, a Chicago

public television station, was reporting skeptically on "preliminary plans" for Illinois to cough up \$100 million to "assist" the Obama Center: "How could a public financing proposal fly in a state that is bleeding red ink, especially when the Obamas have promised 100 percent private funding?"

### It's a political 'institute,' not a presidential library. So taxpayers shouldn't be paying for anything.

In response, a spokeswoman for the Obama Foundation insisted to WTTW that "construction and maintenance will be funded by private donations, and no taxpayer money will go to the foundation." That may be true in the narrow sense, but the state's appropriation for roadway

and transit fixes is serious cash. Imagine the cries of corporate welfare if Chicago lured a big company to town with direct infrastructure spending of \$174 million.

So why no fuss about ponying up to help the Obama Center? There are two answers. The first is that Illinois's machine politicians dropped the appropriation this summer into a 1,246-page budget bill, which was then presented to rank-and-file legislators only hours before the vote. The second is that after a few Republicans objected to spending state money for the Obama Center, they were told not to fret: Federal reimbursements were on the way. "We were assured by Republican leadership not to worry," state Rep. Jeanne Ives told me, "since 80% of the cost would be picked up by the federal government."

If he tried, President Obama could probably raise more than enough private money to forgo sweetheart

deals. Does anybody really think the Obama Foundation can't afford more than \$1 rent? Yet Chicago's loyal Democrats are only too happy to give him the land free, then pour tax money into the road reconfigurations the project requires. "The state's \$174 million investment in infrastructure improvements near the Obama Center," Mayor Rahm Emanuel said, "is money well spent." Mr. Emanuel was President Obama's first chief of staff.

So if you wind up visiting Chicago some years from now, and you spot a tall stone tower teeming with future leaders of the Democratic Party, give yourself a pat on the back. No matter where in America you're from, your tax money will have helped to make the Obama Center possible.

*Mr. Glennon is founder and executive editor of Wirepoints, an independent research, commentary and news organization.*

## Don't Clam Up When Life Brings You Down

By Colin Fleming

**W**hy do we often feel the need to pretend our lives are better than they really are? When you're fighting to keep yourself going, sometimes what can help is a proper, out-loud accounting of what you're going through. Admitting that your life is not exactly the Country Fair Jamboree may be the first step to getting it there.

At a low point in my life, when it was a chore just trying to keep out of bed, I ventured into a bar that I knew wasn't very popular. There I sat down in front of a bartender who turned out to be exactly my age.

I assumed he was doing better than I was, so when we started talking, I scarcely went into my troubles. But he, too, was in a trough of one of life's waves. Without hesitation, he told me that he was collecting

unemployment, his hours at the bar were few, and he couldn't find work in his actual profession.

That bartender became my friend. I respected his candor, which made it easier for me to share my own problems. When he first told me that he was pushing 40 and unable to find work, he didn't come across as fragile. Instead my thought was: "This guy is impressive. He's solid in his belief about himself. He has a problem to deal with, and he knows there's no point in trying to save face by pretending it's not there."

Such honesty can be disarming. You have this moment where you take a step or two back and can see the other person in a new light. Then you think: "Wait, why can't I do that? I'd feel better." And hearing that bartender openly talk about what he was going through, I did.

Yet now more than ever, as people put on smiles for their followers

on Facebook or Instagram, we expend a lot of effort playing a part. Although we are more "connected," we close ourselves off to others. We fear looking weak, so we flash out an emotional Morse code: "All is well, all is well."

### Risk some candor. You'll find it a relief, and others will respect you for it.

The result is that many people go on playacting. They never take a seat at life's bar, look over the wood to an honest peer, and make the type of connection humans always need to remain tethered to the truth. Without the perspective that the counsel of friends can provide, or even just the contrast of our lives against theirs, we end up going down our

private rabbit holes alone.

Opening up about your problems can be scary, but you need give only the gist. Remember that when you share what you are grappling with, you command respect, rather than lose it. You foster hope in yourself and in someone else. Living this way is easier, too, since you don't have to invent any stories or go through the effort of maintaining a pose.

Just open your mouth and say the thing you've been thinking for the past three hours. You can see it as daring to take a risk, but it's really good-natured, honest conversation. I call it connection: the only chance in this world each of us has to be a real person.

*Mr. Fleming is the author of "Buried on the Beaches: Cape Stories for Hooked Hearts and Driftwood Souls," forthcoming this year from Tailwinds Press.*

## OPINION

## REVIEW &amp; OUTLOOK

## Coercive Economic Diplomacy

**J**ames Carville famously quipped in the 1990s that he wanted to be reincarnated as a bond trader so he could "intimidate everybody." Today he'd probably want to return as a currency trader. With central banks holding down interest rates, currency traders are the new economic enforcers, as Friday's volatile markets showed.

The hottest flashpoint is the Turkish lira, which dropped more than 13% against the dollar amid a fight between President Recep Tayyip Erdogan and President Trump over American prisoners. The Russian ruble also hit a two-year low Friday on fears of more U.S. sanctions, and emerging markets in general are under pressure as global capital flows to the fast-growing U.S. economy. The Trump Treasury needs to be alert to the exchange-rate fallout.

More than any recent U.S. President, Mr. Trump is willing to use economic leverage for coercive diplomacy. He's now targeting Turkey to gain the release of American Christian pastor Andrew Brunson, who is being held on dubious charges of aiding a coup attempt. Mr. Trump threatened sanctions several weeks ago, and last week he followed through against two members of Turkey's cabinet.

Mr. Erdogan has vowed never to give in, but this week he sent an emissary to the U.S. for talks. After those failed to gain Mr. Brunson's release, Mr. Trump escalated with a Friday morning tweet vowing to double U.S. tariffs on Turkish aluminum to 20% and steel to 50%. The lira promptly fell to a new low and has lost more than 40% of its value in a year.

Turkey is vulnerable because of Mr. Erdogan's economic mismanagement. In the runup to June elections, he blew out the fisc on entitlements and public works. His son-in-law, Berat Albayrak, who is no Alexander Hamilton, runs the finance ministry. Mr. Erdogan has also meddled in monetary policy to keep interest rates low, at the cost of rising inflation that economist Steve Hanke estimates at 85%.

The trouble with sharp currency moves is that the damage can radiate beyond one country. Contagion is always possible. In Turkey's case, the concern is over dollar-denominated debt. About half of Turkey's debt is held in dollars, which becomes more expensive to finance when the lira is worth so much less. European banks hold a chunk of this debt, as they seem

to in every sovereign financial panic.

The lira crisis looks to be containable, especially if Mr. Erdogan decides to cut his losses and release Mr. Brunson as well as NASA scientist Serkan Golge and Turkish employees of U.S. State Department missions in the country. The U.S. Congress is considering new sanctions against Ankara, and

Mr. Erdogan's invocation that Allah is on his side won't stem further economic harm. With all due respect to Allah, an independent central bank will be more effective than prayer.

Mr. Trump should also want a happy resolution to stop any larger debt or currency damage to financial markets. The U.S. needs good relations with Turkey to pursue diplomatic solutions in Syria and Iraq.

\* \* \*

As tempting as sanctions often are, they should be used sparingly and against the right targets. They make sense against genuine rogue states like Iran and North Korea, as well as to show Vladimir Putin that there are costs to invading neighbors or using chemical or biological weapons to kill exiles on foreign soil.

But sanctions against allies should be used only in rare cases. They would also be less risky if they weren't piled on top of Mr. Trump's tariff war. Mr. Trump's metals tariffs have made Europe even less willing to cooperate with the U.S. in enforcing renewed American sanctions against Iran.

If Mr. Trump is determined to use coercive economic diplomacy, including tariffs and sanctions, then the Treasury will have to be ready to deal with the collateral financial damage. Every recent Administration has dealt with a currency or financial surprise of some kind—from the U.S.-German dispute of 1987, the Mexican peso run of 1994, the Asian meltdown of 1997, the Argentine peso crisis of 2002, and the Chinese devaluation of 2015.

Some were worse than others, but each carried dangers of wider harm if not addressed. Those risks increase if a U.S. President is bent on using economic punishments to deliver political goals that aren't easily achievable. Financial sanctions in a world of fiat currencies are a powerful political tool. But the Trump Administration needs to use them with care, while the Treasury and Federal Reserve work with other central bankers and finance ministers to reduce volatility in the world's main currencies.

## Revenues Are Higher

**P**erhaps you've read that the federal budget deficit is rising again, and that's true. But what you probably haven't heard is that the main reason is spending, not falling revenue from tax cuts.

The Congressional Budget Office released its budget summary for July this week, and the deficit for the first 10 months of fiscal 2018 reached \$682 billion, up \$116 billion from a year earlier. Federal spending increased by \$143 billion for all the usual reasons—especially Medicare, Medicaid and Social Security.

But revenues were higher as well—up \$26 billion. Corporate income taxes were down substantially as expected in the wake of the tax re-

form that cut the corporate rate and added 100% expensing. But individual income taxes increased by \$104 billion, or 7.9%, despite the cut in individual tax rates. How could that be? CBO says one reason is that withholding from paychecks increased by \$32 billion, which "largely reflects increases in wages and salaries." In other words, a faster-growing economy employed more people who made more money.

Individual tax receipts were down a bit in July but that was more than offset by record revenue in April, the biggest month for tax receipts. Meanwhile, don't believe everything you read about tax reform and deficits. Higher spending is the real problem.

## The Proxy Advisers' Veto

**R**ite Aid and Albertsons called off their seven-month engagement on Wednesday amid opposition from large public investors and proxy advisory firms. Perhaps the companies are better off alone, but this is a moment to highlight the outsized role that two advisory firms increasingly play in dictating shareholder interests.

The grocery and pharmacy industries have been consolidating amid technological disruption and greater competition. Supermarket margins are being clipped by big box stores, discounters and Amazon, which bought Whole Foods last year and operates a fresh-food delivery service. Pharmacies have been eating into grocery-store business.

As more commerce has moved online, pharmacies are also seeking new partners. CVS acquired Target's 1,672 pharmacies in 2015 and announced plans last year to acquire health insurer Aetna. Amazon has spooked pharmacy investors with its purchase of PillPack, which will give it a pharmacy license in 49 states.

Rite Aid attempted to merge with Walgreens but was blocked when the Federal Trade Commission's antitrust czars took a too-narrow view of the market. Rite Aid sold nearly half of its stores to Walgreens in March, but its smaller size has reduced its negotiating leverage with pharmacy benefit managers and distributors.

Last year Rite Aid's stock price plunged nearly 80%, and in February the privately owned Albertsons and Rite Aid struck a deal that would allow the combined company to go public and Rite Aid holders to exchange 10 shares for one in the new company plus \$1.83 in cash.

But the two major proxy advisory firms Glass Lewis and Institutional Shareholder Services, which advise institutional investors, balked that the deal undervalued Rite Aid shares. ISS contended that the deal "would introduce a new set of risks associated with the grocery business, and the combined company's leverage could limit investment in two evolving business environments." The firm also quibbled about a con-

flict of interest because Albertsons CEO Bob Miller had served on Rite Aid's board.

The proxy firms may be right that the combined company would have had too much debt to invest in new technology, and the market is changing so fast that shareholders might be better off waiting. Expanding Rite Aid's retail clinics and

small pharmacy benefit management operation could add more value than combining with Albertsons.

On the other hand, pharmacy benefit managers are facing increased regulatory scrutiny, and it's unclear whether Rite Aid can survive as a stand alone company. Earlier this week Rite Aid increased its expected annual net loss to between \$125 million and \$170 million.

Yet the objections by Glass Lewis and ISS carry substantial weight since the Securities and Exchange Commission allows institutional shareholders to fulfill their fiduciary obligations by relying on the advice of third-party proxy advisers. Flouting their advice can invite investor lawsuits. Glass Lewis and ISS control 97% of the advisory market, which encourages herd voting among investors.

Proxy firms also don't have to demonstrate that their recommendations are in the best interest of shareholders, which can cause conflicts of interest. Case in point: Glass Lewis is partly owned by Alberta Investment Management Corporation, which is one of Rite Aid's 10 largest shareholders.

Republicans in Congress have been working to increase transparency and accountability for proxy advisory firms. Last year the House passed a bill that would require the firms to register with the SEC and make public their "methodology for the formulation of proxy voting policies and voting recommendations." Given their oligopoly and clout, more scrutiny of the advisers is warranted.

Corporate management is accountable to shareholders, but who will hold proxy firms responsible if they low-balled the value of the Albertsons-Rite Aid deal?

## Glass Lewis and ISS say no, and Rite Aid and Albertsons fold.

So, Republicans, so much for state's rights.

## LETTERS TO THE EDITOR

## AT&amp;T Hangs Up on Corporate Responsibility

As the Supreme Court has assured us that corporations are "associations of individuals," I have to assume that the individuals associated with AT&T are thoroughly embarrassed and deeply ashamed by the pension debacle reported in "AT&T Overpaid Pensioners; Now It Wants the Cash Back" (page one, Aug. 4). If they aren't, they should be. One thing is certain: We've come a long way from the benevolent days of employment at "Ma Bell." Kudos to Theo Francis and the Journal for reporting this travesty, which I trust will help lead to its swift correction.

G.W. SCHMIDT  
Willow Street, Pa.

AT&T isn't the first nor will it be the last to seek rebates from its retirees for overpayment due to the negligence of either the company itself or its servicer. These companies are picking on the most vulnerable elements of their corporate families to cure their own defects. These retirees are being victimized by their own companies and are "innocent victims," if that term exists. The former employee asked for his or her pension, and the company determined what the payment should be. The former employee didn't ask for any specific amount and is satisfied with what the company determined the payment should be. The former employee made no mistake.

I think these companies should "eat" the financial deficiencies because they caused them, either directly or through their agents (servicers). Maybe suffering such financial blows would make these corporations do a better job.

PAUL S. CHERRY  
Sarasota, Fla.

AT&T justifies its pursuit of pension overpayments with what we grammarians call passive voice. In passive voice, the active agent is omitted from the sentence, often to displace blame. "The ball was dropped," and "the catcher dropped the ball," describe the same loss, but the former saves the catcher from embarrassment and leaves culpability where it rightly belongs, on a failed team effort.

Now consider the Byzantine world of pension calculation. The sentence "Mistakes were made and so you owe us money," is different from "We made mistakes and want our money back." If the clerk at a convenience store mistakenly gives a customer \$10 additional change and the customer doesn't knowingly pocket the difference, would you fire the clerk or days later would you expect an executive to pursue the customer down the street and to the customer's front door?

Bite the bullet, AT&T. You screwed up.

PERRY GLASSER  
Haverhill, Mass.

## Portland's Anarchy Deserves Federal Response

Regarding Andy Ngo's "Anarchy Breaks Out in Portland, With the Mayor's Blessing" (Cross Country, Aug. 4): I was born and raised in Portland, Ore., and I am sad, angered and even frightened about the ICE protests supported and encouraged by local government (the mayor).

Portland appears to be rapidly descending into a Third World country where harassment and intimidation are tolerated, with no protections for the broader community—businesses, residents, visitors. It is ironic that on the same day Mr. Ngo reported on the ICE protests, the Journal had an editorial on the "Tragedy of Zimbabwe," where citizens are subjected to "coercion and intimidation, partisan behavior by traditional leaders and overt bias in state media." This sounds a lot like what is going on in Portland. Is this really how people want to live in the city and state? These "occupiers" aren't peaceful practitioners of free speech. They are violating the rights of others to make a living and live in a clean and healthy environment without threats of violence and personal harm. I can't believe that the City of Roses has wilted to such a degree.

MARY J. COULOMBE  
Oakton, Va.

At what point does aggressive resistance to federal policy and law enforcement cross a line that justifies an aggressive federal response?

In 1860, South Carolina refused to accept the legitimacy of Abraham Lincoln's election and pre-empted possible federal adoption of antislavery policies by seceding from the union. The federal government fought to preserve the rule of law in 1861. The federal government today is engaged in a fight with anarchists and anti-Trump resisters to protect U.S. borders and prevent illegal entry into the country.

Courts in the U.S. generally haven't been sympathetic to people, organizations and governments picking and choosing the laws that they will respect. Throughout history, anarchy and disrespect for the rule of law constitute a self-fulfilling prophecy of state repression to restore order. Repression can come from the left or the right, and the outcome is never good for troublemakers or their victims.

STUART GRAY  
St. Augustine, Fla.

Mr. Ngo's article shows why the Second Amendment is necessary.

TIM LADA  
Magnolia, Del.

## Better Bombs and Sparing Human Shields

Andy Kessler's excellent "Better Bombs Save Lives" (Inside View, July 30) might have mentioned another key reason for civilian casualties in addition to faulty intelligence and inaccurate ordnance: The deliberate use of civilians as human shields by both ISIS and Hamas, among other terrorist groups.

As recently as June 8, Hamas spokesmen Sami Abu Zuhri defended the practice of using human shields to abort an Israeli air attack. He alleged that people—women and children

## Who Has Final Say About California's Air Quality?

Regarding "Trump Sets Up Emissions Battle; President seeks to curb California's power to regulate auto pollution and fuel use" (page one, Aug. 3): California is the vanguard of the battle against air pollution out of necessity, not virtue. Geography has forced the Golden State to confront atmospheric contamination caused by its arid climate, wind patterns and mountains. Despite leading the way in clean-air regulations, the state contends with the highest levels of ozone and dust particles in the U.S. and needs federal support, not opposition.

For Washington to hobble California's efforts is like blocking northern states from developing better insulation against winter cold, or the southeast from devising flood-control measures. The Environmental Protection Agency and Department of Transportation ought to be learning from California, not punishing it.

KEVIN GLYNN, M.D.  
La Jolla, Calif.

So, Republicans, so much for state's rights.

DANIEL MCVEY  
Los Angeles

Letters intended for publication should be addressed to: The Editor, 1211 Avenue of the Americas, New York, NY 10036, or emailed to [wsj.ltrs@wsj.com](mailto:wsj.ltrs@wsj.com). Please include your city and state. All letters are subject to editing, and unpublished letters can be neither acknowledged nor returned.

## Pepper ... And Salt

THE WALL STREET JOURNAL



"I'm guessing this is bean related."

## OPINION

# Siri, Why Do I Feel Like I'm Being Watched?

By Matthew Hennessey

**M**egan and Michael Neitzel scratched their heads in confusion when a giant box containing a dollhouse and 4 pounds of sugar cookies was delivered to their Dallas home last year. The day before, their 6-year-old daughter, Brooke, had been chatting innocently with the family's new digital personal assistant, the Amazon Echo. The little girl at first denied placing the \$162 order, but eventually fessed up.

Voice-recognition tools like the Echo are the most common—and popular—example of a looming revolution in human-computer interaction known as the Internet of Things, which

**The Internet of Things will soon be ubiquitous. That means you can kiss your privacy goodbye.**

promises to redefine how we live, travel and work. The home of the very near future will be an always-listening, always-watching surveillance system designed to anticipate and fulfill your needs. Cars and offices will operate in much the same way.

It won't be long before your new dishwasher will want the ability to talk to your Amazon Echo so that it can order more detergent. Your new bike will get annoyed if it can't communicate with the map app on your smartphone. Your FitBit will have a relationship with your popcorn popper. They'll all be sending reports back to Palo Alto or Mountain View or Cupertino, presuming they aren't already.

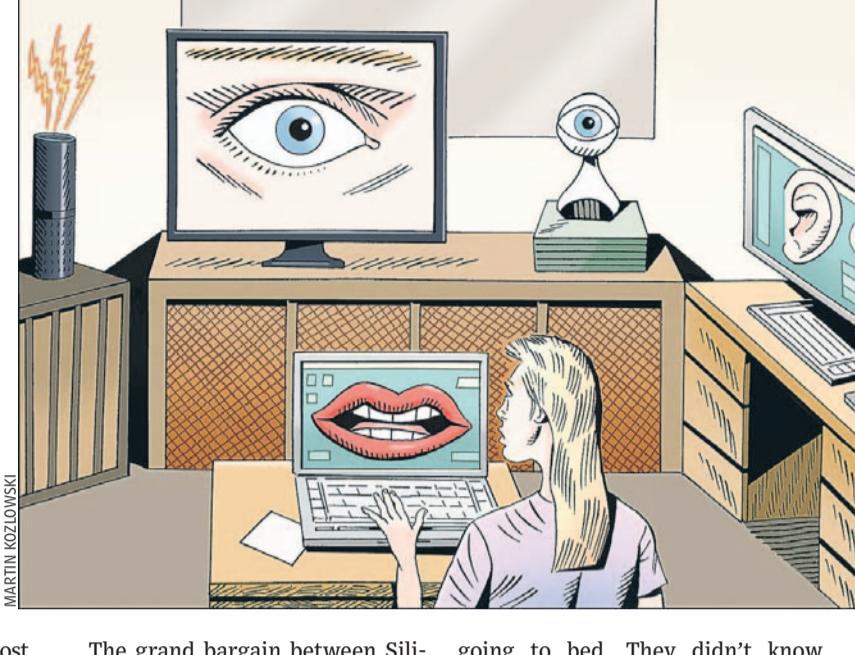
Kiss privacy goodbye.

Any device that once had a purely analog function but can now

be connected to the web—or to other devices through the web—is a potential part of the Internet of Things. The logic, typically, is commercial. The companies that develop and manufacture these networked devices seek better ways to reach consumers with products and advertising. If you have an Echo, you've already provided Amazon with your credit-card number, address, birthday and the names of all your children. You've also uploaded a "wish list" of products you're interested in, and, quite possibly, your deodorant preferences, personal measurements, taste in movies and baby's diaper size. Amazon knows more about us than we can imagine.

Funnily enough, market research shows that people don't mind handing over such highly personal information—to the right company. According to Fortune, Amazon is one of the three most admired companies in the world, along with Apple and Google. Other Silicon Valley tech companies collect, store and sell personal information about their users to advertisers, but Amazon, Apple and Google are perceived as providing a valuable service in exchange for the right to monetize customers' privacy. And if the Internet of Things has any purpose at all, it's to monetize privacy.

"The Internet of Things heralds a qualitative shift in how privacy is managed, both by people and by the organizations that create, sell, and operate internet-connected devices," write Gilad Rosner and Erin Kenneally in a recent report for the University of California, Berkeley's Center for Long-Term Cybersecurity. As smart devices like the Echo become the norm, consumers are "losing the ability to monitor and control the data collected about them, and they often have little awareness of what is done with their data downstream."



The grand bargain between Silicon Valley and the average person has always been this: You give up your privacy, and we'll give you cool stuff. "If today's social media has taught us anything about ourselves as a species, it is that the human impulse to share overwhelms the human impulse for privacy," writes the technology guru Kevin Kelly in his 2016 book, "The Inevitable: Understanding the 12 Technological Forces That Will Shape Our Future." So far, he adds, "at every juncture that offers a choice, we've tilted, on average, toward more sharing, more disclosure, more transparency. I would sum it up like this: Vanity trumps privacy."

A surprise purchase of a dollhouse and some cookies might seem a fairly weak indictment of the threat to privacy posed by the Internet of Things. Consider a more disturbing scenario. A Washington state couple grew concerned a few years ago when their 3-year-old son developed anxiety about

going to bed. They didn't know whether to believe the child when he told them that someone was talking to him at night. "Wake up, little boy," he claimed he'd heard a voice in the darkness say. "Daddy's looking for you." The couple thought he was having nightmares, until they went to check on him one night and heard the voice too. "Look, someone's coming," it said as they entered their son's room. A hacker had taken control of their baby monitor, the kind you can check through an app on your smartphone.

The popularity of internet-connected security cameras, locks and home alarms has skyrocketed despite regular reports that the systems are easily hijacked. A family in Houston was horrified to learn that a live feed from the webcam in their 8-year-old daughters' room had been streaming online. The girl's mother found out only when a woman in Oregon happened across the livestream and decided to contact the family. A security

company determined that hackers were able to gain access to the webcam while the young victim was playing the online video-game Minecraft.

Government spying is a further privacy concern raised by the Internet of Things. In early 2017, WikiLeaks released a trove of documents purportedly revealing the Central Intelligence Agency's ability to hack your internet-enabled television and turn it into a listening device. The same document dump indicated that the CIA has targeted Apple, designing malware that can infect "factory fresh" iPhones and snoop on users' texts, phone and FaceTime calls, and internet searches. "Siri, why do I feel like I'm being watched?"

The Neitzels took their daughter's impulse buy in stride, with Megan telling ABC News: "Technology is evolving amazingly fast, and that's a good thing, but we need to stay one step ahead of it as parents."

For its part, Amazon suggested that parents should add a few layers of protection to the Echo, like insisting upon a confirmation code for every order or, incredibly, turning off the device's voice-purchasing function. These strategies would seem to undermine the value of having the Echo in your home.

That is, if you look at it from the consumer's point of view. For Amazon, perhaps getting the Echo through the front door is good enough—for now.

*Mr. Hennessey is an associate editorial features editor at the Journal. This article is adapted from his new book, "Zero Hour for Gen X: How the Last Adult Generation Can Save America from Millennials."*

Peggy Noonan is on leave and will return in the fall.

## 'Diversity' Looks a Lot Like Old-Fashioned Discrimination

By Michael Blechman

**A**t 76 I am old enough to have experienced the old-fashioned kind of discrimination. It happened in 1965, when I was in my second year at Harvard Law School. I was looking for a job as a summer associate, a rite of passage that generally leads to permanent employment. I remember feeling pretty confident, having ranked 40th out of 530 in my first-year grades.

I applied to the four law firms I considered the best—all "white shoe" firms in downtown New York. I arrived at each interview in my best suit, hair trimmed and shoes shined. The interviews went smoothly, but at no point did anyone offer me a job. By my last interview I figured I must be missing something, so I asked instead what his firm was looking for in an associate. I recall that he looked at me in silence for about 60 seconds, as though trying to figure out a polite way of explaining the situation. He told me that the most important thing for any lawyer was to be able to relate to the clients, and

that of course it is always easiest for clients to relate to lawyers who are like themselves.

It had taken four wasted interviews, but I finally understood. I went from that last firm to my apartment and took out a telephone book. I knew of three so-called Jewish law firms in New York at that time, so I called the one that came first in the book, Kaye Scholer, and asked to speak to the hiring partner. Though it was 4:30 on a Friday afternoon, he asked if I could come over right away. An hour later I was interviewed, first by him, then by a preppy-looking partner with a bow tie, and finally by the firm's administrative partner, who offered me a job. I accepted on the spot.

After working at Kaye Scholer that summer, I joined the firm as a regular associate in 1966, became a partner in 1975 and stayed there until I retired two years ago, when it merged into a larger firm. Thanks in part to a Fulbright year I had spent in Berlin, I developed a large practice representing German clients—people who were not at all

like myself—the very thing the white-shoe firms had assumed I could never do.

After I began my job, I found out that many of the older partners had experiences similar to my own. Some had been hired by downtown firms but left when they realized they had no future there or when an

**I was barred from top law firms as a Harvard student in the '60s. Today Asians face similar prejudice.**

anti-Semitic partner blackballed them for partnership. Firms like Kaye Scholer benefited enormously from the downtown firms' bigotry.

Since my experience in 1965, all of the firms at which I had interviewed have overcome their prejudices and now hire and promote Jewish lawyers, as well as women, blacks, Hispanics and Asians. Kaye Scholer became similarly diverse.

Yet as the old kind of discrimination has died out, a new form has emerged—this time under the banner of "diversity." It's good to open opportunities to people who were previously excluded. But promoting "diversity" by discriminating against nonfavored categories of people seems quite a different thing.

A continuing suit against my alma mater is a case in point. According to Students for Fair Admissions, a group representing Asian-American

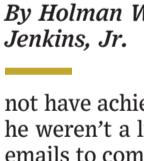
Harvard applicants who have been denied admission, an Asian-American applicant with a 25% chance of admission would, on the very same record, have a 35% chance if he were white and a 95% chance if he were African-American. Furthermore, Harvard's admissions team has allegedly justified its rejection of qualified Asian-American applicants by giving negative assessments of their character traits. The result, according to the plaintiff, is a de facto quota for Asian-Americans—very much like the express quota of 20% imposed by Harvard on the number of Jews it would admit in the 1920s.

Harvard need not push out Asians in its effort to aid groups that have faced hardship in the past. Instead it could, for example, give preference in its admissions to applicants who have excelled despite coming from disadvantaged backgrounds. According to Harvard and its defenders, however, no such measures—indeed, nothing short of directly considering race as a factor—has ever succeeded in achieving the desired degree of diversity.

Thus, the old liberal ideal of equality of opportunity has been replaced by a new goal, demographic proportionality, pursued at the cost of inequality of opportunity. With the old-fashioned kind of discrimination still in living memory, Americans should recoil from the idea of skewing the admissions playing field through race—especially when such moves are rationalized with groundless prejudice toward those being discriminated against.

*Mr. Blechman is a mediator based in Chappaqua, N.Y.*

## Tesla's Unreal Stock Price Is the Peril of Elon



BUSINESS WORLD

By Holman W. Jenkins, Jr.

It is not a bad time to remember that Elon Musk created two amazing companies—not counting his role in founding PayPal—in the form of his car company, Tesla, and his rocket company, SpaceX.

He likely would not have achieved these successes if he weren't a little crazy. One reader emails to compare him, both flattering and unflattering, to Howard Hughes.

Now our suspicious friends at the Securities and Exchange Commission are curious about Mr. Musk's tweet of

last Tuesday, in which he claimed to have "secured" funding for a Tesla buyout at \$420 a share.

Mr. Musk surely had something in mind when he wrote these words, but I doubt that it will meet the SEC's definition of "secured."

A conventional, SEC-fearing CEO would never have proposed a buyout via tweet. If he had, an army of lawyers would have been standing at his elbow. Of no other CEO is it imaginable that he might blurt out such a thing for its effect, without consulting anybody or even having his facts straight.

With Mr. Musk, it's just plausible. In some ways, he's a throwback to 19th-century capitalism but with 21st-century tools. With a 19th-century

CEO, all in a day's work was to manipulate the share price, to ramp it up to facilitate a financing, implement a short squeeze, etc. Read about the doings of Daniel Drew, Cornelius Vanderbilt and Jay Gould. Anything went and investors knew it. Their contemporaries probably did not doubt they were a little crazy too.

Mr. Musk already risked trouble with the SEC over his numerous assurances that Tesla did not need fresh capital this year, a claim many analysts on Wall Street flatly contradict. Then there are his numerous production forecasts that haven't been borne out.

Till now, the SEC's long leash amounted to, wittingly or otherwise, an experiment in 19th-century

capitalism. Tesla was the right company for it: avidly followed by the global media and by analysts, critically dissected by short sellers. You have an unconstrained CEO acting however he wants. You also have an exceptionally

**Enron's problems began with a share price its business couldn't support. Will Tesla do better?**

well-informed market monitoring his actions, his statements, even his psychology. If any shareholder feels aggrieved or cheated at this point, he or she should look in the mirror. In the meantime, would the situation be any different in the absence of our possibly irrelevant mountain of "investor protection" regulation?

That said, his buyout proposal, after initially boosting the stock price, has stopped helping. A leveraged buyout, featuring large amounts of debt, is unlikely in a company whose cash-generating capacity is already overtaxed. An equity-for-equity buyout may be what Mr. Musk is thinking of, but why would anybody pay \$420 for what could be had for \$355 today?

Such a transaction presumably would be premised on some large, value-creating advantage in being private, but nobody other than Mr. Musk can see it. No private-market valuation would be as friendly to Tesla as the public markets have been, nor would private markets be so willing to fork up new cash to sustain its money-losing car business.

One keeps coming back to Mr. Musk's serially repeated promise that Tesla was done raising money, that it can finance its future capital needs out of sales revenue.

It's hard not to suspect this is a statement of necessity rather than desire. Mr. Musk knows he risks popping the Musk bubble if he goes back to the market one time too many. His board cannot be unaware that Mr. Musk's aura and celebrity are a key prop under the stock price, which is a key prop under the company's economics. This creates a dilemma for them too.

Not to elicit howls, but Enron was a company that found itself trying to raise a stock price its underlying business couldn't support. Here was an overlooked progenitor of what became the signature corporate scandal of its era. A gas-pipeline company that was selling for \$20 suddenly was boosted to \$90 based on internet-era hype about the commodification of everything. Notice any similarity to today's belief among a certain public that Tesla is solving the climate problem and government policy will guarantee Elon's success? What followed, at Enron, was management's resort to funky, illegal and then frankly pitiful measures to support a valuation from investors intoxicated with new-age thinking.

In its day, Enron could have swallowed hard and let investors catch up with the fact that its earnings, while real, were never going to meet expectations. Enron likely would have survived instead of self-immolating. Could Tesla undergo a realistic markdown in its share price and survive? That may be Mr. Musk's most searing challenge of all.

## THE WALL STREET JOURNAL.

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### Notable & Quotable

Caitlin Flanagan writing at the Atlantic's website, Aug. 9:

There are plenty of reasons for individual readers to dislike Jordan Peterson.... There are many legitimate reasons to disagree with him on a number of subjects, and many people of good will do. But there is no coherent reason for the left's obliterating and irrational hatred of Jordan Peterson. What, then, accounts for it?

It is because the left, while it currently seems ascendant in our houses of culture and art, has in fact entered its decadent late phase, and it is deeply vulnerable. The left is afraid not of Peterson, but of the ideas he promotes, which are completely inconsistent with identity politics of any kind.

## SPORTS

## GOLF

# A Schedule Change to Boost the PGA

An improved profile, better weather and more course options are some of the benefits to moving the tournament to May

BY BRIAN COSTA

*St. Louis*

**WHEN IT COMES** to the golf schedule, the operative word around PGA Tour headquarters lately is cadence. For decades, that cadence has been more or less the same. The year starts with the buildup to the Masters, which is followed, somewhat strangely, by a two-month wait for the U.S. Open. The British Open and PGA Championship follow in rapid succession.

But that traditional rhythm will change following the conclusion of this weekend's PGA Championship at Bellerive. The tournament's move to May starting in 2019 creates some short-term quirks; the PGA Championship accounts for two of the three majors between now and then.

It also has the potential to boost the profile of a tournament that recently felt the need to adopt a slogan reminding people that this is major. It read, "This is major."

"What would it mean to follow the Masters and to chronologically be the second of the four majors as opposed to the fourth?" PGA of America Chief Executive Pete Bevacqua asked on Wednesday. He left the question unanswered.

For one thing, it will mean avoiding August playing conditions, which looks more desirable than ever this week. A Midwest heat wave left the greens at Bellerive looking burned and patchy, prompting tournament officials to slow the green speeds to protect them.

It could also bring the tournament to different parts of the country, most notably Texas, which hasn't hosted a major since 1969. The next year that is unclaimed by a host isn't until 2025—next up is New York's Bethpage Black—but the May weather will create different options.

The biggest impact could be on the stature of a tournament long viewed as the least prestigious of the majors. As officials pondered the move to May, they received encouragement from CBS, which broadcasts the tournament. The network charges slightly higher ad rates in May and believes ratings will be higher then, even during a busier time on the sports calendar that includes competition from the NBA playoffs and other events. In August, many viewers are away on vacation.

The players won't mind, either. "I think that next year's major schedule will flow really nicely—one in April, May, June and July," Jordan Spieth said. "If you get on a nice run playing some good golf there, starting at the Masters, you can really let it run through the entire major season."

The PGA Championship has been played in August for most of the past half-century. It is run by



STUART FRANKLIN/GETTY IMAGES (2)



Rory McIlroy, top, tees off during the first round of the 2018 PGA Championship at Bellerive Country Club on Thursday. Tiger Woods, left, plays a shot from the bunker.

ers decide to play. Most of them plan their schedules around the majors, the courses that suit them, the tournaments that pay the most and the ones their sponsors are invested in. That has created a fair amount of predictability.

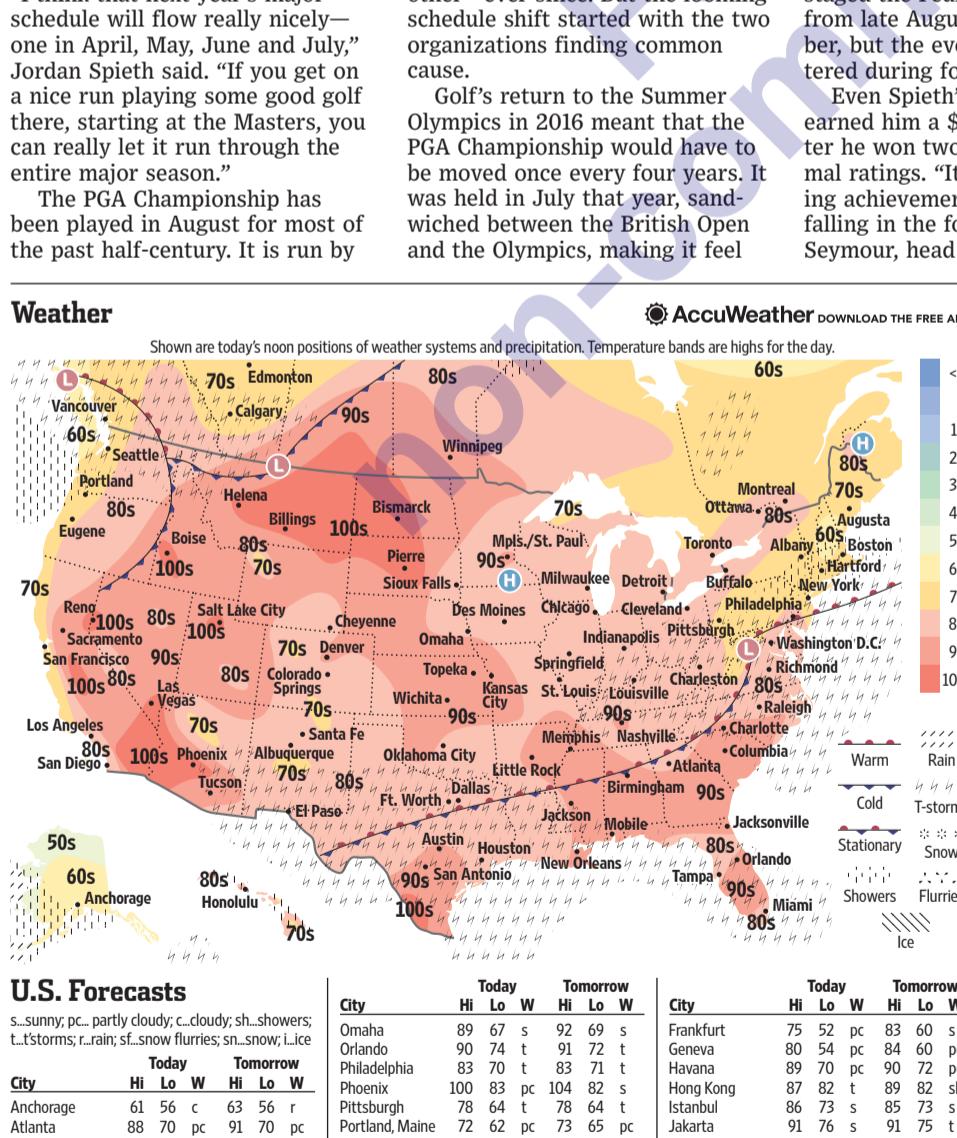
Top players tend to play a busy schedule in February and March, take up to a month off after the Masters and play many of the same events each year. The cadence of their own seasons is about to change in ways even they aren't sure of yet.

"When you look at the schedule, next year is going to be a little bit of a crapshoot," Seymour said. "Some of these traditional events that players have played may not fit into schedules based on how they prepare for majors. This is a brand new experiment."

The one constant will be the week that stands above the rest on every player's calendar. After the Ryder Cup next month, much of what top players plan—when to take time off, when and where to play in early 2019—starts by working backward from the Masters. It has become the sun around which the rest of the golf season orbits.

"It's so weird," Justin Thomas said. "Something about Augusta—you're always thinking about it."

## Weather



## U.S. Forecasts

Shown are today's noon positions of weather systems and precipitation. Temperature bands are highs for the day.

Today Tomorrow

City Hi Lo W Hi Lo W

Alaska Anchorage 61 56 c 63 56 r

Atlanta 88 70 pc 91 70 pc

Austin 90 73 t 92 74 t

Baltimore 86 68 t 84 70 t

Boise 102 63 pc 91 61 pc

Boston 74 67 sh 75 70 sh

Burlington 82 61 pc 83 64 pc

Charlotte 90 71 t 91 68 t

Chicago 87 69 s 86 67 pc

Cleveland 82 67 t 82 67 pc

Dallas 84 72 t 84 72 t

Detroit 85 65 pc 86 65 pc

Honolulu 89 77 sh 90 77 pc

Houston 89 78 t 92 76 t

Indianapolis 85 65 t 85 65 s

Kansas City 90 68 s 91 70 pc

Las Vegas 105 85 s 104 85 s

Little Rock 92 70 pc 88 72 t

Los Angeles 87 68 s 84 66 s

Miami 89 76 t 89 78 pc

Milwaukee 85 67 pc 82 66 pc

Minneapolis 92 70 s 91 71 s

Nashville 91 69 c 90 67 c

New Orleans 90 74 c 91 78 pc

New York City 76 68 t 79 70 t

Oklahoma City 88 67 t 83 66 t

Today Tomorrow

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Milwaukee 85 67 pc 82 66 pc

Minneapolis 92 70 s 91 71 s

Nashville 91 69 c 90 67 c

New Orleans 90 74 c 91 78 pc

New York City 76 68 t 79 70 t

Oklahoma City 88 67 t 83 66 t

International

Today Tomorrow

City Hi Lo W Hi Lo W

Alaska Anchorage 61 56 c 63 56 r

Atlanta 88 70 pc 91 70 pc

Austin 90 73 t 92 74 t

Baltimore 86 68 t 84 70 t

Boise 102 63 pc 91 61 pc

Boston 74 67 sh 75 70 sh

Burlington 82 61 pc 83 64 pc

Charlotte 90 71 t 91 68 t

Chicago 87 69 s 86 67 pc

Cleveland 82 67 t 82 67 pc

Dallas 84 72 t 84 72 t

Detroit 85 65 pc 86 65 pc

Honolulu 89 77 sh 90 77 pc

Houston 89 78 t 92 76 t

Indianapolis 85 65 t 85 65 s

Kansas City 90 68 s 91 70 pc

Las Vegas 105 85 s 104 85 s

Little Rock 92 70 pc 88 72 t

Los Angeles 87 68 s 84 66 s

Miami 89 76 t 89 78 pc

Milwaukee 85 67 pc 82 66 pc

Minneapolis 92 70 s 91 71 s

Nashville 91 69 c 90 67 c

New Orleans 90 74 c 91 78 pc

New York City 76 68 t 79 70 t

Oklahoma City 88 67 t 83 66 t

## BOARD GAMES

## A Scrabble Champion's Spellbinding Comeback

BY ANDREW BEATON

Nigel Richards had a commanding lead, and everyone

at Octagon. That all led to a series of moves

starting next year. The Players

Championship will move from May

to March, the FedEx Cup will end

before Labor Day, several other

PGA Tour stops will change position

and new ones will debut in Detroit

and Minneapolis.

"The trigger point for it all was

moving the PGA Championship to May," said Andy Pazder, the PGA

Tour's chief tournaments and com-

petitions officer. "That was the

first domino to fall."

Just as significant as when tour-

nments are held is when top play-

## A Scrabble Champion's Spellbinding Comeback

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**Bots Vs. Trolls**  
How to deal with the  
internet's dark  
side. **B7**

# EXCHANGE

**Still Going**  
A 96-year-old battery  
pioneer strives for his  
next breakthrough. **B5**



THE WALL STREET JOURNAL.

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SATURDAY/SUNDAY, AUGUST 11 - 12, 2018 | **B1**

BUSINESS | FINANCE | TECHNOLOGY | MANAGEMENT

DJIA 2513.14 ▼ 196.09 0.8%

NASDAQ 7839.11 ▼ 0.7%

STOXX 600 385.86 ▼ 1.1%

10-YR. TREAS. ▲ 21/32, yield 2.85%

OIL \$67.63 ▲ \$0.82

GOLD \$1,211.10 ▼ \$0.80

EURO \$1.1412 YEN 110.90



**C**an Watson cure cancer? That's what **International Business Machines** Corp. asked soon after its artificial-intelligence system beat humans at the quiz show "Jeopardy!" in 2011. Watson could read documents quickly and find patterns in data. Could it match patient information with the latest in medical studies to deliver personalized treatment recommendations?

"Watson represents a technology breakthrough that can help physicians improve patient outcomes," said Herbert Chase, a professor of biomedical informatics at Columbia University, in a 2012 IBM press release.

Six years and billions of dollars later, the diagnosis for Watson is gloomy.

More than a dozen IBM partners and clients have halted or shrunk Watson's oncology-related projects. Watson cancer applications have had limited impact on patients, according to dozens of interviews with medical centers, companies and doctors who have used it, as well as documents reviewed by The Wall Street Journal.

In many cases, the tools didn't add much value. In some cases, Watson wasn't accurate. Watson can be tripped up by a lack of data in rare or recurring

## IBM HAS A WATSON DILEMMA

Big Blue promised its AI platform would be a big step forward in treating cancer. But after pouring billions into the project, the diagnosis is gloomy.

BY DANIELA HERNANDEZ  
AND TED GREENWALD

cancers, and treatments are evolving faster than Watson's human trainers can update the system. Dr. Chase of Columbia said he withdrew as an adviser after he grew disappointed in IBM's direction for marketing the technology.

No published research shows Watson improving patient outcomes.

Artificial intelligence has the potential to reinvent the world, from how businesses operate to the types of jobs people hold to the way wars are fought. In health care, AI promises to help doctors diagnose and treat diseases as well as help people track their own wellness and monitor chronic conditions. Watson's struggles suggest that revolution remains some way off.

IBM said Watson has important cancer-care benefits, like helping doctors keep up with medical knowledge. "This is making a difference," said John Kelly, IBM senior vice president. "The data says and is validating that we're on the right track."

In health care, AI software is starting to help radiologists and pathologists analyze X-rays and digital images of biopsies. Companies and clinicians are developing simple text-based chatbots that aim to help people manage mental-health issues like anxiety.

Please turn to the next page

## VF Looks to Cast Off Lee, Wrangler Brands

Its jeans division's sales have been declining

BY DANA MATTIOLI  
AND SUZANNE KAPNER

**VF** Corp., owner of Lee and Wrangler jeans, is exploring strategic options for its denim business that could include a sale or spinoff of the classic American brands, according to people familiar with the situation.

The apparel conglomerate has owned Wrangler and Lee for decades and they were once its core, but the company's jeans sales have

**The company has been paring back its portfolio to focus on its fastest-growing lines.**

slowed in recent years as more women opt for yoga pants or premium denim brands like J Brand or Frame.

**VF**, which has a market valuation of \$38 billion, has been paring back its wide-ranging portfolio to focus on its fastest-growing brands, such as Vans sneakers, The North Face jackets, and Timberland boots.

**VF**'s denim business last year had \$2.66 billion in sales and \$422 million in profit.

ON BUSINESS | JOHN D. STOLL



Pepsi's Indra Nooyi says she still has 'scars' from her early years as CEO.

## Pepsi's Indra Nooyi Proved The Power of Stability



Indra Nooyi didn't best her biggest rival's shareholder returns during her 12 years as chief executive of PepsiCo Inc. Nor did PepsiCo's results beat the market.

But when PepsiCo announced her plans to retire earlier this week, she had plenty to be proud of.

Ms. Nooyi is retiring with a sterling reputation. She is credited with piloting PepsiCo through a rough period for the industry, as consumer tastes moved away from sugary drinks. She successfully fought off an activist investor's attempt to break up the company

and diversified into healthier snack and drink options before many competitors did.

And not only did she retire without incident, but she also worked with her company to groom a successor. As a sign of appreciation, the market barely budged when her departure was announced.

Maximized shareholder returns are valuable. But they aren't going to happen, or be sustained, without management stability.

And recent events have shown that stability is not something to be taken for granted.

There have been 44 CEO exits at

## Tesla Buyout Puts Board On Hot Seat

Many members have close relations with Musk

BY ROLFE WINKLER

The people tasked with overseeing Elon Musk's plans for **Tesla Inc.**—its board of directors—have received solid support from shareholders over the years but criticism from some investors and advocates who say they lack independence.

Boards have enormous responsibility in corporate deals, especially ones as complex and fraught as the buyout of Tesla that Mr. Musk suggested this past week. Most of Tesla's directors have close business or personal relationships with Mr. Musk that they would have to balance against their obligation to ensure that any deal serves the interests of Tesla shareholders beyond its famous leader, corporate governance specialists say.

The board's role in the possible buyout was clouded by Mr. Musk's unusual way of announcing the idea—in a sudden, very brief tweet on Tuesday. That tweet was followed more than 20 hours later by a short statement from six directors saying the board had met several times since Mr. Musk told it of his go-private idea last week, and that it was "taking the appropriate next steps to evaluate this."

The sequence of events suggests that "the board review has been

Please turn to page B12

Please turn to page B13

## THE SCORE

THE BUSINESS WEEK IN 7 STOCKS

## TESLA INC.

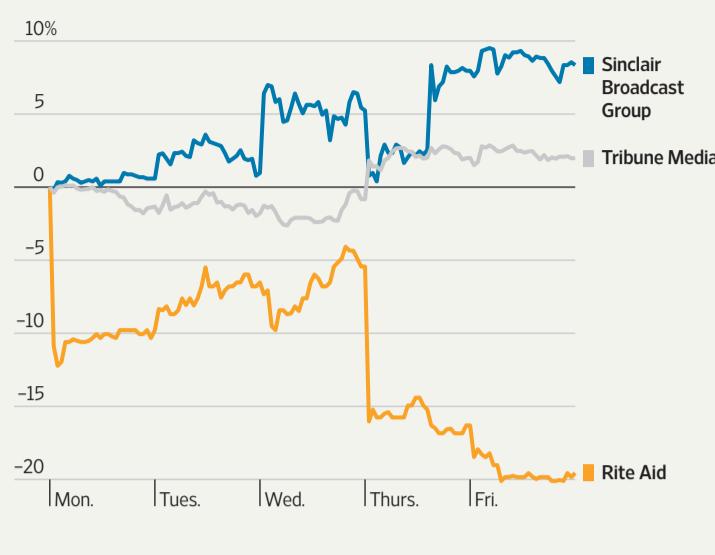
**TSLA** **11%** "Am considering taking Tesla private at \$420. Funding secured." That casually worded tweet by Chief Executive Elon Musk, coming three hours into Tuesday's session, sent the electric car maker's often-volatile shares sharply higher before trading was halted as investors cast about for details. The shares **ended Tuesday up 11%** after trading resumed and the company confirmed Mr. Musk's thinking. Securities regulators the next day opened an inquiry into whether Mr. Musk had a factual basis for his tweet, suggesting a possible enforcement investigation if they suspect it was misleading or false.

## PEPSICO INC.

**PEP** **0.9%** CEO Indra Nooyi said she will step down Oct. 3 to pursue other opportunities, handing the reins to Ramon Laguarda, a trusted lieutenant who was elevated to the No. 2 spot last year. During her 12 years atop the soda-and-snacks giant, Ms. Nooyi pushed PepsiCo to embrace healthier products, such as hummus and kombucha, but was often criticized for neglecting the company's core brands and falling behind rival Coca-Cola Co. in market capitalization. Shares were flattish, **edging up 0.9% Monday** as investors interpreted her exit as a possible catalyst for a company restructuring.

## PERFORMANCE OF COMPANIES WITH BROKEN DEALS THIS WEEK

Source: SIX



## TRIBUNE MEDIA CO.

**TRCO** **2.9%** Call it the week of the dead deal. Tribune Media late Wednesday canceled its \$3.9 billion merger agreement with Sinclair Broadcast Group and sued the rival TV station owner for \$1 billion for allegedly failing to make sufficient efforts to win approval for the deal. Tribune's stock **rose 2.9% on Thursday**, and Sinclair gained 2.6%. Separately, mounting investor pressure led Rite Aid Corp. and privately held Albertsons Cos. to abandon their planned \$24 billion union, sending the pharmacy's shares down 11% Thursday.

## SNAP INC.

**SNAP** **6.8%** For the first time since Snap's founding in 2011, the disappearing-picture app saw some of its users vanish. Snap executives disclosed a 2% drop in daily active users from last quarter during Tuesday evening's earnings call and indicated that the trends could continue. They also announced that Saudi Arabian Prince Al-Waleed bin Talal took a 2.3% stake during the last quarter. Snap's shares **ended Wednesday down 6.8%**. Snap's decline follows sharp sell-offs of other social-media companies in recent weeks as investors question whether the industry is oversaturated.

## DROPBOX INC.

**DBX** **9.8%** Dropbox logged better-than-expected revenue and user growth after the market closed Thursday. But an announcement that its chief operating officer, Dennis Woodside, would step down next month shook investors, who sent the file-sharing company's shares **down 9.8% Friday**. Separately, the company said in a securities filing that 358.2 million shares held by executives, directors and others would become available for sale when the market closes Aug. 23, the end of a 180-day restricted sale period following its initial public offering in March.

## YELP INC.

**YELP** **27%** Yelp shares **soared 27% Thursday** after investors gave a positive review of the business-rating company's better-than-expected second-quarter results. Revenue rose 12% to \$235 million, and net income climbed 35% to \$10.7 million, or 12 cents a share, from \$7.9 million, or 9 cents a share, a year earlier. The company said its quarterly results were boosted by record growth in paying advertising accounts. Yelp also raised the low end of its full-year revenue forecast, to a range of \$952 million to \$967 million, compared with a prior forecast of \$943 million to \$967 million.

## NIKE INC.

**NKE** **0.7%** Two women who used to work at the athletic-wear company filed a lawsuit in federal court alleging that Nike discriminated against them in pay and career advancement. The suit, which seeks class-action status, is the latest development as the company struggles to manage criticism over how it treats female employees. Nike has purged at least 11 executives amid complaints about inappropriate behavior. And last month, Nike said it would give raises to 7,000 staffers after a review of its pay practices. Shares **eased 0.7% Friday**.

—Laine Higgins and Caitlin Ostroff

## IBM Has a Watson Dilemma

Continued from the prior page  
ety and depression in therapy-like conversations.

Recommending personal medical treatment is a taller order. The software needs to be trained with data on what has worked in the past, including details on patients' medical histories and treatment outcomes. That information is often recorded in different formats and owned by different companies, and isn't always complete or consistent.

Moreover, human doctors still have a lot to learn about the science of disease, including cancer.

Oncology won't be "a great space for making [AI] products" until there's better data about patients, spanning genetic, environmental, lifestyle and health information, said Bob Kocher, a medical doctor and partner at venture-capital firm Venrock in Palo Alto, Calif. In the near term, most of the benefits from AI in the health-care field will come in administrative tasks such as billing, he added.

IBM promotes Watson—which powers AI applications such as online customer-service assistants to a range of industries—as a symbol of its technological prowess and the engine of the company's growth. IBM spent \$15 billion on Watson and related efforts as of 2015, according to that year's annual report.

Big Blue has been banking on artificial intelligence to help drive its transformation from building and maintaining information technology systems on customers' premises to providing newer services based on cloud computing. IBM's total revenue has fallen every year since 2012, though it has ticked up in the company's three most recent fiscal quarters compared with a year earlier, thanks largely to sales of mainframe computers.

Sales in the cognitive solutions division, which includes Watson, grew just 1% in 2017 after adjusting for currency changes. In its latest quarterly earnings report, the division's sales fell 1.3% to \$4.58 billion after adjusting for currency changes.

Health care is IBM's most important target for AI, said Mr. Kelly. In 2017, he told the Journal the company had "bet the ranch" on it. The company has spent almost \$5 billion on acquisitions since 2015 to feed health-related expertise into Watson, including Explorys Inc. for electronic health records and Truvue Health Analytics Inc. for insurance claims.

Giant rivals including Alphabet Inc.'s Google, Amazon.com Inc., Microsoft Corp. and Philips NV have also entered the market, along with health-care-focused startups, medical-record companies and insurers.

Watson's health products include non-cancer offerings such as workflow-management systems for health-care providers and wellness apps. Cancer-related products have "touched" roughly 84,000 patients and have been used by 230 institutions, Mr. Kelly said in a recent interview. He wouldn't disclose revenue from oncology-related offerings but said it has been doubling annually in recent years.

In June 2017, Ginni Rometty, IBM's chief executive, president and chairwoman, told CNBC that Watson will be able to diagnose and

treat most of "what causes 80% of the cancer in the world."

The largest AI product in the Watson Health portfolio is Watson for Oncology, for which IBM typically charges \$200 to \$1,000 per patient, plus consulting fees in some cases, according to Mr. Kelly.

After a doctor enters information about a patient's medical status, the application recommends treatments by analyzing published research that might be relevant.

New York's Memorial Sloan Kettering Cancer Center has been helping IBM train the software since 2012. (It doesn't use the software for patient care.) The hospital's

with the pace of discovery but said that machines will be able to learn faster than humans.

Dr. Kris still believes in the technology. "Is it as nuanced as we'd like? Is it 100% up-to-date? No," he said. "But for what it is, it's pretty darned good."

IBM initially planned to meld medical-claims databases and electronic health records, among other data troves, from companies it bought into one cohesive system that would make Watson's health-care products smarter. It never did, in part because it underestimated the complexity, according to a former employee and a hospital execu-

Watson's recommendations, so it rarely affects treatment, he said, but it has helped to attract patients to the center. He declined to disclose what Jupiter pays IBM.

Watson for Oncology has made the most headway in Asia—a less lucrative health-care market than the U.S. In India, Manipal Hospitals, a network of 15 facilities, adopted the product in 2016 for a multimillion-dollar fee over five years, according to Ajay Bakshi, Manipal's chief executive from 2014 to 2017, who now heads a Singapore-based hospital network.

At first, Manipal used Watson to recommend treatment options for all

piloted at multiple cancer centers in the U.S. Doctors at several of these centers said results weren't always accurate, and when they were, they often provided information oncologists already knew.

"The discomfort that I have—and that others have had with using it—has been the sense that you never know what you're really going to get...and how much faith you can put in those results," said Lukas Wartman of the McDonnell Genome Institute at the Washington University School of Medicine in St. Louis. Dr. Wartman said he rarely uses the system, despite having complimentary access.

IBM said it has gotten good feedback about the product from clients and research partners, and that its product provides supporting evidence for the recommendations it makes. Mr. Kelly said he was glad Watson agreed with physicians most of the time.

Dr. Wartman's organization was one of 14 IBM partners announced in May 2015, with a goal of enabling clinicians to use Watson for Genomics on a broad range of patients by the end of that year. The system was not in clinical use at the 11 centers the Journal reached for comment, including Cleveland Clinic, Yale Cancer Center, the University of Southern California's Center for Applied Molecular Medicine and the University of North Carolina Lineberger Comprehensive Cancer Center.

Perhaps the largest clinical user of Watson for Genomics has been the U.S. Department of Veterans Affairs.

In June 2016, IBM formed a partnership with the VA with the goal of using the product on 10,000 veterans within two years. So far, doctors there have used it on more than 3,000 patients, according to Michael Kelley, a VA oncologist.

To use Watson for Genomics, the VA sends tumor samples to a third-party vendor that does a genetic analysis. Dr. Kelley uploads the results, plus the cancer type, to Watson, which returns a ranked list of possible treatments based on studies describing what has worked on cases with similar genetics.

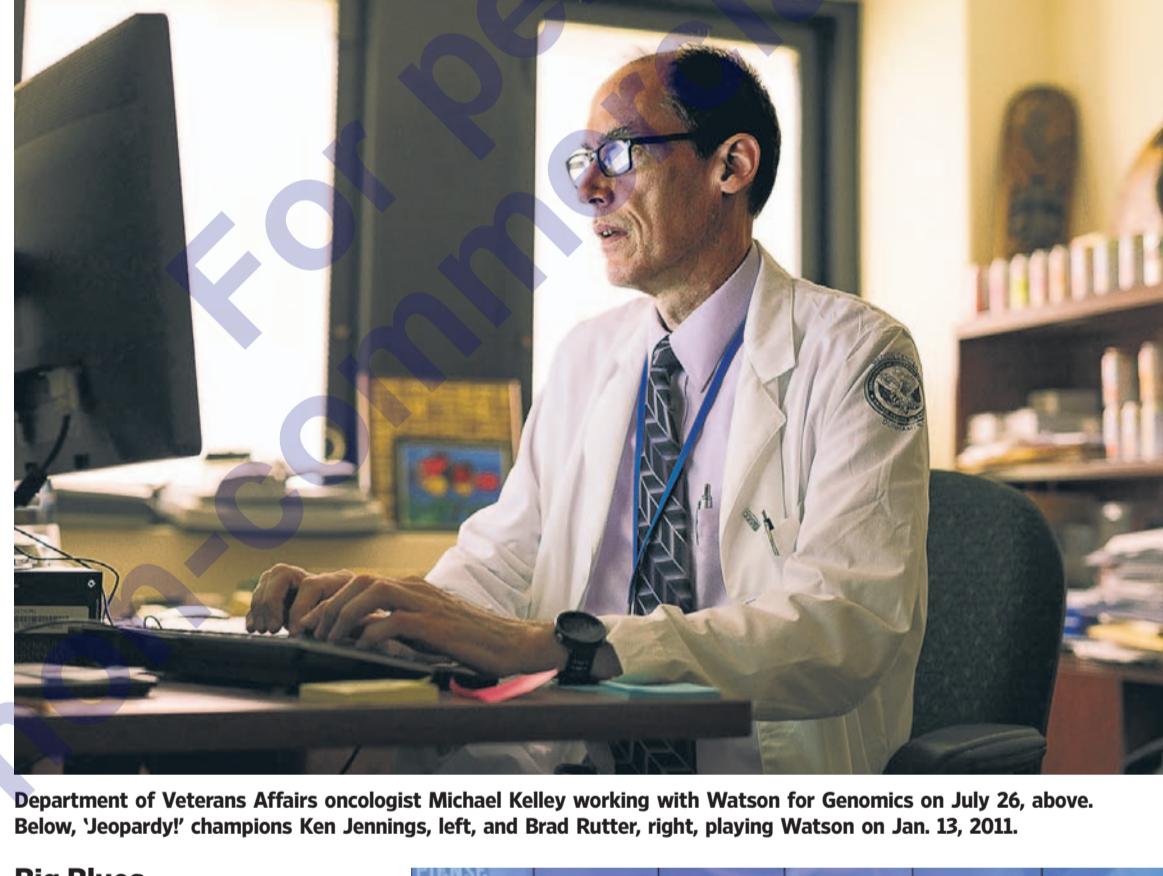
Dr. Kelley said Watson's recommendations can be wrong, even for tried-and-true treatments. On the other hand, he said, it is fast and useful at finding relevant medical articles and saving time.

VA doctors don't discuss Watson's suggestions with patients. Patrick McGuire, a patient of Dr. Kelley's, was unaware it recommended an immunotherapy for his cancer type until recently. The 45-year-old retired Navy veteran, who lives in Kenly, N.C., said he was happy AI played a role in his current treatment, which seems to be working although it hasn't completely shrunk his tumor. He said his doctors will re-evaluate its effectiveness in a couple of months.

In another instance, Watson identified a therapy for a type of gastric cancer associated with a certain genetic alteration and cited a paper Dr. Kelley said he didn't think he would have found on his own. He sent that information to the patient's physician and the patient was treated accordingly. The patient didn't respond to the medication, he said.

The unpaid project, originally slated to conclude in July, will continue for another year. The VA is also testing the reliability of other similar services.

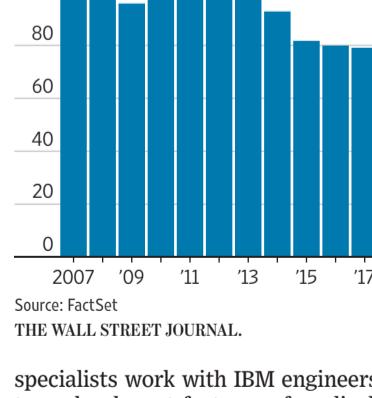
"There's a lot of promise for AI," Dr. Kelley said, but for now, "that promise is not realized."



Department of Veterans Affairs oncologist Michael Kelley working with Watson for Genomics on July 26, above. Below, 'Jeopardy!' champions Ken Jennings, left, and Brad Rutter, right, playing Watson on Jan. 13, 2011.

## Big Blues

IBM's annual revenue fell every year starting in 2012.



specialists work with IBM engineers to rank relevant features of medical histories like tumor location and coexisting conditions. They also rank medical studies of a given therapy. Then they evaluate Watson's ability to match test cases with treatments and help the engineers tune the output until it agrees with the doctors' judgment.

"It's still a work in progress," said oncologist Mark Kris, who coordinates Watson's cancer training. He said keeping pace with rapidly evolving cancer treatments has proved to be tougher than he imagined.

IBM's Mr. Kelly agreed it was difficult "for anything to keep up"



Watson, who was a former client. Mr. Kelly said IBM was actively working on the integration. Among patients who went through the system, he said, Watson's treatment recommendations changed the course of care in 2% to 10% of cases—or roughly 1,680 to 8,400 patients so far. Jupiter Medical Center in Jupiter, Fla., began using Watson for Oncology in clinical care for lung, breast and gynecological cancer patients in March 2017. Today, Watson provides an additional voice on a cancer-care committee that evaluates 10 to 15 cases a week, said K. Adam Lee, head of the thoracic-surgery unit. Humans generally agree with

cancer patients, said oncologist S.P. Somashekhar. It found the software agreed with doctors most of the time, so Manipal stopped using Watson on every patient, he said. It now uses Watson only in difficult cases, or roughly 30% of patients. Watson's recommendations influence care in 9% of those cases, he said.

IBM said the number of Manipal patients using Watson has remained steady since January 2017.

Other key cancer applications—Watson for Genomics and Watson Clinical Trial Matching—aim to pair the genomic data of patients' tumors to cancer drugs or drug trials, among other functions.

Watson for Genomics has been

## BUSINESS NEWS

# Cigna Deal Scores Against Icahn

By CARA LOMBARDO

Carl Icahn's effort to find enough allies to block Cigna Corp.'s \$54 billion deal for pharmacy-benefit manager Express Scripts Holding Co. just got a little harder.

**Institutional Shareholder Services**, one of two major proxy-advisory firms, is recommending shareholders of the health insurer and Express Scripts support the proposed purchase in a vote later this month, according to reports ISS clients received Friday that were viewed by The Wall Street Journal.

The news sent shares of Express Scripts up 2.2% to \$83.64 on Friday, as the odds the takeover will be completed appeared to improve. The stock still trades well below the price of about \$96 a share in cash and stock that Cigna in March agreed to pay for Express Scripts. Cigna shares fell 1.2% to \$183.28.

While acknowledging Mr. Icahn's concern that the deal would take Cigna deeper into the rapidly evolving prescription-drug industry, ISS said walking away from it "could leave the company exposed to the legitimate long-term threat of rising health-care costs."

ISS concluded that the deal's potential benefits, including increased scale and earnings, outweigh the concerns raised by Mr. Icahn.

The billionaire activist investor, who owns a 0.56% stake in Cigna, has been urging other shareholders to reject the deal, which he calls a "\$60 billion folly." He doesn't think Cigna should spend that much money on Express Scripts, a pharmacy-benefit manager that could see its business model change under a Trump administration proposal to lower drug prices. He is also concerned about the changing pharmacy-industry landscape, especially as Amazon.com Inc. expands its presence.

Cigna has said Mr. Icahn doesn't understand the dynamics of health care and appears to be betting against the deal for a profit. Hedge fund Glenview Capital Management LLC, which has a \$1.3 billion stake split between Cigna and Express Scripts, on Thursday publicly urged other Cigna shareholders to support the deal. Glenview said it will save the companies' customers "billions of incremental dollars annually."

Cigna and Express Scripts shareholders are set to vote on the deal Aug. 24. It requires signoff from a majority of the outstanding shares of both companies.

# U.S.-Built Cars Miss Out in China

Reduction in tariff gives advantage to imports from Japan and Germany

By TREFOR MOSS

Global auto makers shipped a record \$7.4 billion worth of vehicles to China in July, as European and Japanese companies largely benefited from a tariff cut that excludes their U.S. counterparts.

The July 1 tariff reduction to 15% from 25% allows for lower retail prices, which encouraged foreign manufacturers to send 165,000 cars into the market last month, breaking the previous record of 134,000 set in July 2014, according to customs data.

U.S. auto makers, however, are blocked from the bonanza in what is the world's largest auto market. Amid trade tensions with the U.S., China last month added a punitive 25% tariff on U.S.-built vehicles for a total of 40%. An agent at a Shanghai-based trading company said American imports are now effectively beyond the means of all but the most affluent customers.

China's auto market slowed in July despite the import surge, with sales dropping 4% from a year earlier to 1.89 million vehicles, the government-backed China Association of Automobile Manufacturers said Friday. Passenger-car sales fell 5.3% to 1.59 million, while sales of commercial vehicles rose 3.3% to 300,000.

Xu Haidong, assistant secretary-general at the association, said July is typically slow but the effect of the U.S.-China trade friction on consumer confidence is making this summer even slower. He added that while Chinese consumers feel "unsteady," there is no sign yet of a backlash against U.S. brands in general. For the first seven months



YONHAP NEWS/ZUMA PRESS

A BMW car fire in South Korea this month. The company has flagged a faulty exhaust component.

## Recalls Press BMW In South Korea

South Korea urged owners of recalled BMWs to take their vehicles for safety checks after reports of dozens of vehicle fires, which BMW has largely blamed on a faulty exhaust component.

Transportation Ministry officials, already investigating BMW AG over the blazes, announced new safety policies on Friday, saying the recalled vehicles posed a danger to the public. They said 36 vehicle fires potentially related to the defect had been reported in South Korea.

On Monday, Kim Hyo-joon, chairman of the local BMW unit, bowed in apology before domestic news media and pledged to cooperate closely with authorities to conduct safety tests. The company said the car fires had been caused

by a defect with the exhaust-gas recirculation cooler.

"The problem becomes slowly apparent and you can smell fumes. In rare cases it can lead to a fire," BMW spokesman Jochen Frey said. As instances of fires continued to be reported, the country's transportation minister, Kim Hyun-mee, on Wednesday promised a "thorough" investigation into the fires, adding that the government may pursue punitive damages on behalf of consumers. BMW is also facing class-action lawsuits from car owners, according to lawyers representing the buyers.

—Yun-hwan Chae and William Boston

of 2018, vehicle sales were up 4.3% from a year earlier, with electrics in the lead. Driven by government policy, electric-vehicle sales nearly doubled in the first seven months to just under half a million, including a 48% jump in July to 84,000.

The association expects auto sales for the year to be up just 2% to 3% amid weak consumer confidence.

While most foreign auto

makers bypass tariffs by building vehicles locally through joint ventures with Chinese partners, luxury imports are a lucrative niche for some.

For high-end brands imported from Europe and Japan, such as Land Rover, Lexus and Porsche, July's tariff reduction created relative bargains. Porsche, for example, was able to chop nearly \$12,000 off the price of the

entry-level Panamera, which now retails for \$145,600.

For BMW AG and Daimler AG, which imported the most cars into China last year, the tariff changes are a mixed bag. They allow price cuts on their European-built vehicles, but not on the sport-utility vehicles the two companies make in the U.S.

Compounding problems for those SUVs are customs delays

for additional safety checks, which Daimler said Thursday it has been experiencing in Shanghai.

Chinese customs officials didn't respond to a request for comment late Friday.

BMW has raised prices on two imported SUV models as a result of the new tariffs, and Tesla Inc. has raised prices on its Model S and Model X imports. Ford Motor Co., struggling in China—where it sold 84,000 imported Lincoln and Ford-brand vehicles last year—has so far held off price increases.

"We encourage both governments to continue to work together through negotiation to resolve issues," a Ford spokesman said.

General Motors Co. imports into China are minimal, but it ships significant numbers of China-built vehicles to the U.S. The company builds the Buick Envision SUV exclusively in China; last year it sold 41,000 Envisions, or a fifth of the vehicle's production, to customers in the U.S. Last month GM applied for an exemption from U.S. import tariffs, saying it would be uneconomical to set up a second Envision production line in the U.S.

The U.S. and China have so far imposed 25% tariffs on \$34 billion in goods. Washington has said it will apply the tariffs to an additional \$16 billion in imports later this month, and Beijing has vowed to respond in kind.

State media has also been ratcheting up anti-U.S. trade rhetoric, at the same time seeking to quell criticism at home. In a front-page news story, the People's Daily rebutted the idea that the trade dispute makes China less attractive to foreign investors, pointing to Tesla's decision to build a factory in Shanghai and BMW's plan to increase investments in China.

—Liyan Qi

contributed to this article.

# FDA Approves First 'Gene Silencing' Drug

By PETER LOFTUS

The Food and Drug Administration approved the first drug that combats disease by silencing the genes driving it, the newest technology transforming the arsenal of medicines.

Onpattro, from Alnylam Pharmaceuticals Inc., is the first treatment approved to treat nerve damage caused by a genetic disorder that also causes heart and digestive disease and can be fatal. It is based on Nobel Prize-winning research that drugmakers have had a tough time translating into effective medicines.

The disease is rare, affecting fewer than 5,000 people in the U.S. and 50,000 globally.

Yet patients haven't had the option of an approved treatment. And the drug's regulatory green light could pave the way for more of these gene-silencing drugs to be approved for other, more prevalent diseases, especially in the liver, such as hepatitis B.

Alnylam said the list price for the average U.S. patient will be \$450,000 annually, or \$345,000 after rebates.

Alnylam said it has reached agreements in principle with health insurers including Harvard Pilgrim Health Care, to refund a portion of the cost of the drug for patients who don't sufficiently benefit from it. Drugmakers and insurers have increasingly explored such deals in recent years

amid rising drug prices.

Gene silencing is the latest new technology expanding the armament of drugs, following therapies that mobilize the immune system, replace defective genes and weaponize cells.

"This approval is part of a broader wave of advances that allow us to treat disease by actually targeting the root cause, enabling us to arrest or reverse a condition, rather than only being able to slow its progression or treat its symptoms," FDA Commissioner Scott Gottlieb said Friday.

Onpattro, whose generic name is patisiran, silences disease-driving genes using a technology inspired by the body's own molecular process

for turning genes on and off. The body's molecular messengers, known as RNA, flick these genetic switches.

Onpattro is essentially a synthetic strand of RNA that silences—technically, interferes with—the genes playing a role in the life-threatening genetic disease called hereditary transthyretin-mediated amyloidosis. The FDA approved Onpattro specifically to treat peripheral nerve disease caused by amyloidosis.

RNAi became one of the hottest areas of drug-industry research in the 2000s, on hopes it could yield a new class of drugs to treat a range of diseases, from cancer to deadly infectious diseases to age-related vision loss, more

effectively than older drug technologies. But a series of setbacks and technical challenges damped enthusiasm for the field. A big challenge: delivering the RNAi drugs' payload into certain human cells.

The RNAi setbacks "shook the faith of the outside world on what could happen with RNAi," Alnylam Chief Executive John Maraganore said in an interview. "We never lost confidence in it."

Onpattro's side effects included infusion-related reactions.

Stifel analyst Paul Matteis estimates the Alnylam drug could generate about \$380 million in global sales in 2020 and could eventually top \$1 billion.

# Monsanto Hit by \$289 Million Verdict

By MARIA ARMENTAL

A jury has ordered Monsanto Co. to pay \$289.2 million in a landmark lawsuit over whether exposure to two of its powerful weed killers caused cancer.

The jury verdict, in San Francisco Superior Court, is the latest setback for Monsanto, now part of Bayer AG, as its flagship weed killer Roundup comes under increased scrutiny following the 2015 determination from the World Health Organization that glyphosate, the active ingredient in Roundup herbicides, is probably carcinogenic.

On Friday, in the first of thousands of lawsuits to go to trial, the jury unanimously found that the company's Ranger Pro and Roundup products presented a "substantial danger" to consumers, and that Monsanto knew or should have known of potential risks and failed to warn consumers like Dewayne "Lee" Johnson.

Mr. Johnson had worked as a groundskeeper for the Benicia Unified School District in the San Francisco Bay-area and was diagnosed with non-Hodgkin lymphoma.

The jury awarded him \$39.2 million in compensatory damages and \$250 million in punitive damages.

Monsanto said it would ap-



A jury found that Monsanto failed to warn Dewayne Johnson, above, of risks tied to Roundup.

peal. Punitive damages, especially those many times higher than the compensatory awards, are often reduced by the trial judge or reversed on appeal.

"We are sympathetic to Mr. Johnson and his family," Monsanto vice president Scott Partridge said in a statement.

However, he said numerous scientific studies and health authorities in the U.S. and other countries found that glyphosate didn't cause cancer.

The U.S. Environmental Protection Agency originally classified glyphosate as possibly carcinogenic to humans in

1985 but changed its classification in 1991.

Mr. Partridge said Monsanto would "continue to vigorously defend this product, which has a 40-year history of safe use and continues to be a vital, effective, and safe tool for farmers and others."

Mr. Johnson's lawyers had argued Monsanto knew that testing of glyphosate was insufficient, and that employees "ghostwrote" favorable scientific articles and paid outside scientists to publish the articles under their names.

"We were finally able to show the jury the secret, in-

ternal Monsanto documents proving that Monsanto has known for decades that glyphosate and specifically Roundup could cause cancer," said Brent Wisner, one of Mr. Johnson's attorneys.

The next trial against Monsanto involving Roundup, also a state case, is scheduled to begin in October in St. Louis.

Dates for lawsuits in federal courts have yet to be set.

So-called bellwether cases are selected to test arguments and gauge possible recoveries for other similarly situated plaintiffs in an attempt to reach a large-scale resolution.

# Nike Ex-Employees Sue, Alleging Discrimination

By STU WOO

Two women filed a lawsuit against Nike Inc., alleging it discriminated against them in pay and career advancement, the latest development amid scrutiny over the company's workplace culture.

The women say Nike paid them less than male counterparts. The suit, filed Thursday in the U.S. District Court in Portland, Ore., contained other allegations of inappropriate workplace behavior, some of them from unnamed plaintiffs.

The lawsuit, which seeks class-action status, claims Nike "has intentionally and willfully discriminated" against women "with respect to pay, promotions, and conditions of employment." It seeks that the plaintiffs "are made whole" from lost compensation and benefits, among other damages.

"Nike opposes discrimination of any type and has a longstanding commitment to diversity and inclusion," a Nike spokeswoman said Friday.

"We are committed to competitive pay and benefits for our employees."

Class-action lawsuits aren't unusual when a big, listed company faces public criticism.

Nike has purged at least 11 executives amid complaints about inappropriate workplace

behavior. Nike's top human-resources executive said the company has failed to promote enough women and minorities. Last month, Nike said it would give raises to some 7,000 staffers after an internal review of its compensation practices.

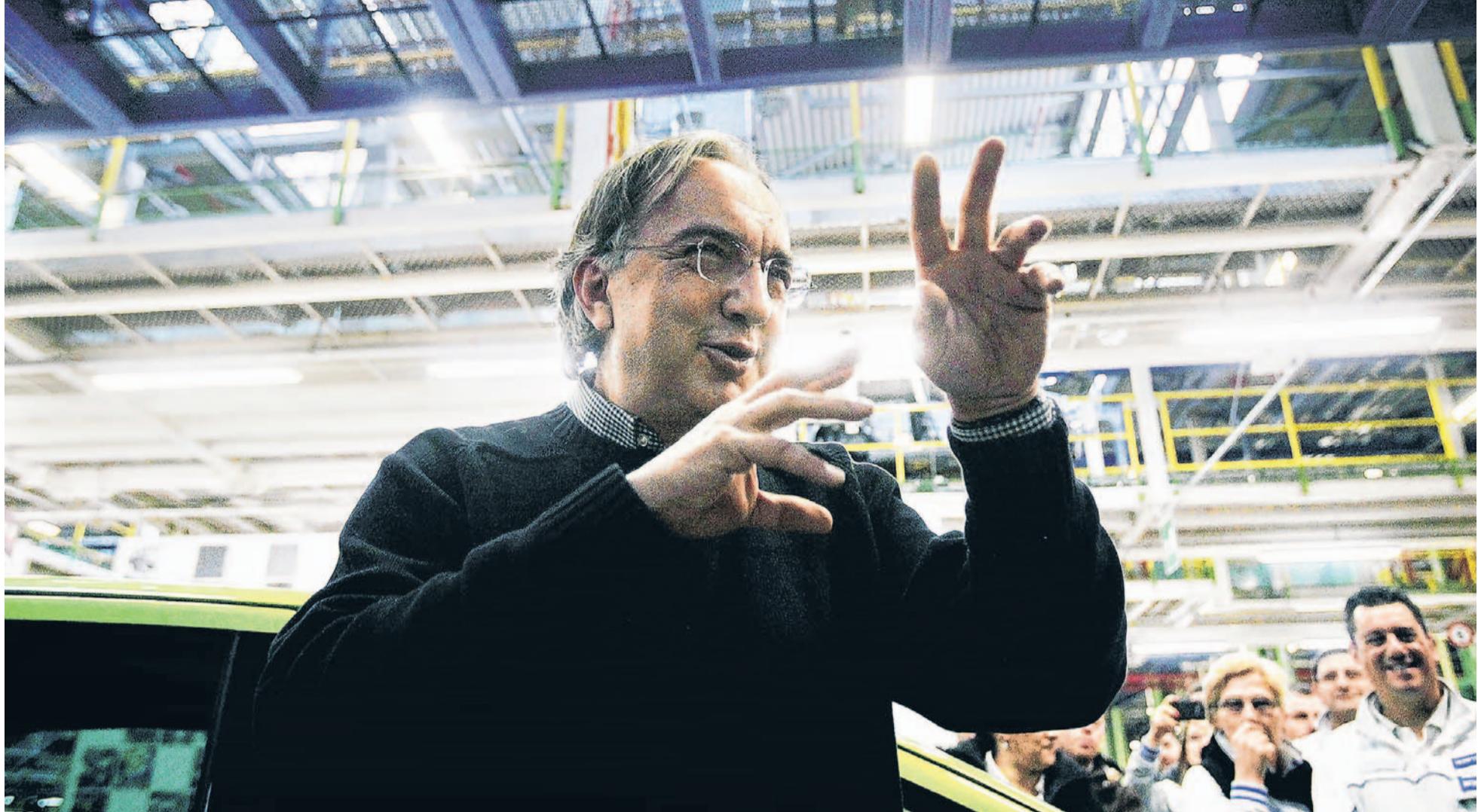
In the suit, Kelly Cahill, a former producer and director at Nike, alleged that she made \$20,000 less in salary than a male peer. She said she was

The lawsuit comes amid scrutiny over how Nike treats female employees.

unable to secure a promotion despite performance reviews that met or exceeded expectations, according to the suit.

Another former Nike employee, Sara Johnston, was hired at a starting salary of \$33,000 and was told Nike wouldn't negotiate starting pay, according to the suit. The suit alleged Nike two months later hired a man into the same role on Ms. Johnston's team. His starting annual salary was \$35,000, despite what she alleged was the male's less relevant experience and lower-level credentials, according to the suit.

## HUMAN CAPITAL



RICCARDO ANTIMIANI/ZUMA PRESS



The primary purpose of Fiat Chrysler's investor conference on June 1 was to roll out the auto maker's latest five-year plan. First, however, Chief Executive Sergio Marchionne took the dais. He had some incredible news to share.

The big reveal was this: At long last, the company's ledgers contained slightly more cash than debt. Audience members were given small, candy-filled tins that said: "Net Cash: How Sweet It Is."

On the list of milestones most CEOs get lathered up about, record revenues, unit sales and market capitalization rank high. Prudent book-keeping does not. Mr. Marchionne didn't care, though—he even decided to mark the occasion with a rare act of flamboyance. For the first time in 11 years, he put on a tie.

Nobody knew that this beknotted public appearance would be one of Mr. Marchionne's last. The following month, after suffering complications from surgery, the man who'd plucked Chrysler from liquidation, merged it with Fiat and guided both weaklings to profitability, died at age 66.

The consensus view of Mr. Marchionne, relayed by hundreds of tributes, is that he possessed an unusual blend of vision, technical expertise, analytical rigor, open-mindedness and candor. The remembrances also agree on something else: he was a bona fide eccentric.

Throughout his 14-year tenure, Mr. Marchionne had a leadership style that defied labels. There was no precedent for a straight-talking, orthodoxy-rejecting, chain-smoking workaholic who preferred sweaters to suits, carried up to five cell-phones, kept a spartan office close to his engineers and obsessed over product details.

"God bless you, Sergio," Morgan Stanley analyst Adam Jonas told Mr. Marchionne during a January conference call. "We're never going to see anyone like you again."

This past fall, researchers at MIT published a study that might challenge that perception. The study identified a new subspecies of executives called "challenge-driven lead-

**CAPTAIN CLASS | SAM WALKER**

# Why the Future Belongs to Challenge-Driven Leaders

The late Sergio Marchionne ran Fiat Chrysler with an eccentric, unorthodox style and a passion for complex problems. New research suggests he was ahead of his time.

ers" whose members share a distinct set of traits. In many respects, Mr. Marchionne fits the profile.

The study began in 2015 when Deborah Ancona and Hal Gregersen of the MIT Leadership Center set out to solve a campus mystery. MIT had produced scores of innovative entrepreneurs whose companies, according to one report, employed more than four million people and produced nearly \$2 trillion in annual revenue. For some reason, however, the school wasn't widely regarded as a leading incubator for CEOs who run major enterprises.

As the researchers studied the school's leadership ethos, they noticed that most people who came to MIT had deep expertise in their fields. They were relentlessly analytical and experimental, were often bored by the status quo and disdainful of office politics. They showed little interest in the trappings of power and loathed leaders who took a top-down, order-giving, egotistical approach.

That stereotypical breed of leader, Prof. Ancona told me, "is something they don't want to be."

People at MIT didn't really follow leaders—they followed intriguing, inspiring, barely solvable problems. Their motivation came from finding inventive ways to crack them. On these teams, collaboration held

sway and command structures were more fluid—leaders stepped forward or back depending on how much their expertise was needed. Leaders were less apt to focus on the social and emotional needs of their followers but more inclined to tolerate their idiosyncrasies.

In these settings, a leader's job wasn't to maintain control, the

**'If you make a lot of decisions, you're going to make a lot of mistakes—but that's OK.'**

researchers said. It was to use their knowledge and enthusiasm to frame a problem "in a way that draws other smart and skilled people toward it."

This challenge-oriented approach is most common among startups, although many large companies have recognized its value and sought MIT's help in figuring out how to harness it. "The very nature of companies is shifting," Ms. Ancona said. "This kind of leadership may be more appropriate as we move ahead."

Hubert Joly, who engineered a

miraculous turnaround at Best Buy, is one of a handful of current CEOs who've displayed some of these traits. Mr. Joly is widely regarded as a collaborative leader who focuses on tackling complex problems with an inventive, fluid approach.

"The big difference between great leaders and good leaders," he recently told an audience, "is not the quality of their decisions, it's the quantity. If you make a lot of decisions, you're going to make mistakes—but that's OK. You can correct them because you'll make more decisions."

At Fiat Chrysler, Mr. Marchionne displayed a similar mindset in 2016 when he abruptly scrapped an expensive plan to produce small cars in the U.S. based on Fiat technology. "We changed midstream," he told reporters, "because the market had gone completely the other direction."

There's no question that Mr. Marchionne's analytical bent and unorthodox personal style conform to the MIT profile. He was also known for building fluid teams of high-functioning experts, or as he once described them, "courageous individuals with a hunger for challenges."

The most direct link was his attraction to chasing big ideas that didn't always make sense to outsiders. His rationales for phasing out sedans in favor of SUVs and pickup

trucks, and for spinning off the company's Ferrari unit, were later embraced. His preoccupation with debt wasn't entirely voluntary—Fiat Chrysler's balance sheet had long been the weakest among major auto makers—but his dedication to paying it off may prove to be prescient.

These quests didn't always work out. In 2015, for instance, Mr. Marchionne wrote a manifesto about the pitfalls of the industry's "addiction to capital" and became a staunch advocate for consolidation. His public pursuit of merger partners, including General Motors, led nowhere.

Challenge-driven leadership may be an excellent way for startups to innovate. What's not clear is whether it can be scaled up. CEOs at big companies are often hard-pressed to step back or be consistently collaborative. Mr. Marchionne was known to crack the whip and show flashes of impatience or ego. He quickly discarded executives who couldn't keep pace and often managed people, as one Fiat biographer noted, "by stress."

If Fiat Chrysler had been a stable company on a placid ride, it's possible that a CEO who likes tilting at windmills would have done more harm than good. In the digital age, however, the increasing levels of complexity, ambiguity and disruption might reward a different brand of leadership.

Challenge-driven leaders are not always conventional, predictable or polished—but they're undoubtedly self-reliant. Their satisfaction comes from indulging their own curiosity. Their leadership is a lifelong process that ends only when they run out of time.

On the afternoon of June 1, as Mr. Marchionne opened the floor for questions about Fiat Chrysler's future plans, the celebratory tie came off. He'd decided to retire in early 2019, so this was effectively his final act. Given that the company's stock price had quadrupled over the past four years, nobody would have blamed him for luxuriating in his triumphs that day.

Sergio, God bless him, never quite made it there. "The true finish line," he said, "is the one always yet to come."

## PERSONAL BOARD OF DIRECTORS

The trusted advisers of top business leaders

**Joel Flory**

CEO and co-founder of VSCO

The co-founder of the mobile photo-sharing platform designed for creators says he "thirsts for feedback and connections with others" before taking action. When Mr. Flory is making personal and business decisions that usually means consulting his wife, Cara Flory, and his co-founder, Greg Lutze. Here, four other trusted advisers.

**Age** 38**Education** BS in Industrial Technology from Cal Poly San Luis Obispo**Family** Two daughters and a dog named Harry**Career highlights** Owner of Flory Photo**Favorite book** "Nonviolent Communication" by Marshall Rosenberg**Favorite place to shoot in the Bay Area** "Without a doubt the Marin Headlands."**When does your alarm go off on weekdays?** "I wake up every day at 5 a.m.—and, yes, I use the alarm on my iPhone"

—Laine Higgins

**Katy Shields**

Vice president of people operations at VSCO

Mr. Flory regards Ms. Shields as VSCO's most indispensable hire. "She pushes me to be tough on problems, but soft on people," he says. "I wouldn't be here, nor would VSCO be here...had it not been for her."

**Chris O'Neill**

CEO, Evernote

Since meeting at a conference in 2016, the pair have quarterly dinners where they swap stories about their startups, their children and their affinity for Kim Scott's book "Radical Candor."

**Emily White**

Former chief operating officer at Snapchat; current VSCO adviser

After stops at Facebook, Instagram and Snapchat, Ms. White has a wealth of industry experience. She helps Mr. Flory stay true. "So many other people will give advice on how we could grow towards other companies, and Emily is always the one that's like, 'Be you.'

**Sean George**

Co-founder and CEO, Invitae

When at home in East Bay, Calif., Mr. Flory turns to Mr. George for advice on corner-office leadership and adopting a growth mindset. It's convenient to have a veteran startup executive as a neighbor.

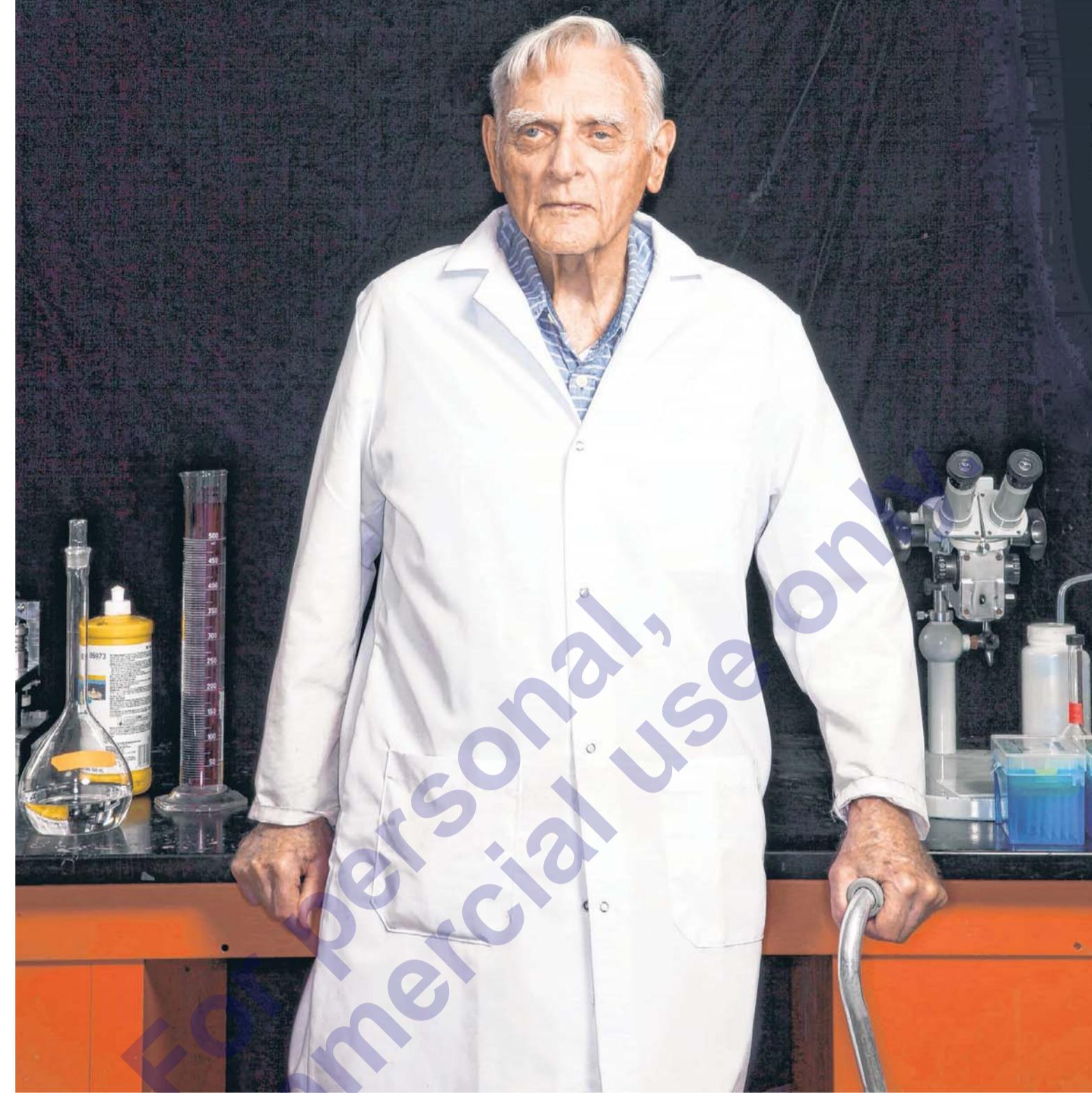


## STRATEGY

# Meet the 96-Year-Old Battery Pioneer Who Keeps Going and Going

**John Goodenough strives for a second breakthrough in battery speed and capacity**

BY SARAH MCFARLANE



**'[H]e really wants to do something for society with the science he does,' says a longtime colleague.**

sion with cobalt.

Dr. Goodenough and his research partner, Maria Helena Braga, say initial research shows their battery potentially has double the energy density of the lithium-ion battery.

That means, for instance, that an electric car could drive twice as far on one charge versus the lithium-ion battery. This battery also increases in capacity over time, he said. Currently, the ability of batteries to store energy degrades with use.

Dr. Goodenough declined to say with whom he is working on a prototype, citing confidentiality.

Some engineers have expressed skepticism in what Dr. Goodenough says the battery can do, particularly that it can increase capacity with use.

Dr. Goodenough also faces rivals backed by billion-dollar budgets. Tesla Inc. is working with Panasonic Corp. on a cobalt-free battery and said that it has reduced its use of the metal in the batteries of its new Model 3 electric car. British entrepreneur James Dyson is developing car batteries that he says will be safer, quicker to charge and more powerful.

Dr. Goodenough's own research happened far from a fancy corporate headquarters, in a paper-strewn office at the University of Texas in Austin, where he is a professor of engineering. The physicist hand-writes his research and doesn't own a cellphone, shunning the modern, mobile technology that his batteries made possible. He drives a 10-year-old Honda, which he hopes will last as long as he does.

Dr. Goodenough says his motivation to develop new battery technology comes from a desire to help electric cars wean society off its dependence on combustion engines, like his Honda's. Currently, the batteries that power a Nissan Leaf—the world's first mass-market electric passenger car—need to be recharged every 151 miles, against the 300 to 400 miles before a gasoline-powered car has to fill up.

"He is driven by scientific curiosity, and he really wants to do something for society with the science he does," says Arumugam Manthiram, a professor of engineering at the University of Texas at Austin who has worked with Dr. Goodenough for 33 years.

Dr. Goodenough never benefited financially from his earlier invention, having signed the rights over to the U.K. government's Atomic Energy Research Establishment, or AERE. Japan's Sony Corp. commercialized the battery and the British state received licensing fees from every battery manufacturer until the patent ran out in 2002.

"Sony said we thought you were wealthy because we'd given a lot, a lot, of money to AERE," Dr. Goodenough says.

Dr. Goodenough arrives at the university between 8 and 8:30 a.m. and leaves around 6 p.m., working from home throughout the weekend, Dr. Manthiram says.



Dr. Goodenough, shown at top at the University of Texas at Austin, wants to 'transform the battery world before I die.' Researchers on his team, middle photos, work on battery prototypes. At bottom, the professor during his younger days.

Dr. Goodenough was raised in Connecticut by an academic father who was often in debt because he "aspired to be on a social level that was a little more than he could afford," he says. Not wanting to be a financial burden, Dr. Goodenough wore second-hand clothes and won a scholarship to a Massachusetts boarding school. Despite having dyslexia, Dr. Goodenough excelled and went to study mathematics at Yale University.

During World War II, Dr. Goodenough served in the U.S. Army Air Force as a meteorologist. It was while waiting to be called up for duty that he read a copy of the book "Science and the Modern World" by British philosopher Alfred North Whitehead and was inspired.

"I had this overwhelming feeling that came to me that said, 'If you ever have the opportunity when you come back from the Army to go to graduate school, you should study physics,'" he says.

After the war, Dr. Goodenough



## Through the Years

A brief history of battery milestones and changes



**1748**  
The term 'battery' is first used by American founding father **Benjamin Franklin** when he was experimenting with electricity.

**1800**  
The first battery is invented by Italian physicist Alessandro Volta using copper and zinc and a cloth or cardboard soaked with salty water.

**1859**  
The first rechargeable battery is invented by French physicist Gaston Planté using lead and acid.

**1901**  
Thomas Edison files a patent for a rechargeable nickel-iron battery marketed for use in electric vehicles.

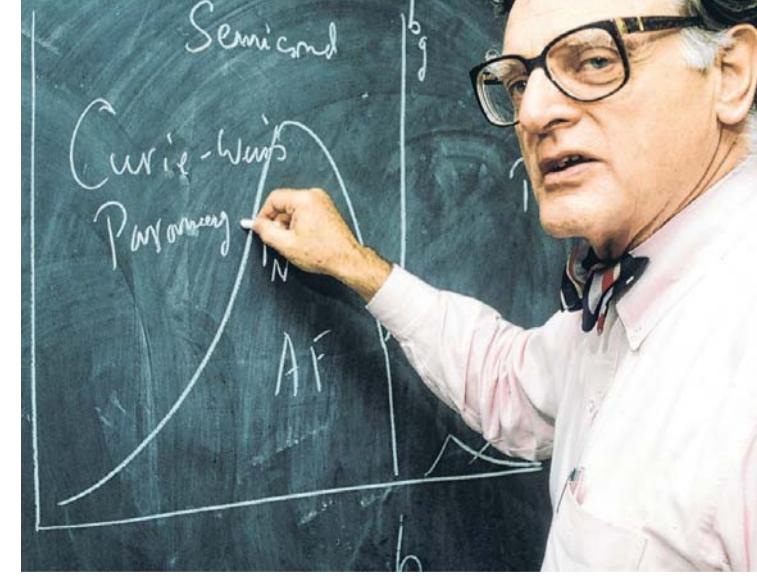
**1976**  
Exxon develops a lithium-based rechargeable battery.

**1980**  
Dr. John Goodenough introduces lithium cobalt oxide to the inner workings of the battery.

**1991**  
Japan's Sony Corp. commercializes the first lithium-ion battery.

**2009**  
The U.S. government announces \$2.4 billion funding for battery and electric vehicle projects.

**2018**  
Dr. Goodenough and three co-authors publish research on a cobalt-free and liquid-free battery.



was among a handful of veterans the U.S. government selected for further study in either physics or mathematics. He chose physics.

He met his wife, Irene, who died two years ago of Alzheimer's, at the University of Chicago and she encouraged him to apply for a professorship at Britain's Oxford University, where he set up the research group that created the lithium-ion battery.

As he continues to work on that battery's replacement, Dr. Goodenough is supervising what he says is his final doctoral candidate, a 24-year-old materials science and engineering student.

"Dr. Goodenough says I'm going to be his last Ph.D. student, but apparently he says that every couple of years and then takes on new candidates," says student Nick Grundish.



FROM TOP TO BOTTOM: BRENT HUMPHREYS FOR THE WALL STREET JOURNAL (3); GETTY IMAGES; COCKRELL SCHOOL OF ENGINEERING, UT; SONY CORP.

## STRATEGY



# It's Getting Awkward at Fox as Disney Deal Looms

Fox's movie studio could be gutted, but it's obligated to keep acting like everything is normal



Fox movie executives are developing new ideas with no certainty as to what Disney will do with them. The studio was behind 'Deadpool,' top, and 'The Shape of Water,' above.

BY BEN FRITZ

**B**ecause movies take so long to complete and release, running a Hollywood studio typically means planning two to three years in advance.

But just one year from now, Twentieth Century Fox may no longer exist.

That makes it an awkward time for the 2,300 employees of the 83-year-old studio behind "Deadpool 2" and "The Greatest Showman" as they wait to see if Walt Disney Co. receives the foreign regulatory approvals it needs to complete its purchase of most of the assets of parent company **21st Century Fox Inc.**, which could happen next year.

Unlike its sibling television studio, Fox's movie studio is expected to be significantly downsized once the deal is complete. Disney will likely take over Fox's two biggest film franchises, Avatar and the X-Men, and scale back production of costly movies that don't fit its family-friendly, franchise-focused formula, people close to both companies have said.

Until the deal is done, however, Fox is obligated to keep acting as it will survive, people who work at the studio say, which means making movies and developing new ideas with no certainty as to what Disney will end up doing with them.

"We're doing the only thing we know how to do, which is put one foot in front of another," said one executive at the studio.

Only adding to the pressure is the reality that some employees

are looking for other jobs. Some fear an exodus could start in late August, after the company hands out bonuses for the fiscal year that ended in June.

To make sure Fox can continue operating smoothly, Chief Executive Stacey Snider has extended the contracts of many executives as long as company policy allows, typically through 2021, said people close to the studio.

Employees in departments that Disney is almost certain to slash, such as theatrical distribution and marketing, have been a priority so they don't defect too soon, one of the people said.

**'We're doing the only thing we know how to do, which is put one foot in front of another.'**

Ms. Snider herself is widely expected to leave following the acquisition, as there is unlikely to be a place for her within the new parent company.

Fox has over the past few months remained busy starting work on movies that it plans to release over the next two years. Some, such as an adaptation of Jack London's novel "Call of the Wild" and of a comic book one studio executive described as "Game of Thrones" with mice, which both mix live action with computer generated effects, could be easy fits for Disney.

Others, such as a historical drama about the competition between

auto designers from Ferrari and Ford in the 1960s and a trio of young-adult horror movies intended to be released in theaters within a three-month period, are difficult to imagine coming from the studio behind "Avengers" and "Christopher Robin."

Disney will release all of Fox's movies that are complete or in production at the time of the acquisition, said a person with knowledge of its plans.

It's less certain what will happen to films still in development at the time of the takeover. That has made it more difficult for Fox to buy new projects in recent months, said people who work with the studio.

Fox has made new deals this year, including for a film based on the board game "Clue" to be produced by Ryan Reynolds and a new musical from "Wicked" composer Stephen Schwartz. It recently won a bidding war against other studios for a movie about a former cop who manipulated the McDonald's Monopoly game. Ben Affleck is slated to direct the movie, with Matt Damon in the starring role.

But some agents and producers are wary of working with Fox given its precarious future. The team behind "Red Notice," an action script with "Jumanji" and "Fast and Furious" star Dwayne Johnson attached that sparked a bidding war in February, didn't take the potential movie to Fox, said a person close to the sale process.

"People are making an effort to include [Fox] out of respect, but it's not anyone's first choice because you don't know what the

studio is going to be," said one movie agent.

It's unclear whether Disney will maintain the Fox movie brand and continue to produce new films under it following the acquisition.

Two Fox movie divisions are likely to survive, though. Disney CEO Robert Iger has publicly touted Fox Searchlight, which makes "prestige" films like last year's best picture Oscar winner "The Shape of Water" and Fox 2000, which specializes in literary adaptations such as the teen coming-out story "Love, Simon," which came out earlier this year. Their relatively inexpensive dramas for adults could be valuable for the Hulu streaming service, which Disney will take control of in the acquisition.

Amid the uncertainty, Ms. Snider has emphasized a revamp of Fox's

approach to animation, bringing in a new partner to replace an expired deal with DreamWorks Animation after it was acquired by Comcast Corp. The film studio is partnering with the Fox television studio on a big-screen adaptation of the animated series "Bob's Burgers," a second "Simpsons" movie in development and a "Family Guy" film that would mix animation with live action, said people with knowledge of the projects.

At the same time, Ms. Snider is moving her film studio into TV production, with series in development based on its "Diary of a Wimpy Kid," "Ice Age" and "Night at the Museum" film franchises. Fox Searchlight has expanded into television as well.

—Erich Schwartzel contributed to this article.

## Pepsi CEO Proved Power Of Stability

Continued from page B1

large-cap companies in 2018, according to Equilar Inc., and a fair share of them have been accompanied by scandal. Allegations of harassment, breaches of conduct codes and other indiscretions marred the tenures of accomplished titans in media, tech and the restaurant business.

Even abrupt departures unclouded by scandal can shake investors if there is no apparent succession plan. At Lowe's Cos., CEO Robert Niblock decided to retire in March after 13 years at the helm, but the company didn't have a successor in place to confront an activist investor questioning the retailer's financial performance.

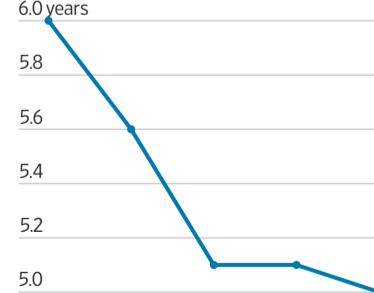
Lowe's board formed a committee in March to search for a new leader. Two months later, it hired Marvin Ellison from J.C. Penney Co.

In giving Ms. Nooyi 12 years in the chief executive role—twice as long as the current average for S&P CEO tenure, according to Equilar Inc.—Pepsi's board prioritized stability. A dozen years gave Ms. Nooyi

### Change at the Top

PepsiCo's CEO Indra Nooyi served for 12 years, far longer than most contemporary CEOs. She exits amid a turbulent year for CEO departures.

#### Median CEO tenure

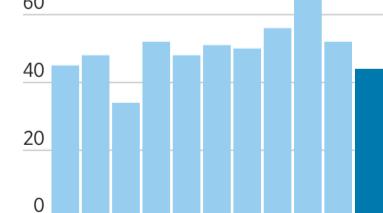


Ms. Nooyi was given time to test new theories and see how they work over the long haul.

time to test new theories and show how those theories work—or don't—over the long haul.

Ms. Nooyi has attributed some of her success to her long tenure, noting that the financial crisis made her

#### Departures by CEOs of large-cap companies\*

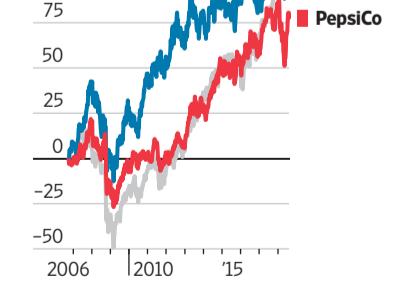


first years in the role especially challenging. Earlier this year, speaking to the World Economic Forum, she said she still has "scars on my back based on the first six years of my CEO-ship."

She has often said that winning corporations must build strategies based on longer-term ideas, and stick to the plan even if quarterly profits or monthly sales don't immediately impress.

Pepsi's board supported her long-term plans, which helped in fending off a challenge from Trian Fund Management CEO Nelson Peltz, who

#### Performance since Nooyi took over as PepsiCo CEO, weekly



holders happy you did your job. Mr. Sheppard says that companies have come to realize that you can't really secure long-term health without considering the needs of customers, workers and the broader community.

In a recent PwC annual survey of nearly 2,000 CEOs, 53% of the chiefs polled said the purpose of their company was to create value for customers, while only 16% said it was to create value for shareholders.

Mr. Sheppard said the historic "notion behind shareholder value was an assumption that investors bought and held the stock indefinitely." Now, it too often is based on the trading value of a stock on any given day.

More companies are seeking to go private in order to escape this cycle, he said. For CEOs at public companies, setting clear priorities and meeting those objectives is essential.

PepsiCo's incoming head, Ramon Laguarda, will face some challenges. He'll need to wrestle with pressure to regain an edge over Coke and find creative fixes to problems unsolved by predecessors. The soft drink giant faces lingering questions about the sustainability of sugary beverages and the business case for owning bottling operations.

But he will benefit from a culture of stability that Ms. Nooyi helped to create.

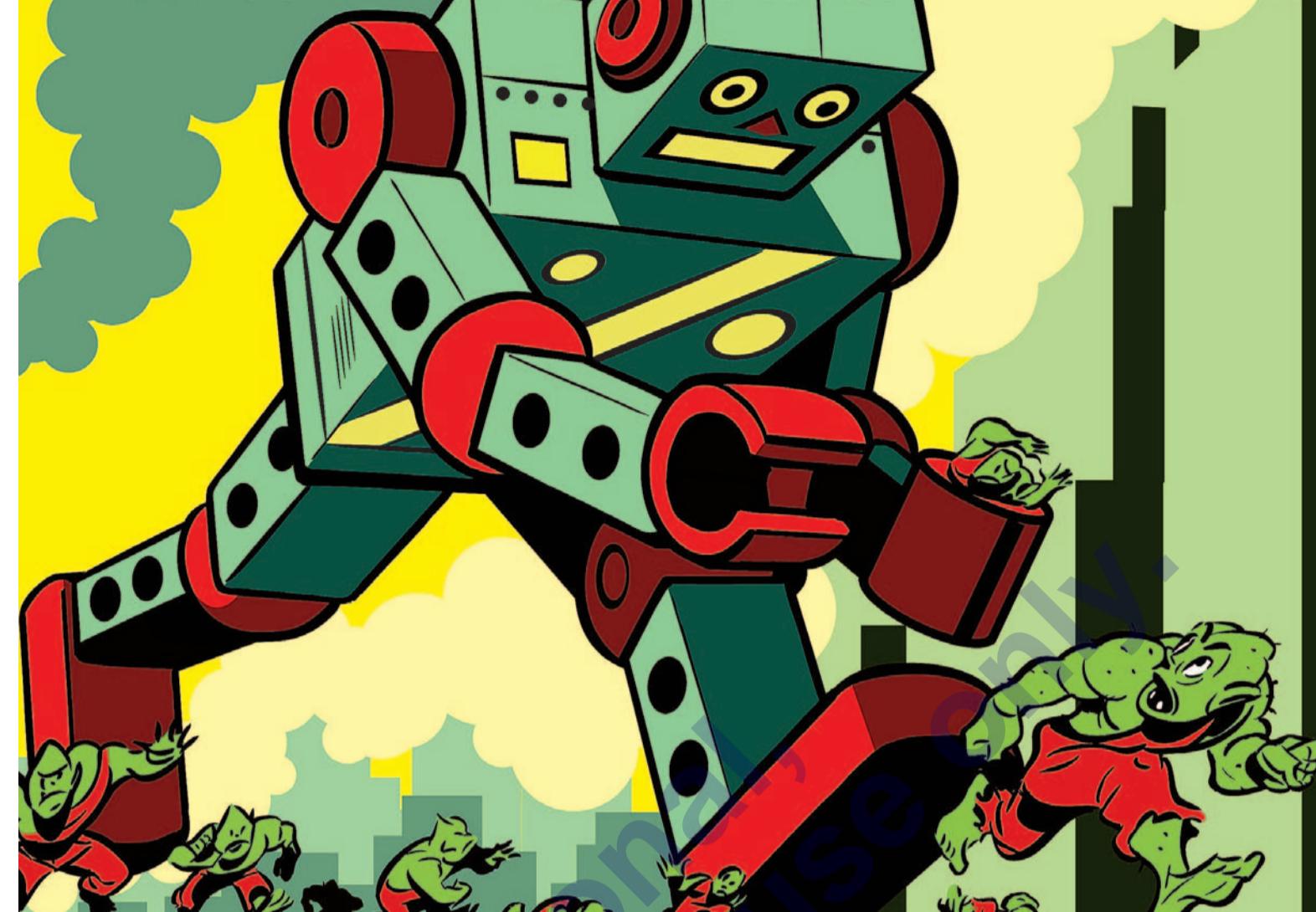
## TECHNOLOGY

KEYWORDS | CHRISTOPHER MIMS

# On Social Media, a Battle Is Brewing Between Bots and Trolls

Many tools exist that could help identify bad actors on the internet.

There's just no consensus on how to use them.



MARK MATCHO

**Filippo Menczer** and his colleagues examined how likely social networks are to direct users to information from just a handful of sources.

By this measure, the "homogeneity bias" of Facebook is worse than the bias in search engines. This suggests search engines are better at sending users to a variety of sources outside their "filter bubble." Twitter turned out even worse than Facebook, and YouTube was worst of all.

Companies already constantly tweak their algorithms to increase engagement; measuring homogeneity bias and prioritizing its reduction could be incorporated into that process.

There's also the possibility of training a deep-learning AI system on known malicious behavior, in order to identify tells that even humans might not be able to spot or describe. Researchers at universities in Hong Kong, Qatar and South Korea have had some success using this strategy to identify rumors on Chinese social-media site Sina Weibo.

Existing approaches to weeding out malicious content aren't without

issues. For instance, Twitter's algorithms failed to auto-suggest conservative politicians when users typed their names in the service's dropdown search feature. After President Trump and others accused Twitter of "shadow banning," the company blamed its "behavioral ranking" algorithm and promised a fix.

Where is the line between maintaining quality of information and flat-out censorship? That's the core question all tech giants are now wrestling with. Facebook Chief Executive Mark Zuckerberg recently said he'd rather not censor even speech as extreme as Holocaust denial, because it's not Facebook's responsibility to be the arbiter of truth.

Yet Facebook and other content companies remove content or limit its reach every day, and these decisions sometimes seem haphazard. Apple CEO Tim Cook's decision to pull Infowars content apparently sparked action by other tech giants. Mr. Jones and Infowars have pushed unfounded theories that include calling the Sandy Hook Elementary School massacre in 2012 a hoax, and accusing prominent Democrats of running a global child-sex ring.

One solution could be an independent but industry-sponsored organization that allowed companies to pool information about state-sponsored and malicious actors, and possibly tools for fighting them, says Jonathan Morgan, CEO of New Knowledge, a security company that protects companies from disinforma-

from financial services to electricity, which share information about cyber threats. This pooled resource allows a kind of herd immunity, where one attack victim can quickly alert others.

An industry organization that monitors malicious online behavior should be backstopped by some kind of government body, Mr. Morgan says, as the FEC monitors election activity and the FCC rules on media matters.

Politics is an obstacle here. In the wake of the banning of Infowars from the "mainstream internet," fans of the site and its ideology are accusing tech giants of conspiring to silence conservative voices.

Never in history has our reality been so affected by systems created by so few. The logic of the algorithms that power the internet is decided by a handful of companies. If we can't live without these AIs, and their decisions are tied to everything from our First Amendment rights to the sanctity of our voting system, it seems that more transparency is needed. How can such decisions continue to be made without input from the millions whom they affect?

tion and social-media manipulation.

Such an organization already exists for coordinating action against terrorists online, the Global Internet Forum on Countering Terrorism. U.S. members, including Secretary of Homeland Security Kirstjen Nielsen, and U.S. tech giants are reluctant to expand its mission to include disinformation campaigns, but European members would.

Another model could be the nonprofit Information Sharing and Analysis Centers, covering sectors

The future of household savings and borrowing is taking a page from the past.

Across the country, millions of Americans are struggling to pay their bills, to raise capital to start a business, to make a big-ticket purchase that can improve their quality of life. Banks won't lend to them because their credit score is bad. Their credit score stays bad because they are largely excluded from the mainstream financial system.

Enter so-called rotating credit and savings associations, a centuries-old cooperative system where members deposit money into a common fund, usually in regular monthly payments, and at the end of an agreed-upon funding cycle a single member withdraws the funds. A different member receives the funds at the end of next cycle, and so on.

The funds are typically used for large purchases such as education fees, launching businesses, purchasing homes and medical emergencies.

Now one company, Esusu, has modernized the idea to address financial insecurity. Users download the Esusu app and then invite trusted friends and family to join their savings group. The group sets a savings goal and a schedule for payments. The app then automatically withdraws contributions from each member's linked bank account and directs the pooled funds to one person in the group on a rotational basis.

In addition to giving users access to larger sums of interest-free capital than they could amass individually, Esusu reports every payment to major credit-rating firms as a loan repayment. When group members keep their savings commitments, their credit scores improve over time.

Mary Kay Gugerty, a professor whose research explores issues in rural development and community development institutions in

Africa, believes two of the main benefits of rotational-savings groups are that they serve as insurance against

unexpected expenses and also condition people to save more than they would otherwise.

Esusu's co-founders, Abbey Wemimo and Samir Goel, were driven to create the app by their own experiences growing up living paycheck to paycheck in immigrant communities. Messrs. Wemimo and Goel, with \$400,000 from their preseed round of financing and over 5,000 users in their ecosystem, are hoping to draw upon the success of this model and take it mainstream. The company charges a \$10 subscription fee per pay-in cycle.

—Benjamin Powers

THE  
FUTURE  
OF  
EVERYTHING

## Age-Old Savings Concept Gets New Look



The future of household savings and borrowing is taking a page from the past.

Across the country, millions of Americans are struggling to pay their bills, to raise capital to start a business, to make a big-ticket purchase that can improve their quality of life. Banks won't lend to them because their credit score is bad. Their credit score stays bad because they are largely excluded from the mainstream financial system.

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## FINANCE



60%

Percentage of  
401(k) participants  
with balances  
below \$10,000  
who cash out

25%

Estimated reduction in  
retirement-savings wealth  
when the savings lost due to  
"leakage" are  
compounded over 30 years

# Automated 401(k) Plans Prove Easy to Pluck Too Soon

Researchers find that workers withdraw nearly half of their enforced contributions within eight years

BY ANNE TERGESEN

**S**ome workers are finding it hard to ignore the money they're supposed to be setting aside for their golden years.

The retirement savings made possible for millions of Americans thanks to automatic enrollment in 401(k)-style plans is proving to be an alluring pool of money many of these workers borrow from or cash out when they leave a job.

The findings, from academic economists known for their work on retirement-savings plans, answer a question that has long concerned employers that put workers into 401(k) plans and give them the option to drop out, rather than requiring them to sign up on their own: Will auto-enrolled workers treat their 401(k)s like automated-teller machines?

The answer, according to the study, is yes—but not to the extent that the workers spend all their gains from auto-enrollment. Within eight years of joining a 401(k) plan, the results indicate that automatically enrolled workers withdraw nearly half of the extra they manage to save, compared with workers left to sign up for the retirement plan on their own.

The findings illustrate how difficult it can be to change savings and spending habits. And this tapping or pocketing of retirement funds early, a phenomenon known in the industry as leakage, threatens to reduce the wealth in U.S. retirement accounts by about 25% when the lost annual savings are compounded over 30 years, according to a separate analysis by economists at Boston College's Center for Retirement Research.

Thanks to auto-enrollment, "we have figured out how to get money into the retirement savings system," said Brigitte Madrian, a co-author of the new study and an economist at Harvard University. "Now we need to

think about how to keep that money in the system."

Within 401(k) plans, auto-enrollment has boosted average participation rates above 85%, compared with 63% for plans without the feature, according to 401(k) recordkeeper Alight Solutions LLC. But by sweeping employees into 401(k) plans at default savings rates that typically hover near 3%, automatic enrollment also initially creates lots of accounts with relatively small balances.

After leaving a company, just over 60% of 401(k) participants with balances below \$10,000 liquidate their accounts—paying income taxes and often a 10% penalty—rather than leaving the money or transferring it to another tax-advantaged retirement plan, according to Retirement Clearinghouse LLC.

"When people hardly have any money in the system, it doesn't seem worth it to them to roll it over," said Lori Lucas, president of the nonprofit Employee Benefit Research Institute.

Workers who don't switch companies fall prey to a separate temptation: 401(k) loans.

With more money in the plan, Prof. Madrian said, auto-enrolled employees are more likely to borrow from their 401(k) accounts over time than are workers who are required to sign up for the plan on their own. While most 401(k) borrowers repay themselves with interest, about 10% default on about \$5 billion a year, according to Olivia Mitchell, an economist at the University of Pennsylvania's Wharton School.

The upshot, Prof. Madrian said, is that while "balances under auto-enrollment are higher, they are not as high as they could be."

Because automatic enrollment is fast becoming the norm, the findings are likely to attract the attention of policy makers and industry professionals. Currently, 68% of large employers have ad-

opted auto-enrollment, up from 58% in 2015 and 34% in 2007, according to Alight.

The study looked at the savings and leakage levels for 7,347 employees at a large financial-services company hired in the 12 months before July 1, 2005, when it adopted automatic enrollment. The authors compared data for those employees to 7,536 employees hired in the 12

months immediately after it started using auto-enrollment.

After applying the same investment returns to both groups, the study found that eight years after hire, the employees who were auto-enrolled had an average of about \$1,200 more—in 2004 dollars—in their 401(k) accounts than the workers hired a year earlier who were left to sign up

on their own. (The \$1,200 average includes savings of both employees who left the firm before the eight years elapsed and those who stayed.)

The big reason why auto-enrollment boosted savings: It raised the firm's 401(k) participation rate from 62% to 98%, converting many who would have contributed nothing into savers, said Prof. Madrian.

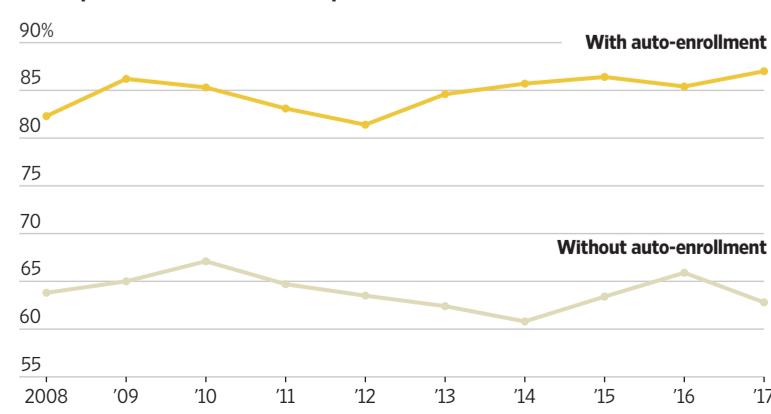
But the auto-enrolled employees also withdrew an average of about \$850 more from their 401(k)s than the employees who had to voluntarily enroll, reducing their potential gains from auto enrollment by 42%.

More than half of the auto-enrolled participants—59%—cashed out their savings, largely driven by employees who left the company. In contrast, among the employees who joined the 401(k) voluntarily, the figure was 43%. One reason for the higher cash-out rate: While more of the auto-enrolled workers saved, a greater share of their balances fell below \$1,000, a level at which companies are allowed to issue checks to departing workers, many of whom cash them, said Prof. Madrian.

## Carried Along

Employees are more likely to participate in 401(k) plans with auto-enrollment.

### Participation rates in retirement plans



Source: Alight Solutions LLC

Among the 15% who remained at the firm for eight years, 31.5% of the auto-enrolled employees had 401(k) loans outstanding, versus 26.3% for the voluntarily enrolled group. Defaults, which never exceeded 12% of employees' total outstanding loan balances, were similar for both groups.

Prof. Madrian says the study should provoke "discussion about what's causing leakage and what we can do about it."

To reduce cashouts, many retirement-policy experts recommend automating the process of transferring money from an old employer's plan to a new employer's plan; currently, departing employees who don't want to leave money behind in a previous employer's 401(k) plan can roll it over tax-free into an individual retirement account or a new employer's plan, but they have to fill out paperwork. Some also favor doing away with a rule that allows companies to issue checks to departing employees with 401(k) balances below \$1,000, many of whom cash the checks rather than deposit them in IRAs.

The findings may also fuel greater use of workplace wellness programs. These typically combine financial education with customized advice, delivered by apps and human advisers, to help employees develop basic money-management skills.

Currently, 17% of large companies offer financial-wellness programs that incorporate online tools and 42% offer one-on-one consultations, up from 9.2% and 35.7%, respectively, in 2015, according to investment-consulting firm Callan LLC.

Kaneka North America LLC, a subsidiary of a Japanese producer of chemicals, plastics and medical devices, plans in September to start offering its 400 U.S.-based employees the option to contribute—via after-tax payroll deductions—to an emergency savings account linked to its 401(k) plan.

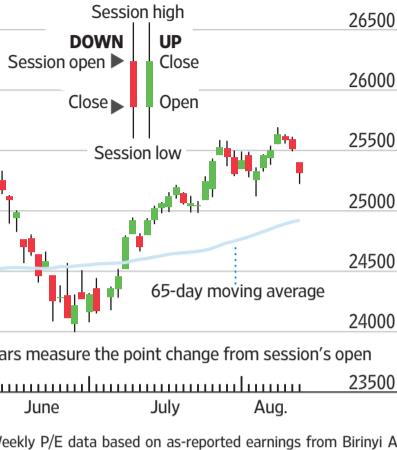
"We think the emergency savings accounts will help people who are used to using the 401(k) plan like a bank account," said Alvin L. Proctor, vice president of human resources. Mr. Proctor says the company hopes to see the percentage of employees taking loans decline to 6% from 13% annually.

Phil Waldeck, president of Prudential Retirement, which is Kaneka's 401(k) provider, says employees must currently voluntarily enroll in the emergency savings portion of the plan. But if a bill recently introduced in Congress passes, it will allow employers to automatically enroll workers into such accounts.

## MARKETS DIGEST

## Dow Jones Industrial Average

**25313.14**  
▼ 196.09  
or 0.77%  
All-time high  
26616.71, 01/26/18



Bars measure the point change from session's open

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## BANKING &amp; FINANCE

# Fork in Road Looms for Tesla Investors

If buyout proceeds, some plan to stay aboard, while others may be forced to sell

By MICHAEL WURSTHORN  
AND ASJYLYN LODER

Plenty of Tesla Inc.'s diehard holders are prepared to stick with Elon Musk, no matter if the electric-car maker is a public or private company.

"As long as it's an option for me to invest my money alongside Elon, I'm going to," said James Stephenson, who says he has been a Tesla investor since 2014.

Whether individuals and some institutional investors will be able to stay in Tesla will depend on how a deal is structured, though. Some holders of Tesla stock could face hurdles to participating.

Mr. Musk has said he wants to take Tesla private, giving investors a choice: stay with the company or sell their shares and receive \$420 cash for each. The more shareholders who opt to stay, the less cash the company and any new investors would have to pony up.

And funding for a deal is a big question. Tesla, which has dwindling cash reserves and continues to generate negative free-cash flow, hasn't given any detail on how it would fund a buyout.

Mr. Musk tweeted "funding secured" in broaching a buyout on Tuesday, but a later state-



**Given the option of investing 'alongside Elon, I'm going to.'**

James Stephenson



**'We think that \$420 is a very low price to pay for Tesla today.'**

Tasha Keeney



**'The financial upside [of holding on] could be huge.'**

Galileo Russell

**Big Buyers**

Top five Tesla shareholders, percentage of total shares outstanding

Elon Musk	19.9%
T. Rowe Price Associates	9.2
Fidelity	8.2
Baillie Gifford	7.8
Tencent	4.9

Source: FactSet

THE WALL STREET JOURNAL.

ings Inc. to building rocket company Space Exploration Technologies Corp.—is a key reason behind his plan to hold Tesla shares indefinitely. "This is an example of betting on the jockey, not the horse," said Mr. Blanchfield.

The \$174.7 million Ark Industrial Innovation ETF, an actively managed fund from Ark Investment Management, is another committed bull. Tesla is its largest holding, accounting for 11.7% of the fund's portfolio, according to FactSet.

"We think that \$420 is a very low price to pay for Tesla today," said Tasha Keeney, an analyst with Ark Investment Management. The fund would prefer Tesla stay public because liquidity limits might push it to sell, but she argued that the market is underestimating the growth of battery-powered cars. Factoring that in, Ms. Keeney estimated Tesla's shares could reach \$4,000 in five years.

The scant detail provided by Mr. Musk has given pause to some steadfast supporters. Galileo Russell, a 25-year-old founder of a financial media startup, HyperChange, geared at millennials, views a take-private move as a "step backwards in terms of liquidity and transparency." Still, he says he doesn't plan to sell any of his 60 shares, valued at roughly \$21,000. "The financial upside could be huge. I'm holding this for 10, 20, 30 years at least."

—Miriam Gottfried contributed to this article.

ment from several Tesla board members was less definitive. It said a meeting with Mr. Musk a week earlier had "also addressed the funding for this to occur."

Individual shareholders like Mr. Stephenson hold about 12% of Tesla's stock, according to FactSet, and many say they won't go. The 40-year-old financial analyst and Florida resident said he wants to hold on to his Tesla shares, which he says number 169 and were worth around \$60,000 based on Friday's closing price of \$355.49.

"I'm not going to sell at \$420, and most other Tesla shareholders I've spoken with aren't going to sell either," said Mr. Stephenson, adding he expects Tesla to reach a \$1 trillion market capitalization over

the next decade, versus around \$60 billion today.

Mr. Musk said in one tweet this week that he would create "a special purpose fund enabling anyone to stay with Tesla," but the car maker and Mr. Musk haven't elaborated on how such a funding vehicle would work. Usually, individual investors who don't meet certain income and asset criteria face steep regulatory barriers to participating in a buyout.

What's more, almost 8% of Tesla shareholders are index funds that follow benchmarks that exclude unlisted companies, according to Morningstar. Most of those would likely have to cash out since they can't generally hold stock not included in public markets or an index.

An additional 24% of share-

holders are mutual funds and exchange-traded funds that face limits on holdings of securities that don't trade easily. In most cases, they can't have more than 15% of their portfolio in illiquid securities.

These funds, which are among Tesla's biggest shareholders, have yet to say how they would react to a go-private transaction. T. Rowe Price Associates, Tesla's second-largest holder after Mr. Musk, with a 9.2% stake, declined to comment. So, too, did No. 3 holder Fidelity Management & Research Co., which has an 8.16% stake.

Baillie Gifford, the next largest holder, said in a statement: "As long-term shareholders, we will take time to reflect upon this development."

Vanguard Group, which is Tesla's sixth-largest holder, owns shares mostly through index funds, which would likely have to sell. "Our active funds are technically able to invest in private companies, but it is rare for them to do so," a spokesman said.

Some smaller fund managers say they are on board. Craig Blanchfield, a portfolio manager at Mosaic Advisors, a money manager that oversees more than \$241 million, said he wants to continue to hold Tesla shares. He said Tesla has already been a lucrative investment for him, as well as clients for whom he manages money.

Mr. Blanchfield added that Mr. Musk's penchant for success—from revolutionizing payments with PayPal Hold-

## Musk Move Puts Board On Hot Seat

Continued from page B1  
very, very informal," said Adam Epstein, who heads corporate-governance consultant Third Creek Advisors.

Mr. Musk's announcement attracted scrutiny from the Se-

curities and Exchange Commission, which has asked Tesla whether Mr. Musk was truthful when he said in his tweet that he had secured funding for the buyout. Tesla didn't respond to requests for comment on the SEC queries.

Tesla shares on Friday rose almost 1% to \$355.53, leaving them about 15% under the \$420 target price Mr. Musk set for a buyout of the electric-car maker.

Tesla's board has nine mem-

bers. Mr. Musk, who owns

about a fifth of Tesla, is chairman as well as chief executive. He and his brother, Kimbal, are the only directors the board doesn't label as independent.

Tesla says that it evaluates numerous factors in determining directors' independence.

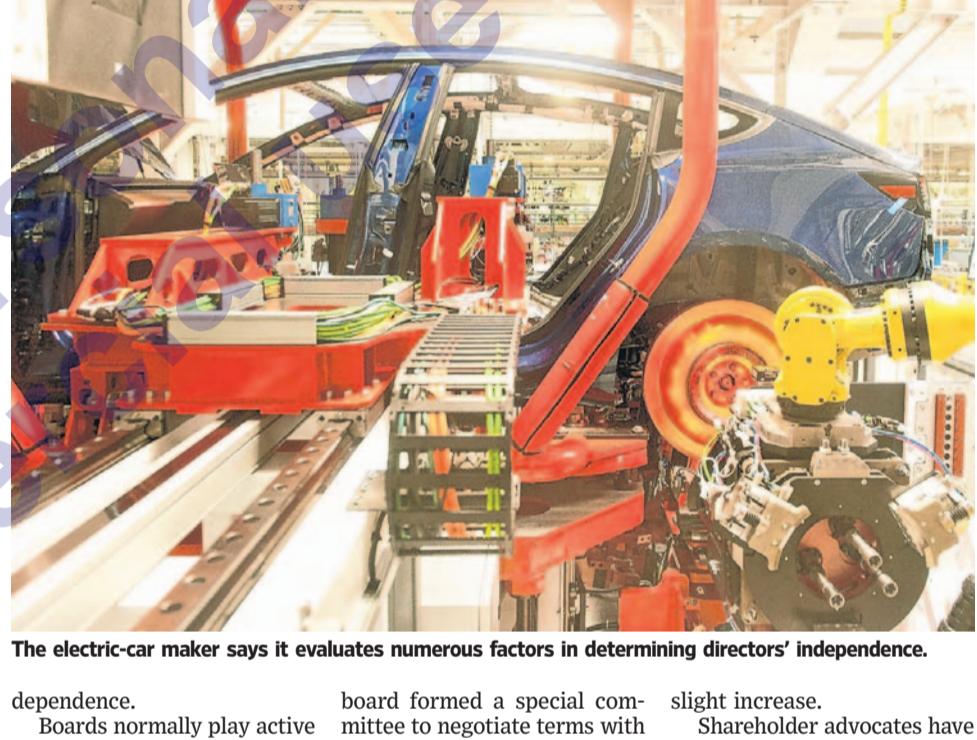
Several other directors are close to Mr. Musk, including Brad Buss, who was previously chief financial officer at SolarCity, the renewable energy company Mr. Musk led and that Tesla acquired in 2016.

Lead independent director Antonio Gracias, founder of Valor Equity Partners, has invested in several Musk ventures going back to PayPal, which Mr. Musk co-founded. He was a SolarCity director and is a director at Mr. Musk's rocket company, Space Exploration Technologies Corp., or SpaceX. The Musk brothers have invested with Valor, according to Tesla's proxy statement.

Ira Ehrenpreis, who heads Tesla's compensation committee and its nominating and governance committee, also is a SpaceX investor, as is Steve Jurvetson, a venture capitalist who is on leave from Tesla's board. Both have been associates of Mr. Musk for years.

Messrs. Gracias, Buss and Ehrenpreis didn't respond to requests for comment.

Mr. Jurvetson declined to comment about the proposed deal and didn't respond to questions about the board's in-



The electric-car maker says it evaluates numerous factors in determining directors' independence.

dependence.

Boards normally play active roles overseeing major transactions, and in management-backed buyouts their importance can be greater because directors must negotiate against CEOs on behalf of other shareholders.

Six months before PC-maker Dell announced founder Michael Dell's plan to take the company private in 2013, its

board formed a special committee to negotiate terms with him, according to company filings.

When the deal was announced it came with a detailed financing plan including backing from the equity sponsors and debt underwriting from Wall Street banks. Afterward the board clashed with Mr. Dell and his partners as directors sought a higher price for shareholders. They won a

slight increase.

Shareholder advocates have frequently challenged Tesla's board, with little success. For example, Glass Lewis, one of two major shareholder advisory services, strongly opposed the proposal for Tesla to buy SolarCity, calling it a "thinly veiled bail-out plan" and saying the Tesla board was "ripe with conflicts." Shareholders approved the deal.

## Goldman Lures Top JPMorgan Banker

By LIZ HOFFMAN

Goldman Sachs Group Inc. has poached a top JPMorgan Chase & Co. deal maker, continuing a hiring spree that has brought more than a dozen outsiders into the Wall Street powerhouse's upper ranks in the past few months.

Kurt Simon—a veteran banker in mergers as well as media and technology, whose clients include Walt Disney Co. and Dell Technologies Inc.—will join Goldman as a partner later this year, according to people familiar with the matter.

At Goldman, Mr. Simon will be a vice chairman of investment banking and co-chairman of its technology, media and telecommunications, or TMT, group, the people said.

Bankers regularly hop from one firm to another, but a move at Mr. Simon's level is less typical. And he isn't going to a boutique bank, but to another large firm, and a fierce rival at that.

Goldman has hired 16 people firmwide at the elite rank of partner in the past year, about half of them in its investment-banking division, where top-tier relationships

can command huge fees.

The hiring push amounts to a potentially expensive bet that the merger and capital-raising boom will continue. It is a departure for Goldman, which has historically favored homegrown talent.

The firm aims to add \$5 billion in annual revenue by 2020. Its revenues have stalled in recent years, as growth in areas such as investment banking and asset management have barely compensated for steady trading declines.

Investment bankers are expected to contribute about \$500 million of that figure.

Mr. Simon would be the eighth partner that division has hired.

Mr. Simon joined JPMorgan in 2002 from Merrill Lynch and ran the firm's TMT group from 2009 to 2015. Since then, he has been its global chairman of mergers and acquisitions, a job that typically entails fewer management responsibilities and more client face-time.

He has been one of JPMorgan's most visible bankers, brokering big deals and frequently appearing on television to discuss the M&A boom.

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## EXCHANGE

## HEARD ON THE STREET

FINANCIAL ANALYSIS &amp; COMMENTARY

# The Strong Dollar Is Upending Markets

Thanks to the greenback, nearly everything that surged in 2017 unraveled in 2018; the disruption may be waning

By RICHARD BARLEY

Much of the disruption to global financial markets this year has come from a source close to home: the U.S. dollar.

Investors obsess over stock indexes and bond yields but the most important number in financial markets may be the dollar's exchange rate. That was clear when the dollar's sudden rise in the second quarter derailed many moneymaking trades and changed the path of economies and industries. In some places, the pain is extending: The Turkish lira went into meltdown this past week, sending ripples through global markets. On Friday, the ICE dollar index hit a fresh one-year high.

The dollar's rebound came after a broad decline in 2017, as growth outside the U.S. picked up. That lured investors into riskier bets: the MSCI Emerging Markets stock index gained over 30%.

This year kicked off in similar style. But then U.S. growth vaulted higher and momentum stalled elsewhere, sending the dollar on an unexpected upturn. It gained 5.5% against the euro and 4.2% against the yen in the second quarter; moves in emerging markets were even bigger, with the greenback up 17% against the Brazilian real and 16% against the South African rand.

Nearly everything that surged in 2017 has wilted in 2018. After months of tumult, there is reason to believe the rest of the year will be calmer for the dollar, meaning less risky for emerging markets and other volatile assets.

The oddity is that much of the uncertainty about global growth

has been generated by unorthodox U.S. policy, whether on tax, trade, or political alliances such as NATO. But even as the U.S. becomes the global disrupter, its assets have proved more alluring for investors. The dollar has kept its role as a magnet in times of doubt.

That is in part because the dollar remains so dominant. In the \$5.1 trillion-a-day foreign-exchange market, the U.S. currency is on one side of 88% of all trades, according to the Bank for International Settlements' 2016 survey. While its weight in foreign-exchange reserves has declined a little, it still accounts for 62.5% of the \$10.4 trillion in allocated reserves identified by the International Monetary Fund. The euro, meanwhile, accounts for 20.4%. U.S. capital markets are the biggest and most liquid in the world, making the dollar attractive both to companies looking to raise finance and investors with cash to put to work.

The dollar's path not only reflects changes in global growth, but can also steer them. Most notably, a rising dollar tightens financial conditions in emerging markets: It may lead central banks to raise rates to shore up their currencies, for example, or damp the appetite of commercial banks to lend in dollars since their chances of getting paid back declines as the local currency falls. While floating exchange rates in emerging markets have reduced the risk of sudden explosive crises, they come at this cost.

The dollar's performance in the second half could be less disruptive. Against major currencies

like the euro, the greenback has stopped climbing. A good deal of divergence between growth and monetary policy in Europe and the U.S. already looks priced in.

Where the dollar's strength has exposed weak links in emerging markets, it may continue to cause problems.

For countries like Turkey, where the lira is down 36% this year, the problem now is home-grown, not external:

There is a serious loss of in-

vestor confidence that wouldn't be solved by a broad-based weakening in the dollar. The bigger picture will be influenced a good deal by the trade dispute between the U.S. and China and whether the Chinese yuan continues to fall, raising depreciation pressures on other currencies.

For all that the dollar's rise has accompanied stronger growth in the U.S.—with second-quarter gross domestic product expanding at a 4.1% annualized clip—there is a domestic downside. Over time, a stronger dollar can hurt U.S. corporate profits as exports become less competitive and foreign earnings are worth less translated back into dollars. While tax cuts have boosted economic growth, they have also raised the budget deficit, which may lead investors to start thinking about the scale of U.S. borrowing.

The flip side could be a debate about whether assets denominated in other currencies are cheap enough to be attractive. Growth outside the U.S. has shown signs of stabilizing, and overseas stocks have started to rebound. A less disruptive dollar could, given time, add to the momentum beyond American shores.

## Turnaround

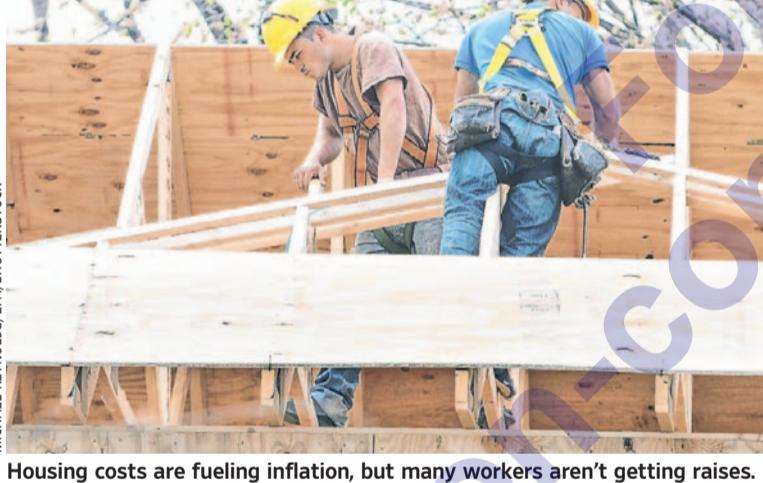
Performance of Federal Reserve dollar indexes

Dollar vs. other important trading partners index  
Dollar vs. major currencies index



Note: Major currencies index composed of seven developed-market currencies including euro and yen; other important trading partners composed of 19 emerging-market currencies

Source: Federal Reserve Bank of St. Louis  
THE WALL STREET JOURNAL.



Housing costs are fueling inflation, but many workers aren't getting raises.

## Prices Are Rising, Wages Could Be Next

With a tight labor market, workers may be due for a raise. That will send inflation higher still.

By KEN BROWN

After a decade of almost no inflation, workers aren't used to seeing their earnings eaten away by higher prices. At some point, they will realize they are getting poorer every month and demand healthy raises.

The consumer-price index was up 2.9% over the past year, the Labor Department said Friday, while core prices, which exclude food and energy, increased 2.4%. The broad in-

flation gauge had one of its biggest gains of the past decade and core prices rose by the most since September 2008.

The cost of rent and mortgages drove the inflation gains, accounting for 60% of the increase in the overall index. That reflects higher interest rates and a tight housing market.

For workers, these costs and others that have been steadily rising

are squeezing their spending. Average hourly earnings are down 0.2% over the past year in real terms, according to the Labor Department.

With unemployment at a historically low 3.9% and an average of 6.7 million unfilled jobs in the past quarter, the highest since 2001, workers have a pretty strong hand to ask for more money.

Seriously rising wages are the biggest risk to inflation, which is still modest by historic standards. Like a lot of other indicators in the post-financial crisis world, predictions of rapid wage increases haven't materialized. When the dam does break and companies start paying more to fill their jobs and workers start quitting to take those jobs— inflation could see a jolt higher.

A broad increase in wages will force companies to raise prices or face hits to profits. Boosting prices has proven to be near impossible since the crisis, but again at some point that dam will burst. With interest rates still historically low and inflation already at the Federal Reserve's preferred level, higher interest rates become more likely.

It took a decade for inflation to wake up. Workers may be the next ones to put the financial crisis behind them.

## OVERHEARD

This company literally got soaked.

Energy infrastructure company American Midstream Partners said in a regulatory filing Thursday that it wouldn't be able to file a required quarterly report on time with the Securities and Exchange Commission. That occurrence is typical enough, but usually companies delay filings because of problems like accounting issues or perhaps a complaint about sales and marketing practices. American Midstream's reason for delaying its filing, however, was highly unusual.

Earlier this month, American Midstream headquarters in Houston "experienced a waterline leak causing water damage and electrical system failure," the company explained to regulators. That damage resulted in the closure of offices and prevented key personnel from finalizing the company's financial statements. The company also indicated that its quarterly report should be finalized later this month, which means it is unlikely to be in any sort of hot water.

The stock, which fell 3.3% Friday, is down more than 50% so far this year, giving shareholders a bath of their own.



## Some Customers Say No to a \$999 Phone

By DAN GALLAGHER

Smartphone makers clearly expect customers to keep digging deeper into their pockets. But those pockets are already feeling empty.

**Samsung** provided the first official look at the upcoming season in hand-held devices on Thursday with the unveiling of the Galaxy Note 9.

The latest offering in the company's super-sized section of smartphones has the typical enhancements one expects in an annual upgrade—a faster processor, more memory and better battery life. The most notable new addition was adding a remote-control function to the stylus that comes with the device.

For this, Samsung expects its customers to pay a starting price of \$999, which is about 5% more than the starting price of last year's Galaxy Note model. And last year's starting price was 8% to 12% higher than the previous year's iteration.

Samsung is hardly alone in this regard; **Apple Inc.** has been boosting the prices on its smartphones as well, with last year's iPhone X the first to hit the eye-popping \$999 mark.

Apple's average selling price for the iPhone in the first six months of this year jumped nearly 15% over the same period last year.

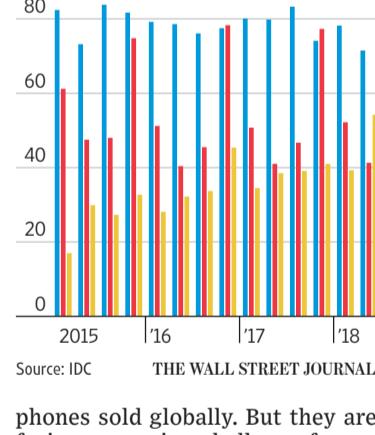
But smartphone buyers may already be tiring of the game. In their second-quarter earnings call last month, Samsung executives noted that rising smartphone price tags were "drawing market resistance." That was after the company posted a sharp drop in sales for its mobile division, which it attributed in part to weaker-than-expected demand for its flagship Galaxy S9.

Samsung and Apple together have long accounted for a little more than one-third of all smart-

## Call Up

Smartphone unit sales, quarterly

100 units



Source: IDC

THE WALL STREET JOURNAL.

phones sold globally. But they are facing a growing challenge from Chinese brands, which are bringing their own high-end phones to the market at lower prices. Huawei, China's largest smartphone vendor, overtook Apple in global unit sales for the first time during the June quarter.

Given how customers reacted to its higher priced Galaxy S9, the newly unveiled Note 9 could face the same pressure on sales.

And Apple will be hard-pressed to repeat the same pricing trick that has helped the company boost iPhone revenue this year.

New iPhones are expected next month, and Wall Street expects the company to at least keep its average selling price above \$750 for the coming year compared with \$652 for the fiscal year ended September 2017.

Research firm International Data Corp. now expects smartphone sales to contract globally this year following their first decline last year.

In a market where sales are falling and competition is increasing, raising prices won't get you very far.



PHOTO ILLUSTRATION BY WSJ; STOCK (2)

TIMOTHY A. CLARY/AGENCE FRANCE PRESSE/GETTY IMAGES



## Hot Summer Songs

The season's title usually goes to a party anthem—but it needn't.

C3

# REVIEW

THE WALL STREET JOURNAL.

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## Shaking the Tree

How advances in microbiology are rewriting the story of life. Books C7



SATURDAY/SUNDAY, AUGUST 11 - 12, 2018 | C1

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FROM TOP: PHOTO ILLUSTRATION: GALLIBOR/AGENCE FRANCE PRESSE/GETTY IMAGES; BALAZS MOHA/MIT/ASSOCIATED PRESS; MARK WILSON/GETTY IMAGES (CHARLOTTESVILLE)

# MIDDLE MAN

With Russia resurgent and the U.S. and EU divided, leaders such as Hungary's Viktor Orban are looking both ways, seeking a newly 'equidistant' relationship between Moscow and the West

By DREW HINSHAW AND MARCUS WALKER

A T A BUCOLIC BORDER POST here in Bucsu, Hungary, Western-trained counterintelligence agents recently got word that a known operative of Russia's foreign spy service was driving into their country, and asked their headquarters for permission to pursue. Permission denied, came the firm order from Budapest.

This kind of incident is a regular occurrence at Hungary's frontiers, according to two former intelligence agents who described it, and it fit a pattern. Russian involvement in Hungary is growing. Russian spies roam freely, using Budapest as a base to advance their aims in Europe, according to U.S. and Hungarian officials. Russian energy companies sign secretive deals that critics say aim to enrich and co-opt Hungarian oligarchs. Officials from the U.S. and European Union complain, but feel shut out by a government they view as more like Vladimir Putin's than their own.

Welcome to Europe's new disorder. The U.S. and EU-led alliance in Europe that grew stronger after the Cold War is now splintering. Russia is seizing chances to encourage this fragmentation and regain influence. This time, Moscow's intellectual currency isn't Marxism, but an authoritarian style of leadership that sneers at the piety of liberal democracy.

Russia is finding local partners in Europe's political rebellions that are challenging a liberal order meant to mark the end of history. These vary in form and strength, from nativist parties in France and Germany to leftist opponents of EU-backed

austerity in Southern Europe. On the continent's edge, Turkey too is turning its back on the West. Europe's hard-won unity is fraying.

Nowhere is the historical irony more acute than in the first country to pull down the Iron Curtain. Hungary's August 1989 border opening set off a chain reaction that toppled the Berlin Wall. Now, this small nation is once again the focal point of another European revolt, this one triggered by the man the ruling party calls its "chief engineer," Prime Minister Viktor Orban.

In his first stint as prime minister, from 1998 to 2002, the Oxford-trained former dissident focused on getting Hungary into the North Atlantic Treaty Organization and away from Russia's orbit. Since returning to power in 2010, the 55-year-old has bet on a different course, wagering that the post-Cold War order is ending, and that both Russia and its model of government on the rise. Western democ-

racy is no longer Europe's ideal, in Mr. Orban's telling, and neither the U.S. nor Europe's political establishment retain the resolve to defend the liberal democratic order they helped construct.

Mr. Orban says he is helping his country navigate a transition, from an American-led unipolar world, to a messier, multipolar era in which small countries must balance between great powers. "Orban genuinely believes the West is on the decline, and the best days of the EU and NATO are numbered," says David Koranyi, senior fellow at the Atlantic Council in Washington and a former Hungarian national-security official. "He's pragmatic enough to keep Hungary in the EU and NATO for now, because the money coming in and the security umbrella still have their value. But he sees the 21st century as the rise of a competing governance model, that of the East."

Or, as a confidant recalls Mr. Orban once lamenting: "American policy can change every four years."

Elsewhere in the EU, the status quo faces unrest from voters in Italy or the U.K. who feel they haven't prospered from the globalized economy that followed the fall of the Iron Curtain. In Hungary, modern Europe confronts a revolt from a nation that has. Wages have doubled since Hungary joined the EU in 2004. The state spends a meager 1% of GDP on its military, banking on NATO's collective alliance to uphold its defense.

And yet Mr. Orban is posing the most brazen challenge to the common rules and values meant to unite Europe's political order, as well as the officials sent to enforce them. Successive U.S. ambassa-

Please turn to the next page

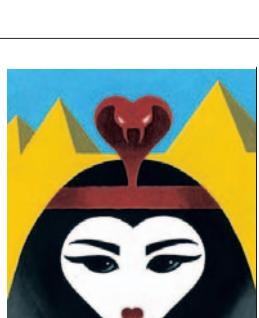
Protesters concerned at the more autocratic direction of Hungary's government called out last year for the European Union to step in.



## Inside

### HISTORICALLY SPEAKING

There are reasons why monarchs of old were not allowed to follow their hearts. Just ask Cleopatra. C5



### Pollster On Polls

Lessons learned from the surprises of 2016—and what to watch for this autumn. C3

### SOCIETY

One year after a violent conflict, Charlottesville, Va., is deeply divided on how to move forward. C4



### BIOLOGY

That rich world you experience? What you really perceive is more like a sketch. C5



## REVIEW

# A Bet Against The West

*Continued from the prior page*

dors have lectured him about his moves to cement power over courts, media, and the central bank. "All this talk of democracy is bullshit," one U.S. ambassador recalled him snapping back.

At NATO, Mr. Orbán has blocked the U.S.-led military alliance from holding meetings with Ukraine concerning its conflict with Russia, over an obscure debate regarding Kiev's treatment of the Hungarian language. Hungarian diplomats say they've been asked to limit and report any contact with American officials.

This summer on a Danube river bend, near the ruins of an ancient Roman border post, digging began on Mr. Orbán's biggest bet to date he can toggle between great powers: a €12 billion Russian nuclear plant worth a 10th of the Hungarian economy. Mr. Putin personally pitched it to Mr. Orbán, who believed he could gain leverage selling Russian energy to German factories, calling it "the deal of the century."

It could also leave his country indebted and dependent on Moscow, just as it was when he was young, per the reservations of his own ministers who advised against it. Hungary's government-commissioned assessment says the plant will make a profit—if electricity prices nearly double, something energy experts don't expect.

Mr. Putin has his own geopolitical agenda, pro-Western Hungarian officials warn: to co-opt political and business elites in EU countries, helping to weaken a bloc he views as an obstacle to Russia's great-power restoration. Kremlin spokesman Dmitry Peskov rejects that

Messrs. Putin and Orbán showcased closer ties in a 2015 meeting in Budapest.



said a well-connected Hungarian banker.

Mr. Orbán began his rise by defying liberal ideas on how to deal with Moscow. Shortly before speaking at a televised 1989 ceremony, opposition figures warned him to stop short of challenging the Soviet troops stationed here. Mr. Orbán stood before the crowd and demanded those soldiers go home.

The provocation made a local sensation of Mr. Orbán, who won a scholarship at Oxford, where he studied under the same influential professors as Bill Clinton. Elected as prime minister in 1998, he visited the White House, where Mr. Clinton praised his "vigorous and progressive leadership."

Danube. Liberal Budapest politicians treated him as lacking sophistication; one mockingly fixed his tie in public.

The young prime minister could become the new Václav Havel, a symbol of liberal democracy in Central Europe, like the Czech intellectual, Hungary's then-ambassador to the U.S. told him. "I'm not interested in that. I want to win elections and hold on to this office," Mr. Orbán replied, according to the ambassador.

An election defeat in 2002 inflicted a deep shock on Mr. Orbán, who blamed media hostility, according to Andras Kosa, author of a new book on Mr. Orbán's career. He also grew mistrustful toward the U.S. He felt humiliated by the George W. Bush administration, which criticized him for not denouncing anti-Semitism, and for backing out of an arms deal. "He sensed that the U.S. may not be the best friend of Europe," said a former cabinet minister.

Out of power, Mr. Orbán complained that the U.S. didn't do more to help Hungary secure non-Russian sources of gas. When Russian troops poured into Georgia in 2008, he denounced "the raw imperial power politics" of Mr. Putin, expecting a hard line from the incoming U.S. president.

Instead, Barack Obama attempted a reset to mend relations with Russia. Meanwhile, the global financial crisis and Europe's dithering response to it left Mr. Orbán skeptical about the West's attachment to political pluralism and globalization, say former officials. "He interpreted it as a failure of the Western system," says Mr. Koranyi of the Atlantic Council.

In 2009, he got an invite from a world leader nursing similar doubts about the durability of Europe's Western-led order. Mr. Orbán was climbing in opinion polls, and Mr. Putin wanted to meet him.

The Hungarian traveled to St. Petersburg with a small delegation. Mr. Putin walked in with a room-filling coterie of ministers and aides whom he lectured and scolded in front of Mr. Orbán. The show of authority impressed the Hungarian opposition leader, according to people familiar with the conversations. The two men agreed to put past animosities aside

and show each other respect. Mr. Putin gave Mr. Orbán a lift back to the airport.

"That meeting is the turning point," said Andras Racz, former security fellow at the Hungarian Institute of International Affairs.

Mr. Orbán won a landslide the next year. An aide asked Mr. Orbán if taking power in the midst of a global financial crisis, with Hungary reeling, worried him. "No. I like chaos," Mr. Orbán replied, "because I can build a new order from this chaos. An order than I want."

After rewriting the constitution, redrawing voting districts, and giving his party control over institutions from media regulators to the courts, Mr. Orbán began changing the way his country secured its main source of energy, Russian gas. Under a secretive arrangement begun in 2011, gas entering Hungary was sold inexpensively to an energy-trading company controlled by Hungarian and Russian oligarchs. The trading company, MET, then resold the gas to customers for hefty profits. A MET spokesman says the deal was "standard market practice." Government edicts citing "security" restricted pipeline use by other gas importers, curbing competition. The EU made Hungary open up the market in 2015, after a whistleblower leaked details.

A new Hungarian business elite emerged, politically dependent on Mr. Orbán—not unlike the oligarchical network around Mr. Putin. Among the winners: Lorincz Meszaros, a former pipe-fitter from Mr. Orbán's village, who would become Hungary's second-richest man, with construction and media interests. Tens of millions of dollars in EU public works contracts were awarded to a company controlled by the prime minister's son-in-law, an EU fraud investigation found. When one oligarch bought a billboard company without Mr. Orbán's permission, the prime minister stopped talking to him until he sold it, a person familiar with the matter said. Messrs. Meszaros and prime minister's son-in-law, Istvan Tiborcz, couldn't be reached for comment.

Mr. Orbán became more explicit about his vision. "The new state that we are building is an illiberal state, a non-liberal state," he said in a speech soon after re-election in 2014. He expressed fascination for "systems that are not Western, not liberal, not liberal democracies, maybe not even democracies, and yet [are] making nations successful."

Russia, Turkey, China and other non-Western countries were now the "stars of international analyses," he said. "We are searching for, and we are doing our best to find, ways of parting with Western European dogmas."

—Anita Kömüves in Budapest and Bojan Pancevski in Berlin contributed to this article.



analysis. "It's modern to blame everything on Russia and Russian intelligence," he says, adding that EU countries "have to solve their internal problems on their own."

Mr. Orbán believes he can predict and outsmart the machinations of a fellow cynic and demonstrate to his liberal critics that his small country can counterbalance big powers. It is a high-stakes gamble for a country that has spent nearly all of the past 500 years under the yoke of one empire or another. "I don't think he can sustain this dance between East and West without breaking his legs,"

Mr. Clinton now accuses Mr. Orbán of "Putin-like leadership." Mr. Orbán says he and the Hungarian people "deserve more respect" from Mr. Clinton.

The future Hungarian leader took time to find his political bearings. The son of an authoritarian father who beat him, his modest origins in a nondescript village left him feeling awkward in Budapest, a grand and genteel capital on the

Instrument panels at Hungary's Paks nuclear plant, to be expanded in a major project pitched by Putin.

In 2009, he got an invite from a world leader nursing similar doubts about the durability of Europe's Western-led order. Mr. Orbán was climbing in opinion polls, and Mr. Putin wanted to meet him.

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scribe the wealthy backers of former Ukrainian President Viktor Yanukovych, a longtime client of Mr. Manafort.

As reported by the Washington Post and others, Judge Ellis said that characterizing these associates of Mr.

Manafort as "oligarchs" was "pejorative." The word implied that Mr. Manafort "associated with despicable people and therefore he's

despicable," and he instructed prosecutors to "find another term to use" that did not carry such a negative connotation.

Bloomberg Opinion columnist Leonid Bershidsky, a Rus-

sia-born journalist based in Berlin, echoed the judge's distaste for "oligarchs" and took it one step further,

arguing that "the news and politics realms, too, should take heed of this astute instruction."

"The catchall term 'oligarch' distorts a complex reality," Mr. Bershidsky wrote.

How did "oligarch" become so nefarious-sounding? Dictionaries define the term as a member or supporter of an "oligarchy," in turn defined by Merriam-Webster as "a gov-

ernment in which a small group exercises control especially for corrupt and selfish purposes."

The ancient Greek root "oligarkhia" comes from "oligoi" meaning "few" and "arkhein" meaning "to rule." According to the political theory of Aristotle, the "oligoi" or select few who hold the power in an oligarchic system are inevitably wealthy or well-born, aligning "oligarchy" with a similar term: "plutocracy," or the rule of the rich.

While many despotic regimes have been characterized as "oligarchies" since the word entered English in the 16th century, it was the breakup of the Soviet Union that brought "oligarchs" into the limelight. As Thomas Graham, managing director at Kissinger Associates and a senior fellow at Yale's Jackson Institute for Global Affairs, recently told CNN, the term came into use in the mid-1990s when Russia and other former Soviet states made the uneasy transition to capitalism, and formerly state-owned industries fell into private hands. David Remnick

wrote of the transfer of wealth in a 1997 essay for Foreign Affairs: "The new oligarchs, both within and outside the Kremlin, see themselves as undeniably lucky, but worthy as well." Under Boris Yeltsin, some of these superrich industrialists held substantial political power, making them "oligarchs," to use a term coined by the Hungarian sociologist Bálint Magyar. Vladimir Putin forced the oligarchs to cede their direct sway over the government but allowed them to keep their immense wealth. Kremlin spokesman Dmitry Peskov told reporters in April that "the phrase 'Russian oligarchs' is considered inappropriate" in the Putin era. "The time when there were oligarchs in Russia passed long ago. There are no oligarchs in Russia," Mr. Peskov claimed.

Mr. Mueller's office clearly feels otherwise, as does the U.S. Treasury Department, which has placed sanctions on several Russian businessmen allied with Mr. Putin, calling them "oligarchs and elites" who profit from the government's "malign activity."



WORD ON THE STREET

BEN ZIMMER

**A Term for Russia's Elite Spurs Objections**

**AS THE TRIAL** of President Donald Trump's former campaign manager Paul Manafort continues, prosecutors have been warned by the presiding judge to avoid using one word in particular: "oligarch."

U.S. District Judge T.S. Ellis, who has made a point of reigning in prosecutors for special counsel Robert Mueller, took offense to the word "oligarch" when one prosecutor, Greg Andres, used it last week to de-

# Oligarch

who has made a point of reigning in prosecutors for special counsel Robert Mueller, took offense to the word "oligarch" when one prosecutor, Greg Andres, used it last week to de-

## REVIEW

# Summertime, And the Music Is Easy

Today, the songs of summer are usually lighthearted party anthems. But history shows that they can go beyond 'auditory cheesecake.'

BY TED GIOIA

**W**hat was the song of last winter? Or the definitive spring song of 2018? Don't feel bad if you can't answer. No one seems to care much about picking songs for those seasons. But start talking about the song of the summer, and arguments rapidly escalate. Billboard even publishes a chart to track the contenders.

It will be hard for any song to top last summer's "Despacito," which racked up a stunning five billion views on YouTube. But Cardi B's 2018 hit "I Like It," performed with reggaeton stars Bad Bunny from Puerto Rico and J Balvin from Colombia, has enjoyed great success with its similar Latin flavor and festive spirit. Other contenders, including Drake's "Nice for What" and Ella Mai's "Boo'd Up," aren't far behind in views.

Melancholy songs about broken hearts and weepy lovers have always been popular, but they rarely get much traction as summer anthems. Just look at the anointed hits of summers past for a guide: Katy Perry's "California Gurls" (2010), LMFAO's "Party Rock Anthem" (2011), and OMI's "Cheerleader" (2015) are par for the course. These foot-tapping tunes, each promoted by a video filled with upbeat images of vacation-time revelry, conveyed a simple message. School's out and good times are here—but enjoy them while you can. Summer only lasts so long.

The first battles over the song of the summer happened more than a century ago. But the disputes were rarely about records back then; they were mostly about sheet music. In 1902, you could debate whether the season's best was "On a Sunday Afternoon" or "In the Good Old Summertime." Both were gentle waltzes, unsuitable for your hot August playlist in 2018. But some things about the song of the summer haven't changed. Then as now, it needed a catchy melody and a carefree spirit to fit the bill.

You couldn't hear the favored summer songs on the radio back in 1902—the first music broadcast wouldn't happen until four years later—but that was OK. Someone would pound it out on the saloon piano, or maybe sing it on the street corner for tips. You could even hear it at home if someone in your family played an instrument or you owned that newfangled device, the player piano.

The spread of radio and the growth of the record industry shifted attention away from summer songs. By the 1920s, music had become a round-the-clock, indoors affair, with weaker ties to nature and the passing seasons. A Google trend analysis shows a steep decline in references to the "song of the summer" during the middle decades of the 20th century. But in the 1990s the trend reversed, and now people argue again about the pros and cons of the candidates for the honor.

What brought back the song of the summer? Was it global warming or changing tastes? Or is all this just a hype-driven campaign to get attention-starved teens to talk about music instead of videogames, superhero movies and the thousand other distractions of our entertainment-saturated lives?

In fact, our obsession with summer anthems reflects a real change in attitudes toward music. It's part of the larger shift away from old-school rock elitism, with all its artistic pretensions, to lifestyle-driven pop and hip-hop. As has happened at previous junctures—with the rise of swing bands in the late 1930s or the disco craze of the late 1970s—lively songs with danceable beats have again

CREDIT: GETTY IMAGES

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We want fun songs, and part of the fun is arguing over which is best.

come to the forefront of commercial music. The "song of the summer" phenomenon is also aligned with the fixation on rankings that has spawned so many singing-contest reality shows. We want fun songs, and part of the fun is arguing over which is best.

But this trend also reflects a shift at a deeper level—a kind of tectonic change in the philosophy of music. Your average music listener probably doesn't pay much attention to what Ivy League academics have to say about songs, but they have laid the groundwork for our addiction to fun-in-the-sun playlists.

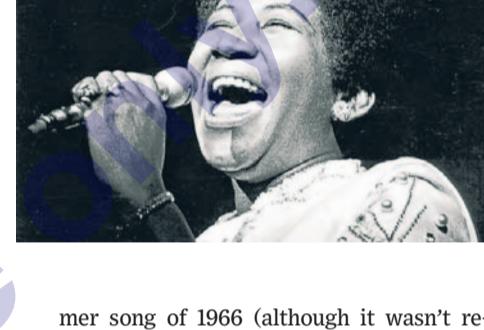
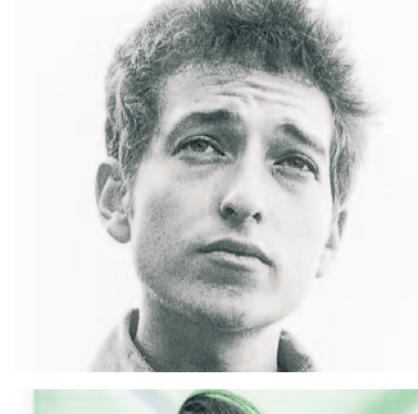
Back in the 1990s, when the song of the summer was coming back into fashion, Harvard professor Steven Pinker (then at Massachusetts Institute of Technology) promoted the idea that music is just "auditory cheesecake"—a kind of pleasing brain stimulation, no different from a martini or recreational drugs. A few years later, music criticism began reflecting a similar change in priorities, with many record reviewers embracing the new cult of "poptimism," a stance that rejected the aesthetic preening of rock in favor of feel-good pop tunes. Songs that many critics would have dismissed just a short while

before as shallow and disposable were now deemed worthy of respect and maybe even a Ph.D. dissertation.

It's not surprising that the song of the summer came back with the intensity of a Miami Beach heat wave in response to these new imperatives. If songs are assessed on the fun-o-meter, of course "Party Rock Anthem" rises to the top. But it's easy to forget that music has many functions beyond serving as auditory cheesecake. Over the years, songs have stirred up protests and changed attitudes, broken down hierarchies and legitimized bold new ways of living. Every rebellious social movement in modern American history—from the rule-breakers of the Jazz Age to the later beatniks, hippies, and punks—saw music as a core part of the changes they hoped to unleash on society.

When you take this larger view, you can grasp how the current interest in picking a definitive summer song has led to revisionist history. Billboard now provides lists of summer song candidates for every year going back to 1958, even though for most of those years, the notion of picking a theme for the season was barely on the radar screens of listeners. Don't be surprised if someone tells you that the Beach Boys' "Good Vibrations" was the sum-

mer song of 1966 (although it wasn't released until October) or even that George Gershwin's "Summertime" filled the same role in 1935 (it actually premiered in "Porgy and Bess" a full week after the start of fall).

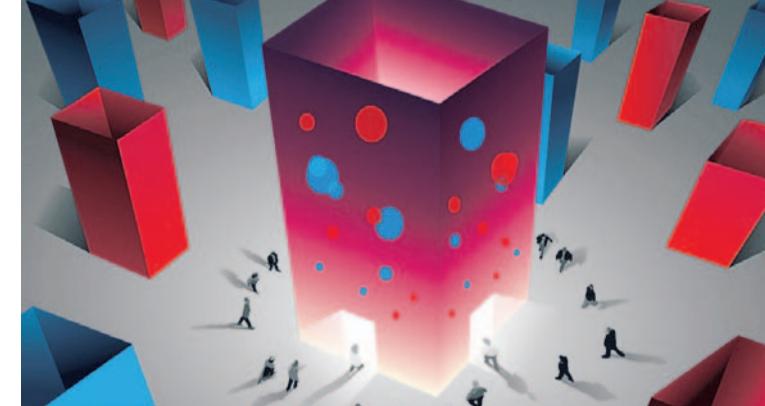


mer song of 1966 (although it wasn't released until October) or even that George Gershwin's "Summertime" filled the same role in 1935 (it actually premiered in "Porgy and Bess" a full week after the start of fall). It's easy to ignore how different the world was back then.

Maybe we should stop and think what music fans of previous generations might have said about their summer songs. Back in the 1930s, listeners were keenly aware that popular music was breaking down racial barriers. Benny Goodman shook up not just the music world but all of America by touring with an interracial combo, decades before *Brown v. Board of Education*. And when a disruptive generation embarked on the "Freedom Summer" in 1964 or the "Summer of Love" in 1967, its members also drew on favored melodies for inspiration. If you heard Bob Dylan's "The Times They Are a-Changin'" or Aretha Franklin's "Respect" during those volatile years, you immediately understood that songs served as a kind of leading social indicator, alerts from the future playing on your radio today. This music was about changing hearts and minds, and although it also entertained, that was never its core mission.

It's good to have a happy-go-lucky playlist for your beach vacation, but we pay a price when the dominant musical culture ignores so many other aspects of songs. By all means, keep on searching for the perfect tune for pool parties and school breaks, but let's also celebrate songs that challenge perceptions and broaden horizons. We might even need them when we get back to business in the fall.

Mr. Gioia writes on music, literature and popular culture. His most recent book, "How to Listen to Jazz," is published by Basic Books.



edge that even when a number is accurate, it may not be useful. This year, a lot of pollsters are reporting what's called the "generic ballot"

for Congress, the party preference as measured nationwide, and most of them have the Democrats ahead. But Congress is won locally, seat by seat. So instead, watch the polls targeting the competitive districts that will really decide the House. This recalls a lesson of 2016, when national polls were actually very accurate, but turned out to be less relevant when the race was decided by a few states in the Electoral College. We need to make sure we watch—and poll—the right places.

The dynamics that will decide the fall campaign are already visible. Watch how much weight voters

give to the economy in their decisions.

Most say it's good, and that normally favors the party in power; but other issues like immigration can spur far more division if they come to the forefront. Democrats' fortunes still hinge on turning out people who don't typically vote in midterms, so we'll track efforts to persuade them. President Trump's base is solidly with him, but his backers don't see him as a typical Republican, so we'll see if they'll back his congressional candidates with as much vigor as they do Trump himself.

We pollsters are used to healthy public skepticism about where we get all these numbers, even though long-term studies show they've generally maintained their accu-

racy. People suspect, correctly, that their fellow Americans have gotten harder for us to find and talk to. It does take more work and care for us to get a good read on what's happening in a fast-changing country. But good pollsters innovate as technology changes, and we've never had more ways to talk to people than we do now.

Pollsters once just knocked on doors, then started making random telephone calls, then moved from land lines to calling mostly cellphones, because that's what people use. After Americans got connected online, we moved interviews there to follow suit. Big data lets us dive deeper into the vote patterns than ever. The question is what we do with all this information.

This year, demand more from us pollsters. Don't judge us simply by whether we can predict the world—judge us by whether we can explain it.

Mr. Salvanto is Director of Elections and Surveys for CBS News. This essay is adapted from his book "Where Did You Get This Number? A Pollster's Guide to Making Sense of the World," which will be published by Simon & Schuster on Aug. 21.

## To Get the Most Out of Polls, Delve Deeper

BY ANTHONY SALVANTO

**WE'LL SOON BE** awash in poll numbers again as the midterm elections loom, and that's a good thing. I plan to contribute quite a bit to that flood myself. But people are busy, and it's understandably tempting to simply ask us pollsters "Who's going to win?" or to glance at which candidate is leading at the moment. Doing that risks missing the real story of 2018—and some of the lessons learned in the 2016 election, too.

As the fall campaigns unfold, remember that neither a candidate's polling percentage nor any other single number will give you the full picture—any more than a price tag really tells you how a bottle of wine will taste, or a stock price tells you everything about the health of a business. In 2018, pay less attention to the mashups of "the polls" or analogies of a race between thoroughbreds. Instead, look for

thoughtful surveys that delve into why Americans feel as they do.

The 2016 election surprised a lot of people, but it shouldn't have. There were plenty of signs in the polling that Donald Trump could win, for those who looked past the top line. As the contest tightened in the closing week, there were historic levels of dislike for both candidates, which infused the campaign with uncertainty. In our surveys, many Republicans said they were hesitant to back Donald Trump at first, which was a big part of the reason he trailed Hillary Clinton. It wasn't shocking when many of them came around to their party's nominee at the end. Trump won very high percentages of late deciders, while many less-enthusiastic Democrats ultimately stayed home.

A good poll should quantify these dynamics for you; it should analyze an election campaign as a fluid set of possibilities. It should acknowl-

DANIEL HERTZBERG

## REVIEW

## WILCZEK'S UNIVERSE

FRANK WILCZEK

Swimming on  
Atomic and  
Cosmic Levels

**SWIMMING** is rhythmic and repetitive. It relaxes stress, relieves anxiety and takes you back to the womb. During the summer, at a local lake in New Hampshire, I do it every day. But the flip side of swimming's sedative virtues is that swimming is boring. Since it's best not to fall asleep in the water, I often plan something to think about. What could be more natural than to think about the physics around swimming?

Viewed at a microscopic scale, water no longer seems smooth and placid. Its true nature, as a collection of jiggling atoms, gets revealed. Dust from pollen grains, for example, gets buffeted in random directions, driven to "swim" aimlessly and inefficiently. The botanist Thomas Brown first noted such agitated micro-motion in 1827. Albert Einstein, in the "miracle year" of 1905 when he published on relativity,  $E=mc^2$  and photons, interpreted Brown's observations on the basis of atomic theory. By connecting the so-called Brownian motion to other observations about diffusion and viscosity, he was able to make a convincing case for the existence of atoms and to derive a good estimate of atomic sizes.

Organisms slightly larger than dust, like bacteria, can resist the molecular weather, but its influence remains. To appreciate the problem, imagine trying to walk through rapidly shifting gusty winds, or to swim through ever-shifting currents. To a bacterium, water feels extremely viscous.

The rules that govern bacterial swimming are peculiar. Progress requires continuous effort. Inertia is quickly dissipated. Then we have the dynamics proposed by Aristotle, dominated by friction, where no force means no progress and velocity is proportional to force. To-and-fro strokes, whatever their timing, don't work either. If scallops were bacteria-sized, their usual strategy, to progress by closing their shells fast and opening them slowly, would get them nowhere. Real bacteria, to move forward, often resort to using screwlike flagella which they turn in only one direction.

Other swimming situations feature far less resistance—or none at all. That's not an unmixed blessing. It makes swimming challenging in different ways.

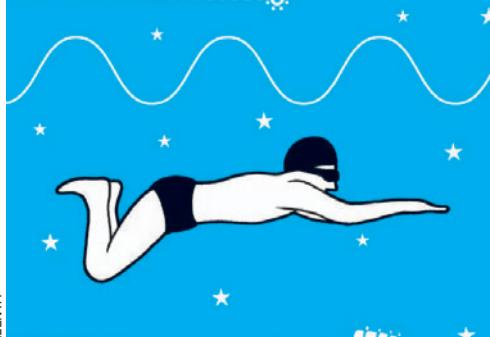
Even with nothing to push against, there is one important thing you can still do. By contorting your body, you can change your orientation. Divers "swim" through air and must arrange to hit the water just so. They generally do their reorientations in a practiced way, aiming for a chosen angle. But if divers slip off their diving board unexpectedly, like cats falling from a tree, they have to improvise.

In contrast to reorienting yourself, lacking something to push against you can't change your forward motion, or momentum. (Though if you happen to have a jetpack, you can eject mass and recoil.) This brings to mind the peculiar horror of astronauts losing connection with their spacecraft, and then drifting forever helplessly through outer space, doomed by the laws of physics. In an iconic scene from "2001," the highly advanced computer HAL ejects astronaut Frank Poole into space. That seals Frank's fate. It also seals HAL's, as the surviving astronaut, Dave, resolves then and there to lobotomize him.

Electrons swim, too—through materials—and a lot of technology revolves around helping them do so efficiently. Even when electrons are not bound in atoms, and are therefore nominally free to move, they have to weave their way through a lattice of nuclei and get buffeted both by vibrations (phonons) and by each other. That's what underlies electrical resistance in metals.

But in superconductivity—a state of matter that, at least for now, requires very low temperatures—electrons learn to cooperate. Resistance vanishes, and currents will flow without generating heat, in principle forever. It's as if the ocean were chock-a-block with fish, all moving together. To swim, you'd simply go with the flow.

Athletes speak of being "in the zone," when you do wonderful things automatically, without conscious effort. Superconductivity is electrons swimming in the zone. And sometimes while swimming, when my thoughts take me out of body, I get there too.



The statue of Robert E. Lee still stands in Charlottesville, Va., after last year's violent conflict.

FROM TOP: STEVE HELFER/ASSOCIATED PRESS; MARK PETERSON/REDUX PICTURES

## The Shadow Over Charlottesville

One year after the deadly white supremacist march, the city remains divided over politics, history, and the way forward

BY JAMES LOEFFLER

**A** year has passed since white supremacists descended en masse on Charlottesville, Virginia for the "Unite the Right" rally. What began on August 11, 2017 with a torchlit march through the University of Virginia's famous Lawn culminated the next day in a violent confrontation at the downtown site of the historic Robert E. Lee statue. The chaotic melee led to the death of Heather Heyer in a car-ramming attack and of two State Police officers in a helicopter accident, as well as dozens of injuries. Ever since, the city has continued to feel the quiet aftershocks, in ways that reflect deep fissures in American society.

In the immediate aftermath, there were public calls for communal healing and justice, and many local leaders assumed that the Lee statue would be swiftly removed.

But public opinion about the statue remained split, and in any event, Virginia state law blocked its removal.

A stop-gap solution of shrouding the statue in black tarpaulins was devised, only to be once again overruled by the courts. Thus Lee's statue remains in place, surrounded now by construction-barrier netting, languishing in a permanent state of temporary closure—a symbol of the way last year's events continue to haunt the city and its politics.

Charlottesville has long outgrown its patrician Jeffersonian roots to become a mecca for artists and musicians, youthful retirees, and clean-cut techies. More recently, refugee families resettled by the International Rescue Committee and an influx of urban transplants have at times lent the town the air of Brooklyn in the Blue Ridge Mountains. But the legacies of slavery and segregation remain embedded in the town's landscape and memory.

That, of course, is what brought the alt-right movement to Charlottesville in the first place: the irresistible combination of a politically progressive, racially diverse Southern city with a flashpoint Confederate statue standing at its center. As the organizers grasped, there was no better way to "Unite the Right" than by targeting the left at the site of its own internal contradictions.

In the Charlottesville City Council, anger and resentment over last year's march quickly turned inwards, as progressives went to war with themselves. Debates over why the white supremacists were not stopped from marching, and over the hapless police response, led to the ouster of the police chief, the city manager, and the mayor. The city's new mayor, elected in January, was a political outsider, Nikuyah Walker, an African-American community ac-

tivist. Her supporters voiced faith in her ability to function as a change-agent and positive disrupter who could tackle racial issues. But her tenure so far has been marked by bitter power struggles. In recent weeks city government has virtually ground to a halt, as part of a dispute in which the Mayor at one point took to Facebook Live to denounce her fellow council members for their handling of a delicate hiring process for the new city manager.

Much of this political infighting reflects a liberal enclave struggling to make sense of the eruption of virulent racism in the heart of the community. This soul-searching has exacerbated the fault-lines between Democratic moderates and progressives, as in the current race for Virginia's Fifth Congressional district. Virginia's Fifth has not voted for a Democratic presidential candidate since Harry Truman (not counting segregationist George Wallace's 1968 Independent campaign).

After an acrimonious Democratic nomi-



Marchers at the 'Unite the Right' rally that took place last August

nation process, voters passed over several other strong candidates to pick Leslie Cockburn, a left-wing investigative journalist with a polarizing background as the author of "Dangerous Liaison," an inflammatory exposé of the American relationship with Israel. With the memory of the white supremacists' chant "Jews will not replace us" still fresh, critics wasted no time in accusing her of anti-Semitism, though many local Jewish Democrats seem willing to ignore the charge as partisan hyperbole.

Meanwhile, the Republican congressional candidate, businessman Denver Riggleman, has struggled to define his relationship to the radical fringe within his own party. After allegations surfaced that an alt-right figure was involved in his campaign, Riggleman issued a denial, and penned an op-ed forcefully condemning anti-Semitism and racism. Yet he remains part of a Virginia Republican ticket that includes gubernatorial candidate Corey Stewart, an unrepentant Confederate booster who has made the Charlottesville statue the center of his campaign. This has continually drawn Riggleman back to uncomfortable questions about the ties between Charlottesville, racism, and the far right in Virginia politics.

Many of these same issues have rippled through the University of Virginia. The immediate aftermath of last year's march saw predictable scenes of student protest. In September 2017, minority student leaders briefly covered a statue of Thomas Jefferson and proclaimed him a "racist and a rapist." They demanded more explicit institutional reckoning with the university's record on race and slavery. In fact, the university has made notable strides in confronting those legacies in recent years. But the implied question remains: did the historical sins and contemporary inequities somehow facilitate the alt-right?

After all, Richard Spencer, one of the main organizers of the "Unite the Right" rally, is a 2001 UVA graduate. The key local leader, Jason Kessler, also a recent UVA graduate, took to the Law School library this spring ostensibly to prepare his research on permits for a follow-up rally, and live-tweeted racist and anti-Semitic statements, until the university changed its regulations in order to bar him from the grounds. These incidents suggest how sophisticated and adept today's bigots have become in using the university's very openness against it.

The past few weeks have brought still more controversy. The appointment of Marc Short, former White House legislative director, as Senior Fellow at UVA's prestigious Miller Center of Public Affairs triggered vo-

cal faculty protests. Critics argued that the hiring of a political figure tied to President Trump's moral equivocation on white nationalism violated the institutional mission of civility and bipartisan dialogue. College Republicans and a handful of former Board members have pushed back against what they consider partisan hypocrisy.

In all these controversies, part of what is at stake is a perception that the university is a rare preserve of open dialogue, under assault by illiberal forces. To protect this institution and the larger Charlottesville community will require building consensus about how to respond to hatred. That process begins with a clear accounting for the reasons for the dramatic resurgence of racism and anti-Semitism. Yet historical reckoning in an ongoing climate of fear is no easy endeavor, and white supremacists remain determined to exploit the fractures within today's left and right, as much as the polarization between them. One year later, Charlottesville, like America itself, is still figuring out how to meet these challenges.

Mr. Loeffler is the Jay Berkowitz Professor of Jewish History at the University of Virginia.

## REVIEW

# You See Less Than You Think

Our seemingly detailed view of the world is more of an ever-changing sketch than a rich portrait. Our minds fill in the blanks.

By NICK CHATER

**C**onsider your conscious experience right now. Eyes wide open, you see rich, detailed, colorful surroundings, perhaps crowded with objects, pieces of furniture, books, papers and coffee cups. The world of inner experience seems to be a mirror of the detail of the outer world.

But the conclusion of decades of experiments is that this idea is false. The apparent richness of our perception is an illusion. The flow of our conscious experience is, in fact, remarkably sparse—not a fully detailed 3-D cinematic extravaganza, but a wonderfully evocative and continually evolving sketch, drawn in rapidly fading ink.

We have known since the 19th century that the human eye only sees in full color and detail in the fovea, a tiny pit of densely packed light-sensitive cells on the retina. This corresponds to a tiny circular region of the visual field, the size of a small coin at arm's length. Outside this region, the image that the eye perceives is largely blurry and colorless.

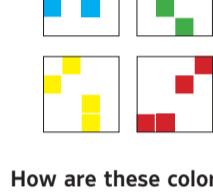
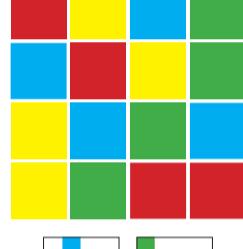
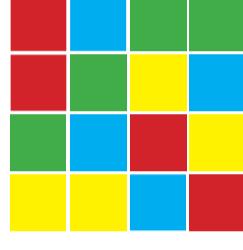
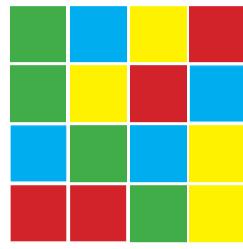
Not only that, our sense that we can simultaneously grasp each object in the clutter around us is fake. In cluttered scenes, the ability to perceive any individual item is severely impaired by the presence of those nearby, as summarized in a study published last year in *Psychological Review*. The effect is known as visual crowding. Our brains can actually perceive just one object at a time, whether furniture, faces or fish.

For a concrete example, think about how many words you can see clearly right now, as you read this. You might think you are taking in a whole page or screen, or at least several lines' worth. Actually, it's less.

In the 1970s, George McConkie and Keith Rayner, then at Massachusetts Institute of Technology, began an influential line of research in which they tracked the eyes of people while they were reading. The researchers modified the display so that, outside a moving 15-letter window around where the reader's eye was looking, all the other words were replaced with strings of the letter "x." Someone looking over the participant's shoulder would see a small window of English text moving along the screen amid a sea of meaningless letters. But the reader noticed absolutely nothing unusual. He or she would have the impression of simultaneously perceiving whole lines of text—just as you do now.

Other recent work has shown that, just as we struggle to see more than one object or word at a time, we may also see only one color at a time. Research conducted in 2007 at the University of California, San Diego by Liqiang Huang and Hal Pashler presented people with patterns, such as colored squares on a grid, like those seen here. Subjects were asked whether the patterns were perfect matches, precisely symmetrical, rotated, or none of those.

If the human eye could simultaneously grasp all the colors in the grid, this should be an easy task. Yet participants had to check one square at a time. Tellingly, however, there is a shortcut. By paying attention to one color at a time,



How are these colored grids similar? Checking each single-color pattern at the bottom helps, because it's hard to see all the colors clearly at once.

it is possible to detect the patterns created by just, say, the green squares. But when we focus on the green squares, the rest of the grid appears as little more than a jumble.

The trick our brain is playing is remarkably simple. In the reading experiments, how can the brain preserve the reader's illusion that the text is normal, when in fact words are blinking in and out of existence as the eye scans the screen? It's because, when we wonder about the identity of an individual word, the brain flicks our eyes over to look at it. The word then comes into focus, so quickly that we imagine it was there all along.

An illusion devised by French researcher Jacques Ninio demonstrates the phenomenon with a grid of dots. All the dots are technically visible all the time, but if they are crisscrossed by a matrix of straight lines, each dot appears to pop up individually only when we focus on it.

Our experience of seeing the world around us, then, does not rely on our minds mirroring reality, but on the fact that the world is at our visual fingertips. Even though we only grasp one object, word, or color at a time, we can freely query any aspect of the world around us and receive an instant response.

Similarly, when I am listening to a conversation and writing on my smartphone, I have the illusion of multitasking, but I am actually just hopping rapidly from one task to the next. At University College London, neuroscientist Geraint Rees and col-

leagues put people in a brain scanner and presented them with overlapping words and line drawings. Given a task involving the words, the region of the subject's brain associated with word recognition lit up as expected. But given a task involving pictures, the word-specific brain activity disappeared. The brain was now oblivious to the words—even though the eyes were looking right at them.

Why does the brain fool us into imagining that conscious experience mirrors the outside world, when, in reality, we perceive the world through a narrow window? The answer is that the recognition and interpretation of objects is incredibly difficult, so the brain focuses its limited resources on one task at a time. Most of the time, the world is stable. I don't need to perceive the coffee mug I looked at a moment ago; I just need to remember where it was, well enough to find it when I need it.

The same illusion fools us when we try to imagine visual objects. Try to picture a baseball as vividly as you can. Then trace the seam that runs around the baseball in your mind's eye; imagine unpicking the seam and taking off the cover. How many pieces are you left with? Can they be laid out flat? What shape are they? The correct answer is that the cover divides into two identical dumbbell shapes. This is easy to see if you have a baseball in front of you, but it is very difficult to visualize. Unless you happen to be a baseball player, your mental image of a baseball, however vivid it might seem, is no substitute for the real thing. And what goes for visual imagery is also true of our beliefs, desires, emotions, memories—our entire "inner world," whose inner richness crumbles as soon as it is interrogated.

*Mr. Chater is a professor of behavioral science at Warwick Business School. This is adapted from his book "The Mind is Flat: The Remarkable Shallowness of the Improvising Brain," being published Aug. 11 by Yale University Press.*



## HISTORICALLY SPEAKING

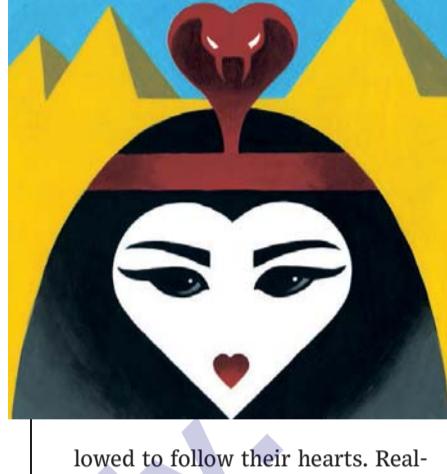
AMANDA FOREMAN

## When Royal Love Affairs Go Wrong



"AY ME!" laments Ly-sander in Shakespeare's "A Midsummer Night's Dream." "For aught that I could ever read, / Could ever hear by tale or history, / The course of true love never did run smooth." What audience would disagree? Thwarted lovers are indeed the stuff of history and art—especially when the lovers are kings and queens.

But there were good reasons why the monarchs of old were not al-



THOMAS FUCHS

lowed to follow their hearts. Realpolitik and royal passion do not mix, as Cleopatra VII (69-30 B.C.), the anniversary of whose death falls on Aug. 12, found to her cost. Her theatrical seduction of and subsequent affair with Julius Caesar insulated Egypt from Roman imperial designs. But in 41 B.C., she let her heart rule her head and fell in love with Mark Antony, who was fighting Caesar's adopted son Octavian for control of Rome.

Cleopatra's demand that Antony divorce his wife Octavia—sister of Octavian—and marry her instead was a catastrophic misstep. It made Egypt the target of Octavian's fury, and forced Cleopatra into fighting Rome on Antony's behalf. The couple's defeat at the sea battle of Actium in 31 B.C. didn't only end in personal tragedy: the 300-year-old Ptolemaic dynasty was destroyed, and Egypt was reduced to a Roman province.

In Shakespeare's play "Antony and Cleopatra," Antony laments, "I am dying, Egypt, dying." It is a reminder that, as Egypt's queen, Cleopatra was the living embodiment of her country; their fates were intertwined. That is why royal marriages have usually been inseparable from international diplomacy.

In 1339, when Prince Pedro of Portugal fell in love with his wife's Castilian lady-in-waiting, Inés de Castro, the problem wasn't the affair per se but the opportunity it gave to neighboring Castile to meddle in Portuguese politics. In 1355, Pedro's father, King Afonso IV, took the surest way of separating the couple—who by now had four children together—by having Inés murdered. Pedro responded by launching a bloody civil war against his father that left northern Portugal in ruins. The dozens of romantic operas and plays inspired by the tragic love story neglect to mention its political repercussions; for decades afterward, the Portuguese throne was weak and the country divided.

Perhaps no monarchy in history bears more scars from Cupid's arrow than the British. From Edward II (1284-1327), whose poor choice of male lovers unleashed murder and mayhem on the country—he himself was allegedly killed with a red hot poker—to Henry VIII (1491-1547), who bullied and butchered his way through six wives and destroyed England's Catholic way of life in the process, British rulers have been remarkable for their willingness to place personal happiness above public responsibility.

Edward VIII (1894-1972) was a chip off the block, in the worst way. The moral climate of the 1930s couldn't accept the King of England marrying a twice-divorced American. Declaring he would have Wallis Simpson or no one, Edward plunged the country into crisis by abdicating in 1936. With European monarchies falling on every side, Britain's suddenly looked extremely vulnerable. The current Queen's father, King George VI, quite literally saved it from collapse.

According to a popular saying, "Everything in the world is about sex except sex. Sex is about power." That goes double when the lovers wear royal crowns.

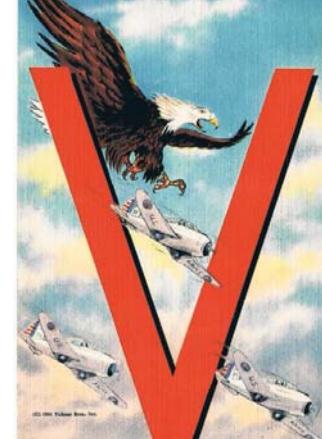
## EXHIBIT

## POSTAL PROPAGANDA

**STARTING IN THE EARLY 20TH CENTURY**, postcards served as a predecessor to social media. Postcards had an advantage over other forms of mass communication in that they could change hands quickly, says Benjamin Weiss, curator of the new exhibition "The Art of Influence." During the period from World War I through World War II, governments and companies used the small letters to spread propaganda messages. The "Influence" exhibit, running through Jan. 21 at Boston's Museum of Fine Arts, showcases 150 postcards from the era, including depictions of heroic soldiers and messages of good versus evil.

A 1941 Italian postcard that reads "The Advance Continues" (far left) depicts a soldier pushing bravely toward the front. Other postcards used inspiring symbolism, such as this 1941 U.S.-printed image (near left), that depicts a "V" for victory, a common sign in British and American homes at the time. "The cards dashed through the mail in much the way that tweets and texts zip between people today," says Mr. Weiss.

—Alexandra Wolfe



## REVIEW



JANERICK FOR THE WALL STREET JOURNAL

WEEKEND CONFIDENTIAL | ALEXANDRA WOLFE

# Sisonke Msimang

## An activist spurred by a childhood in exile

**A**uthor and activist Sisonke Msimang grew up surrounded by South African revolutionaries. Her great uncle was a founding member of the African National Congress, and her father was part of Nelson Mandela's antigovernment militia. After Mr. Mandela's imprisonment, her father fled the country to Botswana, Tanzania and Russia before making his way to Zambia, where Ms. Msimang spent much of her childhood.

She remembers their home in Zambia being filled with people who streamed out of South Africa, all agitating for Mr. Mandela to be released from prison. In exile, the family moved again, to Kenya, Canada and back to Kenya. "Nelson Mandela was always our narrative device," she says. "Mandela being in Robben Island was the coherent story for why we were moving all the time."

Finally, when she was a teenager, Mr. Mandela was freed. "How often do your fairy tales come true?" says Ms. Msimang, now 44.

Out of that crucible came her own activism as a writer and human rights worker, which she reflects on in her first book, the memoir "Always Another Country," out next month in the U.S. after debuting last year in South Africa. "I was already inclined to care about injustice because of the way I grew up," she says.

She has fought against election violence in Zimbabwe, pressured governments to spend money on combating AIDS, pushed to promote

gender equality by working with men and boys, and battled against gender-based violence. She spent four years as executive director of the Open Society Initiative for Southern Africa, part of George Soros' network of aid and advocacy organizations, and has been a fellow at global leadership programs at Yale University and the Aspen Institute.

More recently, she has focused on writing, after feeling like too much of the conversation about social justice issues took place among activists. She's written opinion pieces about southern Africa's political issues for the *Guardian* and the *New York Times*.

Ms. Msimang says she got a sense of what it was to be a minority while living in Canada at age 10. "In Africa, you're the majority, you don't question if it's possible to be a beautiful black woman, or intelligent," she says. At school, a boy on the playground called her an "African monkey." Her father marched into the principal's office and demanded he and the kids who laughed apologize and be punished.

She went to the U.S. for college, at Macalester College in Saint Paul, Minn., and said it was the first

out of the crucible of a youth spent in exile came her activism as a writer and human rights worker, which she reflects on in her first book.

While working as an activist, she met and eventually married an Australian, who is white. When they were dating, she worried about their differences and even broke up with him briefly over race. Since then, "he has taught me that love is not based on sameness and difference," she writes in her memoir. "I have learnt to hold us close and that means shrugging at attempts to define us in ways that diminish what we have gone through and who we are to each other simply because others are curious about my blackness and his whiteness."

When her daughter was born in 2008, she gasped, "She's white." She writes, "I am half-amused, half-aghast, not so much because of her whiteness, but because of her apartness from me."

Today, Ms. Msimang lives with her husband, who is a consultant on economic development in developing countries, and two children in Perth, Australia, where she works with mostly museums, cultural organizations and social justice groups on "oral storytelling," helping them craft stories that convey their work in compelling ways. The stories are then told at evening events and turned into podcasts.

Ms. Msimang often visits South Africa, where she sits on boards of nonprofits that fight corruption and do investigative journalism and social justice work. "While I live in Australia," she says, "I really feel as though I remain an active citizen of South Africa—that given everything, my love for my country and my loyalty to it remains unstinting, even if I am loving her from a distance for the moment."



MOVING TARGETS

JOE QUEENAN

## Museums We Never Knew We Were Missing

Hopes abide for venues devoted to irony, rejection and the semi-colon.

**AN OFFICIAL** national museum of comedy has just opened in Jamestown, N.Y., about 75 miles from Buffalo. This in itself might seem like a bit of a joke; you would think that a proper Museum of Comedy would be located in New York or Los Angeles or Peoria or the Mistake by the Lake or somewhere with a more direct link with humor. But Jamestown is Lucille Ball's hometown, so there you have it.

The National Comedy Center continues the long, time-honored tradition of boosters and civic fathers opening a museum in the hopes of transforming some negligible backwater into a major tourist draw. Baseball has its Hall of Fame in a relatively inaccessible region of the

Empire State boondocks, and the Pro Football Hall of Fame is in Canton, Ohio, which no one but a truly determined pigskin fan would go out of his way to visit. At least the Hockey Hall of Fame is right there in downtown Toronto.

I'm not sure why we need a Museum of Comedy; it's a bit like a Museum of Air or a National Carbohydrate Center or a Museum of Dry Cleaning. But if we must have a national comedy museum, I would hope that the curators would at least treat us to individual displays of each state's funniest comic. Let's settle once and for all the nagging question: Who holds the title of Funniest Alaskan?

I also hope the museum will include a wing dedicated to Least Funny Living Comics (Jim Belushi gets my vote) and least funny movies (anything starring Jim Belushi gets my vote).

The National Comedy Center might even spawn a number of more geographically appropri-

ate spinoffs such as a Brooklyn-based Museum of Irony. It is probably too much to hope for a Museum of Mordant Contumely or The North American Snark Foundation, but I am hoping just the same. Dreams die hard.

With a just-created Pizza Museum and a thriving Museum of Sex and a plethora of museums devoted to everything from bananas to matchsticks to cryptozoology to bicycles and mountain bikes, it is virtually impossible to think of a museum that does not yet exist in America. But I am thinking.

Here are a few:

• The Museum of the Semi-colon, including exhibits of let-



ters and documents containing semicolons, painstakingly collected by thousands of volunteers and set down by everyone from Lady Godiva ("Could do flesh-tone; could go naked") to John Wilkes Booth ("When I finish off Lincoln, I could say something like 'Ave, Satan!"; on the other hand, 'Sic Semper Tyrannis!' might be more classy.")

• The Museum of Rejection. Displays honor famous politicians that lost pivotal elections, legendary job seekers that got turned down for important jobs, now-immortal inventions that nobody wanted to bankroll. Exhibits include curt rejection letters sent to Leo Tolstoy, Marie Curie, Christopher Columbus and Albert Einstein ("E=mc². Mc? Seriously? Says here it's M=ec², dummkopf.")

• The Museum of the Self-Effacing. Might have trouble getting new inductees to show up for the ceremony. Too modest.

• The Museum of Plantains.

Yeah, give the International Banana Museum a run for its money. Get some skin in the game.

- The National Plantar Fasciitis Museum. People think that only athletes and weekend warriors suffer from this affliction. Wrong! Extensive podiatric documentation of famous victims like Robespierre and Mata Hari.

- The Pacific Northwest Tofu Museum.

- The Museum of Obviousness. Not to be confused with the Museum of the Patently Obvious.

- The Comb-Over Museum.

- The Museum of Former Hotties. The one museum absolutely no one wants to be inducted into.

- The Museum of Mirrors. For the truly, truly self-absorbed.

- The Museum of Hale-Felows-Well-Met. Honoring class acts, stand-up guys, salt-of-the-earth types and guys-you-want-in-your-corner-when-the-chips-are-down.

- The Museum of Reclusiveness. Greta Garbo, Howard Hughes, Donald Trump. Only joshing about that last one.

SERGE BLOCH



**Kick Out the Jams**  
The life and crimes of Wayne Kramer, guitarist for the MC5. C12

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# BOOKS

THE WALL STREET JOURNAL.

**Sisters in Flight**  
How five daring American women made aviation history. C9



SATURDAY/SUNDAY, AUGUST 11 - 12, 2018 | C7

## From Tiny Seeds

The study of hardy microbes called archaea has shed sharp new light on evolution and humans' place in it

### The Tangled Tree

By David Quammen

Simon & Schuster, 461 pages, \$30

BY DAVID P. BARASH

**A**PERENNIALLY DIVERTING parlor game is to suggest who should have won a Nobel Prize but didn't. Among the sciences, such notables include Dmitri Mendeleev (whose periodic table made sense of the otherwise kaleidoscopic array of atomic elements), Rosalind Franklin (whose x-ray crystallography was needed before Watson and Crick could unravel the structure of DNA) and Stephen Hawking (black hole theorist extraordinaire). There are few biologists—and perhaps no microbiologists or cell biologists—who wouldn't include Carl Woese in this august company.

Woese (1928-2012) identified archaea as a third basic domain of animal life, to go with bacteria and eukaryotes (such as ourselves and other "higher" organisms). Before the late 1970s, tiny archaea had been considered a kind of bacteria, because bacteria and archaea are similar in lacking a nucleus. But archaea and eukaryotes turn out to be similar in other respects, and archaea are unique in yet others.

For example, the structure of archaean cell walls is uniquely based on highly stable ether-linked compounds, whereas bacteria are ester-based; this enables archaea to thrive in environments that are extremely hot, salty and so forth. Archaea are also extraordinary in their ability to produce methane as a result of their metabolism—another trait that helps them tolerate environments lethal to other critters. Finally archaea have a unique form of RNA (ribonucleic acid, employed as the intermediaries between DNA and the finished proteins it codes for).

The more we study such molecular-level distinctions, the more we appreciate archaea as a radically distinct third domain of life. If bacteria and eukaryotes are as different as apples and oranges, then adding archaea makes it apples, oranges and avocados.

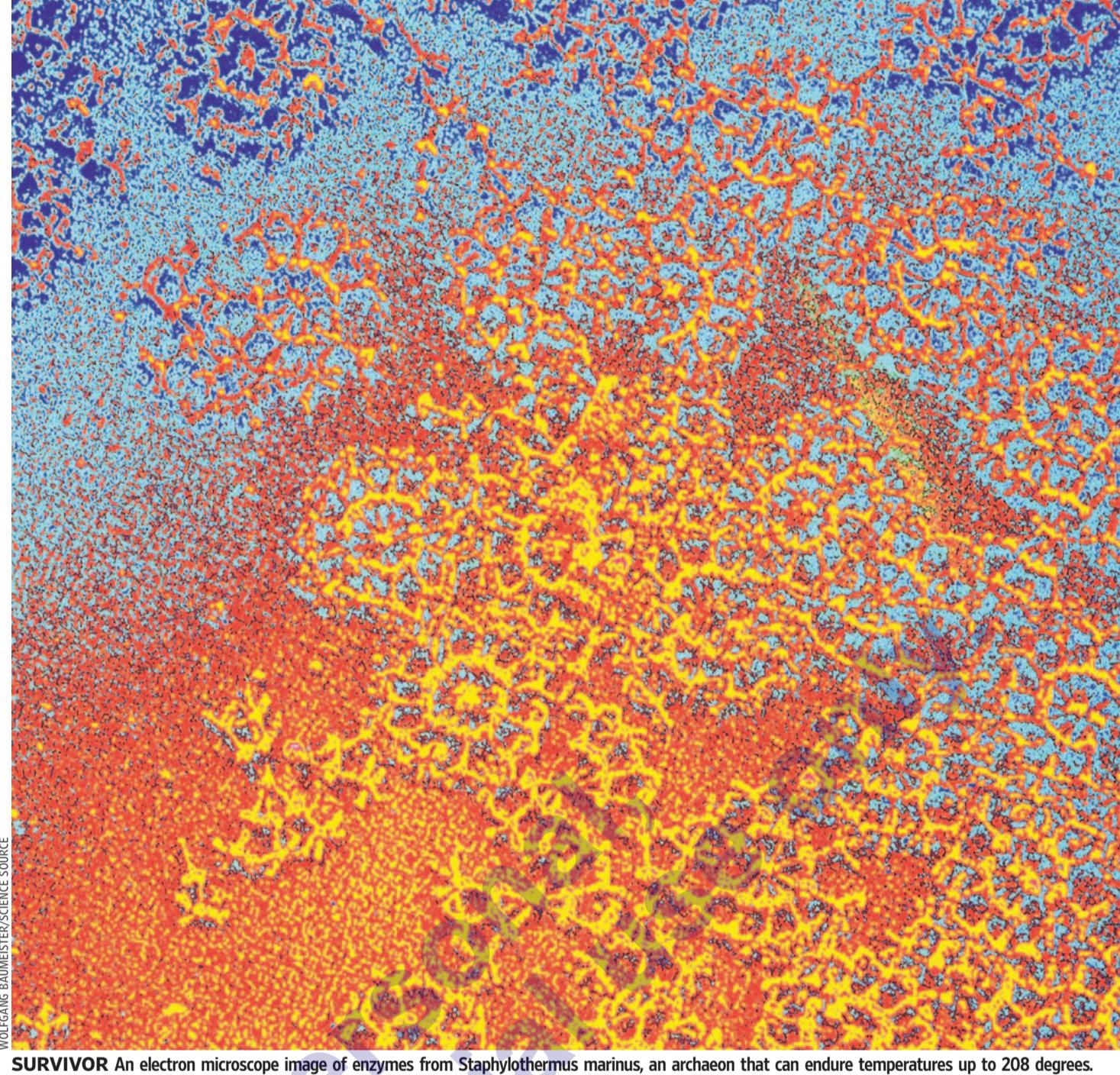
Much of David Quammen's "The Tangled Tree" revolves around Carl Woese and archaea, whose very existence and novelty were so contrary to scientists' previous understanding that Woese himself described his discovery as an "out-of-biology experience." The tangled tree of Mr. Quammen's

**Genes can be passed not only 'vertically,' from parent to child, but also horizontally—even between different species.**

title consists of three crucial advances of the late 20th century that together are hailed as revealing a "radical new history of life," with a special starring role for microbes.

The first such advance was the identification of archaea. The second was molecular phylogenetics, which allows scientists to compare nucleic acids (DNA and RNA) among different species and thus ascertain evolutionary relationships among them. Where once we based our understanding of such connections on observable anatomical traits, we now can look to underlying similarities of nucleic acid.

Peering behind the curtain in this way has only become possible in recent decades,



**SURVIVOR** An electron microscope image of enzymes from *Staphylothermus marinus*, an archaeon that can endure temperatures up to 208 degrees.

after researchers gained the capacity to determine the sequences of these all-important molecules. Such advancements, according to the author, have led to "a revolution not just in bacterial taxonomy but also in something broader: the way scientists understand the shape of the history of life."

The title of Mr. Quammen's book was inspired by the phylogenetic "trees" once drawn by researchers to depict evolutionary relationships, including Ernst Haeckel's renowned (at least among late-19th-century biologists) "great oak." Mr. Quammen writes that Haeckel's tree, at least, "has no canopy and not much branching. It's thick at the bottom and tapers skyward, looking less like a great oak than like an enormous rutabaga, slightly hairy, pulled from the ground and turned point up. At its very topmost branch sits the word Menschen, 'people,' flanked below (not side by side) with gorillas and orangutans and chimps. . . . It was meant to show lineage—human lineage."

Metaphoric trees abound throughout this book. The author points out that they "speak of the shifting fortunes, the pulses and fades, that are so basic to evolution's story." Today, for instance, we don't present humans as the end point of evolution, but one node in a network.

The third and final leg of Mr. Quammen's mostly microbiological tripod is horizontal gene transfer (HGT), a process we have recently learned much more about, whereby genes can pass among certain organisms not only via vertical transmission from parents to offspring, but also (as the word clearly states) horizontally among fully formed individuals.

Such transfer has currently been documented between critters as different as fungi and insects, algae and sea slugs and, notoriously, between viruses and humans, often to our disadvantage. For example, human papillomavirus, which causes nearly all cases of cervical cancers, does its dirty work by integrating its genes into the chromosomes of cervical cells, ultimately causing cancer.

But horizontal gene transfer is most frequent among microbes—especially our newfound friends, archaea—and HGT appears to generate a large share of the phylogenetic interconnections that make life such a tangled tree. A worldwide web, indeed.

On all these topics, David Quammen proves to be an immensely well-informed guide to a complex story that in less capable hands would be unintelligible to the general reader. Indeed he is, in my opinion, the best natural history writer currently working. Mr. Quammen's books, among them "The Song of the Dodo" (about island biogeography and extinc-

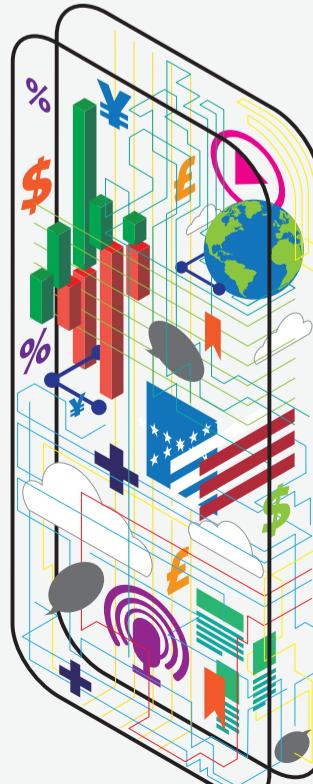
tions), "Monster of God" (about animal predators that regularly kill and eat people) and "Spillover" (about diseases transmitted from animals to humans), consistently impress with their accuracy, energy and superb, evocative writing.

"The Tangled Tree," though, becomes a bit tangled in its own right, as the book attempts to describe not just what William James called life's "blooming, buzzing confusion" but the stories of the biologists who are studying it.

Readers are introduced to a large supporting cast of molecular microbiologists who don't normally receive anything like the degree of attention Mr. Quammen bestows upon them here. Much of this celebration is well-deserved, although the account sometimes devolves into eye-glazing biographical lists: "Sol Spiegelman was . . . the man who had recruited Woese to Illinois, and who had brought Sanger sequencing in the person of Dave Bishop, who had trained Mitch Sogin, who had preceded Linda Bonen as Woese's key technician. It's a smallish world these scientists live in, much interconnected." True, but we needn't be made privy to every such connection.

The author seems to have interviewed every relevant scientific actor who touches his story, and he provides personal detail

Please turn to page C8



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## BOOKS

'God created seaweed. . . . The seaweed made the world.' —JOHN B. KEANE

# A Fragile World at the Water's Edge



SUPERFOOD A forest of giant kelp off the coast of California.

**Seaweed Chronicles**By Susan Hand Shetterly  
Algonquin, 271 pages, \$24.95

BY KARIN ALTENBERG

**O**NCE, ON A DAY of high winds and salt spray, on the island of North Ronaldsay, the northernmost of the Orkney Islands of Scotland, I watched a flock of sheep clattering over the rocks at low tide among a herd of resting seals. It looked both perilous and peculiar, but the North Ronaldsay sheep are shore dwellers, bred for generations to live in a seascape and feed on seaweed. Farmers on the island a couple of centuries ago, adapting to changes in farming as the production of soda ash from kelp subsided, consigned the sheep to the island's rocky shore and kept them away from the crops with a stone dike that today still encircles the island.

Throughout history, maritime communities around the world have learned to face uncertainty with similar resolve—and recognized the importance of seaweed for their survival. In "Seaweed Chronicles," Susan Hand Shetterly introduces us to the cultural heritage of seaweed in the Gulf of Maine and to the industry and politics of modern-day seaweed growing and harvesting. As kelp has increasingly been recognized as a source of "superfood" over the past two decades, the business of harvested seaweeds has grown to about \$6 billion a year, bringing new jobs to coastal areas as fishing has declined. Ms. Shetterly's is a story about the sustenance, use and preservation of finite resources, where aquaculture—specifically, the sustainable farming of seaweed—emerges as the key to ecological redemption.

As in her previous collection of essays "Settled in the Wild" (2010), Ms. Shetterly

writes beautifully about the interconnectedness of humans and animals and the natural environment that we share. The twinned concepts of community and belonging are central to this story. By exploring the land where we live, we can begin to understand our place in the world.

"Seaweed Chronicles" is an elegy to environmentalism and to the individuals in Ms. Shetterly's local community who are committed to the stewardship of coastal Maine's natural habitat. Quoting Aldo Leopold, she reminds us that the true task of the environmentalist—the challenge for us all—is to "live on a piece of land without spoiling it."

"Solastalgia" is a relatively new word for the angst one feels when a familiar place is altered by climate change. This worry is palpable in Ms. Shetterly's book, together with a longing for a world that can withstand the complexity and flux of our current society. Her bay in Maine has changed, Ms. Shetterly writes, and among the members of her community there is a real and tender sense of loss. "We have lost the abundance that used to be a part of the definition of this place, and the changing climate bears down especially hard. And yet so many of us work to understand where we live, to use what's left of wild water and shore carefully and well. Perhaps that makes us unrealistic dreamers. Perhaps it makes us steely-eyed realists. Certainly it makes us fighters."

"Wild" is a central value here, but the concept is tricky in our current age, when the human hand has influenced most of what we think of as "natural." The Gulf of Maine is a cultural environment and, increasingly, a political one. Running through the book is a story about the challenges of agreeing on a policy that meets the interests of individual harvesters and companies as well as conservationists, who are increasingly in

competition in the face of industrialization.

To Ms. Shetterly, hope lies in the endeavors of the aquaculturists, scientists and entrepreneurs she interviews. These individuals are strong, practical types: often well-educated, idealistic, committed and entitled. She writes soothingly and with generous insight about this community, where one might like to linger for a moment and rest from the harsh realities of a more complex world.

She sits down by an open fire one evening for a conversation with Shep and Linnette Erhart, owners of Maine Coast Sea Vegetables, about the farming of nori for sushi, as the tide comes in and two black bears pass through the meadow outside. Kelp farmer Sarah Redmond looks like she "had stepped straight out of a Jane Austen novel" but is clearly more of a powerhouse than a chatterbox: a driving spirit behind the local development of aquaculture. Writer Paul Molynaux used to be a fisherman and could hear the tide turn from the way it "slaps the rocks a little differently when it starts coming back." Nancy Serra is a biologist, conservationist and policy maker who speaks "clearly and briefly," "listens carefully," "states what she believes" and, over the past two decades, has been instrumental in protecting some of the most valuable seascapes in Maine. You get the sense that it is individuals like these—hardy if humble heroes, knights of the shining rockweed—who will keep it all steady and help us reconnect with the natural world.

Ms. Shetterly is convinced and convincing about what constitutes a meaningful existence. "Out here, the picture looks pretty clear: everything else is in flux, but the

seaweeds are still a constant in places like this where animals and people come, as they have always done, to make their lives good." Perhaps for this reason she sometimes takes a rather romantic approach. To work in the midst of beauty, she suggests to Ms.

Redmond the kelp farmer, is "a gift that few people are able to enjoy, although one might make the argument that it's a human birthright of sorts, working where the sun rises, the day clears, the smells of the wild world are all around you, and you are a part of something very old, very big." Ms. Redmond laughs at this, reminding Ms. Shetterly what it is like to work on the sea in winter, and I, too, have to protest a little at this point. There is no need to be didactic about place; surely we are all able to perceive beauty—or its absence—in our life and work.

In the end, this is not about turning back the clock or calling for a global shift in behavior, but about a philosophy. "Seaweed Chronicles" is a local affair and, as such, gives more justice to Ms.

Shetterly's endeavor and closes in on something real. "Attention," Simone Weil once wrote, "is the rarest and purest form of generosity." Ms. Shetterly is simply urging us to pay attention to nature, to live deliberately, to take stock of the things around us that we don't want to lose.

There may be bigger challenges in the world today than the growing and harvesting of seaweed, but the responsibility and care—the paying attention—that the individuals in Ms. Shetterly's seascape represent endow us with the fortitude to do the same.

*Ms. Altenberg is the author of the novels "Island of Wings" and "Breaking Light."*

## The Tangled Tree of Life

Continued from page C7

about many of them. Some general readers may appreciate his putting human flesh on the book's technical bones, but will they be curious to learn whether a given scientist was tall or short, liked pepperoni pizza or preferred plain cheese? I suspect these individual biographies are not intrinsically more fascinating than those of the employees at your local grocery store or car wash. Even Mr. Quammen, for all his writerly talent, cannot change this.

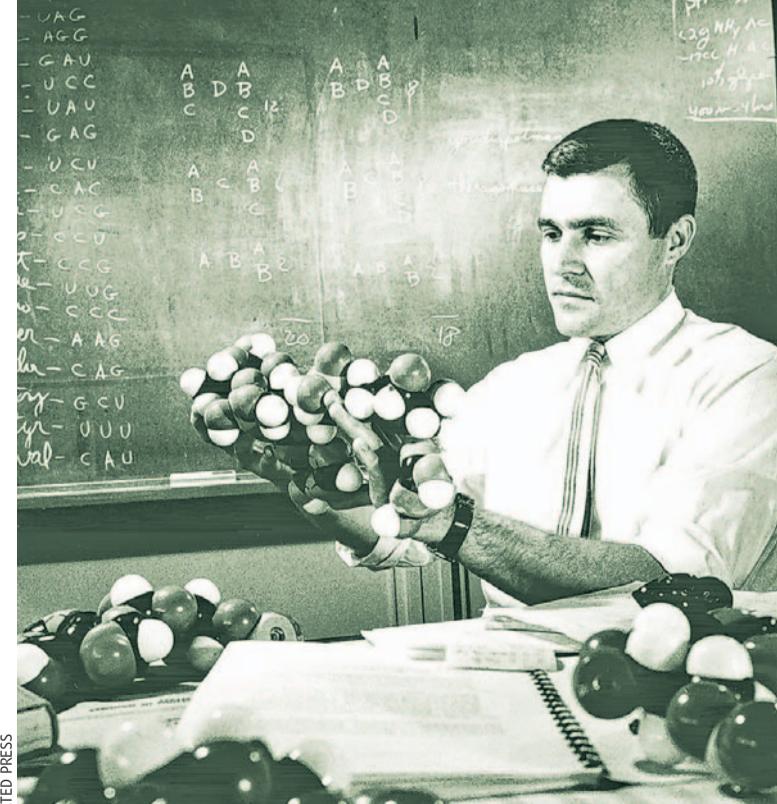
Moreover, in "The Tangled Tree," Mr. Quammen occasionally has fallen prey to his own admirable enthusiasm. Take, for instance, his assertion that "measuring genealogical relationships with molecular techniques . . . opened a new perspective on the evolutionary past, equivalent in revelatory scope to all the fossils in all the museums of the world." Molecular phylogenetics is only revolutionary—or even controversial—sofar as the evidence we glean from it contradicts other previously available forms of evidence (anatomy,

embryology, paleontology, physiology, behavior).

Appreciating archaea has been the most surprising accomplishment of molecular phylogenetics thus far. But in nearly all other cases, the various ways of identifying deep historical connections reinforce one another rather than present contradictions. For "revelatory scope," in other words, I'd stick with "all the fossils in all the museums of the world."

Then there is the book's charged subtitle ("A Radical New History of Life"), which in conjunction with the author's emphasis on horizontal gene transfer might suggest to some inattentive readers that HGT in some way overthrows Darwin's account of evolution by natural selection. (Not even close.) Mr. Quammen does a fine job of reviewing how adding archaea to the traditionally recognized "tree of life" has already been misrepresented by creationists in just this way. Even the usually responsible magazine *New Scientist* once came out with a horribly misleading cover article titled "Why Darwin Was Wrong About the Tree of Life." But it was *New Scientist* that was wrong.

It's crucial to understand that evolution occurs due to the differential reproduction of certain genes rather than others, *no matter where those genes came from*—whether they appeared by mutation, by the more usual vertical parent-offspring



BUILDING BLOCK Carl Woese holding a model of an RNA molecule, 1961.

transmission, via horizontal transfer, or through the machinations of some as-yet-unidentified ET. In fact, when Darwin unraveled the mechanism of evolution, he didn't even know genes existed—he simply recognized that heredity somehow occurred.

Molecular evidence may have increasingly replaced anatomy as the most solid basis for establishing accurate taxonomy. But recognizing horizontal gene transfer doesn't upset the Darwinian applecart. Indeed, it helps us to understand the po-

tency of Darwinian selection in a new way.

In some cases, this new understanding has illuminated processes that have dire implications for human well-being. We now know, for instance, that overuse of the two most potent anti-tuberculosis drugs (isoniazid and rifampin) eliminates most of the microbes responsible for TB within a patient—but those microbes that survive can spread resistance genes horizontally as well as vertically. This has led to a growing world-wide public-health menace, in the form of multidrug-resistant TB.

Mr. Quammen would be the first to insist that molecular evidence should only reinforce our appreciation and wonder for the branching, ancestral nature of evolutionary connections among living things—as well as the degree to which each seemingly individual organism is a composite of interpenetration. His big book touches on so many fascinating and important subjects that I worry that "The Tangled Tree" occasionally loses sight of the Darwinian forest that puts all these processes in perspective.

*Mr. Barash is an evolutionary biologist and professor emeritus of psychology at the University of Washington. His most recent book is "Through a Glass Brightly: Using Science to See Our Species as We Really Are."*

## BOOKS

'If you will tell me why, or how, people fall in love, I will tell you why, or how, I happened to take up aviation.' —LOUISE THADEN

# Freedom of the Air



**PILOT PROJECT**  
Counterclockwise from top left, Amelia Earhart, Florence Klingensmith, Ruth Nichols, Ruth Elder and Louise Thaden.

## Fly Girls

By Keith O'Brien  
HMH, 338 pages, \$28

BY ELIZABETH WINKLER

**I**N 1920 AMERICAN women were finally equal in the voting booth but nearly nowhere else. They still had to fight for their rights on every other front, from the factory floor to the courts of law. But one of their battles for equality didn't happen on land at all. It happened in the sky.

In "Fly Girls," Keith O'Brien tells the story of America's first female aviators. It's a story much bigger than the name Amelia Earhart, though hers is the only one most readers will recognize. The other women—and the larger movement they were part of—have been forgotten. Mr. O'Brien, a former reporter for the Boston Globe now working in the tradition of "Hidden Figures" and "The Girls of Atomic City," has recovered a fascinating chapter not just in feminism and aviation but in 20th-century American history.

In the 1920s and '30s, airshows and airplane races drew crowds in the hundreds of thousands—bigger even than opening day at Yankee Stadium. Flying was then so dangerous that it's hard to believe that anyone, man or woman, dared to board those early, open-cockpit planes. Propellers were snapping, wings failing, control sticks jamming. Fliers hurtled toward the thrill-seeking crowds or smashed up their crates in the countryside. Still, more kept coming, competing for headlines, fame and money as the nascent aircraft industry tried to convince Americans that their planes were safe.

Against this backdrop, a group of women emerged who would insist on their right to race in the skies. Whether women should even be allowed to fly, let alone race, was a contentious issue. Aeronautics was a man's game, and the women who tried to play it were mocked as "petticoat pilots" and "flying flappers." Some observers believed they simply weren't capable of manning the machinery; others worried, paternalistically, that it was too dangerous for them. But as the lady fliers argued in an editorial, "Women have the same inherent right to be killed in airplane races as men have."

Mr. O'Brien tells of their struggle through the stories of five women from radically different walks of American life brought together by a shared love of flying: Florence Klingensmith, a high school drop-out from Minnesota with a penchant for daredevil stunts; Ruth Elder, an

Alabama housewife whose husband, jealous of his wife's celebrity, complimented her only as an "ace-high house-keeper"; Louise Thaden, a mother of two who fell in love with planes while selling coal in Wichita, Kan.;

Ruth Nichols, a blue-blooded society girl from New York; and Amelia Earhart, the first woman to complete a solo flight across the Atlantic Ocean.

They were all, in some way, fed up with the strictures society had placed on their lives. The sky offered an escape. Ruth Nichols said of her first flight: "I felt as if my soul were completely freed from my earthly body."

But the politics of men followed them into the sky. Airshow promoters, airfield owners and the National Aeronautic Association tried to slap on restrictions: limiting the power of their engines, insisting they have a man on board with them, requiring that two U.S. Army planes escort them in races. Any failure by a female pilot was held up as proof that women didn't belong in the sky. In 1928

the women, with the backing of Los Angeles socialite Elizabeth McQueen, founded a professional organization, the Women's International Association of Aeronautics. The following year the WIAA sponsored the Powder Puff Derby, a 2,000-mile women's-only race from Santa Monica to Cleveland—with \$10,000 in prizes. The contestants, Louise Thaden emphasized, needed to be not just good but perfect: "One hundred percent perfect, unduly careful." Otherwise, women might not get to fly again.

But before the 19 women fliers could even get started, they received an alarming telegram: "Beware of sabotage." One flier returned to her plane to find that every switch in the cockpit had been turned on and every throttle moved. Another found she had a clogged gas line, another that the ground crew had filled her oil tank with gasoline. They fixed their planes and took off anyway.

En route, the guy wires of one plane snapped in mid-flight, leading the flier to suspect tampering. When Earhart's propeller broke and she had to wait for another before

continuing, the other women waited with her. As Earhart would point out, the women still did better than the men had in their derby the previous year; of the nine men's planes that took off from New York, only one reached Los Angeles. But for one woman the race proved fatal. Marvel Crosson crashed in the Arizona desert.

There was no investigation into whether sabotage had played a role in her death. Instead men blamed Crosson's supposed incompetence. "If it hadn't been for her fear and confusion" she would have lived, said Erle Halliburton, founder-president of the airline and oil company. "Women have been dependent on men for guidance for so long that when put on their own resources they are handicapped."

The women soon formed a new group, the Ninety-Nines (they were 99 members strong and growing), to fight for their rights and to

mentor other female fliers. They had successes, setting new records in speed and altitude, sometimes recording higher speeds than the men. But they had failures, too. Ruth Nichols' attempt at a solo flight across the Atlantic ended in a crash at her first refueling stop, a New Brunswick airfield. She broke two vertebrae; still, she soon resumed flying. In 1933, Florence Klingensmith, the young daredevil with "dangerous curves" (a reference to both her flying and her figure), died when pieces of her wing tore away. Officials, blaming the accident on her lack of stamina and "weakened condition," banned women from racing.

When a man soon after died in the same way, the hypocrisy became too obvious to ignore. Women raced again. In 1936 Louise Thaden and her copilot, Blanche Noyes, flying from New York to L.A., won the Bendix Trophy, beating the men and making headlines across the country. Cliff Henderson, the race organizer, was irked. "I'm afraid you've won," he told them at the finish line.

They became icons. Earhart toured the country, giving speeches at political rallies and women's clubs, arguing that a woman's place was "wherever her individual aptitude places her." What they were really after, Mr. O'Brien shows, was respect and the freedom to live their lives as they chose—things the 19th Amendment alone hadn't afforded them.

But Thaden couldn't understand Earhart's desire to push further, to fly around the world—a flight that would be her end. "Women must try to do things as men have tried," Earhart explained. "Where they fail, their failure must be but a challenge to others."

*Ms. Winkler is a writer for the Journal's "Heard on the Street" column.*



**PIONEER** Tyndall led the first expedition to climb the Weisshorn, a peak in the Swiss Alps.

## Science At the Summit

**The Ascent of John Tyndall**  
By Roland Jackson  
Oxford, 556 pages, \$34.95

BY PETER PESIC

**I**N THE 19TH CENTURY, science and technology rose to the center of public awareness. Among the luminaries of Victorian science was John Tyndall, whose remarkable careers as a scientist, mountaineer and outspoken public advocate brought him to the pinnacle of British society and gained him world-wide renown. Tyndall (1820-93) has long awaited a comprehensive biography, one now offered by Roland Jackson, a historian of science and former head of the Science Museum in London. In "The Ascent of John Tyndall," Mr. Jackson amasses a wealth of detail to give a fuller picture of this extraordinary man.

Tyndall's life began humbly, in a respectable but impecunious Irish family whose Protestant roots shaped his lifelong opposition to home rule. Starting out as an itinerant surveyor without a college degree, he became one of the first Britons to earn a doctorate in science at a German university. In Germany, he came to know eminent scientists like the chemist Robert Bunsen and the pioneer of thermodynamics Rudolf Clausius, becoming an ideal conduit between Continental and British scientists. Tyndall's skill as an experimenter and

gifts as a lecturer were recognized by Michael Faraday, who himself had gone from being a bookbinder's apprentice to making epochal discoveries in physics and who gave spell-binding public lectures at the Royal Institution. When Faraday chose Tyndall to be his "brother," Tyndall replied: "Let me be your son."

Appointed professor at the Royal Institution in 1853, Tyndall proved to be no less charismatic and influential than his mentor, though he never made fundamental discoveries to equal those of Faraday, who provided the concept of "field"—as in magnetic or electrical fields—so fundamental to physics. Notably, Tyndall studied how light and heat interact with gases, helping explain, for example, why the sky is blue. Yet Tyndall looms largest today because in 1861 he demonstrated the role of carbon dioxide and water vapor in heating the atmosphere, a discovery that had already been made in 1856 by an American woman, Eunice Foote (of whom Tyndall was probably unaware). To understand the origins of our present climatic predicament, we look back to Foote and Tyndall, though it was not until 1938 that Guy Callendar quantified the role of human agency in climate change. Sadly, we are still struggling to respond adequately to this fateful truth.

Tyndall's achievements went far beyond the laboratories. He was one of the premier alpinists in the golden age of climbing before the advent of the technical innovations that later mountaineers adopted. His most notable climbs included the first solo ascent of Monte Rosa (the highest peak in Switzerland), the first ascent of the Weisshorn ("the noblest mountain in the Alps," in his words), and the first traverse of the Matterhorn, which he completed from the Italian

To many audiences, he drew attention to what he considered the great-

to the Swiss side. Mr. Jackson, who has climbed the Matterhorn himself, vividly recounts these feats. Few people (and fewer scientists) have equaled such accomplishments, requiring so much energy, courage and sheer grit. What is more, Tyndall used his Alpine experiences to argue for a new view of the nature of glaciers. Scientists had been debating whether glaciers were viscous—whether they poured downhill like a liquid or slid like a solid. Tyndall's spotting of a section of glacier "smoothed and fluted" by its passage over the ground, Mr. Jackson writes, bolstered his view that glaciers were rigid.

Tyndall very much took up Faraday's mantle as a prominent public advocate of science. He was acclaimed for his "striking experimental displays," Mr. Jackson writes, which demonstrated physical effects on stage with arrays of flames, lamps, prisms and lenses. His lectures captivated diverse audiences that included workers and women as well as gentlemen. He rubbed elbows with dukes and befriended Thomas Carlyle, Ralph Waldo Emerson and Alfred Tennyson. He counseled the government on the design of lighthouses and fog horns. Tyndall also became a controversial defender of advanced scientific positions, like his close friend Thomas Huxley, the "bulldog" who championed evolution in a celebrated debate with Bishop Samuel Wilberforce. Tyndall worked to strengthen science education when it was minimal even in elite schools.

To many audiences, he drew attention to what he considered the great-

est recent achievements of science: the law of conservation of energy, the theory of evolution and the germ theory of disease. Indeed, Tyndall conducted many experiments to test and defend the germ theory, still controversial in the 1870s. Even more controversially, an address Tyndall gave in Belfast in 1874 claimed that science wrested from religion all its claims "on the region of objective knowledge, over which it holds no command," though leaving religion its capability "of adding in the region of poetry and emotion, inward completeness and dignity to man." This attack on religion (and on the efficacy of prayer) raised a huge storm.

For completeness, Mr. Jackson seems to have felt duty-bound to include a great deal of information about Tyndall's social engagements and itinerary, down to the menus of certain meals. Yet on other, more

important matters, he is strangely silent. Often he tells us that Tyndall was depressed, unable to sleep or had breakdowns, yet he never offers any explanation. Even if Mr. Jackson did not want to conjecture, it would have been helpful had he said more. Perhaps he could have illuminated "the sadness with which I viewed the Matterhorn," among many other enigmatic moments: Why should the great mountain make the mountaineer sad? As a result, Tyndall as a person remains elusive.

Then too, Mr. Jackson's account of Tyndall's scientific work often lacks sufficient context to illuminate what was at stake. On Tyndall's controversial theory of magnetism, which was important to his early career, Mr. Jackson

notes that history "perhaps unfairly" has not given its verdict for Tyndall, but he never explains. One appreciates the moments in which Mr. Jackson does offer some help, but it would much more useful to know more about the larger context than the names of the peers and grandees with whom Tyndall dined.

In many ways, Roland Jackson has done a great service in his detailed and careful presentation of John Tyndall's life at a time when science is under attack, neglected and misunderstood, especially by those in government. Their ignorance calls us anew to realize for ourselves what science means and grasp its power.

*Mr. Pesic, director of the Science Institute at St. John's College, Santa Fe, is the author of "Sky in a Bottle" and "Polyphonic Minds: Music of the Hemispheres."*

## BOOKS

'Each friend represents a world in us, a world possibly not born until they arrive.' —ANAÏS NIN

## FIVE BEST NOVELS ON FEMALE FRIENDSHIP

# Megan Abbott

The author, most recently, of the novel 'Give Me Your Hand'

**The Group**

By Mary McCarthy (1954)

**1** Scandalous in its day, Mary McCarthy's mordant tale of eight Vassar graduates who set out to make their mark in New Deal America became better known for its indelicate descriptiveness and racy sex scenes than for its other noteworthy aspects. Among the latter is the still-resonant portrait of the complicated relationships among a group of young women—strivers just beginning to make their way in the world. But McCarthy is after more than sizzle in her detailed scenes of women losing their virginity or getting fitted for contraceptive devices. She's illuminating the experiences of women struggling to build lives for themselves in an era with seemingly few choices. Her most memorable creation, perhaps, is the enigmatic Lakey, the ur-alpha girl, who disappears for most of the novel but looms large in the imaginations of the other women. Dubbed by the others the "Mona Lisa of the Smoking Room," Lakey is the one they all admire, even as they're mystified by what she sees in them: "In private, they often discussed her, like toys discussing their owner." What Lakey has that they don't is not just moneyed glamour but a kind of freedom they can't fathom. She doesn't break the rules, she abandons them.



J.A. HAMPTON/GETTY IMAGES

banquet that tells all the magazine's interns with food poisoning. Still, Esther's main problem is her sense of alienation—a feeling of being out of place among all the energetic college girls eager to take Manhattan in the early 1950s. She's torn between the two poles of womanhood represented by her fellow interns—the high-living Doreen as opposed to the dutiful Betsy. Ultimately, Esther rejects all these "models" of femininity. The novel famously concludes with Esther starting all over as herself: "I took a deep breath and listened to the old brag of my heart. I am, I am, I am."

**Cat's Eye**

By Margaret Atwood (1988)

**3** Margaret Atwood takes a pitch-black approach to the cruelties and machinations of the relations between women. Elaine Risley, a successful painter returning to her hometown of Toronto, finds herself haunted by Cordelia, who was her vicious tormentor in elementary school. As a young student uncertain of herself, Elaine had quickly become a target. Cordelia marshaled the other girls

against her, mocked her ceaselessly, bullied her physically. All through adolescence and young adulthood, the paths of the two repeatedly crossed. But each time, it seemed, Cordelia's power diminished as she struggled with adulthood while Elaine—battle-hardened—grew stronger. As Ms. Atwood's bleakly fascinating tale unfolds, it's clear that Elaine's childhood experience at Cordelia's hands has had more than one permanent effect. Not only has she never been able to trust another woman fully, it's also true that women—and Cordelia in particular—have come to dominate her art and her imagination. In the end the two old women sit over tea as Elaine tries to describe their strange connection. "Hatred would have been easier," she says. "Hatred is clear, metallic, one-handed, unwavering; unlike love."

**The Price of Salt**

By Patricia Highsmith (1952)

**4** Inside a bustling Manhattan department store, Therese, a 19-year-old shop girl, waits on the blond and lovely Carol, a suburban wife and mother with a voice as sumptuous as her fur

coat and "somehow full of secrets." A tentative friendship begins, spilling swiftly into forbidden love. As the women circle each other, Highsmith plumbs a range of female relationships—mother and daughter, mentor and protégé, furtive lovers, enchantress and the enchanted. In one gorgeous scene, Carol serves Therese a glass of warm milk, a gesture both maternal and erotic. Therese drinks it down hungrily, "as people in fairy tales drink the potion that will transform [them]." What follows reads like a fever dream as Therese and Carol embark on a capricious road trip together. In a kind of inverse of Jack Kerouac's "On the Road," they're not seeking America or themselves. They're seeking escape from a world that denies their connection. Highsmith's sole novel without a violent death, it's also the only one with a happy ending.

**Passing**

By Nella Larsen (1929)

**5** A slim, captivating novel from the Harlem Renaissance, "Passing" explores the complicated relationship between childhood friends who meet again as adults. Irene is a middle-class wife and mother committed to "racial uplift," while the alluring Clare, the wife of a wealthy white man, is "passing" as white and eager to engage Irene in her secret. What follows is a heady brew of jealousy and desire as Irene feels Clare insinuating herself into her life. "The trouble with Clare," Irene thinks to herself, "was, not only that she wanted to have her cake and eat it too, but that she wanted to nibble at the cakes of other folk as well." A classic unreliable narrator, Irene also seems helplessly drawn to her old friend. Staring into Clare's eyes, she finds herself entranced by "an expression so dark and deep and unfathomable that she had for a short moment the sensation of gazing into the eyes of some creature utterly strange and apart." The ending—a shocker—is heartbreaking and haunting.

## MYSTERIES

TOM NOLAN

# Off the Grid and Into Trouble



**IN THE** contemporary United States presented in Olen Steinhauer's "**The Middleman**" (Minotaur, 360 pages, \$27.99), an activist leader named Martin Bishop has captured the loyalty of a revolutionary group called the Massive Brigade. The Brigade consists mostly of discontented young citizens with various social-issue agendas—all unified by feeling "like aliens in their own country." Without warning or explanation,

Bishop and his followers one day drop off the grid. Where have they gone? What are they planning?

In charge of these riddles is FBI Special Agent Rachel Proulx, a 20-year bureau veteran who has learned that "the key to success was neither genius nor brute force but persistence." But brute force proves to be her enemy once the Brigade apparently stages simultaneous acts of

political violence in several cities on the Fourth of July.

Hampering Rachel as much as helping her are an obstreperous colleague bent on taking over the case and a right-wing journalist who seems to have better sources than the FBI. The Brigade, meanwhile, suffers its own internal crisis as Bishop's right-hand man tries to wrest control of the movement.

"**The Middleman**," with its abundance of multidimensional characters and political viewpoints, is a thought-provoking novel that never ceases to excite as a thriller.

Also exciting—though more satirical in tone—is "**Last Looks**" (Dutton, 294 pages, \$26) by Howard Michael Gould. Mr. Gould, a veteran screenwriter, sets his debut novel in Southern California, where former LAPD detective Charlie Waldo lives in self-imposed exile on the side of a mountain, doing penance for errors committed in the line of duty.

Charlie's meditative cocoon is pierced by the intrusion of his former love Lorena, a P.I. who seeks his help investigating—and clearing the name of—Alastair Pinch, the heavy-drinking English star of a popular American TV series who is accused of bludgeoning his wife to death. "This is the biggest thing since O.J.," Lorena tells Charlie shortly before she herself drops out of sight, having coincidentally roused the wrath of a local ruffian.

Hoping to combine the case that Lorena has brought him with an opportunity to make her life safe again, Charlie signs up on behalf of Pinch. In real life, Charlie's new client is a bullying curmudgeon and doting father who seems as little interested in being acquitted as he is in staying sober. But then again, as one Angeleno reminds the cop-turned-hermit, looks can be deceiving: "This is Hollywood, Waldo. Who is who they are?"

**The Bell Jar**

By Sylvia Plath (1963)

**2** Sylvia Plath's harrowing novel may appear, on the surface, to be a tale of estrangement and loneliness as the college-student narrator, Esther Greenwood, unravels during a tortured internship at Ladies' Day magazine. But this is a work far more complicated than that: one in which catastrophe is never without its thrust of dark comedy. That would include, especially, Esther's disastrous dates with Manhattan's would-be lotharios and the elegant Ladies' Day

# A Pilgrim Without a Map

**FICTION**

SAM SACKS

A novel in pieces capturing the fluidity of modern life and the charms of aimless discovery.

The narrator is on a self-described pilgrimage in search of other pilgrims. Brief chapters recount her serendipitous interactions in airports and train stations; others meditate on the pleasures of transience ("Home Is My Hotel" reads a chapter title). High-flown, partly tongue-in-cheek lectures on "travel psychology" appear from time to time, reprising the book's foundational philosophy that "constellation, not sequencing, carries truth." Forget continuity; life is just a series of rest stops.

The most glittering points in Ms. Tokarczuk's constellation are the extended fictions on themes of impermanence and escape. In one, a man's wife and son go missing on a small Croatian island. In another, a Nordic

ferryman, restlessly nostalgic for his youth as a sailor, steers his vessel full of commuters toward the open sea. The book's voyages move across time as well. We read of an Ottoman prince planning to flee his empire. An especially engrossing vignette concerns the 17th-century anatomist Philip Verheyen, who dissected his own amputated leg. Even the body, Ms. Tokarczuk suggests, is an uncertain, evanescent thing.

All novels require a degree of submission to the author's art, but "Flights" demands more acceptance than usual. Reading it is like being a passenger on a long trip. It's amusing, exciting and tedious by turns. It moves through seemingly pointless longueurs to moments of intense interest and beauty. One must be open to the charms of aimless discovery. "The earth is round," this original book reminds us, "let us not be too attached, then, to directions."

Payne University English professor Jason T. Fitger made his introduction in Julie Schumacher's campus satire "Dear Committed Members" (2014). A brutally funny jeremiad about the waning prestige of the humanities, the novel was composed entirely in recommendation letters, the make-work documents that consume Fitger's departmental hours before disappearing "into the bureaucratic abyss."

Now Fitger is back in "**The Shakespeare Requirement**" (Doubleday, 308 pages, \$25.95), a more traditionally told story in which the slovenly professor has been selected to head the department, taking the captain's chair on a sinking ship. English has already lost most of its funding and building space to the predatory Economics Department, led by the oleag-

**THIS WEEK'S BOOKS****Flights**

By Olga Tokarczuk

**The Shakespeare Requirement**

By Julie Schumacher

**Inappropriation**

By Lexi Freiman

nous Roland Gladwell, and unless Fitger can bring his ungovernable colleagues together to form a concerted front there's a risk of it simply vanishing as a focus of study. He's stymied when a scandal erupts over the rumor that university higher-ups are planning to make the study of Shakespeare optional for English majors who would rather take courses like one "on the graphic novel that included a manga version of *Macbeth*."

Like "Dear Committee Members," the novel's laughter drowns out its howl of despair.

The reality Ms. Schumacher portrays is one in which literature has been deemed irrelevant to the university's aim of efficiently preparing its charges for the job market. Declining enrollment leads to relaxed standards in an effort to pander to students paying upwards of \$40,000 a year for their education. A new generation of scholars toils for risible wages in adjunct positions, hungrily waiting for superannuated faculty members to have the courtesy to die and create job vacancies. Meanwhile, mole-eyed academics are haplessly thrust into administrative and fundraising roles, tasked with keeping the whole production on life support.

Ms. Schumacher packs all of this inside a daffy little drama about Fitger's standoff with the villains in Econ, which concludes with a wedding scene and a satisfying comeuppance, as in a Shakespearean comedy. The question is whether today's crop of English majors will spot the allusion.

Student activism is one aspect of campus life that Ms. Schumacher largely avoids, perhaps because it is big enough to merit a book of its own. Such a one is Lexi Freiman's debut, "**Inappropriation**" (Ecco, 351 pages, \$26.99), a witty, energetic send-up of the current pieties surrounding racial and sexual identity. It centers on

Ziggy Klein, a mousy teenager on the lowest rung of the social ladder at an all-girls school, who befriends Lex and Tessa, a pair of burgeoning social-justice warriors. Lex, a Bangladeshi-born adoptee, is a person of color; Tessa, who has a prosthetic arm, identifies as a cyborg. "Inappropriation" follows Ziggy's quest to discover which newly minted labels apply to her.

As she tries on different identities like fall outfits (for a while she goes with "gender-neutral autoerotic secular Jewish person"), she's initiated into the ever-shifting rules of cultural sensitivity. Learning to steer clear of "regressive heteronormativity," she absorbs the complex vocabulary that the socially conscious wield to exclude the unenlightened. Confusingly, her friends' principles seem as fluid as their genders. When she wonders why they ended their Marxist phase, Lex says, "Because Tessa got a credit card."

Am I naive to assume this is one novel that doesn't need a trigger warning? It goes without saying that "Inappropriation" is irreverent, but this is a loving, sisterly sort of ridicule, spoofing the absurdities of the very young and very woke. Naturally, Ms. Freiman has anticipated the objections of the eternally offended. "Jokes don't emancipate people!" shouts an aggrieved character. "They dilute the anger of the oppressed!"

## BOOKS

'If anything definable, I am only a picture-taster, the way others are wine- or tea-tasters.' —BERNARD BERENSON

# Arbiters Of the Authentic

**The Eye**

By Philippe Costamagna

New Vessel, 243 pages, \$24.95

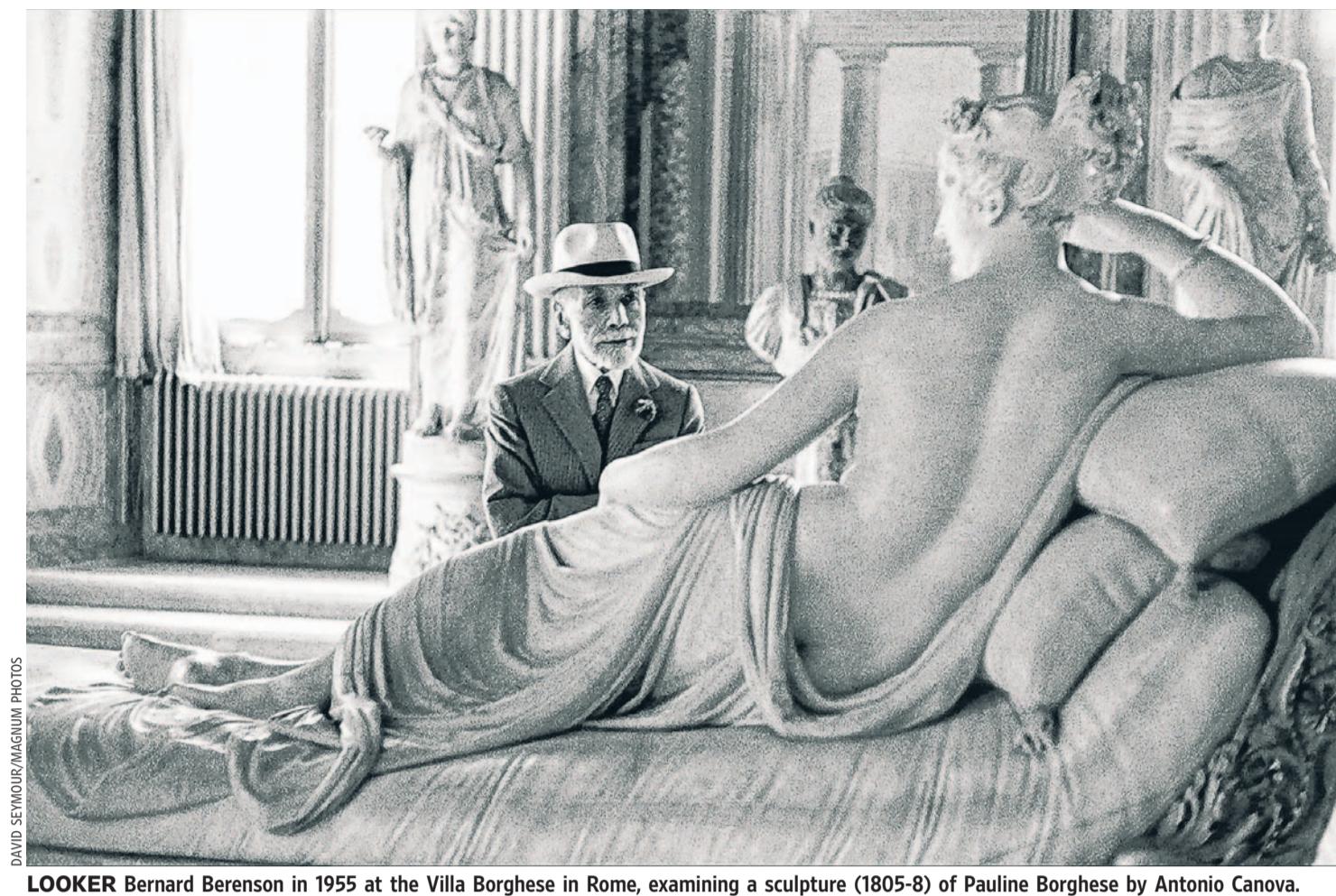
BY WILLARD SPIEGELMAN

**A**UTHENTICITY, IDENTIFICATION and attribution are mysterious things. Everyone recalls the thrill, or fear, of high-school chemistry experiments with the dreaded "unknown" to be analyzed. People of a certain age may also remember "What in the World?," an educational television show of the 1950s. It originated from the University of Pennsylvania and remained on air for more than a decade. Dr. Froelich Rainey presided weekly over a panel of experts summoned to recognize and label an archaeological relic—a fossil, a ceramic shard, a bronze weapon—which appeared on a dark platform and in a cloud of smoke, to music from Respighi's "Fountains of Rome."

Feats of scholarly showmanship, and of intellectual legerdemain, have been part of the art-and-antiques scene for more than a century, especially when there's been a lot of money at stake. Private collectors, or museum professionals who buy art, want to make sure they are getting a good deal. Is this a genuine Rembrandt? Is this by Botticelli himself, or from his workshop? Who decides?

Starting in the 19th century, the "Eye" decided. That eye, the subject of Philippe Costamagna's often exhilarating and informative, sometimes self-indulgent new book, could tell at a glance the real McCoy from a fake. Or so the collectors hoped. Art and money intersected. And all such commercial transactions were interlaced with snobbism. The gift of an eye—previously a staple of art-history programs, now pretty much out of fashion, and supplemented or superseded by microphotography and infrared reflectography—was called connoisseurship. But it lives on, at auction houses and more mundanely through "Antiques Roadshow," wherever someone is hoping to find a bargain or to ascertain whether the picture Aunt Mary had stashed under her bed for decades may be worth a great deal of money.

True connoisseurs, eyes with a capital "E," try, or at least pretend, not to dirty their hands with filthy lucre. According to Mr. Costamagna, we must not confuse them with mere "appraisers." They will say they think that a work is by So-and-So, and then allow auctioneers or salesmen to translate their Olympian judgments into terms appropriate to the marketplace. Mr. Costamagna ends his book with a rousing defense of his profession. If more than a little self-serving, it gives readers an idea of what he, and increasingly fewer other experts, do for all of us: "Though I myself was born with an eye, I became an Eye. I



LOOKER Bernard Berenson in 1955 at the Villa Borghese in Rome, examining a sculpture (1805-8) of Pauline Borghese by Antonio Canova.

learned to see. As if from blindness, I acquired great vision. My gaze, however, focuses only on what is essential. What is most beautiful about my profession is that I see the light behind the darkness. I am an Eye so that others can see."

Mr. Costamagna, whose primary field is 16th-century Italian painting, especially the work of Pontormo and Bronzino, is director of the Palais Fesch, a museum of fine arts in Ajaccio, Corsica. He tells many stories in his "insider's memoir," the most exacting and exciting of which concern the history of his profession and the activities of its greatest practitioners. Two 19th-century Italians, Giovanni Morelli and Giovanni Battista Cavalcaselle, were the first to try to identify the *je ne sais quoi* of an artist's style, how he handled facial features, or hands, or what his brushstrokes were like. In his fourth chapter, Mr. Costamagna homes in on what he calls "Our Holy Trinity," one American and two Italians: Bernard Berenson (1865-1959), Roberto Longhi (1890-1970) and Federico Zeri (1921-98). The general reader will come away with an appreciation for the zeal, the talent, even the genius (as well as, sometimes, the chicanery) that these men brought to their dealings with scholars and potential buyers.

Berenson—a Lithuanian-born Jew who immigrated to Boston, went to Harvard, returned to Europe, converted to Catholicism, and founded I Tatti (the Harvard Center for Italian Renaissance Studies, in Florence)—was the force behind Isabella Stewart Gardner's Fenway palazzo, Baltimore's Walters Art Museum and the John G. Johnson collection at the Philadelphia Museum of Art. He was a dandy of sensibility rather than a bookish intellectual. Recruited by the British dealer

Joseph Duveen, he had the almost mystical ability to recognize an artist's hand. Berenson gave Duveen attributions so that the dealer could sell paintings, often at inflated appraisals. Mrs. Gardner received both bad and good advice, but her house still stands, a glorious repository of her collecting instincts.

The author says (without giving much evidence) that the American tradition of connoisseurship has vanished, but he also says, elsewhere (again, without evidence), that some younger people are resuming the mantle that was dropped with the death of Berenson nearly 60 years ago.

Longhi helped revive the reputations of Caravaggio and Piero della Francesca. He also gave helpful attributions to the Italian dealer Alessandro Contini-Bonacossi, who was the main supplier of pictures to Samuel H. Kress, many of which ended up in Washington's National Gallery in 1941. (There were also some questionable financial transactions during World War II, of which Mr. Costamagna says nothing but that Longhi was later "publicly taken to task for his proximity to several dignitaries of the Mussolini regime.") The most marginal of the three figures was Zeri, a self-styled iconoclast who rejected the academy for print and broadcast journalism and was a longtime consultant to J. Paul Getty.

Mr. Costamagna is catholic in his enthusiasm and is open to the new. He tells delicious stories. Also, to his credit, he admits his mistakes. (Twice he rejected authentic Pontormos, having seen them only in reproduction.) On the other hand, he is less impressive as a writer than as an Eye. His book wanders. It repeats itself. He is most interesting when reporting from the field

regarding the traditions and styles of connoisseurship, but his prose, translated from the French by the Irish-born polyglot Frank Wynne, is studded with unnecessary adjectives and clichés: "I lost myself," "I was spellbound," "I went into raptures," "this magical atmosphere," "an extraordinary opportunity" all appear in the first pages of chapter two. The breathlessness suggests self-satisfaction and does little to draw a reader in to the adventures at hand.

The book has one non-stylistic drawback. With the single exception of Bronzino's "Christ on the Cross" (which Mr. Costamagna helped to identify), it lacks illustrations. The extensive treatment of paintings, prints and the ways of ascertaining authenticity would profit from more images.

Mr. Costamagna's rambling discussions make the irrefutable point that questions of attribution—regardless of whether the Eye is still considered a major resource for scholars, historians, educators and buyers—continue to engage everyone's attention. Toward the end of his book he refers briefly to a sculpture of a young archer (he calls it a cherub) brought from Florence to New York in 1902 by architect Stanford White for a house he was designing for Payne Whitney. In 1996, Kathleen Weil-Garris Brandt, an American art historian, claimed that this formerly anonymous figure in a Fifth Avenue mansion was an original Michelangelo. Two decades later, although people have weighed in on both sides of the debate, no Eye has made a final pronouncement.

But at the Metropolitan Museum's Michelangelo show last winter, there it was, attributed to the master himself. The ayes had spoken.

*Mr. Spiegelman's book "If You See Something, Say Something," a collection of art pieces from the Journal, was published last year.*

# The Rotten Glamour of an Outlaw Couple

**CHILDREN'S  
BOOKS**

MEGHAN COX GURDON

A true-life account for teens of the story of Bonnie and Clyde, as well as of their victims.

Attitudes toward the bandits have fluctuated over the years, but as Karen Blumenthal notes in *"Bonnie and Clyde: The Making of a Legend"* (Viking, 250 pages, \$19.99), the public has never ceased "to be fascinated by an otherwise ordinary couple gone rotten." In this fast-paced nonfiction account for readers ages 12-16, the author explores Clyde's youthful criminality and radicalization in a Texas prison and Bonnie's early years as a theatrical, hot-tempered child (and teen bride), and maps the gang's murderous spree across

'SOME DAY THEY'LL go down together; / They'll bury them side by side; / To few it'll be brief— / To the law a relief— / But it's death for Bonnie and Clyde.' Thus read the last stanza of a poem eulogizing the outlaws Bonnie Parker and Clyde Barrow, written by the gun moll herself. The poem appeared in a Dallas newspaper on May 23, 1934, the day the couple died in a police ambush in Louisiana. For the previous two years, the lovers and their confederates in the Barrow Gang had lived on the run, robbing banks, stealing cars and killing. For all their depredations, the young, attractive, snappily dressed pair captured the public imagination almost as soon as they started shooting.

Even at the time, the showiness of the criminals overshadowed the men they killed, who included grocers, deliverymen and small-town sheriff's deputies. "It's like we don't even count," the widow of one victim complained. "Glorifying these killers insults all of us."

So it's good that Ms. Blumenthal makes a point of honoring each victim with a brief obituary. Her account would have benefited from a bit more color—we learn more about the gang's movements than about the dusty, two-bit towns they moved through—but what readers miss in evocative detail they can make up by studying the archival photos strewn throughout this fascinating tale of ill-gotten celebrity.

Children's books are full of imaginary worlds, from Wonderland to Narnia to the Hundred-Acre Wood. In *"The Land of Neverendings"* (Delacorte, 243 pages, \$16.99), 12-year-old Emily uses stories to

transport her disabled sister Holly to a place of her own invention, the magical realm of Smockeroon, where the goings-on are "narrated" by Holly's stuffed bear, Bluey. But, as Kate Saunders writes, "when Holly died, Bluey suddenly fell silent and all the lights went out in Smockeroon."

Three months later, still bereft, Emily begins writing down bits of Bluey's old stories. Soon she's dreaming about the bear and her sister as if their adventures are continuing, and then one night, to her amazement, talking toys from Smockeroon appear in Holly's empty bedroom. What has happened to the barrier between reality and imagination? And does it mean that Emily could see her sister and Bluey again?

Suffused with longing and dappled with humor, this novel from the author of *"Five Children on the Western Front"* (2016) explores the limits of grief and the lasting power of storytelling.

Grief is the watchword—though it's never stated—in *"The Rough Patch"* (Greenwillow, 40 pages, \$17.99), a weepy and wonderful picture book by Brian Lies. "Evan and

his dog did everything together," we read as we see, in Mr. Lies's sharp-focused pictures (see left), a bespectacled fox in overalls enjoying life with his pet: playing ball, eating ice cream and, best of all, working in the garden. "But one day, the unthinkable happened."

**THIS WEEK'S BOOKS****Bonnie and Clyde**

By Karen Blumenthal

**The Land of Neverendings**

By Kate Saunders

**The Rough Patch**

By Brian Lies

**Adrian Simcox Does NOT Have a Horse**

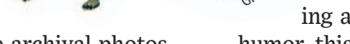
By Marcy Campbell

Illustrated by Corinna Luyken

**NOT Have a Horse** (Dial, 40 pages, \$17.99) doesn't yank the heartstrings with quite such a wrench, but it's affecting all the same. Readers who have loved Eleanor Estes's 1944 book, *"The Hundred Dresses,"* will suspect the painful truth behind the horse-owning boasts of a day-dreamer named Adrian Simcox. And they will understand the misplaced indignation of the narrator, Chloe, who insists that Adrian must be lying. "He lives in town like me, and I know you can't have a horse in town," she tells anyone who will listen.

When her mother asks how Chloe can be so sure, the girl explodes: "Because I know!" Adrian Simcox does NOT have a horse! Adrian Simcox gets the free lunch at school. His shoes have holes. Kelsey told me her cousin has a horse, and it's super expensive. He can't take care of a horse."

Exasperated by the patience of teachers and other kids, Chloe humiliates Adrian in front of everyone. In Corinna Luyken's otherwise lush illustrations, that scene is bare and stark. Empathetic readers ages 5-9 will be rooting for Chloe's mother, who, when she gets wind of developments, marches her daughter into the poorer side of town and shows how a decent person behaves with someone who has less of almost everything—except imagination.



GREENWILLOW

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## BOOKS

'Be the flame, not the moth.' —GIACOMO CASANOVA

# Motor City Mayhem

**The Hard Stuff**

By Wayne Kramer

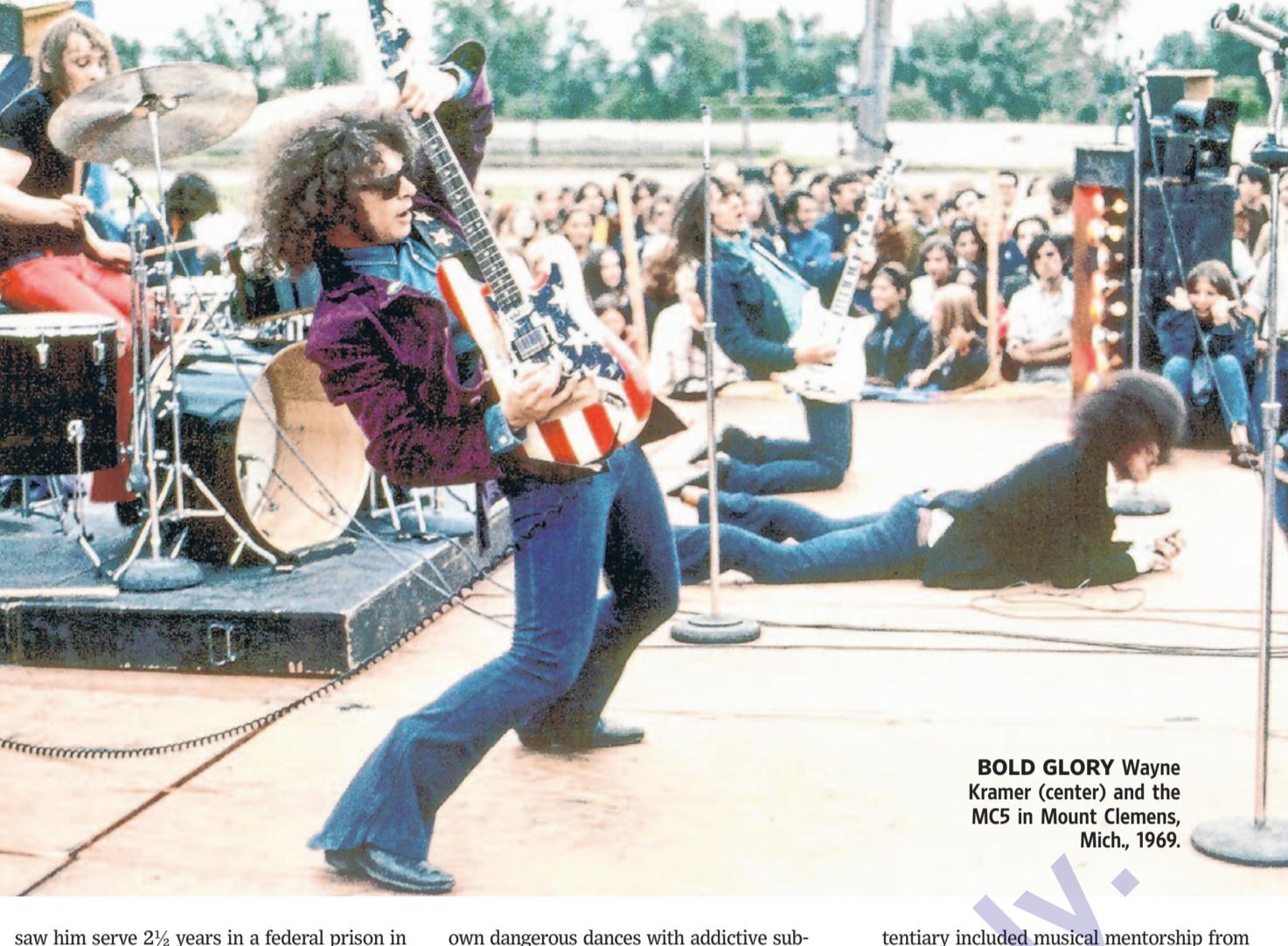
Da Capo, 311 pages, \$28

BY TONY FLETCHER

**R**OCK 'N' ROLLERS of the 1950s and '60s portrayed themselves as outlaws; it went with the territory of a music that was then still new and outwardly rebellious. Few practiced the outlaw lifestyle like the MC5, a late-'60s Detroit band that, as their lead guitarist Wayne Kramer recounts in his memoir "The Hard Stuff," wholeheartedly embraced an ethos of "Dope, Rock 'n' Roll and F---ing in the Streets." The MC5 occupied the youth culture barricades that demarcated the era: They were managed by John Sinclair, hippie spokesman and founder of the White Panther Party (with which the MC5 aligned), and they were the only group to play Chicago's Lincoln Park during the Democratic National Convention in 1968, finishing their set (playing on gear powered by a hot-dog stand) shortly before the police broke up the crowd with extreme prejudice.

Along the way, the MC5 became the house band at Detroit's Grande Ballroom, where they took on all comers and established themselves as the region's most potent live band. It was at the Grande, in October 1968, that they recorded their classic debut album, "Kick Out the Jams," best known for the title track, a musical blitzkrieg that adds a vocative curse word to its shouted introduction. With the group making the cover of Rolling Stone in advance of the album's release, things looked promising. But when the Detroit department store Hudson's—second in size only to New York's Macy's—refused to stock "Kick Out the Jams" due to an obscenity in John Sinclair's gatefold sleeve manifesto, the MC5 took out a full-page ad in a local underground paper that not only blared "F--- Hudson's" but included the logo of the band's record label, Elektra. Threatened by Hudson's with a boycott of all its artists, the otherwise progressive Elektra promptly dropped the band. (It held on to its other Michigan guitar rockers, Iggy Pop and the Stooges, signed upon the MC5's recommendation.)

The MC5 managed two further studio albums with Atlantic Records, of which "Back in the USA" (1970)—clinically produced by then rock critic and future Bruce Springsteen manager Jon Landau—became a blueprint for the back-to-basics punk sound of the mid-'70s. After the group broke up—thanks to more bad career decisions, accentuated and accelerated by rampant drug abuse—Wayne Kramer set about further self-destruction. Not content to cultivate addictions to alcohol, heroin, cocaine and prescription pills, he consciously became part of the criminal underworld that purchased, distributed, sold and often stole those drugs in the first place; he also added the role of burglar to his messy résumé. Mr. Kramer's fellow dealers routinely ripped off others with sometimes deadly consequences. The author may lament that in 1975 he was caught dealing 11 ounces of cocaine in a sting operation that



LENI SINCLAIR/MICHAEL OCHS ARCHIVE/GETTY IMAGES

saw him serve 2½ years in a federal prison in Kentucky, but a reader of "The Hard Stuff" suspects that, without forced incarceration, Mr. Kramer would not have lived much longer, let alone long enough to tell his tale.

It should need no spoiler alert to state that Mr. Kramer eventually beat his addictions; memoirs are rarely written with a needle between one's toes. But that doesn't make "The Hard Stuff" a feel-good story, the literary equivalent of MTV's "Behind the Music." The middle of the book's three sections offers a painfully repetitive cycle of squandered career opportunities, depression, self-medication and self-loathing, then brief glimpses of sobriety and betterment followed quickly by artistic or personal disappointment and renewed addiction. Mr.

Kramer never stops making music—he is instrumental in the early success of the Detroit-via-NYC experimentalists Was (Not Was)—but his career decisions are mostly dubious, as when he moves to Manhattan's heroin-flooded Lower East Side and forms a group with Johnny Thunders, the New York Dolls' endlessly talented yet addicted guitarist. (Thunders died of an apparent overdose in 1991.)

Thankfully, the early days of the MC5 provide more joyous material. It was a band of five larger-than-life personalities, with Mr. Kramer joined by singer Rob Tyner ("the first white boy with an Afro"), a second guitar-playing powerhouse, Fred "Sonic" Smith (later to marry the New York artist Patti Smith), and a rhythm section of Dennis Thompson and Michael Davis, both of whom experienced their

own dangerous dances with addictive substances. To get a visual sense of the group's unprecedented live shows, in which Mr. Kramer and Smith combined the physical precision and strength of martial-arts experts with the finesse of dance-floor footwork, one should see the impressive 2002 documentary "The MC5: A True Testimonial." Mr. Kramer, who like other surviving members participated in the film's production, sued the directors over credits, however, and the project never saw full release.

Mr. Kramer comes across in that documentary as funny and sincere, but his humor is sadly lacking from the written page. He matter-of-factly recounts the absence of his birth father, the loss of his virginity at age 10 to a baby sitter he set up for such a

purpose, and subsequent physical abuse by a racist stepfather. Fortunately, the book comes alive when bringing the reader into the heart of the late-'60s scene, where revolution seemed not just possible but plausible. Noting that "the Summer of Love didn't make a stop in Detroit," he recounts the black population's "rebellion" of 1967 with a detail born of intimacy: His home was raided by riot police who mistook a telescope for a sniper's rifle, after which he was taken into the street in handcuffs "to see an army tank pointing its cannon at our house."

Throughout "The Hard Stuff" (also the name of Mr. Kramer's 1995 comeback solo album), Mr. Kramer challenges what he sees as systemic societal racism and, as a correlation, the criminal justice system's inherently flawed approach to drug use. His own time in a peni-

tentiary included musical mentorship from jazz musician and fellow inmate Red Rodney, and he sees nothing wrong with such opportunities, reminding readers "we are sent to prison as punishment, not for punishment."

Mr. Kramer's sobriety eventually came with a third marriage, to his manager Margaret Saadi, along with generous emotional support from recovered addicts in his new home of Los Angeles. This enabled him to have an active late-life musical career as composer, performer, solo artist and sideman—including, in 2018, touring as the MC50. In 2009, Mr. Kramer founded the American arm of Jail Guitar Doors, a U.K. charity established by the singer-songwriter-activist Billy Bragg that provides guitars to prisoners for occupational therapy and potential rehabilitation. Jail Guitar Doors was named after a 1978 song by the Clash, the first verse of which details Wayne Kramer's drug bust.

There is, possibly, a cosmic serendipity to the manner in which such spokes of influence have spun back around in Mr. Kramer's wheel of life, and it is not lost on the author, who offers the occasional optimistic Buddhist axiom while never preaching or blaming anyone but himself for his problems. "The Hard Stuff" is rarely poetic, but in its brutal honesty Mr. Kramer may succeed in deterring future musicians from contemplating serious drug abuse by numbing them with a litany of legal misdeeds and career missteps—implying, if not stating outright, that life is much more enjoyable, even as a rock 'n' roll outlaw, when one is in control of it.

*Mr. Fletcher is the author of "Moon: The Life and Death of a Rock Legend" and several other music biographies.*

## Best-Selling Books | Week Ended Aug. 5

With data from NPD BookScan

**Hardcover Nonfiction**

TITLE / AUTHOR / PUBLISHER	THIS WEEK	LAST WEEK
<b>The Russia Hoax</b> Gregg Jarrett/Broadside Books	<b>1</b>	<b>1</b>
<b>Girl, Wash Your Face</b> Rachel Hollis/Thomas Nelson	<b>2</b>	<b>3</b>
<b>Liar, Leakers, and Liberals</b> Jeanine Pirro/Center Street	<b>3</b>	<b>2</b>
<b>Magnolia Table</b> Joanna Gaines & Marah Stets/William Morrow & Company	<b>4</b>	<b>4</b>
<b>The Subtle Art of Not Giving a F*ck</b> Mark Manson/Harper	<b>5</b>	<b>5</b>

**Nonfiction E-Books**

TITLE / AUTHOR / PUBLISHER	THIS WEEK	LAST WEEK
<b>Educated</b> Tara Westover/Random House Publishing Group	<b>1</b>	<b>2</b>
<b>Girl, Wash Your Face</b> Rachel Hollis/Thomas Nelson, Inc.	<b>2</b>	<b>3</b>
<b>The Guns of August</b> Barbara W. Tuchman/Random House Publishing Group	<b>3</b>	—
<b>The Princess Diarist</b> Carrie Fisher/Penguin Publishing Group	<b>4</b>	—
<b>The Last Madam</b> Chris Witzl/Open Road Media	<b>5</b>	—
<b>The Russia Hoax</b> Gregg Jarrett/HarperCollins Publishers	<b>6</b>	<b>1</b>
<b>The World's Last Night</b> C.S. Lewis/HarperCollins Publishers	<b>7</b>	—
<b>The Rock, the Road, and the Rabbi</b> Kathie Lee Gifford & Rabbi Jason Sobel/Thomas Nelson, Inc.	<b>8</b>	—
<b>The Simple Faith of Mister Rogers</b> Amy Hollingsworth/Thomas Nelson, Inc.	<b>9</b>	—
<b>The Art of Thinking Clearly</b> Rolf Dobelli/HarperCollins Publishers	<b>10</b>	—

**Nonfiction Combined**

TITLE / AUTHOR / PUBLISHER	THIS WEEK	LAST WEEK
<b>The Russia Hoax</b> Gregg Jarrett/Broadside Books	<b>1</b>	<b>1</b>
<b>Girl, Wash Your Face</b> Rachel Hollis/Thomas Nelson	<b>2</b>	<b>3</b>
<b>The Guns of August</b> Barbara W. Tuchman/Random House Publishing Group	<b>3</b>	—
<b>The Princess Diarist</b> Carrie Fisher/Penguin Publishing Group	<b>4</b>	—
<b>The Last Madam</b> Chris Witzl/Open Road Media	<b>5</b>	—
<b>The Russia Hoax</b> Gregg Jarrett/HarperCollins Publishers	<b>6</b>	<b>1</b>
<b>The World's Last Night</b> C.S. Lewis/HarperCollins Publishers	<b>7</b>	—
<b>The Rock, the Road, and the Rabbi</b> Kathie Lee Gifford & Rabbi Jason Sobel/Thomas Nelson, Inc.	<b>8</b>	—
<b>The Simple Faith of Mister Rogers</b> Amy Hollingsworth/Thomas Nelson, Inc.	<b>9</b>	—
<b>The Art of Thinking Clearly</b> Rolf Dobelli/HarperCollins Publishers	<b>10</b>	—

**Hardcover Fiction**

TITLE / AUTHOR / PUBLISHER	THIS WEEK	LAST WEEK
<b>The President Is Missing</b> J. Patterson & B. Clinton/Little, Brown & Company & Knopf	<b>1</b>	<b>1</b>
<b>Paradox</b> Catherine Coulter/Gallery Books	<b>2</b>	New
<b>The Hate U Give</b> Angie Thomas/Balzer & Bray/HarperTeen	<b>3</b>	<b>5</b>
<b>The Outsider</b> Stephen King/Scribner Book Company	<b>4</b>	<b>4</b>
<b>Cottage by the Sea</b> Debbie Macomber/Ballantine Books	<b>5</b>	<b>6</b>

**Fiction E-Books**

TITLE / AUTHOR / PUBLISHER	THIS WEEK	LAST WEEK
<b>Origin</b> Dan Brown/Anchor Books	<b>1</b>	—
<b>Paradox</b> Catherine Coulter/Gallery Books	<b>2</b>	New
<b>Wild Like the Wind</b> Kristen Ashley/Kristen Ashley	<b>3</b>	New
<b>Dr. Strange Beard</b> Penny Reid/Penny Reid	<b>4</b>	New
<b>The Other Woman</b> Daniel Silva/HarperCollins Publishers	<b>5</b>	<b>1</b>
<b>Pachinko</b> Min Jin Lee/Grand Central Publishing	<b>6</b>	—
<b>Born to Be Wilde</b> Eloisa James/HarperCollins Publishers	<b>7</b>	New
<b>Crazy Rich Asians</b> Kevin Kwan/Knopf Doubleday Publishing Group	<b>8</b>	<b>9</b>
<b>Reel of Fortune</b> Jana DeLeon/Jana DeLeon	<b>9</b>	New
<b>Half Empty</b> Catherine Bybee/Montlake Romance	<b>10</b>	New

**Methodology**

NPD BookScan gathers point-of-sale book data from more than 16,000 locations across the U.S., representing about 85% of the nation's book sales. Print-book data providers include all major booksellers (now inclusive of Walmart) and web retailers, and food stores. E-book data providers include all major e-book retailers. Free e-books and those sold for less than 99 cents are excluded. The fiction and nonfiction lists in all formats include adult, young adult, and juvenile titles; the business list includes only adult titles. The combined lists track sales by title across all print and e-book formats; audio books are excluded. Refer questions to Peter.Saenger@wsj.com.

**Hardcover Business**

TITLE / AUTHOR / PUBLISHER	THIS WEEK	LAST WEEK
<b>StrengthsFinder 2.0</b> Tom Rath/Gallup Press	<b>1</b>	<b>1</b>
<b>Total Money Makeover</b> Dave Ramsey/Thomas Nelson	<b>2</b>	<b>3</b>
<b>Extreme Ownership</b> Jocko Willink and Leif Babin/St. Martin's Press	<b>3</b>	<b>7</b>
<b>Bad Blood</b> John Carreyrou/Knopf Publishing Group	<b>4</b>	<b>4</b>
<b>The Five Dysfunctions of a Team</b> Patrick Lencioni/Jossey-Bass	<b>5</b>	<b>6</b>
<b>Emotional Intelligence 2.0</b> Travis Bradberry & Jean Greaves/TalentSmart	<b>6</b>	<b>2</b>
<b>The Power of a Positive Team</b> Jon Gordon/Wiley	<b>7</b>	New
<b>Principles: Life and Work</b> Ray Dalio/Simon & Schuster	<b>8</b>	<b>8</b>
<b>Radical Candor</b> Kim Scott/St. Martin's Press	<b>9</b>	<b>10</b>
<b>Born to Be Wilde</b> Eloisa James/Avon Books	<b>10</b>	New
<b>Good to Great</b> Jim Collins/HarperBusiness	<b>10</b>	—

## PLAY

## NEWS QUIZ DANIEL AKST

From this week's  
Wall Street Journal

1. Indra Nooyi said she would step aside as CEO this year—of which company?



- A. Nestlé  
 B. Coca-Cola  
 C. PepsiCo  
 D. Diageo

2. Rep. Chris Collins, an upstate New York Republican and early supporter of the Trump campaign, was arrested and charged—with what?

- A. Possession of stolen antique vases  
 B. Collusion with a Russian agent  
 C. Taking bribes  
 D. Insider trading

3. West Virginia lawmakers voted to recommend the impeachment—of whom?

- A. The governor  
 B. The lieutenant governor  
 C. The attorney general  
 D. All the sitting members of the state's highest court

4. Stan Kroenke took full ownership of London's storied Arsenal soccer team in a deal valued at \$2.3 billion. Which other team does he own?

- A. The Boston Celtics  
 B. The Chicago Blackhawks  
 C. The Los Angeles Rams  
 D. The Gryffindor Quidditch Team

5. Beijing Bytedance Technology Co. kicked off a

fundraising round that could value it at \$75 billion. Just what does the company do?

- A. High-tech orthodontia  
 B. News aggregation  
 C. Online shopping  
 D. Social media

6. Which of these religious groups has embraced a new sport called Spikeball?

- A. Amish and Mennonites  
 B. Hasidim  
 C. Seventh Day Adventists  
 D. Jehovah's Witnesses

7. Tribune Media terminated its merger agreement with rival TV station-owner Sinclair Broadcast Group. What other companies dropped plans to merge?

- A. Rite Aid and Albertsons  
 B. Cigna and Express Scripts  
 C. CVS Health and Aetna  
 D. AT&T and Time Warner

8. An Oslo home, now for sale, was immortalized by a famous Scandinavian painter. Who was the artist?

- A. Anders Zorn  
 B. Odd Nerdrum  
 C. Edvard Munch  
 D. Olafur Eliasson

9. For the first time in more than 40 years, a few hunters in which state will be permitted to bag an alligator?

- A. Rhode Island  
 B. North Carolina  
 C. South Carolina  
 D. Georgia



FROM TOP: ASSOCIATED PRESS/ISTOCK

Answers are listed below the crossword solutions at right.

## VARSITY MATH

**Two** practical problems from daily life have captured the coach's attention.

## Nuts and Bolts

A customer at the hardware store has purchased a package of five nuts and one of eight bolts, each package priced separately. If the bill for the nuts and the bill for the bolts are multiplied or added, the result is \$7.20 either way.

What are the prices of nuts and bolts individually if neither item costs more than a dollar?

Learn more about the National Museum of Mathematics (MoMath) at [momath.org](http://momath.org)



Provided by  
National  
Museum of  
Mathematics

## Bridge Crossing

Six hikers must cross a bridge. A maximum of two people can cross at one time. It is night, and they need their one flashlight to guide them on any crossing. Each person walks at a different speed: Person 1 takes one minute to cross; Person 2 takes three minutes; Person 3 takes four minutes; Person 4 takes six minutes; Person 5 takes eight minutes, and Person 6 takes nine minutes. A pair must walk together at the rate of the slower person's pace. They all begin on the same side.

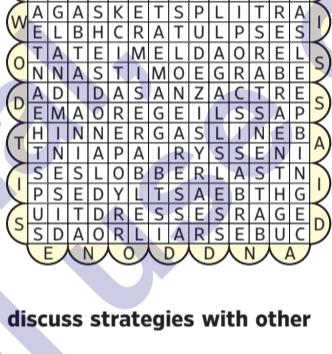
What is the least amount of time they need to get all six across the bridge?

LUCI GUTIÉRREZ

## SOLUTIONS TO LAST WEEK'S PUZZLES

## Universal Pre-K

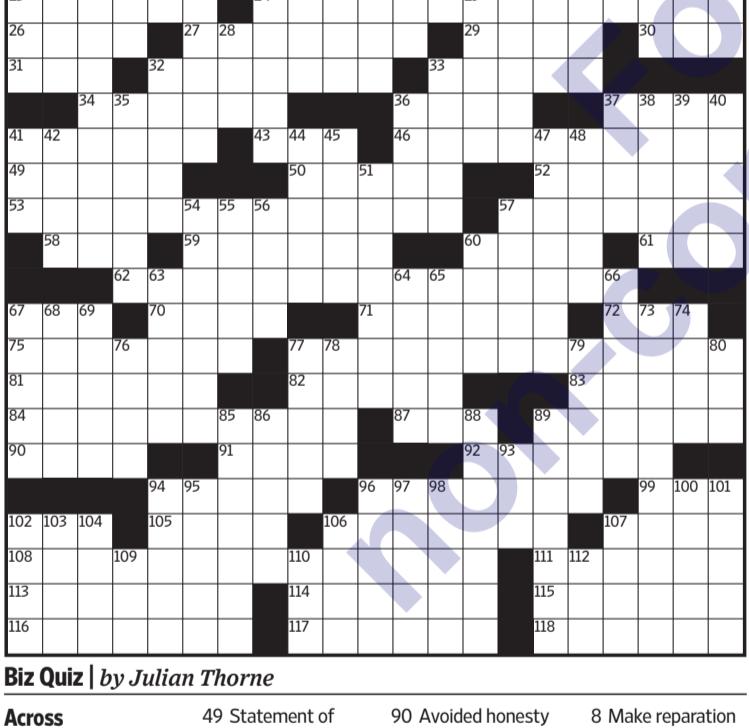
## Belt Line



For previous weeks' puzzles, and to discuss strategies with other solvers, go to [WSJ.com/puzzle](http://WSJ.com/puzzle).

Answers to News Quiz: 1.C, 2.D, 3.D, 4.C, 5.B, 6.A, 7.A, 8.C, 9.B

## THE JOURNAL WEEKEND PUZZLES edited by MIKE SHENK



## Biz Quiz | by Julian Thorne

- Across**
- 1 Cheapen
  - 2 In hock
  - 3 Lay down
  - 20 Become known
  - 21 Two-time Oscar nominee as Henry II
  - 22 Galápagos Islands owner
  - 23 Brit's pushcart
  - 24 Profits alert from a specialty glass company?
  - 26 Atlantis Ultra Comfort pens, e.g.
  - 27 Poet's foot consisting of two stressed syllables
  - 29 Streamlet
  - 30 Savior of Zion in a film trilogy
  - 31 Sort
  - 32 Disney's Nala, for one
  - 33 Hawks
  - 34 Slimeball
  - 36 Coffee option
  - 37 Padlock's place
  - 41 Bannister, Ryun and Coe
  - 43 Its early cans were labeled "Today's Modern Oil Treatment"
  - 46 Spirit of a sports apparel company?
- 49 Statement of beliefs
- 50 Surpass
- 52 Osprey or owl
- 53 Staff doctor for a British conglomerate?
- 57 Ignore
- 58 Product ID no.
- 59 Like some rescues
- 60 Whodunit discovery
- 61 Unspecified member of a series
- 62 Quaint shuttle for a hotel chain?
- 67 Letters on a 4 button
- 70 Very, at Versailles
- 71 Serengeti herbivores
- 72 Andean tuber
- 75 Caballeros' workplaces
- 77 Track record of a plane manufacturer?
- 79 Summer hrs.
- 80 Crest choice
- 81 Consecutively
- 82 Merle Haggard's "Things Funny Anymore"
- 83 Cut companion
- 84 Blizzards at a home improvement retailer's stores?
- 87 Jack on a farm
- 89 Checkroom item
- 90 Avoided honesty
- 91 Edit menu option
- 92 Beehive, e.g.
- 94 Author of 2018's "A Higher Loyalty"
- 96 Protective wall
- 99 Summer hrs.
- 102 Biol. or chem.
- 105 "Knowing Me, Knowing You" singers
- 106 Havana holder
- 107 It's like a diamond in the sky
- 108 Risky venture by a soup company?
- 111 March victim
- 113 Mollify
- 114 Less fresh
- 115 Chooses
- 116 Gets comfy
- 117 Size up
- 118 Overthrow
- 120 First name of Mrs. Fields
- 121 Net receipts
- 122 File room worker for a pharmaceutical giant?
- 123 Overthrows, say
- 124 Before today
- 125 Musical whose characters include Joseph Pulitzer
- 126 Pennsylvania resort region
- 127 Track record of a plane manufacturer?
- 128 Spotify category
- 129 Biggest hit for Tears for Fears
- 130 Capital of Western Australia
- 131 Last year of Holy Roman Emperor Henry IV's reign
- 132 "Vive \_\_\_!"
- 133 Dynastic heir
- 134 Australian eucalyptus
- 135 Biggest hit for Tears for Fears
- 136 \_\_\_-European
- 137 Build up
- 138 Heed, as advice
- 139 Biggest hit for Tears for Fears
- 140 Capital of Western Australia
- 141 Last year of Holy Roman Emperor Henry IV's reign
- 142 Pigmented diaphragm
- 143 Its early cans were labeled "Today's Modern Oil Treatment"
- 144 Statement of beliefs
- 145 Surpass
- 146 Product ID no.
- 147 Like some rescues
- 148 Whodunit discovery
- 149 Unspecified member of a series
- 150 Very, at Versailles
- 151 Summer hrs.
- 152 Crest choice
- 153 Consecutively
- 154 Merle Haggard's "Things Funny Anymore"
- 155 Cut companion
- 156 Blizzards at a home improvement retailer's stores?
- 157 Jack on a farm
- 158 Pennsylvania resort region
- 159 Summer hrs.
- 160 Crest choice
- 161 "Knowing Me, Knowing You" singers
- 162 Havana holder
- 163 It's like a diamond in the sky
- 164 Risky venture by a soup company?
- 165 March victim
- 166 Brandon who had the line "Shane! Come back!"
- 167 Server's edge
- 168 Overthrow
- 169 First name of Mrs. Fields
- 170 Net receipts
- 171 File room worker for a pharmaceutical giant?
- 172 Overthrows, say
- 173 Before today
- 174 Musical whose characters include Joseph Pulitzer
- 175 Pennsylvania resort region
- 176 Summer hrs.
- 177 Crest choice
- 178 "Knowing Me, Knowing You" singers
- 179 Brandon who had the line "Shane! Come back!"
- 180 Overthrow
- 181 Summer hrs.
- 182 Crest choice
- 183 "Vive \_\_\_!"
- 184 Dynastic heir
- 185 Australian eucalyptus
- 186 Biggest hit for Tears for Fears
- 187 Capital of Western Australia
- 188 Last year of Holy Roman Emperor Henry IV's reign
- 189 Pennsylvania resort region
- 190 Summer hrs.
- 191 Crest choice
- 192 "Knowing Me, Knowing You" singers
- 193 Brandon who had the line "Shane! Come back!"
- 194 Summer hrs.
- 195 Crest choice
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ICONS

# Power Struggle Of the Geniuses

A duel between Chagall and Malevich in Russia's revolutionary era comes to life in a New York exhibition

BY ALEXANDRA BREGMAN

**T**o Marc Chagall, the Russian Revolution was as much an artistic movement as a political one. The Bolsheviks who took over in November 1917 appointed the young artist to run the People's Art School in August 1918. For the next two years, Chagall—famed for his paintings of flying, joyous animals and people—participated in a highly unusual experiment in art education that turned into a bitter battle between two now world-famous artists.

Starting Sept. 14, New York's Jewish Museum is celebrating the centenary of the unusual school's founding with a show of about 160 works and documents. The school's teachers—abstract pioneer Kazimir Malevich, his disciple El Lissitzky and Chagall—shared strong messages about art with their students, all while continuing to create work. "Chagall, Lissitzky, Malevich: The Russian Avant-Garde in Vitebsk, 1918-1922" includes other artists, including David Yakerson and Lazar Khidekel, students at the school.

Chagall opened the People's Art School in his quiet hometown of Vitebsk in modern-day Belarus, about 300 miles west of Moscow. The Russian Civil War was heating up, and political turmoil would continue in the country throughout the brief life of the school. But for Jews like Chagall, a 30-year-old laborer's son who had just returned from study in Paris, things were improving enormously. While some anti-Jewish riots still continued in Russia, Jews were able to leave their earlier confines with new protections against discrimination. The tuition-free school Chagall ran could give Jews and workers in general an opportunity to become artists.

Chagall wrote enthusiastically in his autobiography, "Throughout the town, my multicolored animals swung back and forth, swollen with revolution," notes Angela Lampe, who curated this show and its earlier iteration at the Centre Georges Pompidou in Paris. In Chagall's joyful "Onward, Onward" from 1918, a painting on grid-lined paper for the first anniversary of the October Revolution, a leaping man jumps over homes. A sign reads, "Forward, forward, without a halt."

The artist's love of his hometown is best expressed in "Over Vitebsk," from the permanent Museum of Modern Art collection in New York, featuring what Ms. Lampe refers to as one of his trademark "flying Jews." Both of these pictures are in the new exhibition.

Chagall soon recruited his first major academic counterpart at the school, El (Lazar) Lissitzky, who had begun his career as an illustrator of Jewish children's books. Not yet 30, Lissitzky fervently believed in communism and art as agents for change. He championed his own



Marc Chagall's 'Cubist Landscape, 1919,' painted during his tenure at the People's Art School.

school of thought, Proun (an acronym that translates out as projects for asserting/affirmation of the new), blurring the line between structural design and paintings. A work by Lissitzky titled "Proun" uses shapes and figures from cubism influences, relying heavily on abstraction.

In 1919 the third artist—who some might call the fly in the ointment—arrived. The down-on-his-luck, 40-ish Kazimir Malevich was the eldest of the trio and an artistic maverick whose "Black Square" (1915) is one of the most famous pieces of early abstract art. He, too, had a school of artistic thought: suprematism.

As the Malevich paintings in the Jewish Museum

exhibition reveal, suprematism is devoid of distraction, with less color than, say, Chagall's work. Crosses in red, black and white make ample use of negative space, with bold lines and flat structures using oil on panel and canvas, and esoteric titles such as "Suprematism of the Spirit" (1919) and "Mystic Suprematism (Red Cross on Black Circle)" (1920-22). His stark black and white, two-dimensional forms are deliberately nonfunctional. Aggressive geometric abstractions drive home the purist message, bolstered by Malevich's extensive writings. From his introduction to the school, dramatically descending the main stairwell, students flocked to him. Lissitzky urged students to print out Malevich's writings.

Chagall was still celebrating the school's eclecticism. But the harmony was not to last. The unbending Malevich announced, "The influence of economic, political, religious, and utilitarian phenomena on art is the disease of art."

"In a few months, suprematism had overtaken the school, and totally transformed it," said the Jewish Museum's Morris and Eva Feld Curator, Claudia Nahson, who collaborated on this project. "Chagall's more personal and lyrical style fell out of favor as Malevich emphasized abstraction and collective art. With attendance to his classes gradually dwindling, Chagall left Vitebsk in the spring of 1920 and moved to Moscow, where he was invited to work for the State Jewish Chamber Theater." Embittered and weakened, Chagall was increasingly critical of Malevich's stark imagery.

Lissitzky left for Berlin. Malevich ran the school on his own, overseeing the graduation of 10 students in 1922. That was the only graduating class of the People's Art School, which was also facing increasing suspicion from the Bolsheviks that the art being produced was not ideological enough.

Eventually, Malevich abandoned painting altogether, focusing on theoretical lectures and books, studying architecture and designing porcelain tableware. His work had fallen out of favor before his death in 1935. Lissitzky returned to Russia, dying of tuberculosis in 1941. As for Chagall, who barely escaped extermination by the Nazis, he lived to be lionized world-wide and died at age 97.

**MASTERPIECE | THE AMERICAN LANGUAGE (1919-48), BY H.L. MENCKEN**

## We All Speak American

BY JOSEPH EPSTEIN

**T**HE ROYALTIES for the first edition (of four) of H.L. Mencken's *The American Language* were greater than those for any of his other books, causing Mencken to remark: "The moral is plain: fraud pays." He meant that he had written a philological work without any of the training, and hence the authority, of the professional linguist. But, then, neither did Samuel Johnson have any special training for his *Dictionary* or Noah Webster for his. Mencken, whether or not he knew it at the time, joined the ranks of great amateurs in creating *The American Language* and its two Supplements, a work of nearly 2,500 pages.

Mencken worked on the book off and on for more than 30 years, beginning during World War I and finishing the second Supplement in 1948. He was variously down on the book (comparing it at one point to "a heavy, indigestible piece of cottage cheese") and high on it (calling it "that work I'm keenly interested in—tremendously interested in"). Its origin was in Mencken's discovery of the many discrepancies between the English written and spoken by Englishmen and that written and above all spoken by Americans. "I looked for some work," he wrote, "that would describe and account for them with a show of completeness, and perhaps depict the process of their origin." Having discovered that no such work existed, he wrote it himself.

The task was prodigious, daunting and ultimately endless. Mencken set out to describe and account for the differences, obvious and subtle, between English and American vocabulary, pronunciation, syntax, intonation, idiom, grammar, slang, euphemism and much more. The job entailed his becoming an etymologist, lexicogra-

pher and field worker generally among the native speakers in his own country. Along the way, Mencken, being Mencken, attacked British linguistic pedantry, stodginess and snobbish superiority, while never neglecting American pretentiousness, comic aspiration, and hospitality to foreign words—Spanish, German, Yiddish, Chinese prominent among them.

The continual refreshment of Menckonian touches throughout the three volumes of *The American Language* helps make it the lively work it is. As Jacques Barzun wrote, in a review in the Atlantic of the first Supplement volume, what made the book "so accessible and hence so influential was its enormous literary skill and vigilant cultural criticism." It is also tremendously amusing.

Who but H.L. Mencken would refer to religious fundamentalists as "wowsers," or to the work of practitioners of "non-Euclidean" medicine—chiropractors, chiropodists and the like—as "leech-craft"? Who but he would refer to the degrees offered by "Columbia University and its various outhouses"? He provides etymologies for the words "cocktail," "highball," "son-of-a-gun," "goosing," and many more. He makes distinctions among idiot, imbecile and moron, as well as among hobo, tramp and bum. He devotes several pages to achronyms, or derisive names for various peoples: the French, Germans, Japanese, Hungarians, Jews and others. If you are like me, you probably didn't know

that an Irish apricot was a potato, though you may well have known that the condom, when invented in 1776 or thereabouts, was called by the English "a French letter," which Mencken with a straight face refers to as "a certain contraband device for the limitation of offspring."

In the *Guardian*, the English biographer Robert McCrum, in a 2017 series devoted to the world's hundred best nonfiction works, wrote that *The American Language* "remains a masterpiece of advocacy and entertainment." What it advocated was the superiority and ultimate dominance of American English over that written and spoken by the English. Logan Pearsall Smith, the American-born, naturalized Englishman, brother-in-law to Bertrand Russell, wrote in "Words and Idioms" (1925) that "it is chiefly in America—let us frankly recognize the fact—that the evolution of our language will now proceed. Our business here is to follow sympathetically what happens there, admitting once for all that our title to decide what English is is purely honorary." The popularity of American movies had a lot to do with this, as Mencken notes, so, too, American comic strips. Toward the end of *The American Language*, he writes: "I think I have offered suffi-

cient evidence in the chapters preceding that the American of today is much more honestly English, in any sense that Shakespeare would have understood, than the so-called English of England." Whenever the two competing versions of English come into conflict—as in Canada or in the Far East—American English wins out, and it does so, Mencken held, because it is "better on all counts—clearer, more rational, and, above all, more charming."

In a footnote early in *The American Language* Mencken mentions the lack of academic interest in the American language and in American literature when he set out to write his book. Despite the careers of Nathaniel Hawthorne, Walt Whitman, Herman Melville, Henry James and Mark Twain having been long completed, American literature was only rarely taught in our universities as late as the 1920s. This would of course later change, and Mencken's book, which became a best-seller, had a great deal to do with it. "American writers were finally able to take flight from the old tree [of English literature] and to trust for the first time their own dialect," wrote Edmund Wilson in the *New Republic*. "Mencken showed the positive value of our own vulgar heritage." An immensely amusing and an historically important book, *The American Language*, a work whose scope and dazzling execution qualify it as a unique American masterpiece.

*Mr. Epstein is author of "The Ideal of Culture and Other Essays" (Axios Press, 2018) and the forthcoming "Charm: The Elusive Enchantment" (Lyons Press), to be published in October.*



RYAN INZANA



An A-to-Z  
Skin Care  
Guide  
For radiance  
maintenance  
**D2**

FASHION | FOOD | DESIGN | TRAVEL | GEAR

# OFF DUTY

THE WALL STREET JOURNAL.

Cooler  
Noodles Will  
Prevail  
Summer-friendly  
Korean dishes  
**D7**



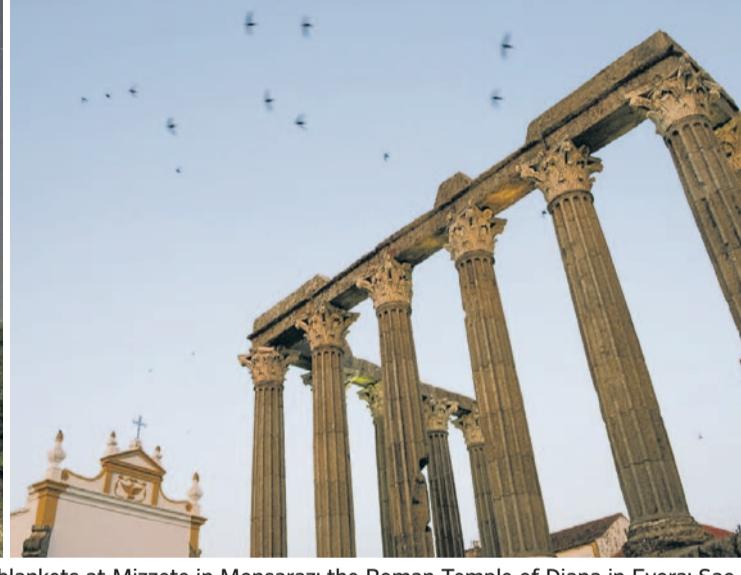
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SATURDAY/SUNDAY, AUGUST 11 - 12, 2018 | **D1**



## Everyone's Going To Portugal (But Not Like This)

Travelers are mobbing the country's coast in record numbers. The smarter plan: Zero in on the Alentejo's rural interior for deeply rooted charm and one hell of a stargazing party



**WHO NEEDS THE SEA?** Clockwise from top: Sao Lourenco do Barrocal, a farming village turned luxury resort; handwoven blankets at Mizzete in Monsaraz; the Roman Temple of Diana in Evora; Sao Lourenco do Barroca arranges stargazing events for its guests; a salad of fresh sheep cheese and peaches at Herdade do Esporao; Horta da Moura, another of the Alentejo's farmstead hotels.

FRANCESCO LASTRUCCI FOR THE WALL STREET JOURNAL

By MATTHEW KRONBERG

**O**N MY FIRST NIGHT in Lisbon just over two decades ago, my friend Gonçalo brought me to B. Leza, an African nightclub housed at the time in a crumbling 16th-century palace. In ballrooms and courtyards with dim chandeliers and peeling paint, I fought jet lag to drink and dance late into the night. Before I even unpacked a bag, I was hooked on Portugal. As one of 235,000 American visitors that year, I was hardly alone in my affection.

By the time I returned in 2016, I had a lot more company. The number of Americans visiting annually soared to 564,000. Since 2015, air capacity between Portugal and the U.S. doubled. This year, Portugal expects around 900,000

Americans—one wave in a tsunami of 25 million tourists drawn by the country's affordability, food, wine and cultural depth. Backpackers still flock to Lisbon but so do the cosseted classes tempted by the growing number of grand old piles converted into posh inns.

When I brought my family for their first visit to Portugal this summer, I wanted to break away from the throngs milling around the capital and along the coast, and go somewhere we'd have more contact with the place I remembered. We decided on the rural heart of the Alentejo, Portugal's largest region and one of its most sparsely populated.

Despite covering nearly one third of the country's area, the Alentejo is home to only a touch more than 7% of the population. Only about 4% of the Americans who visited Portugal

in 2017 bothered to make the trek, though Evora, Alentejo's picturesque capital is less than a two-hour drive from Lisbon (and nearly three hours from the regions of the Algarve currently afflicted with wildfires). The Alentejo may not be off the radar much longer, however. The number of hotel beds around the medieval hilltop village of Monsaraz have doubled from 600 to 1,200 in the last two years, and Lisbon's most famous resident, Madonna, has been seen on horseback in the area, shoving it into the international spotlight.

In the Alentejo's villages, whitewashed houses are roofed with barrel tiles; windows and doors are outlined in painted stripes, typically in a goldenrod yellow but sometimes in blue, gray or green. Between these tiny towns,

Please turn to page D4

## Inside



**MIGHTIER TAKES ON 'LITE'**  
Craft brewers are cutting calories without weakening flavor **D6**



**A NEW TRAP FOR GYM RATS?**  
Pricey 'recovery studios' claim to help workout junkies bounce back **D9**



**GUEST-ROOM FOR DEBATE**  
When it comes to hosting visitors, do twin beds win—or does a queen rule? **D8**



**LOOK WHO'S TAILORING**  
These millennials are updating the custom-suit trade **D3**

## STYLE &amp; FASHION

**A**

**is for Antipollution.** They sound cool, but "free radicals" damage skin, so brands tout combatants like the UV Essentiel Multi-Protection Daily Defense Sunscreen, \$55, [chanel.com](http://chanel.com)

**B**

**is for Blue Tansy.** Derived from Moroccan camomile, the Smurf-colored stuff is supposedly soothing. Sunday Riley Blue Moon Tranquility Cleansing Balm, \$50, [sephora.com](http://sephora.com)

**C**

**is for CBD.** This cannabinoid extract is a much-hyped, mellow-making addition to everything from body creams to balms. Try: CBD-Infused Lip Butter, \$22, [vertlybalm.com](http://vertlybalm.com)

**D**

**is for Dry Brushing.** For the rare person who would like to extend her morning routine, this technique exfoliates skin. Revive Dry Body Brush, \$32, [aromatherapyassociates.com](http://aromatherapyassociates.com)

**E**

**is for Enzyme Peels.** Enzymes are naturally occurring catalysts that can slough off dead skin cells. Because who wants dead skin? Vero No.1 Enzyme Peel, \$90, [spacenk.com](http://spacenk.com)

**F**

**is for Frankincense.** An aromatic resin derived from a tree, this anti-inflammatory has made its way from the Bible to Into the Gloss. Try: Pure Radiance Oil, \$110, [truebotanicals.com](http://truebotanicals.com)

**G**

**is for Gold.** Yes, 24-karat. While skin-stimulating golden goops may be too over-the-top for most, they're trending big-time. Chantecaille Gold Recovery Mask, \$270, [saks.com](http://saks.com)

**H**

**is for Hyaluronic Acid.** Used often as one ingredient of moisturizers, it's hip now to buy the quencher solo online. Hyaluronic Acid 2% +B5, \$7, [theordinary.com](http://theordinary.com)

**I**

**is for Inside Out.** The current glut of herbal supplements intended to boost outer beauty is loosely regulated, so trust your gut. Beauty Dust Supplement, \$38, [moonjuice.com](http://moonjuice.com)

**J**

**is for Jade Roller.** The mystical powers of this 7th-century Chinese facial tool may trigger eye rolls, but it's hard to argue with a massage. Jade Facial Roller, \$30, [herbivorebotanicals.com](http://herbivorebotanicals.com)

**K**

**is for Kelp.** Draping yourself in seaweed sounds unappealing, but kelp is a star ingredient in creams and cleansers. Atlantic Kelp Anti-Fatigue Body Wash, \$27, [renskincare.com](http://renskincare.com)

**L**

**is for LED Light.** LED—the acronym for "light-emitting diodes"—is now found in several at-home antiaging devices. LightStim for Wrinkles Device, \$249, [sephora.com](http://sephora.com)

**M**

**is for Microneedling.** Masochists will enjoy these devices with a rolling series of shallow needles that push products deeper into the skin. Environ Gold Roll CIT, \$300, [dermconcepts.com](http://dermconcepts.com)



A-TO-Z / SKIN CARE

## Skintellect

Our largest organ is having a moment. With seemingly infinite trends popping up, here's an A-Z compendium of what to know (at least this month)

BY LAUREN INGRAM

**THE CULT OF** skin care seems to have reached a fever pitch, with women (and men) accumulating costly, pleasingly packaged products to arrange in their bathrooms at a new pace. Self-taught enthusiasts, known as the "skintelligentsia," exchange hyper-detailed info about ingredients and regimens in Sephora comment sections and on Reddit Subs like "Skin Care Addiction." Ingredient apps like Think Dirty help aficionados weigh the difference between mugwort and St. John's wort. If you're more of a casual dabbler in the world of serums and sprays, however, the industry's rapidly changing trends require a bit of an explanation. Where to start?

"It's good to experiment with skin care," said Danuta Mieloch, aesthetician and founder of New York-based Rescue Spa, "but make sure you have the basics down first." (You know: cleanse, moisturize, SPF.) Once a simple regimen is in place, you can explore the hallucinatory range of procedures, from calculable to kooky. We gathered 26 of the buzziest elements of skin care today, but as Ms. Mieloch cautioned: "With skin care it's almost like a pair of jeans—what's good for some is not always good for the others."

**O**

**is for Olive Oil.** Small doses of olive extracts can be nourishing topically but most oils of the extra virgin variety are best tossed with salad. Try: Deep Cleansing Oil, \$28, [dhccare.com](http://dhccare.com)

**Q**

**is for Queen of Hungary.** This Budapest-based brand hypes the mysticism of Hungarian "waters" in its culty products. Mist, \$45, [omorovicza.com](http://omorovicza.com)

**S**

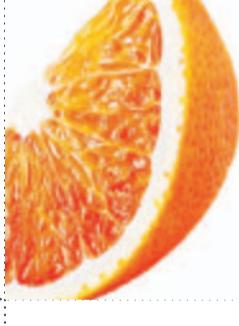
**is for Stripped Down.** This earthy oil is beloved by celebrities who claim they only use this and water on their faces. Active Botanical Serum, \$185, [vintnersdaughter.com](http://vintnersdaughter.com)

**T**

**is for Towelettes.** Otherwise known as the clever, portable way to apply product from toner to self-tanner. Essential Face Wipes, \$24 for a 20 pack, [uramajorvt.com](http://uramajorvt.com)

**U**

**is for Unisex.** Post-gender brands like Milk are transforming beauty, and companies like Aesop are beloved by men, women and some dogs. Cleanser, \$49, [aesop.com](http://aesop.com)

**V**

**is for Vitamin C.** Some facialists attest to C's brightening powers. Be sure to store this staple out of the sun for optimal effect. Try: Drunk Elephant C-Tango Cream, \$64, [sephora.com](http://sephora.com)

**W**

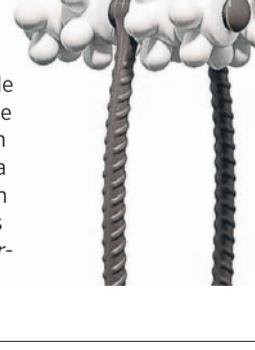
**is for Witch Hazel.** With over 10,000 (mostly positive) Amazon reviews, this refreshing toner is a legendary drugstore stalwart. Thayers Rose Petal Toner, \$9, [amazon.com](http://amazon.com)

**X**

**is for Ten.** The Korean beauty industry has a huge effect on trends, but the 10-step routine may be eight steps too many. Normal Skin Care Kit, \$260, [peachandlily.com](http://peachandlily.com)

**Y**

**is for Face Yoga.** If you're not capable of moving your face muscles around on your own, there's a tool for that. Sarah Chapman Skinesis Tool, \$38, [net-a-porter.com](http://net-a-porter.com)

**Z**

**is for Zzzs.** Overnight serums and masks allow lazybones ladies to restore skin overnight. Also, sleep is good. Skin Caviar Luxe Sleep Mask, \$375, [laprairie.com](http://laprairie.com)



RECKLESS REGIMENS / COMBINE THE TRENDIEST INGREDIENTS AND POTIONS OF THE YEAR AT YOUR OWN RISK

**S + U**

**The Beauty Skeptic** Overwhelmed by the panoply of bottles, she pulled a Marie Kondo and **stripped down** her routine, yet still swipes **unisex** products from her partner.

**G + T + D**

**The Real Housewife** A.m.: **Gold** cleanser, serum and mask; p.m.: **Ten**-step routine and goblet of "pink bubbles." Next a.m.: **Dry brushing** for self and chihuahua.

**F + Q**

**The Old-Schooler** She slathers vintage **Frankincense** oil on her face, before falling asleep with a dusty tome, dreaming of the court of the **Queen of Hungary**.

**C + J**

**The Goop Disciple** Her not-so-secret stash of **CBD**-infused products are stored next to a **jade roller** to promote harmony and balance within the marble beauty cabinet.

**O + R**

**The 'Barefoot Contessa' Fan** Wearing a loose linen wrap, she smears organic **olive oil** and **raspberry seed oil** sensually on her face as pie fumes infuse the beach house.

## STYLE &amp; FASHION

# Cut From a Different Cloth

A new guard of hip, hyperlocal tailors is reinventing custom suiting, once the territory of fusty haberdashers

By JACOB GALLAGHER

**W**HO BUYS custom suits these days? Joseph Leli, a 48-year-old regional manager for a Napa winery, used to believe only high-level executives kept tailors on speed dial. But then he was tipped off to BLVDier, a "made-to-measure atelier" that opened in Chicago's trendy Fulton Market District in 2015. "Right off the

From BLVDier in Chicago, to Commonwealth Proper in Pittsburgh and other cities, to Sid Mashburn in multiple places including Atlanta, and Tailors' Keep in San Francisco, a new guard of boutiques is rewriting the script on what custom clothing means in America. Although they span red and blue states, can skew preppy or modern, and accommodate fat and thin wallets, what unifies these neo-tailors is a more approachable custom experience. Neither drab nor dusty, their shops look Tumblr-ready with modernist sofas and edited racks. Instead of a gruff, stuck-in-the-80s tailor, youthful experts in slender suits man the tape measures.

And pricing, often opaque at old-school tailors, is typically outlined transparently on the companies' slick websites. Costs vary from relatively accessible to high-end: While BLVDier's custom suits, produced in China from Mr. Utich's measurements, can be had for less than \$1,000, a suit from Miller's Oath in New York, made by in-house tailors, starts at \$5,200. In addition to the suit, you're paying for the experience: As Mr. Leli found, a drink and a relaxed chat with an affable expert go a long way.

"We really try to make it an approachable learning experience," said Ryan Devens, the owner of Tailors' Keep. Whereas old-school tailors, especially those at London's ultratraditional Savile Row shops, can adhere to set "house cut" silhouettes, these upstart American tailors reject such rigidity. The adjustment process is casual: "If



LYNDON FRENCH FOR THE WALL STREET JOURNAL; ILLUSTRATIONS BY JULI KNÖRZER

WELL ADJUSTED Above: Client Nathan Michael with BLVDier's Zach Utich. Inset: Custom suit by BLVDier.

## In addition to the suit, you're paying for the experience.

bat it was a different experience than what I thought, in a positive way," said Mr. Leli. He was greeted with an espresso by BLVDier's owner Zach Utich, 33, who chatted easily with Mr. Leli about upgrading from his off-the-rack Hugo Boss suits. With the intimidation factor removed, Mr. Leli happily joined the expanding ranks of the custom-clothed.

someone is not vibing with something they can be confident to say 'This doesn't feel right,'" said Mr. Devens.

Like many other progressive tailors, Mr. Devens begins his process not in front of the mirror, but on the couch, with a conversation about the client's needs. It's an intimate shopping experience that inverts the breakneck pace of fast fashion and e-commerce. "A lot of this business is about creating relationships with people and creating a place that's comfortable," said Jake Mueser, 35, a bespoke tailor in New York with an

eponymous shop.

Though often under 40, these tailors typically have the training to deliver the impeccable fit that is the raison d'être of custom suiting. But while many haberdashers have an outdated notion of the perfect cut, upstart tailors tend to grasp what modern men want. As one client of Mr. Mueser's, Ari Dale, 43, the president and CEO of ticketing service Fevo, said, "He's a younger guy, so when I say things like I want to have a tuxedo shirt made, but I'm going to be wearing it with black jeans, they get it and the de-

tailing is more in line with a casual tuxedo-esque shirt versus a more formal one."

You may be surviving adequately without a relaxed tuxedo shirt, but the need for more traditional formal wear brings many first-time clients to these neo-tailors. Craig Arthur von Schroeder, the founder and CEO of Commonwealth Proper, said that he does a lot of wedding suits. Getting hitched is a good opportunity for a man to go custom; the specialized experience makes for an extra-special suit.

Mr. Devens of Tailors' Keep

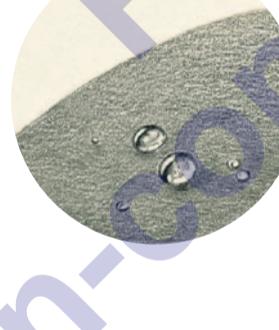
recalled one client who ordered a shawl-collared, emerald-green tuxedo for his wedding. Like many clients Mr. Devens sees, he arrived with a googled image on which he hoped the suit could be based. "A lot of guys come in with their own idea and their own vision and so we can help them make that happen," said Mr. Devens. With these bespoke shops popping up in cities around the country, your casual scrolling can become a not-so-casual reality.

► Find our local-tailor index at [wsj.com/fashion](http://wsj.com/fashion)

## GREATEST FITS / THE MOST POPULAR ITEMS AT NEO-TAILORS ACROSS THE U.S.



**BLVDier Chicago**  
The reimagined classic white shirt, which is customizable in an array of styles, with 30 collars and 15 cuffs to choose from.



**Commonwealth Proper Atlanta, Philadelphia, Pittsburgh**  
"Tech pants" made from a fabric that is waterproof, windproof and bacteria-proof.



**Tailors' Keep San Francisco**  
Wedding suiting for creative types who tend to think "outside the box," according to the shop's owner Ryan Devens.



**Sid Mashburn Atlanta, Houston, L.A., D.C., Dallas**  
Navy blazers in special fabric, which Mr. Mashburn calls "a performer" for climate and travel.

## ROUTINELY VS. RARELY

### David Sedaris



Closet treasures come in two kinds: everyday workhorses and seldom-worn stars. Writer David Sedaris shares one of each

**Routinely** "Something I wear all the time is a Comme des Garçons sport coat I bought maybe three years ago. At first, it looks like a black sport coat with muslin lining—but [on second glance, it appears that] a really jealous person attacked it with scissors. I wear it onstage a lot and somebody will say, 'Oh, let me fix your jacket.' I guess they think it's tucked into my pants or something. It confuses people."



**Rarely** "We live outside a little village in England, and there are several men who live in the village and wear caftans. When I saw this caftan at a store in San Francisco, I thought, 'I'm going to buy a caftan so I can wear it if I'm invited to dinner in the village.' I've worn it to two dinner parties and sometimes I wear it around the house. The only problem with a caftan is you don't want to have to pull it up at the urinal."

—Lane Florsheim

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## ADVENTURE &amp; TRAVEL

# Seeking Space in Portugal

*Continued from page D1*

expanses of golden wheat and grassland, punctuated by lone, broad-canopied holm and cork oaks, bring to mind the African savannah. Though the area is often referred to as the country's bread basket, the more imaginative might call it the olive-oil jug or the cork stopper.

Fittingly then, for our first stop in the Alentejo we visited Herdade da Maroteira, a little more than 100 miles from Lisbon, for a bit of "Corktrekking" through the 1,300-acre estate's forests of cork and holm oaks. Rather than hiking, we opted for a two-hour tour in an open-topped, olive-green 1974 Land Rover. As we rattled over dusty, unpaved roads, two of the estate's dogs bounding through scrub and tall grass beside us, we learned of the dangerous, precise hatchet-work required to harvest the bark of the cork oaks. Trees recently harvested were conspicuous for their smooth, terra-cotta-colored trunks, in contrast to their craggy brown limbs and green canopies. Untouched were the groves of holm oaks where, in the winter, porco preto, the black pigs who forage and feed on acorns, make the penultimate stop on their path to becoming some of the world's best pork and ham. At the estate's highest point, with views for miles, our guide Antonio pointed out a patch of ground, leveled and tiled, where overnight guests can come to eat dinner and stargaze. Stargazing is, in fact, becoming one of the chief attractions of the central Alentejo.

An organization called Dark Sky Alqueva, working with the Spanish Starlight Foundation, has even gotten a 3,680-square-mile tract around the Alqueva Reservoir designated as the "First Starlight Tourism Destination in the World." The sparse population (and consequently low levels of light pollution) as well as the dry and stable atmosphere mean that the stars here appear particularly sharp. In applying for the designation, Dark Sky calculated that over the last decade, the area has averaged 286 clear nights per year.

On such a clear night, without even a moon to dilute the starlight, we attended one of Dark Sky Alqueva's occasional parties on the shore of the reservoir. The minute we shut our car's doors in the parking area, we saw the Milky Way arcing across the sky, planetarium bright. Shuttle vans drove us, and more than 1,200 fellow gazers that weekend, close to the lakeshore. Nearby, the local restaurant Sem-Fim had set up a food concession, serving ham croquettes, grilled chicken and goblets full of local Sharish gin. Maybe it was the darkness, or the gin, but when people walked, they shuffled slowly, carefully—whether to the stage, where lectures were given, or to the expert-staffed telescopes trained on celestial bodies. As the night went on and people stretched out on the grass or took one of the available canoes out on the water, lectures gave way to ambient music that sounded of whale calls and didgeridoos.

You don't need a summer star party to appreciate the night sky, however. Come in the fall for the wine harvest, and you can take part in the astrophotography workshop at the Museu da Luz, in the lakeside village of Luz. Nearby, the Alqueva Lake Observatory hosts frequent viewings, and rents out telescopes to use on their observation pads. Guests of Sao Lourenco do Barrocal, a farming village turned luxury resort can even have stargazing guides from the observatory come to them armed with telescopes.

We stayed at the comparatively modestly priced Horta da Moura, another farm hotel

**The minute we shut our car's doors, we saw the Milky Way arcing across the sky.**

in the shadow of Monsaraz. Walking the grounds we found olive trees whose ages needed to be measured in millennia. On days when the temperature reaches into the triple digits—not an uncommon summer occurrence—the hotel's infinity pool may feel like more of a miracle than a tree that was already wizened when the Romans built the Temple of Diana in Evora, early in the 1st century.

But even those trees seemed modern when we visited the Almendres Cromlech, a megalithic enclosure of 95 man-sized stones, just outside of Evora. The complex dates back roughly 8,000 years, more than 2,000 years older than Stonehenge, said our guide, Libâo Murteira Reis, a retired history professor. And unlike at Stonehenge, one can walk among the monoliths to get a close look at some of the engravings. Pointing out how the stones formed a sort of observatory, aligned as they were with the sun and moon during solstices and equinoxes, Mr. Murteira Reis emphasized that "the people who made this were not primitive. They just didn't have the accumulation of knowledge and technology that we do now." Looking over the Alentejano countryside, he added, "From the megaliths to the telescope, what we have seen here is a continuous search for the meaning of life." And when that search happens to be on the shore of a lake in a far corner of Portugal, it can feel like a party.



**DOG DAYS** Clockwise from top: On Alcova de Baixo in the heart of Evora, Alentejo's capital; Activo, one of the horses at Horta da Moura, a farm hotel; Migas, one of the canine "Corktrekking" guides at Herdade da Maroteira, a 1,300-acre estate with a forest of cork and holm oaks.

FRANCESCO LASTRUCCI FOR THE WALL STREET JOURNAL; ILLUSTRATIONS BY WENJIA TANG



## IBERIA DIVIDED

Just because you know Spain, doesn't mean you know Portugal. A few key differences:



**Spain** The lisp, or if you want to be technical about it, the interdental fricative. It typically replaces the soft c, but not s. "Grathias."

## Sound you need to master

**Portugal** The "ezh," which can give European Portuguese a Slavic sound. In the capital city, you are *em Lisboa*, with the s pronounced like the s in television.

**Most Heavenly Body** The scientists at Spain's Calar Alto observatory had their eyes on the skies when they discovered asteroid 2001ME5, but their thoughts were with their stomachs when they named it "124143 Jose-luiscorral" for the observatory's beloved chef.

## Pasteis de Belem

**When a Portuguese-led team of astrophysicists discovered a galaxy 12.9 billion light years from Earth, its name was all but inevitable: Cosmos Redshift 7 Galaxy, or CR7, the initials and number of Portugal's greatest soccer player, Cristiano Ronaldo.**

**Breakfast of champions** Churros con chocolate. The hot chocolate should be thick and rich, more suited to dipping than sipping. The churros—piped sticks of fried dough—should always be fresh.

## Pastel de nata

**Pastel de nata.** The debate over who makes the best version of these egg custard tarts is an all-consuming one. Pasteis de Belem and Manteigaria, both in Lisbon, have the most ardent fans.

**Duende.** Flamenco, done right, is a conduit of pure abandon and shirt-ripping passion. "It's not a question of skill," said poet Federico Garcia Lorca, "but of a style that's truly alive."

## The emotion brought on by the nation's music

**Saudade.** Fado music evokes a deep sense of melancholy or longing so irresistible it's like an emotional bruise that you can't stop pressing, hoping the pain lasts just a little bit longer.

## THE LOWDOWN / GAZING AND GRAZING IN THE HEART OF PORTUGAL'S ALENTEJO

**Getting There** Evora, the capital of Alentejo, is 90 minutes by car from Lisbon. From Evora to Monsaraz is another 50-minute drive.

\$104 a night, [hortadamoura.pt](http://hortadamoura.pt). Sao Lourenço do Barrocal is an eighth-generation farming village that's been renovated into a resort with high design and luxury in mind. *From about \$425 a night, [barrocal.pt](http://barrocal.pt).*

**Touring There** Look to Dark Sky Alqueva ([darkskyalqueva.com](http://darkskyalqueva.com)) and the Observatorio do Lago Alqueva ([olagoalqueva.pt](http://olagoalqueva.pt)) for starwatching opportunities. A private tour with Libâo Murteira Reis is a source of relentlessly interesting insights about Evora's megalithic history. *From about \$175, [evora-mm.pt](http://evora-mm.pt).* Visit the cradle of two of the Alentejo's most important products—cork and pork on a "Corktrekking" expedition at Herdade da Maroteira. \$35 per person [corktrekking.com](http://corktrekking.com). Great shopping lies within the walls of medieval Monsaraz, like the traditionally woven rugs and blankets at Loja da Mizette. [mizzete.pt](http://mizzete.pt)

**Staying There** The Pousada Convento de Evora, also known as the Pousada dos Loios is a 15th-century convent turned luxury enclave, unbeatable for its location in the heart of Evora, facing the Roman Temple of Diana. *From about \$156 a night, [pousadas.pt](http://pousadas.pt).* Near Monsaraz, Horta da Moura feels like a secluded farmstead retreat, though it's just a half mile from the shores of the Alqueva lake and one mile to the castle of Monsaraz. *From about*

**Eating There** The restaurant at Herdade do Esporao, a winery and olive-oil estate, uses the best of Portuguese ingredients—including acorn-fed pork—in its dishes. [esporao.com](http://esporao.com). On a quiet street in a quiet town, locals gather at Adega Velha for Alentejano homecooking and amphora-aged house wine. *Rua Joaquim Jose Vasconcelos Gusmao 13, Mourao*

## ADVENTURE &amp; TRAVEL

# Gray Matters

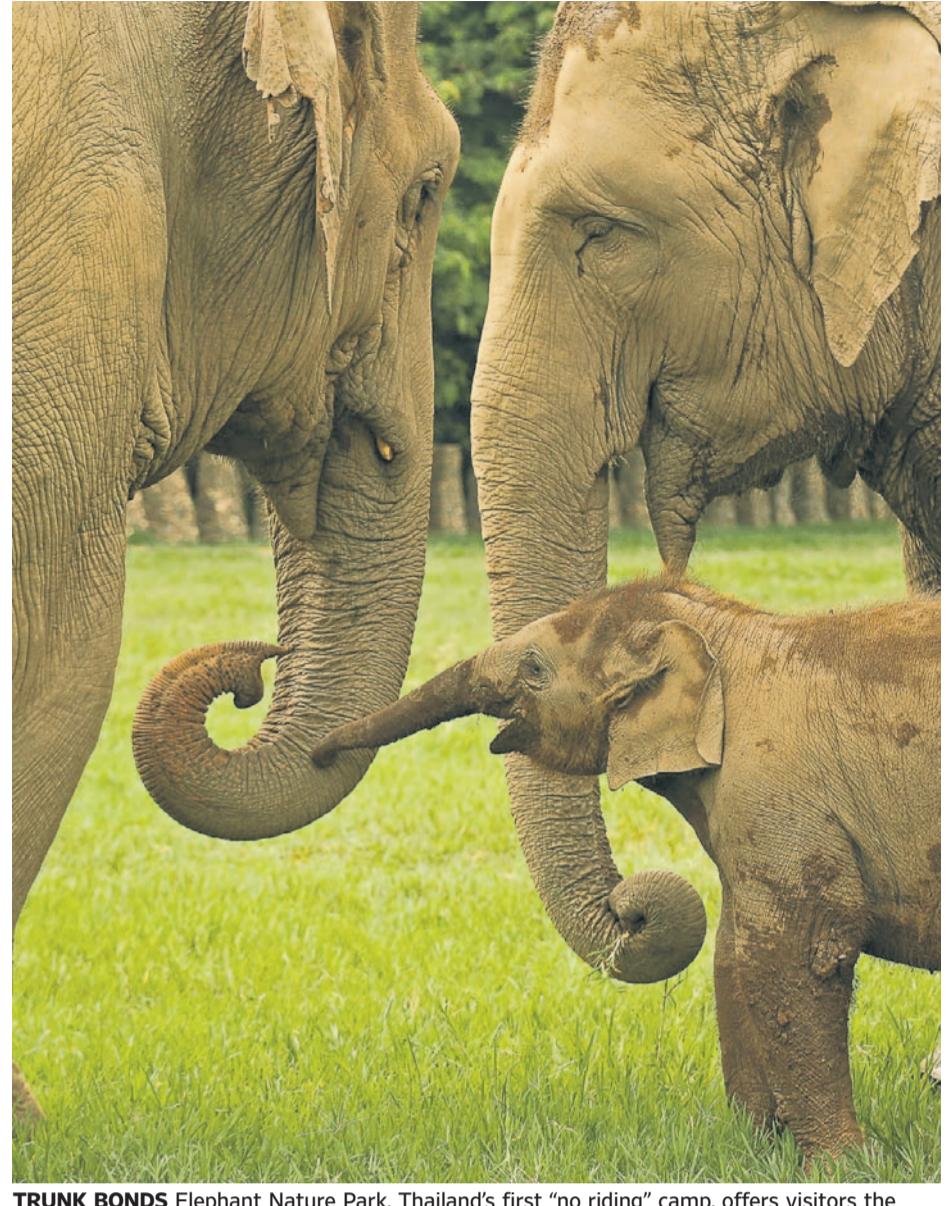
In northern Thailand, a great debate rages over elephant encounters. Should tourists look but not touch?

BY PATRICK SCOTT

**T**HE ELEPHANT, my companion for the morning, lumbered out of the woods onto a dirt slope next to a stream in northern Thailand. He appeared calm, ears flapping and tail swinging. But he was 9 feet tall at the shoulders, with pointed tusks longer than my legs. I was dubious about standing too close to him, let alone climbing on top of him.

I was at Patara Elephant Farm in the forested mountains north of Chiang Mai to undertake a popular tourist activity that's lately fallen under intense scrutiny: riding astride these mammoth creatures. With more than 90 elephant camps in the region, Chiang Mai serves as the world's epicenter of elephant tourism. It's also where the clash over whether to ride elephants is playing out most acutely. Of the scores of brochures that litter the travel shops sandwiched between bars and Buddhist temples in Chiang Mai's old city, roughly half tout "no riding" venues, with photos of tourists giving elephants mud baths and hugs. Many of those camps opened in the last few years as animal-welfare groups intensified campaigns against riding, tourists boosted the blitz on social media, and major European tour companies like TUI boycotted rides and circus-like shows.

Activists who condemn riding excursions say they often indicate abusive treatment, like chaining elephants between outings and breaking in the younger animals with unnecessary force. Feeling unjustly maligned, riding camps like Patara started a counter offensive. Beginning this year, they are developing and promoting new standards for camps, supported by veterinarians at Chiang Mai University, that cover everything from shelter height to water quality. According to these standards, riding elephants is harmless as long as the animals carry less than 10% of their body weight, or



**TRUNK BONDS** Elephant Nature Park, Thailand's first "no riding" camp, offers visitors the chance to observe many of its 83 elephants as they roam freely in the 160-acre sanctuary.

about 600 pounds for a 3-ton elephant.

The day at Patara began with owner Pat Trangprakan briefing our group of 20, mostly from the U.S. and Europe, about how the camp provides lifelong health care for elephants. He and his wife, Dao, opened the farm 14 years ago and now have 68 elephants on nearly a half square-mile of rolling hills. After we were separated into smaller groups and paired with elephants at the stream, the handlers explained that signs of good health included sweat around the toenails and moist feces filled with fiber. We were encouraged to squeeze clumps of dung.

Barefoot and in shorts, we walked our elephants into a pool below a little waterfall and scrubbed their hides with soapy brushes to help keep them free of parasites. When it

came to bareback riding, the handlers showed us how to step onto the elephant's raised right-front leg and hoist ourselves up by grabbing the top of its ear and the rope over its shoulders. My elephant, a 24-year-old named BoonYen, was surprisingly easy to mount. But as he plodded up a steep jungle hill and I rocked side to side behind his twin-domed head, I kept wondering if this was the life he wanted. And if it wasn't, whether this 4-ton beast would suddenly bolt and send me flying. Ahead of me, Emma Banbury from London was thinking about the similarities between this experience and taking her horse out for ride. "I don't have a problem with riding," she told me later, "because with horses they need work, they need a job to do." The other American in our group of six, Angela

Peluso, said she had mixed emotions. "It just didn't feel natural to me," she said. "It felt too touristy." And that's the rub. Tourism perpetuates captivity of elephants, but it also helps fund their care, especially since they were put out of work hauling teak after the government banned logging in 1989. Some animal-welfare advocates say the answer lies in creating sanctuaries where elephants roam free and have no direct interaction with visitors.

The day after my visit to Patara, I made my way to one of the few such venues moving in that direction, Elephant Nature Park, about 40 miles north of Chiang Mai. The country's first "no riding camp," it opened in 2002. I joined eight visitors from Europe as a guide led us around a valley in the mountains, stopping under towering thatch umbrellas to feed several elephants bananas and snap photos.

The park has 83 elephants, 25 of which the owner, Sangduen "Lek" Chailert, said she rescued last year from street performing and begging. Many of them roam the 160 acres

## Feeling unjustly maligned by activists, elephant-riding camps started a counter offensive.

freely during day. Unlike at the majority of camps, the elephants are not chained at night, but are kept in large pens.

Our guide fielded questions, rattling off answers—elephants gestate for nearly two years; herds consist of females and the young, while the bachelors are off on their own; these emotionally intelligent creatures have large brains that weigh about 11 pounds.

After a vegetarian buffet lunch in the park's timber pavilion, our group trudged down to the riverbank. Tourists flanked the animals in the shallows, tossing up buckets of water for their daily baths. One in our group, Gerhard Schuster, a retired orthopedic surgeon from Germany, voiced the question I'd been pondering since I arrived in Chiang Mai: "Is it good for them to be touched, each by 150 people?" he wondered. "I'm not sure." Veterinarians at Chiang Mai University are conducting stress studies to help find out. Meanwhile, the Elephant Nature Park stopped the splash baths a few weeks following my visit after guest surveys indicated a willingness to visit even if bathing was not part of the program. Next up, Ms. Chailert said, will be phasing out tourists feeding the elephants. Instead, visitors will observe from a distance on elevated platforms. "In their lives they get a lot of hands on them," said Ms. Chailert. "We call this a hands-off project. We move step by step."

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## EATING &amp; DRINKING

# Let There Be Light Beer

These aren't the anemic brews of yesteryear. Now, craft breweries are dialing back the alcohol and the calories but keeping the flavor full-on

By WILLIAM BOSTWICK

**C**RAFT BEER GEEKS love stats. With all the ABVs and bittering units, barrel sizes and batch numbers, a beer bottle's label can often read like the back of a baseball card. Yet one figure seems verboten in the craft world: calories. While mega breweries flaunt puny carb counts, micro-beer fans tend to assume that "lite" means flavorless.

Lately, however, craft brewing has been quietly losing weight, squeezing into macro-brew territory with beers as low in alcohol and calories as mass-made lagers—only deceptively, defiantly flavorful.

**'How flavorful and unique can we make a sub-100 calorie beer?'**

Small-scale breweries have, historically, produced big, bold brews. "We were known for intense, explosive, winelike beers," Dogfish Head Brewery's president and founder Sam Calagione said of his brewery's early days. "That's how we differentiated ourselves." They won a reputation for some of the wildest beers around. But a strange thing happened in 2007 when they released Festina Peche, a slightly sour, peach-infused wheat that barely tipped the scales at 4.5% ABV and 8 IBUs (International Bittering Units). It sold.

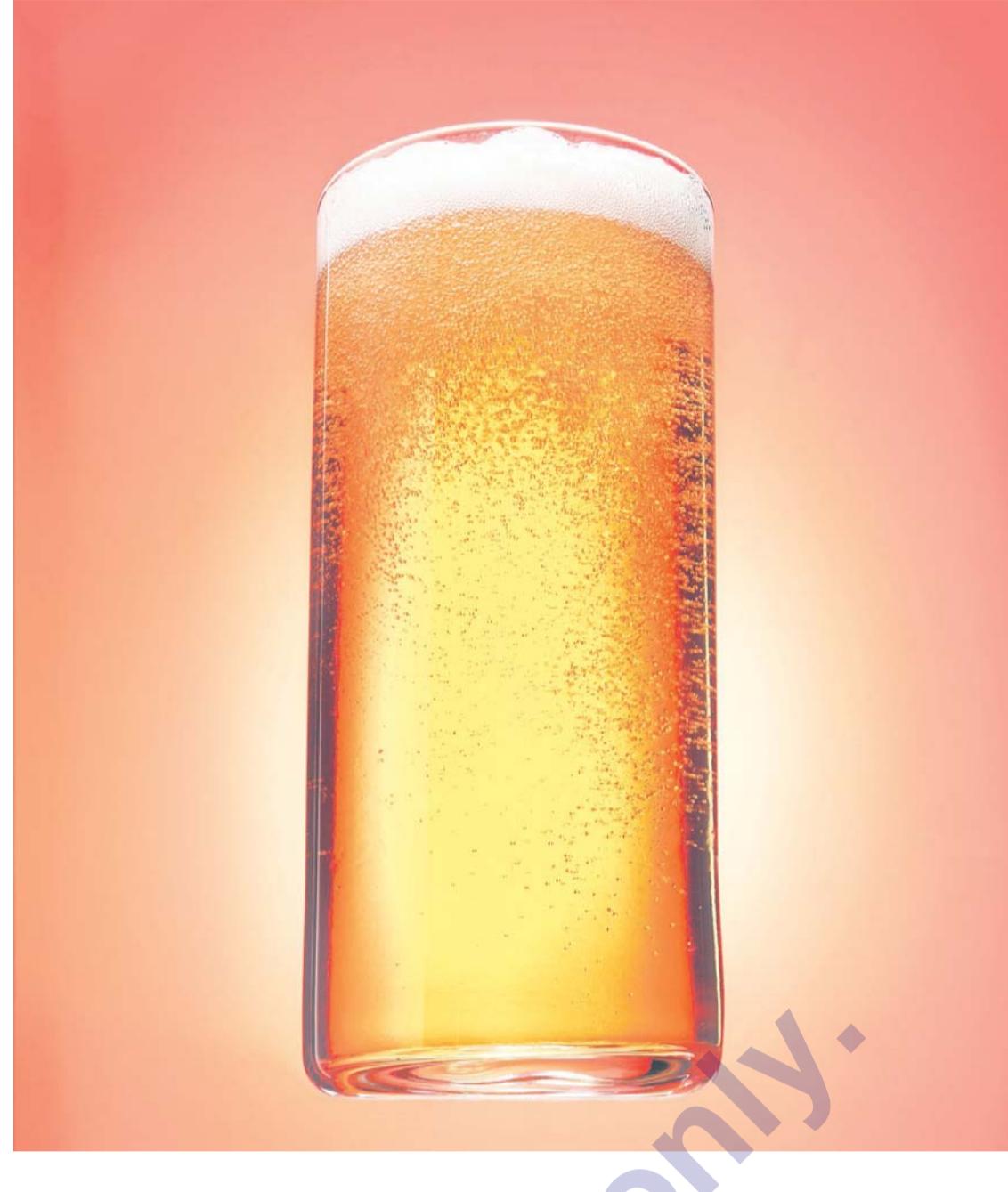
"Festina was a runaway hit," Mr. Calagione said, and it hasn't lost steam. While Dogfish still sells truckloads of crushers such as 120 Minute IPA, the brewery's

SeaQuench Ale, a 4.9% gose released in 2016, has been the fastest-growing beer in the company's history.

What changed? "Millennials," said Lagunitas Brewing Company brewer Jeremy Marshall. "They're turning 21, they're more health-conscious, they're watching gluten and watching calories. But they associate low ABVs with the boring beers their parents drank, and they want hops. They want creativity." Lagunitas and other breweries like them are retooling accordingly.

Yes, Lagunitas, makers of boozy bruisers like aptly named Maximus (8.1% ABV) and Hop Stoopid (8% ABV) is releasing light beer. "I've never had a McUltra in my life," Mr. Marshall said, referencing the mass-market light beer Michelob Ultra. "We're returning to that macro-lager ABV but not the macro-lager taste." So while Lagunitas's lighter fare weighs in with the featherweights, it packs the punch craft drinkers expect. DayTime (4.65% ABV), an IPA, is bright and juicy. Sumpin' Easy (5.7% ABV) is smoothly sweet like a peach-peach creamsicle. Lagunitas's brewers are even working on a sub-100-calorie lager. "Our answer to light beer," said Mr. Marshall. "Super hoppy, exploding with passion fruit and berries. Really exotic. It's a lawnmower beer for our crowd."

Craft's new low-ABV offerings aren't always macro-brews done better. Some adopt up-and-coming styles. Ale Industries' piney Uncle Jesse (4.8% ABV), for instance, is a hazy IPA on a diet. Still others go historical. After all, in the centuries before potable water could be counted on across Europe, beer was an all-day, every-day drink, and light, refreshing styles abounded. Salty-sour gose, bready zwickel and



crisp, roasty schwarzbiere all tend toward the low-ABV end of the scale. Wicked Weed's Pass the Kvassier (2% ABV) reinvents a Russian rye-based brew as sprightly as kombucha.

Tuning down their brews shifted Dogfish Head's source of inspiration, too, from American hop fields to the European grain belt. "We wanted something really malt-forward but super refreshing," Mr. Calagione said of Dogfish Head's latest light beer, Grisette About It! (3.5% ABV and under 100 calories). The brewers chose grisette, an old-time French wheat-beer style. To

emphasize its grainy character without carb-loading, they used a low-sugar, 17th-century oat variety from Columbia, S.C., granary Anson Mills, along with malted wheat and a little honey. "We looked at McUltra and Bud Light as a challenge," Mr. Calagione said. "How flavorful and unique can we make a sub-100 calorie beer?"

Packing their familiar flavors into svelter ABV and calorie counts proved tough, initially, for Lagunitas. "We didn't use to do 4 and 5% beers," Mr. Marshall said. "Our equipment wasn't designed to make them that little." It was built, in-

stead, around beers like the Waldos' Special, an 11.3% triple IPA that uses 19,000 pounds of grain per batch. Alcohol comes from sugar, which comes from grain. More grain means more flavor, but also higher ABV and more calories. DayTime, that light IPA, uses almost 7,000 pounds less grain per batch than Waldos' Special.

"We had just bought brand-new brew houses with huge, nine-meter-diameter lauter tuns," Mr. Marshall said. (Lauter tuns are like giant colanders used to drain sugary proto-beer called wort from water-soaked grains.) "That's massive. And so when we started brewing low-ABV beers like DayTime, we couldn't fill them with more than, like, a thin cookie of grain." The colander was draining too fast, so, in the case of DayTime, they added oats and rye to thicken the brew, "which had the benefit of giving the beer the grainy body it lacked, without the sugar." They also used an extra dose of hops "for aroma, plus polyphenols and tannins that add even more body and texture."

The result is supremely tropical—as well as low in alcohol and calories. But as this and other craft brews prove, the stats are only half the story. These beers are so easy-drinking and so flavorful, you'll focus instead on everybody's favorite number: one more.

**SUBSTANTIALLY LIGHTER / 5 BEERS LOWER IN ALCOHOL AND CALORIES, FULL OF FLAVOR AND CHARACTER****1. Second Self Havana Nights, 4.6% ABV**

With a blooming tartness, this beer seems to ripen as you sip, from early-season berries and green grapes to juicy, deep-pink guava.

**2. Schlafly Summer Lager, 4.5% ABV**

The German take on peppy Czech pilsners, helles lagers are smoother and slightly creamy.

This one has the faint red fruit of strawberry short cake.

**3. Uinta Baba Black Lager, 4.0% ABV**

Looks deceiving: A long, cool lager fermentation tempers this schwarzbiere's sharp, black edges into the mellow, slightly acidic zest of cold-brew coffee.

**4. Lagunitas DayTime, 4.65% ABV**

Bright and citrusy with a body that balances but doesn't burden. Like lemonade and Frosted Flakes, white toast and orange jam.

**5. Dogfish Head Grisette About It!, 3.5% ABV**

An old French style redone in heirloom malts, wine barrels and warm-fruit hops. Like a chewy oatmeal cookie with rum-soaked raisins.

**SLOW FOOD FAST / SATISFYING AND SEASONAL FOOD IN ABOUT 30 MINUTES**

## Grilled Zucchini Steaks With Curried Almonds and Yogurt

**HERE WE ARE again,** the time of year when the zucchini really piles up. And there's only so much zucchini bread a person can bear.

This summer-fruiting squash is actually terrifically versatile, as delicious shaved thin and served raw in a salad as it is cut into coins and fried. At Vicia in St. Louis, chef Michael Gallina devotes the final course of his tasting menu to zucchini. "We treat it like a steak," he said—that is, cut it thick and char it on the grill. Garnished with sweet curried almonds, mint leaves and a lemony yogurt sauce, it's a fresh and satisfying summer recipe.

Grilling concentrates the zucchini's natural sweetness and renders the flesh lush

and velvety, as wisps of smoke waft up from the coals to impart another layer of flavor. The result, succulent and substantial, legitimately warrants the name steak.

Add a whole grain such as farro and make this a vegetarian main course, or toss some fish or meat on the grill alongside your zucchini and serve this as a side dish. The yogurt makes a cooling counterpoint to the smoky zucchini, and the almonds, candied in a coating of honey and spice, provide texture as well as flavor.

"Often there isn't a lot of creativity when it comes to this ingredient," said Mr. Gallina. "But when I think of zucchini I think of yogurt and nuts and endless possibilities."

—Kitty Greenwald

**Total Time** 25 minutes  
**Serves** 4

**4 medium zucchini, halved lengthwise**  
2½ tablespoons olive oil  
Kosher salt  
1 cup blanched, slivered almonds  
½ tablespoon honey  
2 teaspoons curry powder  
1 cup Greek yogurt  
1 tablespoon lemon juice  
2 tablespoons chopped mint, plus roughly torn mint leaves to garnish

1. Light your grill. While it heats up to medium-high, toss zucchini halves with 2 tablespoons olive oil and a pinch of salt. Once grate is hot, grill zucchini halves until charred on both sides and so tender a knife effortlessly pierces through to the center, about 4 minutes total.

2. Cover a cutting board with wax paper and set aside. In a small pan over medium heat, combine remaining oil and almonds. Toast nuts until golden brown and aromatic,

about 1 minute. Add honey, curry powder and salt. Toast, stirring, until nuts are evenly coated in honey and caramelized, about 1 minute more. Transfer almonds to prepared cutting board and let cool.

3. In a small bowl, mix yogurt with lemon juice and mint. Season with salt to taste. Spread yogurt sauce over 4 plates and set zucchini steaks on top. Spoon curried almonds over zucchini and garnish with torn mint.



**BASE LAYER** Smear the yogurt over the plate and serve the zucchini on top. That way, you can drag each bite through the creamy sauce.

**The Chef**

Michael Gallina

.....

**His Restaurant**

Vicia, in St. Louis

.....

**What He's Known For**

Showcasing

Midwestern

produce with a

minimalist, modern

approach. Making

clever use of every

last vegetable

scrap.

## EATING &amp; DRINKING

# These Bowls Are the Coolest

Korea's refreshing repertoire of chilled noodle dishes is everything you want right now

BY ELEANORE PARK

**A**ROUND THIS time of year, the weather in New York parallels that in Seoul; humidity and overbearing heat press in from every direction. I seek refuge in Manhattan's Koreatown and the cold noodle soups I grew up with. Eating this way cools you from the inside out.

Recently, Korean and Korean-American chefs have been putting new spins on traditional cold noodle dishes. At Hanjan in New York, chef Hooni Kim makes an exceptional *mul naengmyeon*, a dish of buckwheat or sweet-potato-starch noodles served in a frozen beef broth that's more granita than soup. He keeps the ingredients classic while bringing some cheffy smarts to the preparation. "It's one of the few dishes that people will wait for in Korea," said Mr. Kim. Timing is crucial when it comes to adding each ingredient. "I believe there's a specific time when all the flavor can come out of the piece of meat or the bone," said Mr. Kim.

Following the lead of *naengmyeon* cooks in Seoul, he adds Sprite or 7UP to the stock just before freezing. "Every Korean *naengmyeon* place that's been around for more than 50 years uses Chilsung soda," South Korea's 7UP equivalent, he said. A good bowl of *mul naengmyeon* stays cold from beginning to end. "It's important to keep that slush," said Mr. Kim.

*Bibim naengmyeon* is a spicy variation with less broth that gets mixed together right before serving. At Parachute in Chicago, chef Beverly Kim creates a hybrid of *mul naengmyeon* and *bibim naengmyeon* that borders on salad-ish. "It's a great way to utilize a lot of fresh produce," said Ms. Kim. "It's almost equal parts noodles and vegetables because it's a celebration of summer. I wanted it to be refreshing and really satisfying." A second-generation Korean-American who grew up in Chicago, Ms. Kim remembers *bibim naengmyeon* as a quick summer dish her mother would whip up with whatever ingredients were



JAMES RANSON FOR THE WALL STREET JOURNAL; FOOD STYLING BY EUGENE JHO; PROP STYLING BY SUZIE MYERS

on hand. Today, she and her husband and co-chef, Johnny Clark, bring acidity to the dish by way of kimchi juice and citrus, and top it with a chopped-up deviled egg. "I always felt like the impression of the dish should be fresh and super flavorful," said Ms. Kim. "This is not a delicate dish. These are big flavors."

At the other end of the flavor spectrum, *kong-guksu*—typically buckwheat noodles in a cold, mild soy-milk soup—appears on Korean menus during the summer months, too, but only when the temperature outside rises high enough. (I learned this the hard way on my last trip to Korea as I searched in vain for a bowl.) At Baroo in Los Angeles, chef Kwang Uh has worked a few variations.

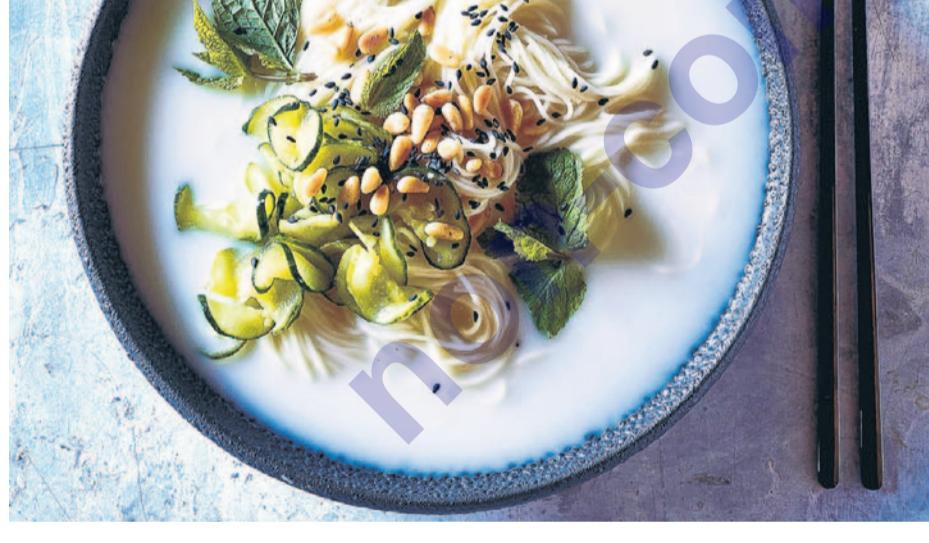
"*Kong-guksu* is more subtle and elegant than *naengmyeon*," he said, adding that the dish possesses a "zen vibe" in its utter simplicity. In his version, he flavors the noodles with dehydrated roasted *doenjang* (fermented soybean paste) and garnishes the dish with a peanut and pine-nut brittle.

While these chefs make their own noodles, good arrowroot, sweet-potato-starch or buckwheat noodles can be found in any Asian supermarket. And, thankfully, the soup bases for these dishes can be made well ahead, so the next time the temperature surges, you'll have them on hand, ready to come to the rescue.

Find more Korean cold noodle recipes at [wsj.com/food](http://wsj.com/food).



**CHILL FACTOR**  
From above: *Mul naengmyeon*; cold buckwheat noodles with lettuces, radishes and deviled egg.



## Kong-guksu (Cold Soy-Milk Noodle Soup)

**Active Time:** 20 minutes  
**Total Time:** 9 hours (includes soaking)  
**Serves:** 4

**1 cup dried soybeans, preferably organic, soaked overnight and drained**  
**6 cups water**  
**½ teaspoon sea salt, plus more to taste**  
**1 cup toasted pine nuts**  
**1 English cucumber, peeled, seeded, halved lengthwise and thinly sliced**  
**½ tablespoon Bragg Liquid Aminos**  
**1½ tablespoons fresh lemon juice**  
**2-inch piece ginger, peeled and grated**  
**2 teaspoons honey**  
**12 ounces dried somen (thin wheat noodles) or buckwheat noodles**  
**½ cup mint leaves**  
**Toasted black sesame seeds, for garnish**  
**Soy sauce, to finish (optional)**

**1.** In a large pot, combine drained soybeans with enough cold water to cover by a couple inches. Bring to a boil over medium-high heat. Reduce heat slightly to maintain an aggressive simmer and cook, stirring occasionally, until soybeans have softened slightly but still retain some bite, 6-9 minutes. Drain soybeans and rinse under cold running water. While water is still running, use your fingers to shell the beans. Discard shells. **2.** Make soy milk: In a blender, combine soybeans, 6 cups water and half the pine nuts. Blend at medium speed until smooth and slightly thickened, about 2 minutes. Season with salt to taste. Use a fine-mesh sieve to strain soy milk, pushing on solids to extract as much liquid as possible. (You should have about 6 cups.) Transfer soy milk to an airtight container and chill at least 30 minutes. (Soy milk can be made up to 2 days ahead and kept in an airtight container in the refrigerator.) **3.** Pickle cucumbers: In a medium bowl, toss cucumbers with ½ teaspoon sea salt. Set aside and let sit at least 20 minutes. Meanwhile, in a small bowl, whisk together Bragg Liquid Aminos, lemon juice, ginger and honey. Once cucumbers have finished sitting, gently squeeze to wring out any remaining liquid and return to bowl (if cucumbers taste too salty, rinse and drain, squeezing out remaining liquid). Pour Bragg Liquid Aminos mixture over cucumbers and toss to combine. **4.** Bring a large pot of salted water to a boil. Add noodles and cook according to package instructions. Drain noodles and rinse under cold water. Toss lightly to shake out any excess water. To serve, divide soy milk and noodles among four bowls. Top with pickled cucumbers, remaining pine nuts, fresh mint leaves and a sprinkle of black sesame seeds. Mix together noodles and soup before eating. Season with soy sauce to taste, if desired.

—Adapted from Kwang Uh of Baroo, Los Angeles

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## THAT'S DEBATABLE

## DESIGN &amp; DECORATING

## Are Twin Beds Best for a Guest Room?



**CANOPIES OF GREEN** In a client's country house in Centre Island, N.Y., designers Thomas Jayne and Egan Seward installed replicas of 18th-century Federal beds.

## THE SINGLES SCENE / IF YOU WANT TO GO THE TWIN-BED ROUTE, SOME HANDSOME ONES TO CONSIDER

Herman Miller Nelson Thin Edge Bed, from \$2,395, [store.hermanmiller.com](http://store.hermanmiller.com)



French Iron Bedsteads, \$1,600 for pair, [1stdibs.com](http://1stdibs.com)

French Iron Bedsteads, \$1,600 for pair, [1stdibs.com](http://1stdibs.com)

Drommen Acacia Twin Bed with Leather Headboard, \$1,299, [CB2.com](http://CB2.com)

YES

**FOR REASONS BOTH** aesthetic and practical, a fair number of decorators prefer twin beds in a room set up for sojourning friends and family. New York designer Richard Mishaan finds twins (also known as "singles")

visually "less cumbersome" than a queen or king, thanks to the way they create a space between them. "It's the Japanese philosophy of Ma," he said, "the absence of something that gives you perfect balance." Beyond their calming symmetry, said Charleston, S.C., designer Tammy Connor, single beds grant you "the opportunity to do something a little more interesting than having a large bed in the middle of the room." Ms. Connor has hung various compositions—of baskets, of ceramics—on the wall over the beds, creating a "vertical element." New York designer Alyssa Kapito favors canopy versions: "There's something really dramatic about their narrowness," she said, adding that guest rooms, used only occasionally, are worthy stages for drama. New York designer Thomas Jayne installed replicas of 18th-century Federal beds in a client's country home (left). "It's not very friendly if you're madly in love, but people have made do," Mr. Jayne said. "Twin beds have never conquered passion." Though Mr. Mishaan sometimes joins the mattresses into a king for consenting adults, even platonic friends can bunk up in twins without worry, which makes them a go-to for Perry, Ga., designer James Farmer. "Two men can share the room in a heartbeat, and that's two extra to fill out the golf game," he said. Twins just offer the greatest number of possibilities, added Mr. Mishaan. "It's endless."

NO

**PROONENTS OF ONE BIG** mattress unite behind one critical point: We're not kids anymore. "I used to think it was very stylish to have twins, but now I find that absolutely, positively no one enjoys it," said New York designer Steven Gambrel. "Even with bunk rooms on the wall, we do something deeper than a twin—people find it more useful and more luxurious."

Visually, some designers also prefer the way a large central bed becomes an obvious focal point, with a pair of bedside tables providing symmetry. Kazuko Hoshino, principal of interior design at Los Angeles firm Studio William Hefner, said that, with a queen or king, "you create a balanced atmosphere with a pair of night stands and dress the room with a side chair or desk." Mr. Gambrel, too, likes to relegate the extra square footage to the outer edges. "It gives you more space for tables and lamps in the corners," he said. Other designers focus on the technical practicalities. "Instead of having a charging zone for each sleeper, chances are [with twins] you can only fit one center table and [guests] would have to share outlets," said New York designer Young Huh. "It's a lot more poky! With a large bed, you have a side table for each sleeper, and two separate surfaces for personal effects." Ultimately, this camp champions what they themselves would want. "Maybe I'm the only one related to high-maintenance adults, but no one who visits us regularly would be cool with a twin bed," said Nashville designer Stephanie Sabbe. "I think it's adorable, but adults in 2018 do not sleep in twin beds, like, ever. It's like the Cleavers." —Kathryn O'Shea-Evans

## FLOWER SCHOOL

## Mona Lisa Bright And Dark

Floral designer **Lindsey Taylor** turns to her late-summer garden for hues as complex and varied as da Vinci's immortal portrait

**AUGUST IS PEAK tourist time at the Louvre museum in Paris, and lines to see the possibly amused "Mona Lisa," by Leonardo da Vinci (1452-1519), snake deep into adjacent rooms. So that you might take a closer look in the comfort of your home, I've used the Renaissance canvas as my inspiration this month, and attempted to transform its intrigue and beauty into a floral arrangement.**

The small (21 by 30 inches) work, slightly muddy at first glance, has great depth and layers of color when you spend time with it. To pick up the richness of her dress I selected an old favorite brown-ware jug for my vessel, then turned to my garden.

I gathered seed-head-laden branches of my Physocarpus 'Diablo,' or ninebark, its green-umber foliage a stand-in for the painting's landscape. Spikes of creamy white astilbe mimicked Mona Lisa's skin tone, and the long seed heads of the andromeda aped her fingers and added a tawny layer. The deep velvety brown petals of a few chocolate cosmos evoked her clothes, and their simple, flat blossoms had the sweetness of her maybe-smile. Deep reds of the kangaroo paws' tubular flowers and orange balls of gomphrena added more color and texture. Finally, a few periwinkle-hued stems of delphinium left long for height in the back freshened up the late-season palette and conjured the water and sky in the background. When I was done, I felt a little Mona Lisa-esque smile cross my face, proud of my small efforts to connect with this renowned work of art in my own way.



STEPHEN KENT JOHNSON FOR THE WALL STREET JOURNAL. FLORAL STYLING BY LINDSEY TAYLOR. PROP STYLING BY CARLA GONZALEZ-HART



Seed-laden ninebark and andromeda capture the many browns of Leonardo da Vinci's 'Mona Lisa' (1503-1519) while plumes of white astilbe and periwinkle delphinium, evoking her complexion and the water of the background, brighten the bouquet.

Vessel, designer's own

## GEAR &amp; GADGETS

## The Post-Gym Gym

If your regular workout leaves you limp, go directly to one of these techy new fitness studios to...recover

BY ASHLEY MATEO

**H**OW FAR WOULD you go to be a stronger, fitter, better human? After a knockout workout at your go-to gym, would you drop in somewhere else to pump your muscles full of electrical impulses that hasten your rehab? Bake yourself in an 110-degree infrared sauna just to ease inflammation? Zap pain away with hand-held lasers? And would you pay upward of \$150 a month—on top of your regular gym membership—to do it?

Sure, it sounds ridiculous, but Tom Brady does it. Tony Robbins does it, too. Countless top-flight athletes and strappingly fit celebrities are now fixated on recovery, but it involves more than taking a day off from their regular gyms. The smart, sci-fi technologies mentioned above—offered by a new breed of fitness studios—improve the quality and speed of recovery, so soreness or muscle fatigue don't hold you back. And these new post-gym gyms are banking on the fact that people will pony up for the promise of more gains in less time.

"Most fitness has been focused on how you look in the mirror," said Martin Tobias, CEO at Upgrade Labs, an advanced tech recovery facility in Santa Monica, Calif. But "people don't understand that growth doesn't happen in the gym," he explained. "Exercise is the stress that breaks down your muscle fibers. It's the recovery phase that actually builds your muscles."

Your immune system is constantly working to repair muscular micro-tears, but takes its sweet time. These studios aim to deliver recovery in a hurry. At Upgrade Labs (*from \$510/mo., upgrade-labs.com*), you'll find baffling treatments like Pulsed Electromagnetic Field therapy, which uses low-level radiation meant to penetrate and heal damaged muscle tissue; and a virtual float tank, which purportedly helps reset your nerves' neurotransmitters.

ReCOVER, New York City's first dedicated recovery studio (*\$299/mo., recover.nyc*), which opened in March, hawks similar technologies. Its NuCalm sleep system aspires to deliver the equivalent of four hours of restorative slumber in one 30-minute session; and CVAC (Cyclic Variations in Adaptive Conditioning), a remarkably strange machine that looks like a cross between a space pod and a tanning bed. The luminous CVAC chamber rapidly changes air pressure to help improve circulation, boost oxygen-rich blood cells and flush lactic acid.

Skeptical? "There's plenty of re-



**CAN'T MAKE IT TO THE STUDIO?** / THESE FOUR AT-HOME TOOLS CAN HELP YOU BOUNCE BACK, TOO



An embedded motor in the **Hyperice Vyper 2.0** foam roller powers three levels of vibration therapy; lithium ion batteries give you two hours of use per charge. *\$199, hyperice.com*



The smartphone-connected **PowerDot** employs electrical muscle stimulation technology to activate your muscles pre-workout and soothe them afterward. *\$249, powerdot.com*



Pro athletes swear by the **TheraGun G2Pro**, which combines frequency, amplitude and torque settings to break up scar tissue and relieve pain across your entire body. *\$599, theragun.com*



The **R8 Roller** self-adjusts to your body, using springs to apply deep tissue pressure that loosens up your muscles without making you do any extra work. *\$129, rollrecovery.com*

search to support the success of these technologies and how they help contribute to a faster recovery," said David Reavy, a Chicago-based orthopedic physical therapist who works with NFL stars like Philadelphia Eagles wide receiver Alshon Jeffery. "A facility can offer access to a wide range of tools to give you what your body needs."

But you're probably not a pro athlete. Most weekend warriors can achieve comparative results at home—the market is flooded with high-tech DIY tools now (See "Can't Make It to the Studio?") and there's undoubtedly a foam roller gathering dust under your bed. Even with the hefty price tag, a suite of recovery devices might cost less than a year's membership. "But people are too lazy to do it... and they don't know how," said Robyn LaLonde, the owner of EDGE Athlete Lounge in Chicago, which has offered recovery services since launching in 2014 (*\$185/*

*mo, edgeathletelounge.com*).

At EDGE, clients can treat damaged cells, promote cell regrowth and relieve localized pain via laser therapies, among other technologies. That's a far cry from having a trainer stretch you at your gym post-workout or rolling out your tight muscles with massage balls.

"It's like a reset button for your legs," said Alex Harvey, 25, a food scientist and runner who trained at EDGE in the lead-up to her first 50-mile race. "It has allowed me to push my body to new limits I never thought were possible. I notice a huge difference in inflammation of my joints after a tough trail session after using these tools."

If these excessive technologies can get Tom Brady to his eighth Super Bowl, mere mortals stand to benefit a little, too. "Who wouldn't want to maximize their body and muscle performance and feel better?" said Mr. Reavy. You won't get that from the old lacrosse ball you use to work out the kinks. Then again, it doesn't cost \$1,800 a year.

## Hacking Your Meat

We pit digital meat thermometers head-to-head to test which ones are well done



**READY OR NOT?** From left: OXO Chef's Precision Instant Read Thermometer, \$11; ThermoWorks ThermoPop, \$30; ThermoWorks Thermapen Mk4, \$100; Meater, an app-connected smart probe, \$70

**THE MOST RELIABLE** way to allay novice cooks' fears? It might just be the meat thermometer, an old gadget that measures food's internal temperature to ensure that it's high enough to kill pathogens—but not so high that the meat becomes inedible. The market for instant-read thermometers has grown exponentially in recent years, with many now providing accurate readouts seconds after you stick them in your meat, outclassing their clumsy predecessors.

"It's important for beginners to use a thermometer so you know what's rare, medium-rare, well-done," said Antonio Mora, executive chef at New York's Quality Meats. He can assess most cuts' readiness by sight and feel (meat shows greater resistance to the touch of a finger as it cooks), but relies on thermometers for hulking proteins like prime rib and turkey.

Cooks who lack Mr. Mora's trained digits may be tempted by Meater (\$70, [meater.com](http://meater.com)), a Bluetooth-enabled probe that unlike most thermometers stays in your meat as it cooks to track its progress via an app. Select your animal, cut and preferred level of doneness, add heat and await an alert.

Despite an awkward moniker, Meater mostly succeeds. Its penlike, silver probe seems unnecessarily chunky at the tip; I had to initially coax it into the muscle of my marinated chuck steaks. The app targeted 135 degrees Fahrenheit for

medium-rare, on the high end of experts' recommendations.

With its wide protein selection, Meater's app impressed me. It reassuringly guides distracted cooks with large text and color-coded charts and helpfully blares when your roast or hen achieves the set temperature. While it's supposed to account for resting time, the period when meat continues to cook off the stove, Meater was thrown by how quickly my thin chuck finished. Meater makes more sense for thick ribeyes and whole birds, which take longer and are harder to gauge.

ThermoWorks's pricier Thermapen Mk4 (\$100, [thermoworks.com](http://thermoworks.com)) is considered the gold standard of meat thermometers, delivering startlingly fast readings on a large digital display. I easily slipped the probe's ultrathin point into the chuck each time I checked its temperature, but I couldn't wander off and wait to hear an alert as with Meater. For much less money, the brand's adorably shaped ThermoPop, \$30, works nearly as well.

Still, you can't beat the OXO Chef's Precision Instant Read Thermometer (\$11, [oxo.com](http://oxo.com)) for simplicity and cost. It does all any chef needs, just a tad slowly—readings often took 10 seconds. As the hand on its analog dial reached 130, I killed the flame, then slathered my steak in homemade chimichurri. One perfectly rare, melty bite later, any worries of toughness disappeared.

—Paul Schrot

## GEAR &amp; GADGETS



**ROAD TO REDEMPTION**  
The turbocharged VW Jetta gets 40 mpg and is loaded with features.

RUMBLE SEAT / DAN NEIL



## 2019 VW Jetta: In Pursuit Of a Great Cheap Car

**I ADMIT TO FEELING** a bit of *schadenfreude*. I'm liking the new, post-Dieselgate Volkswagen: humbled, hungry for business, eager to please, ponying up more for less. The redesigned 2019 VW Jetta's base MSRP of \$18,545 is actually \$100 less than the retiring model and it is considerably more car, as we shall see.

At the retail level, VW management is earning back Americans' trust the old-fashioned way: by putting it in writing. The Jetta includes the company's six-year, 72,000-mile, bumper-to-bumper transferable warranty, which is roughly double the warranties of Toyota Corolla, Honda Civic, Nissan Sentra or Ford Focus. VW calls it the People First Warranty but I think of it more as the "Go on, I'm listening" warranty.

Dieselgate was a massive failure of corporate governance that will haunt the company for years to come, but two good things have come out of it: One is VW being forced to change course on diesel sooner rather than later; the other is the VW's return to form as a design-smart, value-oriented German brand. You know who's not a value-oriented German brand? The rest of them.

The first-generation Jetta (1980), designed by Giorgetto Giugiaro of Italdesign, was an orthogonal paragon of cheap-car virtue. Over four decades the Jetta got bigger, rounder, more refined, more Audi-esque in its details. But by the time of the sixth generation (2011-2018), VW accountants were actively taking value out of the Jetta by what was called, also too precisely, decontenting. This was especially true of U.S.-spec Jettas, which were effectively dumbed down from their European counterparts.

With the new Jetta, Volkswagen is trying the infinitely more popular re-contenting strategy. Even the base model gets the high-tech turbo four cylinder (1.4 liters, 147 hp, and 184 lb-ft of decently responsive torque) that returns a creditable 40 mpg on the highway. Other standards include full LED exterior lighting, Apple CarPlay/Android Auto, Bluetooth connectivity, rearview camera and an electromechanical parking brake.

That's the Hertz special, of course. I spent a half-day in May driving a Jetta in SEL Premium trim (\$26,945 MSRP), which kicks in a panoramic sunroof, rain-sensing wipers and automatic headlights, leather seats (heated up

front), widescreen LCD instrument panel, touch screen navigation, forward-collision warning and autonomous emergency braking. The tuneage is handled by BeatsAudio, so at least Dr. Dre got paid.

And, really, the Jetta trim walk can afford to be generous. This is Volkswagen's sixth U.S.-market vehicle, from Golf to Atlas SUV, to be built on the company's global MQB (transverse-engine front drive)

platform. The interior is a topology of the familiar, the amortized-by-the-million, from seats to digital displays to switch assemblies. Volkswagen has engineered plenty of margin to start with.

Fortunately, Volkswagen's self-similarity across product lines works pretty well. The Jetta's suspension (MacPherson struts with lower control arms in front, twist-beam axle in the rear) is simple,

cost effective and space efficient (although the Jetta's trunk actually shrunk a bit in the redesign). The Jetta's body feels rigid and lightweight—under 3,000 pounds to start—which imbues the sedan with an easy drivability edging into sportiness.

On a drive in the country, the Jetta presents as sorted and well damped, snubbed tight, glued together. Smells a bit glued together too. Plenty of rudder (electric-assisted power steering), plenty of brake (four-wheel discs).

So then, by the gross metrics typical of the compact sedan class, the Jetta's road-holding and cornering overachieve. But the Jetta

**The Jetta's body feels rigid and lightweight, which imbues the sedan with an easy drivability edging into sportiness.**

gives something away in cabin isolation. This is where you feel the pennies go out. The engine's noise radiations needle into the cabin when you rev the engine. In lieu of soundproofing, the eight-speed transmission generally resists engine-revving unless you determinedly use the manual sequential shift gate. Most of the time it's HPG (highest possible gear).

The engine's stop/start exhibits a noticeable *frisson*. And yet I winced when I saw the stop/start function is defeatable; isn't getting around emissions how VW got in its stew in the first place?

Still, compared with the original Jetta, which I well remember, the new car feels like it was built at the Utopia Planitia Fleet Yards.

The Jetta's biggest problem is obvious: It's a sedan in a cross-over-crazed North American market. But a lot depends on presentation. For instance, sales of Honda's Civics sedans were up last year.

Here it's worth unpacking the new Jetta's styling: formal (in the sense of a strong three-box silhouette); international (prominent brightwork grille); conservative in line. Around the globe the Jetta will be a lot of somebody's first proper, grown-up automobile—a chapter-of-life choice, a fork in the road. With the Jetta, VW makes a starter sedan worth having.



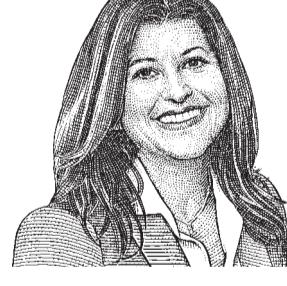
### 2019 VOLKSWAGEN JETTA SEL PREMIUM

**Base Price** \$26,945  
**Price, as Tested** \$27,500 (est)  
**Powertrain** Turbocharged direct-injection 1.4-liter DOHC inline four-cylinder; eight-speed automatic with manual-shift gate; front-wheel drive  
**Length/Width/Height/Wheel-base** 185.1/70.8/57.4/105.7 inches  
**Curb Weight** 2,970 pounds  
**0-60 mph** 7.8 seconds (est)  
**EPA Fuel Economy** 30/40/34 mpg, city/highway/combined  
**Trunk Capacity** 14.1 cubic feet

### MY TECH ESSENTIALS

#### Joyce Arrastia

The film editor of 'Hotel Transylvania 3: Summer Vacation' on her love of electric BMWs, making the first move on dating apps and the hypnotic powers of 'The Crown'



If I don't straighten my hair I look like Roseanne Roseannadonna from the old "SNL" skit. So I use an **InStyler Titanium 1-Way Rotating Iron**. One side is a titanium barrel, the other is a brush. It leaves my hair really sleek and straight. If my InStyler breaks, everything stops and I run to buy a new one.



I drive a full-electric **2017 BMW i3**. I got it with a range extender—a 50-mile gas-tank backup—for a little peace of mind when the charge is low. It's fun to drive. It feels very roomy inside. And it can actually park itself, although I'm afraid to use that function. It feels like the vehicle's possessed. I'd just rather do it myself.

When something is edited superbly, you don't notice the effort: It's very smooth and you get immersed in the story. That's why "**The Crown**" is captivating to me. They shoot really long takes that create intensity and this very hypnotic state and you get sucked into each scene.



I'm single, divorced and an empty-nester. So, I use a few dating apps. I like **Bumble** the most because the woman gets to make the first move. I didn't want to go in this direction, but I feel like nobody meets people the old-fashioned way anymore. And hey, if you can't beat 'em, join 'em. But I'm still single. Let's leave it at that.

—Edited from an interview by Chris Kornelis