

# TIME

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Drooling.  
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## **How Botox Became the Drug That's Treating Everything.**

By **Alexandra Sifferlin**





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### □ Botox Gets a Face-Lift

The company that makes Botox owns 800 patents for the drug—and banishing wrinkles is just one of them. See how doctors are using Botox to treat all kinds of medical conditions, from migraines and depression to sweaty palms and overactive bladder  
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^  
A victim of a summary execution is found on the road in Manila's Navotas area on Nov. 30

Photograph by James Nachtwey for TIME

ON THE COVER:  
Illustration by Justin Metz for TIME



## What you said about ...

**REFUGEE CHILDREN** TIME's Dec. 26, 2016/Jan. 2, 2017 cover story, which marked the launch of a multimedia project following four Syrian babies from inside the refugee camps in Thessaloniki, Greece, struck a chord with readers. Among them: Dixie Anderson, executive director of the World Affairs Council of Western Michigan, who said the feature made her cry and that the cover photograph "really hit home" for those in her office with children and grandchildren, calling it a "much-needed nudge" to do something to help refugees. Lynn Faught of Washington, D.C., wrote that the timing of the issue was especially appropriate, given that Christmas is "the annual celebration of the refugee baby Jesus' birth."

**JOE KLEIN'S LAST PRESIDENTIAL ELECTION** In his annual Teddy Awards celebration of political courage, which appeared in TIME's Dec. 19 issue, political columnist Joe Klein announced that, after having covered 11 presidential elections, the 2016 campaign would be his last. "I will miss the most rational voice in these irrational times!!" wrote Stephen Bank of Cary, N.C. William M. Bigham of Alexander City, Ala., thanked Klein for his balanced perspective and for giving "both the radical right and left well-deserved fits." Meanwhile, Fraydoon Nafissi of Plano, Texas, expressed hope that Klein would pursue another calling: "Now, with his admirable social opinions and estimable political views, he can and should run for President of the United States of America."

'How can we turn our backs on these people?'

MIRIAM JOHNSON, Columbia, S.C.

'We readers tend to think that writers are immortal and go on forever, but not so.'

FRED SIMONDS, Juno Beach, Fla.



**LIGHTBOX** To celebrate TIME's list of the 100 Most Influential Photos, which can be found at [time.com/100photos](http://time.com/100photos), artist Sanna Dullaway has colorized 30 of those groundbreaking pictures—including the 1839 image by Louis Daguerre (above) that is the first known photo to show a human being. See more at [time.com/lightbox](http://time.com/lightbox)



**2017'S MOST ANTICIPATED MOVIES** TIME's list of the films to look forward to this year includes *Blade Runner 2049* (starring Harrison Ford, left), *Valerian and the City of a Thousand Planets* (Rihanna, center) and *Beauty and the Beast* (Emma Watson, right). See the whole list, and selected trailers, at [time.com/2017movies](http://time.com/2017movies)

**SETTING THE RECORD STRAIGHT** ▶ In The Brief (Dec. 26, 2016/Jan. 2, 2017), the wrong picture appeared in an infographic on President-elect Donald Trump's Cabinet nominees, including Todd Ricketts. The photo mistakenly showed Tom Ricketts. In the same section, the LightBox photo caption incorrectly identified the site of an attack in Cairo. It was a chapel adjacent to St. Mark's Cathedral.

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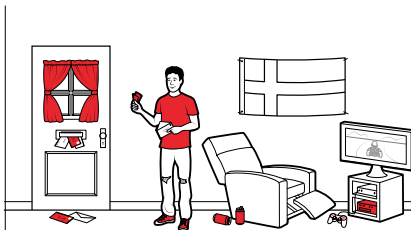
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‘It should be a wake-up call to this nation.’

ANDREW CUOMO, governor of New York, announcing on Jan. 3 a plan to offer free state-college tuition to hundreds of thousands of middle- and low-income New Yorkers; if it passes the state legislature, it will become the first program of its kind in the country



**\$587**

Amount of money (€560) that Finland will start giving 2,000 randomly selected unemployed citizens per month through 2019 as part of a social experiment intended to reduce poverty and increase employment rates

‘I acted dead so he didn’t keep shooting me.’

FRANÇOIS AL-ASMAR, Lebanese citizen, describing a gunman’s rampage in and around the Reina nightclub in Istanbul early on New Year’s Day that left at least 39 dead and dozens wounded

‘I ALWAYS KNEW HE WAS VERY SMART!’

DONALD TRUMP, U.S. President-elect, praising Russian President Vladimir Putin on Dec. 30 for not retaliating after President Barack Obama sanctioned Kremlin officials and expelled 35 of its diplomats; the U.S. government did so because it suspects that Russian hackers aimed to influence the 2016 presidential election

**Alexis Ohanian**  
The Reddit co-founder got engaged to tennis star Serena Williams



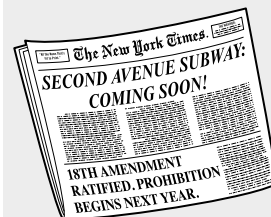
**Alexa**  
An Arkansas murder led police to ask Amazon for data from the device, raising privacy concerns

‘The status quo is leading toward one state and perpetual occupation.’

JOHN KERRY, U.S. Secretary of State, after the U.S. abstained from voting on a U.N. resolution that condemned Israel’s creation of new settlements as a threat to Middle Eastern peace; Kerry’s Dec. 28 speech was a rare and controversial diplomatic denunciation of the U.S. ally

**762**

Number of homicides in Chicago in 2016, the most in two decades, according to data released by the Chicago police department



96 years, 5 months

The time between the publication of the initial proposal for the **Second Avenue subway line** in New York City and its opening on Jan. 1

‘That was ... amazing.’

MARIAH CAREY, pop star, poking fun at her own performance on the *Dick Clark’s New Year’s Rockin’ Eve* television special, throughout which she lip-synched and complained about technical malfunctions

# The Brief

'THE WORLD'S SOLE SUPERPOWER IS NOW A WILD CARD.' —PAGE 8



Democratic leaders Schumer and Pelosi warn on Jan. 4 that the GOP will regret repealing Obamacare

## CONGRESS

### Democrats look for an upside in Obamacare's repeal

By Haley Sweetland Edwards

NEW YORK DEMOCRAT CHUCK Schumer seemed positively giddy on the first days of the 115th Congress. His party's crowning legislative jewel, Obamacare, was on the brink of being repealed, but the new Senate minority leader still believed he held the winning hand now that Republicans were calling the shots. "They are responsible for the entire health care system," he said of his foes across the aisle. "And it will be on their backs."

These were fighting words from a wounded party that's ready to get up off the mat. For years, Republicans have pummeled Democrats with sweeping and questionable claims that the partisan Affordable Care Act is responsible for the entire health system's rising costs and frustrations. Now Democrats intend to flip the

script. "If you break it, you own it," said House Democratic leader Nancy Pelosi. The motto of the united Democratic campaign countering the repeal effort is "Make America Sick Again," a nasty spin on Donald Trump's winning slogan that foreshadows the battles to come.

Consider such posturing the opening gambit in what is likely to be a months-long negotiation that may eventually bring Democrats to the table. While Republicans have the ability to start dismantling Obamacare as soon as Trump becomes President, a replacement for it remains elusive, complicated by the byzantine marketplace and the rules of the Senate. "They don't have the votes," Pelosi said bluntly.

That means Democrats think they

have a bargaining chip. Repealing Obamacare without installing a viable successor would “wreak havoc on the insurance marketplace,” says Ezekiel Emanuel, one of the law’s framers. It would leave as many as 30 million Americans without health care coverage, according to an Urban Institute study, while saddling millions more middle-class families with spiking bills. Hospitals, facing waves of newly uninsured patients, may pass on the costs to private insurance plans bought by businesses and their employees. Then there is the risk that insurers flee the individual market amid spiraling uncertainty, further raising rates for voters across the country.

Which leaves Republicans facing both a policy dilemma and a political one. Wary of throwing millions of Americans off their insurance plans, Republican leaders are pursuing a cautious approach. The likeliest option, championed by House Speaker Paul Ryan, is to repeal the law swiftly while prescribing a prolonged phase-out period, lasting up to a few years, to buy time for the party to devise a comprehensive replacement. “There’s going to have to be a transition period,” says Senator John Thune of South Dakota. But many conservatives are in no mood to delay a repeal that Trump vowed would begin on “day one” of his Administration. “There’s no excuse for breaking that promise,” warns Twila Brase, who heads the conservative Citizens’ Council for Health Freedom. “It’s got to be gone by June at the latest.”

For now, Republicans don’t have a filibuster-proof majority to repeal the law outright. Instead, they plan to dismantle many of its provisions through a budgetary process that requires only a simple majority in the Senate. Yet even as that process kicks into gear, it’s unclear what a workable GOP plan might look like. Representative Tom Price, the Georgia physician Trump picked to head the Department of Health and Human Services, has proposed one of the most detailed road maps, expanding tax credits and bolstering health-savings accounts. But his plan does not keep the most popular parts of Obamacare—including provisions ensuring that those with preexisting conditions can purchase affordable coverage and allowing young adults to stay on their parents’ insurance—which Trump has vowed to protect. The plan also scraps Obamacare’s requirement that all Americans either buy insurance or pay a fee—an idea the GOP detests but which helps keep insurers solvent.

Meanwhile, Democrats will barnstorm the country, seeking to make the debate as painful as possible for Republicans by imitating their strategies of years past. Democrats plan to organize rallies to tell stories of patients hurt by the repeal. Change is coming, but the fight over America’s health care system is far from over. —*With reporting by SAM FRIZELL/WASHINGTON*



## TICKER

### House GOP changes tack on ethics body

House Republicans dropped a plan to substantially limit the powers of the Office of Congressional Ethics, an independent body that probes claims of misconduct by lawmakers, following outrage from Democrats and a critical tweet by President-elect Donald Trump.

### Israeli soldier guilty of manslaughter

Sergeant Elor Azaria, an Israeli soldier who fatally shot a wounded Palestinian attacker in the West Bank last March, was convicted of manslaughter by a military tribunal in Tel Aviv following a high-profile, divisive trial. His attorneys accused the court of bias.

### Brazil prison riot leaves 56 dead

A riot at a prison in Amazonas in northern Brazil led to the deaths of at least 56 inmates, several of whom were beheaded or dismembered. A total of 184 inmates escaped as the violence played out. Authorities say the riot was sparked by a conflict between gangs.

### Apple’s FaceTime blamed in crash

The family of a 5-year-old girl killed in a car crash is suing Apple, claiming the company’s FaceTime app distracted a driver who plowed into their car near Dallas in 2014. Apple has not yet commented.

## CHINA

# The ivory trade loses its biggest player

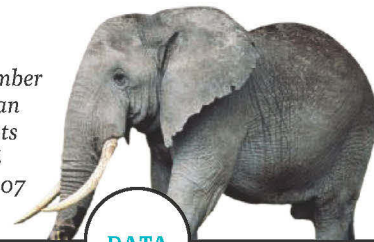
ON DEC. 30, CHINA COMMITTED TO A ban on all ivory trade and processing activities by the end of 2017. The decision, hailed by conservation groups as historic, could help end the global trade of ivory for good. Here’s why:

**ELEPHANT IN THE ROOM** The Chinese market represents an estimated 70% of the world’s ivory trade, making it the biggest in the world. Ivory carving in China is considered a fine art and a cultural tradition. Corrupt officials—known to accept ivory as bribes—had resisted curbing sales for years.

**BIG IMPACT** China’s move could have a huge effect on poaching. Experts say more than 100,000 African elephants have been killed for their tusks over the past decade. Conservation groups hope China’s commitment will inspire other major ivory traders, like Thailand, to follow suit.

**NEW LEADERSHIP** The ban is just the latest example of China’s acting to protect the environment. In 2016 alone, it agreed to discuss commercial tiger farming, ratified the Paris Agreement on climate change and introduced taxes on pollutants. “China wants to be seen as part of the global village,” says Will Travers, president of wildlife charity Born Free. “It’s playing at the top table in every respect.” —KATE SAMUELSON

The number of African elephants fell 30% from 2007 to 2014



DATA

## THE BEST COUNTRIES FOR BUSINESS

Forbes has released a list of the world’s most business-friendly countries, determining the results by rating 139 nations on 11 factors, including corruption, innovation, taxes, property rights, investor protection and technology. Here’s a sample of the rankings:



DIGITS

\$314,106,876

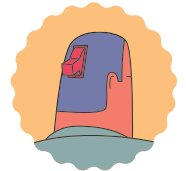


The amount an unnamed Chinese Super League soccer club offered Real Madrid for Cristiano Ronaldo, according to his agent, Jorge Mendes. Ronaldo declined the transfer offer, which Mendes said would have seen him earn more than \$105 million a year.

ROUNDUP

Helping workers switch off

A new law says French companies with more than 50 workers must guarantee a "right to disconnect" from emails outside office hours, to improve work-life balance. Officials in other countries are also encouraging people to leave work at the office:



GERMANY

Germany's employment ministry bars its managers from contacting staff during off-hours, and major companies, including Volkswagen and BMW, have followed suit. In 2014, automaker Daimler began automatically deleting emails sent to employees on vacation.

SPAIN

The government is considering reducing Spain's long workday by two hours and shifting clocks back an hour to the country's original time zone. The 11-hour day currently includes a lengthy break for a siesta, which many don't take because they are unable to return home in the afternoon.

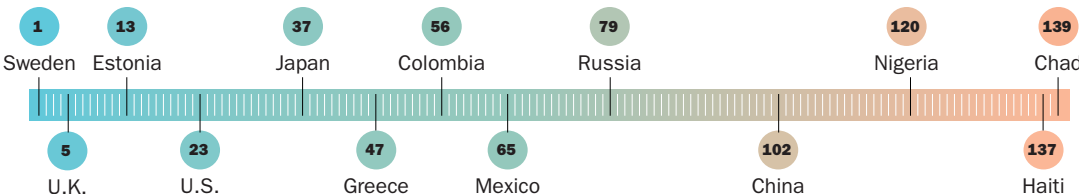
JAPAN

Tokyo's governor has ordered municipal employees to finish work by 8 p.m. to combat karoshi, or "death from overwork." Lights are turned off, and anyone found at their desk is sent home.



HIGH CRIME Los Angelenos awoke on Jan. 1 to discover that the iconic Hollywood sign on Mount Lee had been changed to read HOLLYWEED, perhaps as a nod to California's Nov. 8 vote to legalize recreational marijuana. Surveillance footage showed a man using tarpaulin to alter the 45-ft. letters between midnight and 2 a.m. City officials increased security measures around the landmark following the prank but have not identified the perpetrator. The sign was defaced in the exact same way on Jan. 1, 1976, when a California law relaxing penalties for marijuana use took effect. Photograph by Gabriel Olsen/Getty Images

ELEPHANT, RONALDO; GETTY IMAGES





**TICKER**

**'Swarm' of quakes in California**

More than 250 small earthquakes shook Brawley, a city in Southern California, on New Year's Eve, experts say. There were no injuries or damages from the series of weak tremblors.

**Gambia set for clash of leaders**

Gambia President-elect Adama Barrow says he is planning a Jan. 19 inauguration even though the defeated incumbent, Yahya Jammeh, has rejected the result of December's election. Unrest could follow if longtime ruler Jammeh attempts to block the handover of power.

**Cheetahs race toward extinction**

The cheetah faces "extreme challenges" to its survival and should be classified as endangered by conservationists, a new study has concluded. There are about 7,000 cheetahs left in the world, mainly in South and East Africa.

**New theory claims fire sank Titanic**

The *Titanic's* hull was fatally weakened by a fire in the boiler room before it hit an iceberg, according to a new documentary. Irish journalist Senan Molony spent 30 years researching the 1912 maritime disaster that killed more than 1,500 people.

THE RISK REPORT

**The top global risks for 2017, a year of geopolitical recession**

By Ian Bremmer

The Inauguration of Donald Trump on Jan. 20 is set to bring to an end the 70-year era of Pax Americana, when U.S. hegemony in security, trade and the promotion of values provided stability for the global economy. In its absence, the world will fall into a deep geopolitical downturn. With that as a backdrop, here are my top eight political risks for the coming year:

**1. UNPREDICTABLE AMERICA** The world's sole superpower is now a wild card. President Trump will use U.S. power primarily to advance U.S. interests, forging a more hawkish, and less predictable, foreign policy. Allies in Europe and Asia will hedge. Rivals like China and Russia will probe for weakness.

**2. CHINA OVERREACTING** The sheer number of places where U.S.-China tensions might play out—North Korea, Taiwan, Hong Kong, the East and South China seas—make 2017 a dangerous year for China, and all who depend on it for growth and stability.

**3. A POWER VACUUM IN EUROPE** Though Angela Merkel is likely to win re-election as Germany's Chancellor in 2017, she'll emerge as a weakened figure. This will leave Europe with no strong leadership at all, at a time when strong leaders are badly needed.

**4. A PAUSE IN ECONOMIC PROGRESS** Don't expect a surge in needed economic reforms in 2017. India and Mexico have accomplished as much as they can for now. In France and Germany, reform will wait until after coming elections, and China faces an all-consuming leadership transition in the fall. In Brazil, Nigeria and Saudi Arabia, ambitious plans will advance but fall short of what's needed.



*The year 2017 will be pivotal for Chinese President Xi Jinping*

**5. TECHNOLOGY DISRUPTING THE MIDDLE EAST** Technological change is further weakening an already fragmenting region. The revolution in energy production undermines states still dependent on oil and gas exports for revenue, while new communication technologies enhance the ability of angry citizens to find like minds and to organize.

**6. CENTRAL BANKERS GET POLITICAL** Trump may use the Federal Reserve as a political scapegoat, piling pressure on future decisions. This isn't just a U.S. risk. Britain's Theresa May has blamed the Bank of England for exacerbating income inequality, and German Finance Minister Wolfgang Schäuble says low interest rates have acted as a disincentive for reform among E.U. states.

**7. THE WHITE HOUSE VS. SILICON VALLEY** When it comes to technology, Trump wants security, control and new jobs. The tech giants want freedom, privacy and more automation. There will be plenty in 2017 for them to fight over.

**8. TURKEY'S ONGOING CRACKDOWN** President Recep Tayyip Erdogan will likely use a referendum to formalize his powers, and tighten his hold on the judiciary, bureaucracy, media and even business sector. This will exacerbate the country's economic problems and worsen relations with Europe.



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**FEEDING  
AMERICA**

APPRECIATION

## Two stars that lived—and shone—orbiting each other

By Stephanie Zacharek

DEBBIE REYNOLDS WAS A GREAT BROAD WITH THE FACE of a cutie-pie. You might not know that just from watching *Singin' in the Rain* (1952) or *The Unsinkable Molly Brown* (1964). Reynolds was often cast in roles that capitalized on her cherublike adorability, her button-nosed brightness, her wind-up energy, all fine qualities in a performer. But as a human being—revealed in interviews and three memoirs—Reynolds never came off as naive. She was many things—actor, singer, comedian, mother—but never a pushover.

Reynolds died at age 84 on Dec. 28, the day after her daughter Carrie Fisher, another great broad, actor and writer, died at 60. Their mother-daughter story is like no other: Fisher grew up in Reynolds' larger-than-life shadow, partly dazzled by her mother's glamour and verve and partly feeling lost amid the glitter. She built her own acting career, appearing, at age 18, in Hal Ashby's *Shampoo*, playing a flirty, deadpan tomboy rich girl. She's impetuous, calculating, extraordinary—it's the kind of debut that promises great things. Her next role was that of the radiant, wisecracking Princess Leia in the 1977 *Star Wars: Episode IV—A New Hope*. Though the medieval-Cinnabon hairdo has always been a target for jokes, the astonishing thing is how well Fisher carried it. She was the diva of the grandest space opera, after all.

**THERE WAS MUCH MORE** to Fisher than Leia: she was also a prolific and piercingly funny writer. Across seven books, she mapped her battles with mental illness and substance abuse, as well as career disappointments, without a shred of self-pity. If Fisher was her own greatest subject, her mother was a close second. Reynolds, who had moved with her family from El Paso, Texas, to California at 7, was discovered in 1948 at age 16 when she won the title of Miss Burbank. If the ensuing contract with Warner Bros. was the stuff of Hollywood dreams, Reynolds later suffered Hollywood scandal too.

In 1958 Eddie Fisher, her husband of three years—and the father of Carrie and brother Todd—left her for Elizabeth Taylor. Reynolds, Fisher, Taylor and Mike Todd, Taylor's husband until his death in a plane crash in 1958, had been close friends. Reynolds was much tougher than most people would have assumed at the time. In 2011 she and Carrie Fisher gave an interview to Oprah Winfrey, and by that time Reynolds had spun pain into comedy: At one point, Reynolds needed to reach her philandering husband. When she got no answer at his New York hotel, she rang up Taylor's room, and he answered. When Reynolds heard Taylor in the background asking who was on the line, she said to her husband—with implied exasperation more than anger—"Would you just roll over and put Elizabeth on the phone?"

That story tells you something about the complicated and funny person Reynolds must have been, traits she passed on



↑  
Fisher, 60, passed a day before her mother Reynolds, 84

to her daughter. It's easy to see how their similarities could result in stress cracks. Fisher's one-woman show, *Wishful Drinking*—which she later adapted into a wry 2008 memoir—is like a guided tour through Reynolds' life, narrated by a daughter who sometimes found her mother tremendously trying (the two barely spoke for roughly 10 years, when Fisher was in her 20s) but who was also intensely sympathetic. In the show, Fisher told the story of her mother's several failed marriages not just from the point of view of the abandoned daughter, but from the adult position of recognizing exactly how much her mother had suffered—and how resolutely she picked up the pieces. Reynolds' career began to fade after 40, but there were still highs to come, like her co-starring role in Albert Brooks' 1996 comedy *Mother*. And in 2001, Reynolds made a TV movie co-written by Fisher

FISHER AND REYNOLDS: EMAN MILLER—GETTY IMAGES; MICHAEL; ROB VERHOEST—REDFERNS; GETTY IMAGES



and called, fittingly, *These Old Broads*. (Taylor also starred.)

Fisher knew better than anyone how Reynolds' roles of mother and performer were intertwined in a kind of unbreakable wholeness. Fisher once described how her mother's closet was organized with pants and comfortable shoes—mom clothes—at one end and glamorous gowns and dresses at the other: “She'd go in on this end as my mom and come out the other end as Debbie Reynolds.” People often talk about drawing strength and inspiration from their parents, which Fisher obviously did. But Fisher was a constant in her mother's life as well. According to Todd Fisher, Reynolds was planning her daughter's funeral when she suffered a stroke. She died a few hours later. It's hard not to read Reynolds' timing as the ultimate expression of grief. Her rock was gone. □

## Milestones

### DIED

## George Michael Pop icon

GEORGE MICHAEL, WHO DIED DEC. 25 AT THE age of 53, was a pop star who could only have been incubated during the 1980s. The ideas and institutions taking shape in that chaotic decade, from MTV to the gay-rights movement, became intrinsic to Michael's cross-generational, cross-demographic appeal, igniting his songs and solidifying him as an icon.

Wham!, Michael's duo with school pal Andrew Ridgeley, released its first album, *Fantastic*, in 1983. *Make It Big* followed the next year and carried Wham! across the pond, with the playful “Wake Me Up Before You Go-Go” blanketing airwaves and causing a run on CHOOSE LIFE T-shirts. The pump was primed for Michael to break out: His solo debut in 1987, *Faith*, presented Michael as an auteur who flaunted his smoldering sexuality and profound love of R&B. He questioned celebrity culture just as the 1990s were coming along to turbocharge it. As *Faith* was asserting its supremacy on the pop charts, he told *Rolling Stone*, “Somewhere along the way, pop lost all its respect. And I think I kind of stubbornly stick up for all of that.”

He did much more than that: as his musical output slowed, he emerged as an ardent defender of gay rights and critic of intrusions into privacy. In the end, the sterling combination of Michael's voice and his belief in pop leaves behind a body of work that will be sung along to, cried to and celebrated for a long time to come.

—MAURA JOHNSTON



*Michael was known to be charitable, donating to fans and supporting British nurses*

### MOVED

**Megyn Kelly**, from Fox News to NBC News. The news anchor, who faced personal attacks from President-elect Donald Trump while covering the 2016 election, worked for Fox for more than 12 years and will launch a daytime show at NBC.

### DIED

Actor **William Christopher**, a star of the long-running TV comedy *M\*A\*S\*H*, at age 84. He played Father Francis Mulcahy on the show, which was set in the Korean War and aired from 1972 to 1983.

➤ **Richard Adams**, the British author best known for his 1972 novel *Watership Down*, at age 96. The dark fable, set in a rabbit colony, was an international best seller and earned Adams the Carnegie Medal.

➤ **The world's oldest known killer whale**, estimated to have been about 100 years old. Scientists had been studying the female orca, officially named J2 but nicknamed Granny, for a television documentary when she vanished about three months ago.

### HOSPITALIZED

**Charles Manson**, 82, who instructed members of his cultlike commune, named the Family, to murder at least nine people in California, including the actor Sharon Tate, in the summer of 1969. He was rushed to the hospital on Jan. 3 from the prison where he is serving a life sentence.

### RELEASED

Test results of an **experimental Ebola vaccine** that offers humans 100% protection against the infectious and deadly disease. It's the first Ebola vaccine that has been proven to work.





## WORLD

# Turkey remains in the crosshairs as a new year dawns

THE PARTYERS WHO WENT TO Istanbul's Reina nightclub on New Year's Eve had hoped to celebrate the end of a year marked by violence and upheaval in Turkey and across the Middle East. Barely an hour after the clock marked 2017's arrival, a lone gunman stormed the upscale venue, killing 39 people. As of Jan. 4, he had still not been apprehended.

The mass shooting marks a grim acceleration of the crisis in Turkey, where a series of terror attacks and a failed military-coup attempt have shattered the country's image as a bulwark of stability in the Middle East. Eleven days earlier, a police officer assassinated Russia's ambassador in Ankara. On Dec. 10, a twin bombing outside a major soccer stadium in Istanbul killed more than 40 people. This latest attack was directed at the heart of Istanbul's cosmopolitanism; the victims hailed from over a dozen countries, ranging from a teenage Palestinian citizen of Israel to a Bollywood film producer.

ISIS claimed responsibility for the shooting, the first time the group has acknowledged an attack on civilians inside Turkey. Although the government blamed ISIS for several attacks over the past 18 months, the group did not formally lay claim to any of them. Taking ownership of this shooting suggests ISIS intends to make Turkey a primary target in 2017, as it loses territory in Iraq and Syria. The year may have changed, but Turkey's season of bloodshed is far from over. —JARED MALSIN

*The father and brother of Yunus Gormek, 23, one of the victims of the Reina club attack, mourn during his funeral in Istanbul on Jan. 2*

PHOTOGRAPH BY BULENT KILIC—  
AFP/GETTY IMAGES

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# The View

IT'S ONLY HUMAN TO LOOK FOR PATTERNS THAT OFFER MORE IMMEDIATE SATISFACTION! —PAGE 19



Major food companies are banding together to ensure that ingredients are as advertised

## HEALTH

### The growing fight against food fraud

By Alice Park

WHEN YOU'RE SHOPPING AT THE grocery store, you probably expect that the olive oil you see came from, well, olives. And that the organic vegetables were never exposed to toxic chemicals, the cod fillet is sliced from a member of the cod species and the spices are the pure ground form of whatever flavoring they represent.

Increasingly, however, there's a chance you might be wrong. In recent years, there has been an uptick in reports of so-called food fraud, or attempts by various entities—including storage workers, suppliers and distributors—to alter products and mislead customers and food companies alike for financial gain (though occasionally the companies are complicit). Among the more recent examples: “natural” honey that's

been laced with antibiotics, cumin adulterated with ground-peanut powder and Italian companies selling “Italian olive oil” from a blend of oils that did not originate from Italy.

By and large, the fraudsters are trying to make easy money—charging for a whole food or pricey ingredient, then cutting it with cheaper stuff on the sly. But the health consequences can be dire. That fraudulent cumin, for example, poses a huge risk for people with peanut allergies. And in China, at least six babies died after drinking a milk formula that had been laced with melamine, a chemical used to create plastic, in order to up its protein content.

How can this happen? In the U.S., the Pure Food and Drug Act has prevented the “manufacture, sale or

transportation of adulterated or misbranded or poisonous or deleterious foods” since 1906, and similar laws exist in other countries.

But most global food regulators, including the U.S. Food and Drug Administration, aren’t equipped to enforce them effectively. For the most part, they focus on safety standards—ensuring that foods don’t contain bacteria or viruses—and rely on companies to police the integrity of their own ingredients, lest they face consumer backlash. (See: Chipotle’s plummeting sales after its recent *E. coli* outbreak.) But now that food manufacturing has become globalized, supply chains are longer, creating more opportunities for bad actors to mess around. “Anyone who can get away with substituting cheap ingredients for more expensive ones is going to try,” says Marion Nestle, who teaches nutrition, food studies and public health at New York University.

Governments are starting to fight back. In 2014, the U.K. created a food-crime unit that solicits reports of food fraud. The Institute for Global Food Security lab in Belfast anonymously tests products sent in by people worried about fraud—a process that’s easier than ever, thanks to advances in technology. (Its fish-verifying machine identifies the species in seconds by singeing samples with a laser.) And there are efforts in the U.K., the U.S. and China, among other nations, to increase the penalties for companies that get caught selling shady foods.

But in order to prevent fraud in the first place, the food industry needs to get better at safeguarding its own production network. So the Global Food Safety Initiative (GFSI)—a trade group comprising officials from more than 300 food manufacturers—will this year start auditing its members’ supply chains, from field to table, to identify vulnerabilities. Such efforts have been key for titans like Cargill, which instituted a new procedure for sealing tanks of sunflower oil after a routine inspection revealed that some workers had been diluting it with mineral oil to profit from selling the real stuff. “It’s our brands, our customers,” says Mike Robach, vice president of food safety, quality and regulatory affairs at Cargill and chairman of the GFSI board of directors. “We have a fundamental responsibility over the integrity of our supply chain and products.”

Meanwhile, dozens of other food-industry experts recently teamed up with academics from Michigan State University to launch the Food Fraud Initiative (FFI), a group that studies fraudsters—specifically, how they circumvent safeguards—and then advises food companies on how to ward them off. “There are plenty of criminals out there who are going to wake up and perceive some opportunity for fraud,” says John Spink, director of the FFI. “We just need to make ourselves a harder target.” □

VERBATIM

‘We need to find a way to change the game so it works for everyone.’

MARK ZUCKERBERG, Facebook CEO, resolving to visit and talk to people in all 50 states by the end of 2017, in an effort to learn more about how technology has changed their lives for better and worse



BOOK IN BRIEF

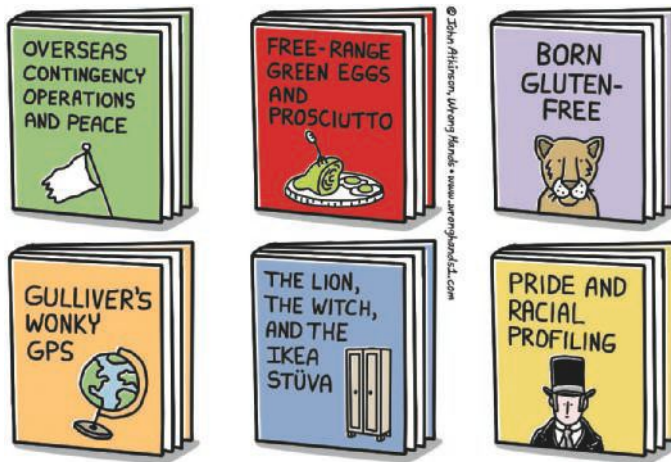
The politics of art

ART HAS PLAYED A HUGE ROLE IN shaping modern society, from the Renaissance to the zeitgeisty “cow parade” installations that popped up in cities like Zurich and Chicago in the late ’90s. But in *Culture as Weapon*, Nato Thompson argues that art—or more specifically, the criticism of art—can also be an invaluable way to score political points. Consider how in 1989 the late Senator Jesse Helms galvanized his base by taking a stand against the Andres Serrano photograph *Immersion (Piss Christ)*, which depicted a crucified Jesus submerged in urine; meanwhile, liberals played to their base by defending the importance of free speech in art. Or more recently, how Nigel Farage made headlines for suggesting that Donald Trump improve British-American relations by replacing a bust of Winston Churchill rumored to have been removed from the White House by President Obama. (The rumor has been discredited.) It’s an ingenious way, Thompson writes, for politicians to “stand back and decry” something, while “making it the center of attention.” —SARAH BEGLE



CHARTOON

Updated editions



JOHN ATKINSON, WRONG HANDS

DON'T MISS THE  
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THE EDITORS OF TIME

# motto

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# HELP SAVE THE DIVE MASK

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Tubbataha Reefs Natural Park, Palawan, Philippines.

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**SNAPSHOT**

## The E.U.'s new digs

As tensions mount within the E.U., its new Brussels headquarters aims to emphasize unity. Designed chiefly by architect Philippe Samyn, the \$340 million building touts a see-through exterior, an acknowledgment of the group's principle of transparency. Inside the orb (where the meeting rooms are), a pixel-like design motif of multicolored rectangles is meant to reflect collaboration within the E.U. without evoking any particular flag. The most practical feature, however, might be the giant round conference table—which, unlike its angular predecessor, allows all E.U. leaders to see one another at once. —*Julia Zorthian*



**VIEWPOINT**

## Are some years more important than others?

THE YEAR 2016 MIGHT BE OVER, BUT debates rage on about whether it was one of the most important—or worst—years ever. Yet amid talk of surprising election results and shocking celebrity deaths, these conversations often miss a key point: this question is impossible to answer.

One problem is that humans have a recency bias. Modern events are easy to remember and—thanks to the Internet—easy to communicate, so it can feel like more important stuff happens now than before. This is why you hear people talking about the 2016 election being the nastiest in history, even though the 1876 election featured rumors that Rutherford B. Hayes had shot his own mother.

The second problem is the idea of the year itself. At its core, it's a somewhat arbitrary

construct—a 12-month frame for events that are essentially continuous. Take the moon landing, for example. Even if we all agree it was a uniquely important event, the story of the space race is not confined to 1969. Years from now, as our perspective evolves, we may see that the real giant leap for mankind took place long before or after.

Of course, it's only human to look for patterns that offer more immediate satisfaction; it's what helps us make sense of a world that is fundamentally chaotic. But as we begin another year that may or may not be the most important one in history, it's worth remembering what mathematician John Allen Paulos has said, in reference to the idea that celebrity deaths come in threes: everything comes in threes if you just “wait for the third one to occur.” —*LILY ROTHMAN*



### DATA THIS JUST IN

A roundup of new and noteworthy insights from the week's most talked-about studies:

**1**

#### U.S. TODDLERS ARE MORE SOCIAL THAN OTHER KIDS

Babies raised in the U.S. are more social, more impulsive and less likely to be unhappy than children in Chile, Poland and South Korea, according to a study that surveyed mothers, published in the *European Journal of Developmental Psychology*.

**2**

#### THINKING POSITIVELY MAY HELP YOU LIVE LONGER

A report in the *BMJ* based on surveying about 10,000 middle-aged people three times over five years found that those who reported high life enjoyment each time were 24% less likely to have died in the next seven years than those who had no enjoyment.

**3**

#### THE HUMAN BODY HAS A 'NEW' ORGAN

Scientists recently discovered that the mesentery, which had been considered a group of structures connecting the intestine to the abdomen, is in fact continuous and qualifies as an organ, researchers wrote in the *Lancet Gastroenterology & Hepatology*. —*J.Z.*

## The U.S. should form a closer military alliance with Israel

By Admiral James Stavridis

THE U.S. SPENDS A GREAT DEAL OF TIME FOCUSING ON THE military capabilities represented by the Middle Eastern nations it rightly considers threats: Iran and Syria. And we correctly spend much political and military capital working with our Arab allies and partners, including Egypt, Saudi Arabia, Iraq, the United Arab Emirates, Qatar and Bahrain. But our best military partner in the region, by far, is Israel—a point that has been lost amid the fury and posturing over President Obama's condemnation of settlements and Donald Trump's announcement of both an ambassador and the decision to move our embassy from Tel Aviv to Jerusalem. The U.S. would be well served to more fully develop its partnership with the Israel Defense Forces in several crucial areas as we stand together facing the challenges of the Middle East.

We already cooperate a great deal at a military-to-military level. During my time as commander of the U.S. European Command, I had responsibility for developing our shared defensive strategies and tactics, and saw firsthand the quality of Israeli forces. Their military culture and ethos are world-class, honed in the crucible of battle in which they have fought to preserve their nation from many attacks since its creation in 1948. Knowing that they face Arab and Persian enemies many times their size, they are dedicated to defending their families and their nation through a combination of guile, technology and true grit.

While Israel's military budget is over 5% of its GDP (a little less than twice that of the U.S.), it still amounts to less than \$20 billion, augmented by an additional several billion annually in military aid from the U.S. Israel survives in a hostile environment through innovation, determination and strong human capital—including a tradition of near universal conscription that provides a willing force of some 3 million young men and women, with roughly 120,000 entering service annually. This has made them lean and mean while providing a real benefit to them. We could learn from such commitment.

Perhaps the most important area of potential cooperation is in the world of cybersecurity. Israeli intelligence gathering is superb, and the integration of the Israeli military with the nation's robust private-sector security firms is nearly seamless. Israel is also ahead of the U.S. in bringing advancements from the private sector into public hands; the brightest people constantly flow between the military and civilian spheres.

**A SECOND ZONE** of potentially enhanced cooperation is in technology and innovation. While we have jointly worked on a variety of defense projects over the years (like the Arrow, which is anti-ballistic-missile technology), this is an area in which we could enhance each other's efforts considerably. In addition to missile defense, doing more together in advanced avionics (as we did with the F-15), miniaturization (like Israel's small airborne-warning aircraft) and the production

of low-cost battlefield unmanned vehicles (both air and surface) would yield strong results.

Third, we should up our game in terms of intelligence cooperation. The Israeli military and the associated Israeli intelligence services Mossad, Aman and Shin Bet are the best in the Middle East. Working together, they have been ahead of our more segregated sectors on a wide range of trends, including the disintegration of Syria, the events in Egypt and the military and nuclear capability of Iran. Here we need a more open exchange of information between our two countries (especially human intelligence from Israel and overhead sensor data from the U.S.). More liaison officers between military and intelligence commands would help, as would more frequent conferences and dialogue on principles.

**FINALLY, WITHIN THE** opaque world of special forces, we have a great deal we could share with each other. Having the U.S. Special Operations Command constantly operating with Israeli commandos would be of enormous benefit to both forces. Both are expert in battlefield intelligence collection, use of unmanned vehicles, sniper technology and a host of other specialized skills. Setting up a joint special-forces training and innovation center for special operations in Israel would be powerful.

The motto of the crack Israeli paratrooper brigade is simple: "*Acharai*," which translates to "Follow me." The saying stems from the custom of Israeli commanders' directly leading their troops into battle, even at the most senior levels. For the U.S. in the complex Middle East, we would be well served to follow the Israeli military's advice on a range of key issues. And likewise, they would benefit greatly from further intelligence, technology and partnership with the U.S. It truly is a case of two nations that are unarguably stronger together—let's build on what we have to get to the next level.

*Stavridis is dean of the Fletcher School of Law and Diplomacy at Tufts University and a former Supreme Allied Commander at NATO. He is a regular contributor to TIME.*

### DEFENSE BY THE NUMBERS



According to its National Cyber Bureau, Israel accounts for 10% of global investment in cybersecurity research. Sales of its security software topped \$60 billion in 2014.

In September, the U.S. and Israel signed a memo of understanding increasing military aid to \$38 billion across 10 years.

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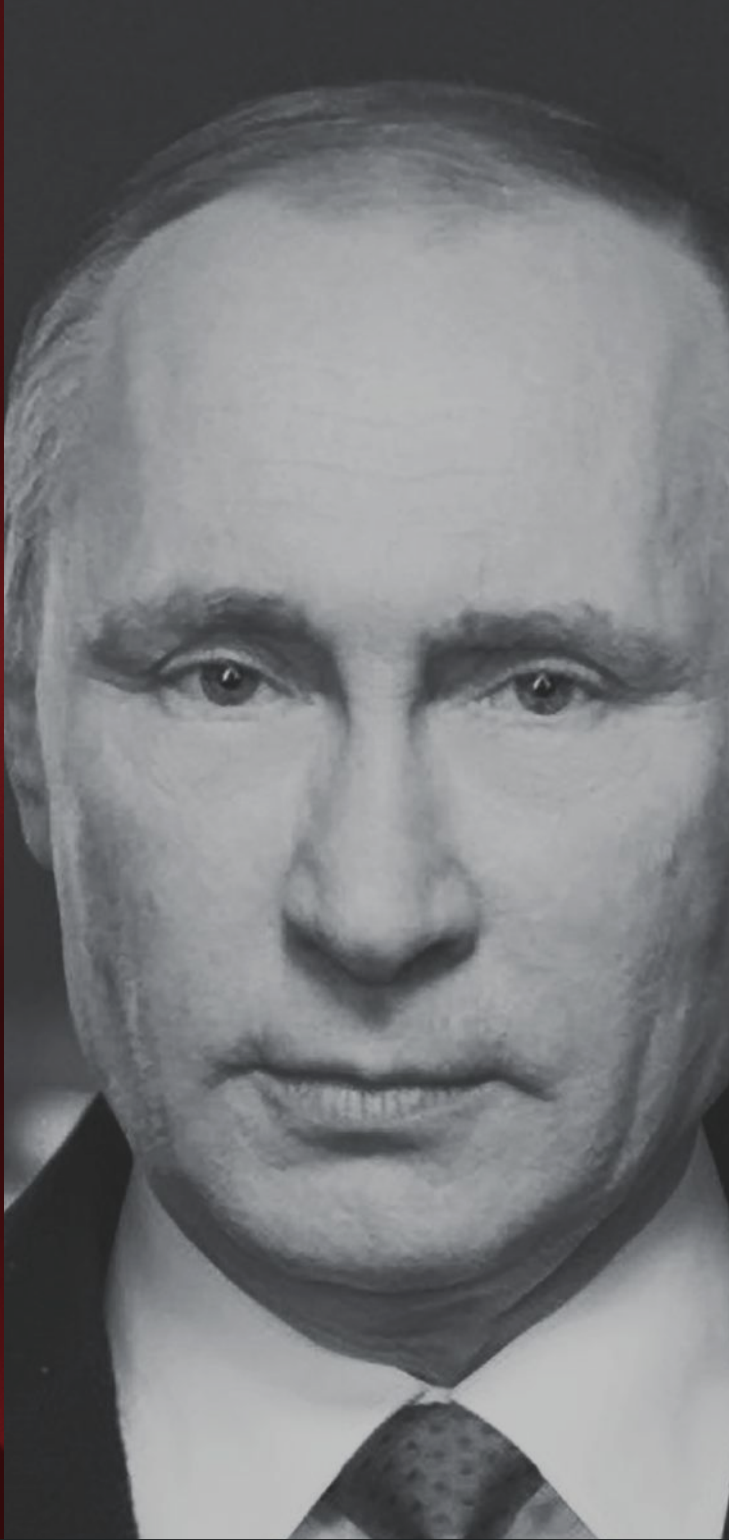
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*Tom Hardy*

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FEARLESS

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# THE TROUBLEM

Putin is now Donald





# AKER

Trump's problem *By Massimo Calabresi*

RUSSIAN PRESIDENT VLADIMIR PUTIN HAS always been a night owl, holding meetings into the early hours of the morning. He's also the proprietor of several Twitter accounts. So it's possible that early Moscow time on Jan. 4, 2017, he saw the following tweet from President-elect Donald Trump pop up on his screen, complaining about an apparent delay in the release of the U.S. intelligence report on Russian meddling in the 2016 election: "The 'Intelligence' briefing on so-called 'Russian hacking' was delayed until Friday, perhaps more time needed to build a case. Very strange!"

At that moment, as it happens, the final highly classified report sat, printed and ready, in the office of the principal intelligence analyst overseeing the investigation. And neither Putin nor Trump was going to like the conclusion. The document represented the consensus opinion of the heads of the U.S. intelligence community, the National Security Agency, the Federal Bureau of Investigation and the Department of Homeland Security that Putin had engaged in a broad, intentional influence operation against the November vote, according to several senior intelligence and Administration officials.

The evidence contained in the report was so highly classified that not even the analyst's assistant would be allowed to package it for hand delivery across the river to President Barack Obama at the White House the following day. Three separate versions were to be distributed over the coming days: one

top-secret, highly restricted version that included signals intelligence and other sources and methods; a less classified document for Congress and agency officials; and a third, declassified version for release to the public. And once those findings became public, say the senior intelligence and Administration officials, a whole new round of political recriminations would ensue.

In fact, the slowdown in the report's release was the result of the White House trying to manage the inevitable fallout. Obama was scheduled for a meeting with Democratic lawmakers on Capitol Hill the next day. His staff suggested to the intelligence community that subjecting the President to questions from Democrats about whether the Russians swayed the election and why it had taken Obama so long to counter the cyberattack would fuel partisanship around the issue, according to several Administration officials familiar with the request.

It is already clear that the hack of the 2016 presidential election may have been one of the great espionage capers in memory. By breaking into, and then releasing at key moments in the campaign, emails from the Democratic National Committee, Russia caught the U.S. political and national-security world flat-footed, deploying a new asymmetric weapon against an old enemy. Putin's plot flummoxed the Obama Administration in its final months as it struggled to learn how to fight influence operations in cyberspace. While there is no evidence that votes were altered, the steady stream of embarrass-

ing revelations from the emails put Hillary Clinton into a defensive crouch. And, in a razor-thin election, there are many Americans who believe, with some justification, that Putin helped Trump win.

What makes it even better for Putin is the election meddling caps an extraordinary two-year string of military and diplomatic victories that leaves him in a strong position as the new President enters office. In Eastern Europe, Putin turned a losing hand in Ukraine into a territorial grab of Crimea. He has helped fund the rise of nationalist parties in Western Europe and benefited from the resulting weakening of the European Union. In the Middle East, he has deployed his forces to Syria to save a beleaguered Cold War ally and emerged with newfound influence throughout the region.

For all that, Russia remains a troubled country. With a thinly stretched military, anemic economy and fewer and fewer friends, Putin's urgent task is to figure out how to play his lucky streak into more lasting benefits. Which makes the coming debate about the election hacking even more complicated: Putin may have found in Trump a President-elect willing to overlook behavior America has long opposed in favor of a new partnership. But Putin cannot yet be sure. On one hand, Trump often talks a softer line on Moscow. On the other, he has hard-line stances on the Middle East and nuclear weapons that could threaten Russia's interests. "All we have are some vague sentiments that Trump has expressed during the political campaign and since the election," says

Thomas Graham, a top Russia adviser to Republican Presidents who has been mentioned as a possible ambassador to Moscow, "but you've got to translate that into concrete policy."

**ONE OF WASHINGTON'S** worst-kept secrets last fall was that the Obama Administration was struggling, with good reason, over how to respond to Russia's meddling in the U.S. election. Russia seemed most interested in sowing discord and confusion. If Obama weighed in with accusations and penalties in the heat of the campaign, he would run the risk of adding to the chaos. On the other hand, leaving the interference unchallenged seemed tantamount to acquiescence—more important, it ran the risk of letting it affect the outcome.

Obama himself was most worried that Putin might disrupt the actual vote, as he has been accused of doing in other countries, by meddling with the tally or making it harder to cast ballots. In September, Obama asked Mike Rogers, who runs the NSA, to make sure the U.S. knew about and stopped any effort at disruption. But the NSA found little evidence Putin could actually affect the counting of the vote. "We knew they were probing state and local election systems," says one senior Administration official. "But our experts couldn't figure out how they would use what they were doing to screw with the election, because the voting systems in the country are so decentralized."

Some White House and intelligence officials now say the NSA's actions, com-

PREVIOUS PAGES: TRUMP; MATT ROUBKE—AP; PUTIN; MIKHAIL KLIMENTYEV—PLANET PIX—ZUMA; OBAMA; PABLO MARTINEZ MONSIVAIS—AP; THESE PAGES: BOTTOM: FROM LEFT: WILLIAM FLOWMAN/ABC—GETTY; KIRSTY WIGGLESWORTH—AP; REV/SHUTTERSTOCK; DON EMMERT—AFP/GETTY; PUTIN/OBAMA; BRENDAN SMIALOWSKI—AFP/GETTY

## PUTIN'S PHISH NET

Over more than a year, agents acting on behalf of Russia meddled in the U.S. presidential election process. A timeline:

### SUMMER 2015

Cozy Bear, a hacking group that has been linked to Russia's FSB, penetrates Democratic National Committee servers using phishing attacks, according to a report from the FBI and the Department of Homeland Security.

### SEPTEMBER 2015

The FBI tries to warn the DNC that it has been hacked by a group linked to the Russian government, but the warning is not taken seriously.

### MARCH 2016

Fancy Bear, a second hacking group, believed to be linked to the GRU, penetrates Clinton campaign chairman John Podesta's personal email and the computers of the Democratic Congressional Campaign Committee and the DNC, according to intelligence agencies and private security groups.

### JULY 22, 2016

WikiLeaks releases hacked private emails from DNC officials days before the Democratic National Convention.





^  
*Vladimir Putin and Barack Obama  
 meet in late November at a summit  
 in Lima*

bined with personal warnings from Obama and others, forestalled this avenue of attack. In fact, in retrospect, it appears Putin was focused more on psychological operations. The most visible aspect of the operation was the theft and publication of emails from Hillary Clinton’s campaign and from the Democratic National and Congressional Campaign committees. Released through WikiLeaks and other websites that investigators concluded have links to Russian agents of military intelligence, some emails proved not just damaging to Clinton but disruptive to her campaign. From late July through Election Day, when the leaks abruptly stopped, Clinton faced a constant barrage of new, often inconsequential revelations that competed with her campaign agenda. Some drove away potential supporters. As she accepted her party’s nomi-

nation in late July, Democratic backers of her primary opponent, Bernie Sanders, shouted “Liar!” while others held a banner reading WIKILEAKS.

One enduring mystery of Putin’s influence operation is what other methods the Russian intelligence services deployed. Senior intelligence and White House officials believe the Russians also disseminated fake news stories through automated spam programs and social-media “troll farms” to spread disinformation during the campaign. In recent years, Russia has been accused of using these methods to undermine elections and advance its political agendas in Eastern and

Western Europe. America’s fragmented media landscape may have allowed Putin to “amplify people’s existing political dispositions and feed conspiracy theorists,” allowing Putin’s “ability to influence people to increase dramatically,” says the senior Administration official.

Putin plays this game with some natural advantages. Cyberattacks are designed, by nature, to be secret and hard to trace. For that reason, even after the unclassified report is released, skeptics—including defenders of WikiLeaks, Trump and Russia—will be able to cast doubt on its conclusions. In addition, Putin is an autocrat who spent most of his early career in the KGB. That means he can deploy all his government’s espionage tools in unison, taking a “whole of government” approach to influence operations, says Bob Anderson, who headed the FBI’s Criminal, Cyber, Response and Services Branch until January 2016. “What he does better than every other leader is he leverages all of his assets,” says Anderson.

Which helps explain why, even now, the U.S. government doesn’t know exactly how far inside the Russian government the hacking operation went. Tracing the network of fake-news sites and troll farms to figure out if they were in concert with Putin’s operation back to Russia is an effort that is only getting under way. Admits a senior Administration official: “We have not as a government yet exhaustively mapped out the wiring diagram of the Russian cyberinfrastructure designed to conduct hacking or propaganda operations against the West.”

**JULY 24, 2016**

Florida Representative Debbie Wasserman Schultz announces she will step down as DNC chairwoman after emails released by WikiLeaks revealed some DNC officials favored Hillary Clinton over Senator Bernie Sanders.



**JULY 27, 2016**

Donald Trump says he hopes Russian actors successfully hacked Clinton’s email and encourages them to find and publish her deleted messages.

**OCT. 7, 2016**

The U.S. intelligence community issues a statement asserting that the Russian government directed “compromises of emails from U.S. persons and institutions, including from U.S. political organizations” with the intention of interfering with the U.S. election process.

**DEC. 5, 2016**

Trump questions the conclusion that Russia was behind the election hacks, telling TIME, “It could be China. And it could be some guy in his home in New Jersey.”

**DEC. 29, 2016**

President Obama issues sweeping sanctions against Russian officials, intelligence operations and diplomats.



**BUT UNCOVERING THE LINKS** wouldn't necessarily make Putin's operation easier to fight. By September, the intelligence community had produced a list of "a few dozen" Russian entities involved in clandestine cyberoperations so that sanctions experts at the State Department could begin working out how to penalize Russia if the President wanted to take action. Over time, the U.S. government narrowed the list to three entities the intelligence community had concluded were "indisputably" linked to Russian military intelligence (GRU), which the U.S. spies believed was the main organization behind the influence operation.

In late December the U.S. publicly identified the three companies. The largest—STLC, Ltd. Special Technology Center—is an independent company based in St. Petersburg that has been identified in Russian state-backed news outlets as working directly for the intelligence services of Russia. The U.S. said STLC had provided signals intelligence and operational assistance to the GRU. The second was a small technical firm called Zorsecurity that the U.S. believed provided research and development to the GRU. The last was another small firm called ANO PO KSI, which the U.S. had concluded provided training to the GRU.

But holding Russia publicly accountable in a way that wouldn't help Putin was hard. First off, it took the intelligence community weeks to figure out how to phrase a public accusation in a way that wouldn't expose its own secret methods for tracking the hacking operation back to Moscow. "They needed to figure out how they could describe things without revealing sources and methods," says the senior Administration official.

And then there was the question of whether identifying the bad guys would do the Russians' dirty work for them. The FBI had already been accused of siding with Trump over Clinton by investigating her use of a private email server. If one of Putin's goals was to make the entire American democratic process look corrupt, rigged and untrustworthy, calling out a foreign meddling operation that was benefiting Trump with only four weeks to go before the vote wasn't going to decrease accusations of politicization.

Obama's top national-security advisers held several meetings to grapple with

these issues, the final two on Oct. 3 and Oct. 5. At first, no one objected to publicly naming Russia as long as the spooks were comfortable with the language. But at the second meeting, FBI Director Jim Comey appeared to hesitate. He said he wasn't sure the statement was the right thing to do, and worried it would look as if the Administration was putting its thumb on the scale of the election. (A senior Administration official calls it ironic that Comey would express concern about politicizing investigations just three weeks before his bombshell letter to Congress that he was reopening the Clinton email investigation.) But in the end, Comey didn't object strongly enough to prevent the identification of Russia on Oct. 7.

As for actually punishing Russia for its behavior, that was fraught too. "There was general agreement with the President's calculation that our taking action three or four weeks before the election, beyond attribution, would turn this into a massive political thing," says the senior Administration official. And even if he had wanted to, Obama didn't have the power. A year earlier Obama had issued an Executive Order allowing him to respond to cyberattacks on things like banks and electrical systems, but it had no provision for attacks against an election or using cyber means to influence one. It would take weeks to draft the language necessary to amend the order. Democrats remain furious at Obama for the slow response; some say it cost their party the election.

By this time, the analysts tracking the Russian operation for the CIA had concluded Putin wasn't just trying to give Western democracy a black eye, say senior intelligence and Administration officials, he was also trying to help Trump win White House. Russian operatives had penetrated the Republican National Committee and other Republican sites, and the intelligence community concluded Moscow had damaging emails on Republicans, say Administration and intelligence offi-

## **DESPITE ITS RECENT SUCCESS, RUSSIA REMAINS VULNERABLE**

cials. But the only leaks that came out were damaging to Democrats. The only Republican whose hacked emails were released was Colin Powell, and they said unflattering things about Clinton. RNC officials dispute they were hacked.

Six weeks after Trump's victory, Obama's principals finally approved punitive measures against Putin. Announced on Dec. 29, they were the toughest response the U.S. had ever taken to a cyberevent. Obama targeted both the FSB and the GRU, and named four top officials in the GRU and their three allied companies. Obama also shut down two Russian recreational facilities that were suspiciously close to U.S. government facilities in Washington and New York and believed to be carrying out intelligence operations. And he expelled 35 Russian intelligence officers operating under cover in the U.S. In a background call with reporters Dec. 29, a senior White House official wryly said, in an apparent nod to Russian eavesdropping, "And for the Russian speakers among you, I will wish you *s novym godom* (Happy New Year)."

Many critics found the sanctions mild. And if the U.S. was expecting a Russian backlash, Putin had a surprise in store. There is an established choreography for the exposure and penalization of espionage operations, which Putin, as a former KGB field agent and director of the FSB, the agency that succeeded the KGB, has as a kind of muscle memory at this point. Penalties are responded to in kind, while an equivalent number of spies are expelled. And at first it looked as if that was the route Moscow would take too. Foreign Minister Sergei Lavrov announced on Russian national television that he had recommended expelling 35 alleged U.S. spies and closing a Western school and warehouse in Moscow. Kremlin spokesman Dmitri Peskov declared, "There is no alternative here to the principle of reciprocity."

Apparently there was. The day after Obama's announcement, Putin said, "While we reserve the right to take reciprocal measures, we're not going to downgrade ourselves" to petty spats. "In our future steps on the way toward the restoration of Russia–United States relations, we will proceed from the policy pursued by the [new] Administration," he said. It



was a bold maneuver, based on a hope that in Trump, Putin would find a different kind of American leader.

Will he? On paper, Putin looks to be having a strong run. He took the Crimea by force in 2014 and laid a claim to eastern Ukraine. His surprise intervention in Syria not only propped up his weak ally Bashar Assad, it also awed the Sunni powers like Saudi Arabia and made the U.S. appear to be a second-class power in the region. National-security officials expect him to try his cybermeddling in elections this year in France, Germany and the Netherlands.

Despite Putin's recent success, Russia remains vulnerable. The country has been in a recession for two years, and its recovery looks to be weak. The success Putin had in cutting oil production belies an economy that is still reliant on natural resources, which in turn makes it reliant on foreign markets in Europe, where sanctions still bite. And the military successes are less than they appear. The Ukrainian intervention snapped NATO out of its long-running existential crisis: the U.S., Germany and the U.K. have responded by deploying troops throughout the former Soviet bloc, further requiring Putin

^

*A journalist in Moscow holds a sign with images of Putin, French politician Marine Le Pen and Trump at Putin's annual press conference in December*

to step up his military readiness.

"If you're Putin, the only way to get out is by finding friends someplace," says Graham, the GOP Russia expert. Putin has tried China, but they keep beating him in business, either directly in deals where they have the advantage or in competition for trade in Central Asia. Putin has been looking for business in South Korea and Vietnam, but to little effect. What Putin really needs, Graham and others say, is the U.S. and Europe as a counterweight, strategically and commercially, to China. "Interest would dictate trying to defuse tensions," he says, "But [Putin's] actions and the concerns about subversive activities and the use of active measures has only exacerbated relations with these countries."

Moreover, there's reason to think the two men may not get along as well as one might expect. Putin's history of perceived slights, Russia watchers say, combined with Trump's easy promises and incon-

stancy, is not necessarily a good match. "They're going to hate each other after the first two meetings," says one former senior White House Russia expert.

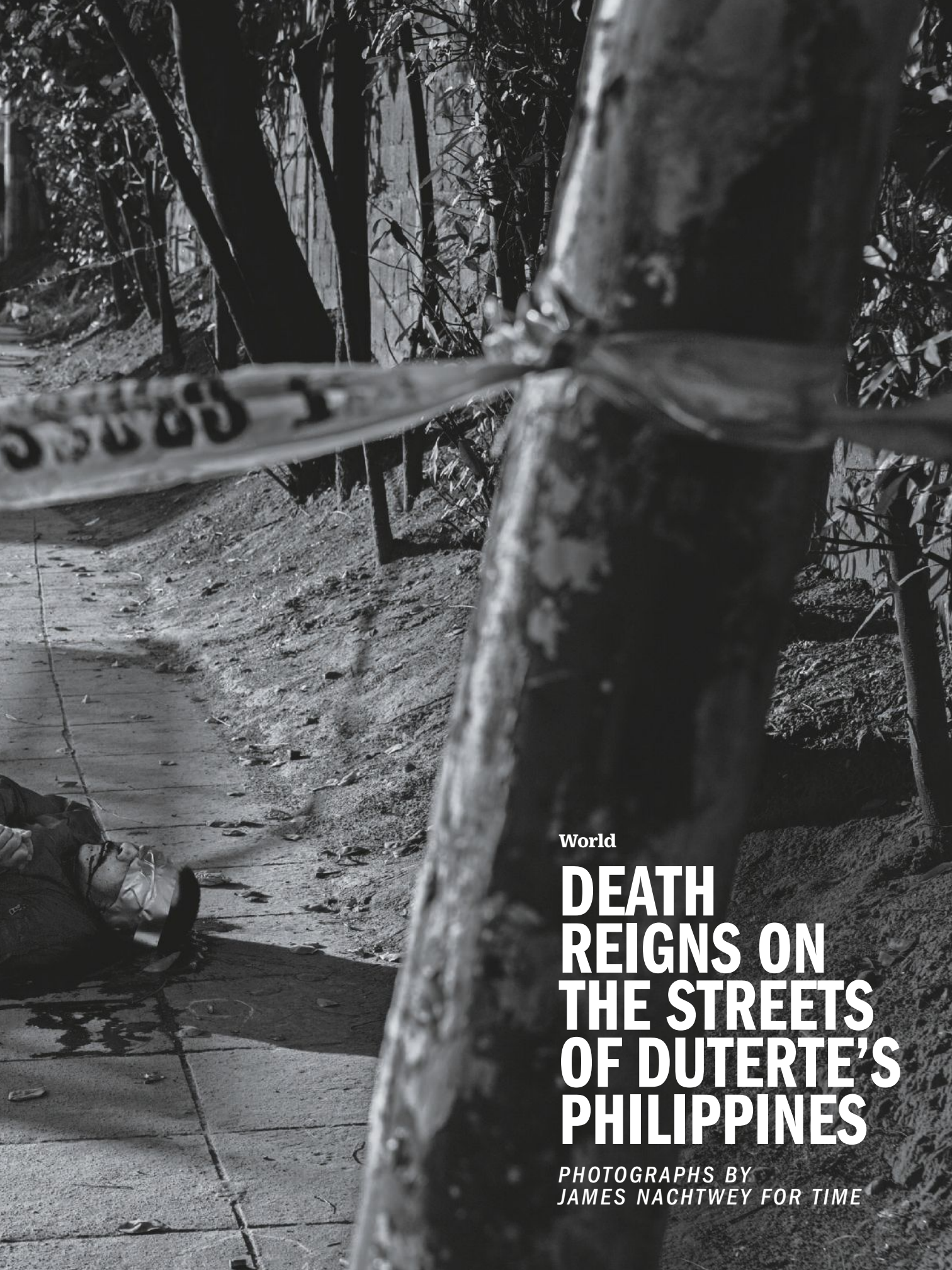
That's an opportunity for Trump if he moves on it. He might win concessions from Russia on Ukrainian independence from Moscow. He could push Putin to end the war in Syria in a way that ousts Assad and salvages some hope for stabilization there. And he might work to de-escalate tensions with NATO members and avoiding renewed nuclear competition. All of which would make Trump's pre-Inauguration bluster look less rash.

But before Trump can even get there, his relationship with Putin will be tested by the report on the Russian election operation. After months criticizing the intelligence community for its assertion that Russia was behind the meddling, Trump hinted he was open to being convinced otherwise. "It will be interesting to see if those who get the most sensitive version of the report have their minds changed by it," says one official familiar with it. Only one mind really matters, of course. The question is whether it is an open one.

—With reporting by ZEKE J. MILLER/  
WASHINGTON □

*The victim of a summary execution found on a roadside in the Navotas area of Manila on Nov. 30*





World

# DEATH REIGNS ON THE STREETS OF DUTERTE'S PHILIPPINES

PHOTOGRAPHS BY  
JAMES NACHTWEY FOR TIME



*Family members grieve for Ronnie Arroyo in Quezon City on Dec. 6. Arroyo, 36, was a drug user killed in an abandoned house by police who claimed he fired first*







*The coffins of Domingo Mañosca and son Francis, 5, on Dec. 14. Both were killed by shots fired through the plywood window of their tiny Manila home. Elisabeth Navarro, nine months pregnant, survived with Erika, 1, and a second girl*



## There is no God in Caloocan City, not tonight.

The lights have gone out in the window of the Catholic church in this Manila slum, and the hot rain falling on its streets isn't enough to wash the stench of human sewage from the air. It's a quarter to 2 in the morning. A hand-painted public-service announcement hangs on the rusted tin wall of a corner shop: STAY AWAY FROM DRUGS! GET INTO SPORTS!

Up the muddy lane, police officers climb a flight of concrete stairs to a narrow corridor where there is a fresh body—one of at least five people summarily executed in Manila on this night, Dec. 7, five more killed in Philippine President Rodrigo Duterte's relentless war on drugs. The residences within Manila's slums are stacked haphazardly on top of one another, affording little privacy, but the man's neighbors did not come out to look when they heard the gunshot—maybe to avoid trouble, maybe because they're used to this by now.

The victim appeared to be in his mid-20s, and he wore black athletic shorts and rubber flip-flops, one of which buckled under his weight when he fell. There is little blood this time. The police won't disclose his name, which may be fitting, since in war-time, the dead are often relegated to the anonymity of statistics. Since Duterte took office in late June, more than 6,000 people have been killed in his campaign to purge the Philippines of illegal drugs and those associated with them, according to reliable estimates by local media. The victims—suspected users and pushers—do not enjoy due process, and they are always killed at night, sometimes inside their own homes. The perpetrators are vigilantes, hired guns and likely cops too.

Duterte made no secret that this would happen. "All of you who are into drugs, you sons of bitches, I will really kill you," he said last April, a month before he was elected. It wasn't just campaign bluster. For 22 years Duterte had served as mayor of the southern city of Davao, where he took a pathological approach to restoring order to the city's streets. Under his leadership, the extrajudicial killings of suspected criminals and drug users in Davao by vigilantes was practically state policy.



*Most inmates in the overcrowded jail of Las Piñas, Philippines, are either convicted or accused of drug offenses. Since Duterte took office as President last June, more than 6,000 people have been killed on the street in the name of fighting drugs*



In December, speaking to a group of business-people, Duterte admitted to personally killing a few himself while he was mayor. The reaction of the international community has been one of outrage and reproach: Zeid Ra'ad al-Hussein, the U.N. High Commissioner for Human Rights, said on Dec. 20 that Duterte should be investigated for murder; on the same day, folk-music legend James Taylor said he had canceled his February concert in Manila.

But many Filipinos take a utilitarian approach to the war on drugs: killing is bad, but a society tainted by drugs and crime is worse. About 77% of Filipinos are satisfied with Duterte's performance, according to a poll conducted in December. On the dating app Tinder, some Filipino women have overlaid their profile pictures with "I'm a Filipino, and my President is Duterte!"

Duterte, 71, was the dark-horse candidate when he entered the 2016 presidential election. But disillusioned Filipinos, who saw the drug epidemic as a symptom of a broken sociopolitical system, quickly came around. They liked his coarseness—he has called both President Barack Obama and Pope Francis "son of a whore" and made jokes about raping women—and his record as a change agent, even when he advocates violence. Three decades after the fall of the kleptocratic dictator Ferdinand Marcos, politics in the Philippines, though now a democracy, is still corrupt and ineffectual. The country's homicide rate was the highest in Asia in 2013, while the trade and consumption of methamphetamine are booming. The tourism industry, which employs 1 in 10 Filipinos and provides 7.8% of GDP, is reeling. Roughly a quarter of the population of nearly 100 million lives below the poverty line.

As grisly accounts of the drug war grip audiences worldwide, pro-Duterte Filipinos—and the President himself—have responded with increasingly hostile anti-Western sentiments. Duterte is willfully carrying out what he calls a "separation from the United States," a former colonizer and longtime ally that has funneled troops and aid into the country for decades. Manila is now cozying up to Beijing, even though both governments dispute maritime territory in the South China Sea. Duterte has pledged to buy arms from China, and Beijing has promised to help build infrastructure in the Philippines, dealing a blow to American presence and prestige in the region.

Duterte's fiercest critic is Senator Leila de Lima, a former Secretary of Justice who has attempted to wage a war in the legislature against a strongman President who she says is actually "rather meek." Duterte and his allies have struck back, and de Lima fears impeachment, arrest or worse. But, she says, "Will I stop fighting? Over my dead body." —NASH JENKINS/MANILA



*The bodies of three men beneath the Jones Bridge in Manila on Dec. 6. A police report states they “met their untimely death” after one sold crystal meth to an undercover cop and then opened fire when the officer moved to arrest them*



3

SOCO-MPCLO-355  
BY DATE 2014



**The**

**drug**

**treating**

**FORGET WRINKLES. BOTOX IS NOW BEING USED TO TREAT MIGRAINES, DEPRESSION, TWITCHING EYES, OVERACTIVE BLADDERS, SWEATY PALMS AND MORE. SOME CALL IT A MARVEL OF MEDICINE; OTHERS CAUTION THE RISKS ARE STILL UNKNOWN. INSIDE THE EXPLODING BUSINESS AND STRANGE SCIENCE OF BOTOX**

**BY ALEXANDRA SIFFERLIN**



The image features a teal background with dark silhouettes. On the left, the back of a person's head is visible. On the right, two hands are shown, each holding a syringe. The syringes are positioned horizontally, one above the other. The word "that's" is written in a white, bold, italicized font, underlined, and placed between the two syringes.

*that's*

*everything*

**D**URING A RECENT THERAPY session, one of Dr. Norman Rosenthal's regulars said he was considering suicide. It wasn't the first time the patient had entertained the thought, and even though he was on antidepressants and always kept up with his appointments, Rosenthal, a licensed psychiatrist with a private practice in North Bethesda, Md., wanted to offer his patient something else.

"I think you should get Botox," Rosenthal told him. "You should schedule an appointment on your way home."

It was peculiar advice coming from a shrink, but not without precedent. In 2014, Rosenthal, a clinical professor of psychiatry at Georgetown University School of Medicine, and Dr. Eric Finzi, an assistant professor of psychiatry at George Washington School of Medicine, published a study showing that when people with major depression got Botox, they reported fewer symptoms six weeks later than people who had been given placebo injections. "I'm always on the lookout for things that are unusual and interesting for depression," says Rosenthal, who is widely considered an expert on the condition. "I've found Botox to be helpful, but it's still not mainstream."

It's also not approved by the U.S. Food and Drug Administration (FDA) for depression, not that that stops doctors from prescribing it that way. Such off-label use of Botox, like that of any FDA-approved drug, is legal in the U.S. That's because once a drug has been approved by the FDA for a condition, licensed physicians are legally allowed to prescribe it for any medical issue they think it could benefit, regardless of whether

it's been proved to work for that condition.

Now, thanks in large part to off-label use, Botox—the wrinkle smoother that exploded as a cultural phenomenon and medical triumph—is increasingly being drafted for problems that go far beyond the cosmetic. The depression suffered by Rosenthal's patient is just one example on a list that includes everything from excessive sweating and neck spasms to leaky bladders, premature ejaculation, migraines, cold hands and even the dangerous cardiac condition of atrial fibrillation after heart surgery, among others. The range of conditions for which doctors are now using Botox is dizzying, reflecting the drug's unique characteristics as much as the drug industry's unique strategies for creating a blockbuster.

Botox is a neurotoxin derived from the bacterium *Clostridium botulinum*. Ingested in contaminated food, it can interfere with key muscles in the body, causing paralysis and even death. But when injected in tiny doses into targeted areas, it can block signals between nerves and muscles, causing the muscles to relax. That's how it smooths wrinkles: when you immobilize the muscles that surround fine lines, those lines are less likely to move—making them less noticeable. It's also why it's FDA-approved to treat an overactive bladder: Botox can prevent involuntary muscle contractions that can cause people to feel like they have to pee even when they don't.

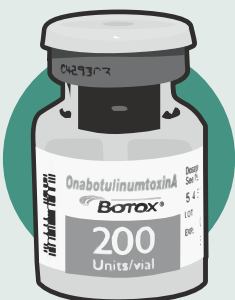
In 2015, Botox, produced by pharmaceutical maker Allergan, generated global revenue of \$2.45 billion—more than half of which came from therapeutic rather than cosmetic uses. That noncosmetic revenue is likely to balloon in the years ahead as doctors try out

**'I meet with physicians who are using the toxin everywhere—for diseases you would never know about.'**

MIN DONG,  
Harvard Medical School

**Botox FAQ**

Botox was invented as a drug to treat crossed eyes. Today it's used on a wide range of disorders—some approved, some not. Here's what to know:



**1 WHAT IS BOTOX?**

Botox comes from a bacterium called *Clostridium botulinum* that can cause severe food poisoning if eaten. When the drug is injected, it delivers a tiny dose of toxin that blocks communication between nerves and muscles.

**2 DOES INSURANCE COVER IT?**

Not for wrinkles. Some companies will cover it for FDA-approved medical uses if other therapies have not worked. Out of pocket, it can cost \$350 to \$500 per injection. Most treatments require multiple shots.

**3 IS IT SAFE?**

The FDA requires Botox to bear a black-box warning—an alert that the drug may come with major risks—but most experts agree it's safe when used correctly for approved conditions. Still, serious side effects have been reported.

Botox for even more off-label uses and as Allergan conducts studies of its own.

“In the majority of these cases, it’s the doctors at the front line who start using Botox off-label, and then we see the treatment of things we never expected the toxin to work for,” says Min Dong, a researcher at Harvard Medical School who studies botulinum toxins in the lab and has no financial ties to Allergan. “I meet with physicians who are using the toxin everywhere—for diseases you would never know about.”

The potential of the drug is enormous, but it isn’t without risks. Most of the experts I spoke with agree that in small doses, Botox is safe when administered by a licensed professional, but not everyone agrees that its safety extends to all of its newer off-label uses.

In recent years, a number of high-profile lawsuits have been brought against Allergan in which plaintiffs claimed that off-label uses—for ailments including a child’s cerebral-palsy symptoms, for instance, or an adult’s hand tremors—resulted in lasting deleterious side effects. Still, the drug’s acceptance in a growing number of doctors’ offices worldwide, and its revenue growth, show no signs of slowing.

It’s a remarkable arc for a drug that only a few years ago was associated with Hollywood cocktail parties where guests came for Bellinis and left with a forehead full of Botox injections. It highlights the advances that can occur when physicians, seeking new therapies for their patients, explore creative new uses for approved drugs—basically, real-world experiments that take place largely beyond the reach of federal regulators. That, in turn, raises questions about the risks of deploying medicines in ways that have not been fully vetted. But it happens all the time.

**THE DRUG HAS COME A LONG WAY** since its ability to smooth facial wrinkles was first discovered, by accident. In the 1970s, ophthalmologist Dr. Alan B. Scott started studying the toxin as a therapy for people with a medical condition that rendered them cross-eyed. “Some of these patients that would come would kind of joke and say, ‘Oh, Doctor, I’ve come to get the lines out.’ And I would laugh, but I really wasn’t tuned in to the practical, and valuable, aspect of that,” Scott told CBS in 2012. Scott named the drug Oculinum and formed a company of the same name in 1978. In 1989 he received FDA approval for the treatment of strabismus (the crossed-eye disorder) and abnormal eyelid spasms.

## BOTOX BY THE NUMBERS

In the 28 years since Botox was approved, the drug’s popularity—and the number of ailments it treats—has skyrocketed

# 12.2 billion

Number of Botox doses administered in the past quarter-century

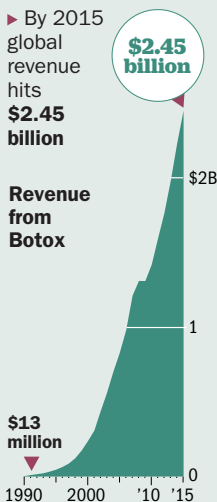
# 800

Number of patents held by Allergan for current and potential Botox applications

► In 1991, Allergan paid **\$9 million** for a small company that made Botox

► In 1998, Botox global revenue was **\$125 million**

► By 2015 global revenue hits **\$2.45 billion**



SOURCE: ALLERGAN

Two years later, Allergan bought Oculinum for \$9 million and changed the drug’s name to Botox. At the time, Allergan was primarily an ocular-care company that sold products like contact-lens cleaners and prescription solutions for dry eyes, bringing in about \$500 million in annual sales. Allergan says it saw Botox as a drug for a niche population: it’s estimated that 4% of people in the U.S. have crossed eyes, for which the drug was initially approved, and Allergan made about \$13 million in sales from the drug by the end of 1991.

In 1998, David E.I. Pyott became CEO of Allergan. He was enthusiastic about Botox’s wrinkle-reducing potential, he says, and pushed the company to conduct a series of studies on the matter. In 2002, Botox earned FDA approval for so-called frown lines—wrinkles between eyebrows—marking the first time a pharmaceutical drug was given the green light for a strictly cosmetic purpose. In 2001, the year before Botox was approved for wrinkles, it generated about \$310 million in sales. By 2013, the year it was approved for overactive bladder, Allergan reported nearly \$2 billion in revenue from Botox.

In just over a decade, the number of people in the U.S. receiving cosmetic botulinum toxin type A injections—mostly from Botox but also from another brand called Dysport, which commands less than 10% of the market—exploded. From 2000 to 2015, use of the toxins for wrinkles increased 759%. It became a cultural phenomenon too, spawning Botox parties, *Simpsons* jokes, even greeting cards. In 2008, *Sex and the City* character Samantha famously quipped, “I don’t really believe in marriage. Now Botox, on the other hand, that works every time.”

But today it’s the medical uses of the drug that are the great moneymaker, in part because doctors are getting a better handle on how to use it. Botulinum toxin type A is one of seven neurotoxins produced from *Clostridium botulinum*. Contracting botulism is bad news: it can cause blurred vision, persistent trouble swallowing and worse. In one recent case, close to 30 people were hospitalized in Ohio in 2015 after attending a church potluck. One person died. The outbreak was ultimately attributed to a potato salad made from improperly home-canned potatoes that were harboring the bacteria. Given its level of toxicity, some countries have even explored its potential use as a bioweapon.

With Botox, however, the dose makes

the poison. In medicine, it's used in such small amounts that most experts deem it safe. "It's fascinating," says Dong, the Harvard researcher. "These are the most toxic substances known to man, and they are also the most useful toxins used in medicine right now."

Botox works by temporarily immobilizing muscle activity. It does this by blocking nerve-muscle communication, which makes the injected muscles unable to contract. Paralyzing muscle activity is how Botox can steady a straying gaze, eliminate an eyelid spasm or stop signaling from nerves that stimulate sweat in a person's armpit.

Botox has also been shown to prevent chronic migraines, but there, it's unclear exactly why Botox works. (For doctors, reaching a firm understanding of how Botox prevents migraines will be tricky, since they don't know for certain what causes the severe headaches in the first place.) "There were multiple clinical trials for migraines, and most of them failed," says Dr. Mitchell Brin, senior vice president of drug development at Allergan and chief scientific officer for Botox. "It took a long time to figure out where to inject and how much." Today people who receive Botox for migraine prevention get 31 injections in different spots on their head and neck. The effects of Botox can last about three to six months depending on the condition.

The use of Botox for migraines was, like many other new applications for the drug, a kind of happy accident. A Beverly Hills plastic surgeon observed that people who got Botox for wrinkles were reporting fewer headaches, paving the way for studies about migraines. Similarly, doctors in Europe were intrigued when they noticed that their patients who got Botox for facial spasms were sweating less than usual.

"It's pure serendipity," says Brin.

**THOUGH PEOPLE OFTEN ASSOCIATE** pharmaceutical discovery with giant industrial laboratories and expansive, rigorous clinical trials, the mission creep for Botox—as with many other drugs that have received government approval for one specific use—has been driven by off-label use.

In the case of Botox, doctors who experiment off-label say they do so because they're looking for better treatment options for their patients. "In my 30 years of medical practice, Botox is one of the most impactful treatments I had ever seen," says Dr. Linda Brubaker,

dean and chief diversity officer of the Loyola University Chicago Stritch School of Medicine, who independently studied Botox for overactive bladder before the FDA approved it for that condition in 2013.

Many of the women she saw in her practice didn't want to take drugs for the disorder over the long term. Brubaker found that about 70% of women she treated with Botox reported an average of three leaks a day, compared with the average of five leaks a day at the start of the study. "It's a very rewarding option for them," she says.

It's true that Botox's ever expanding uses have been largely physician-driven. But drugmakers are also often aware of off-label uses long before those uses are officially recognized by the FDA; that's how Botox ended up being approved for wrinkles, after all.

Some industry insiders say it's not unusual, if still legally murky, for drug-company representatives and doctors to share information with one another about the different ways an approved drug may be used. If a doctor notices that, say, a treatment for crossed eyes also "takes the lines out," he may mention it to the representative from whom he buys the drugs. That rep may share that with another of his clients, and so on.

U.S. pharmaceutical companies are prohibited from marketing a drug for unapproved purposes until they've submitted proof to the FDA of its efficacy and gotten the agency's green light. If they skip that step, they're breaking the law, and the penalties can be steep.

In 2010, Allergan pleaded guilty and agreed to pay \$600 million to resolve allegations that it unlawfully promoted Botox for conditions—including headaches, pain, spasticity and juvenile cerebral palsy—that at the time were not approved by the FDA. In one of the complaints, prosecutors said that Allergan "illegally, vigorously and without any thought to the possible negative health effects to which it subjected patients, promoted off-label uses of Botox." The U.S. Department of Justice also argued that Allergan exploited on-label uses for cervical dystonia—a disorder characterized by extreme neck-muscle contractions—to "grow off-label pain and headache sales." Prosecutors also argued that Allergan paid doctors to give presentations and trainings to other physicians about Botox uses that at the time were off-label.

As part of the settlement, Allergan agreed to plead guilty to one criminal misdemeanor

## WHAT BOTOX IS USED FOR

Best known for reducing facial wrinkles, Botox is approved by the FDA for the conditions below. The drug now brings in significantly more revenue for its noncosmetic uses.

### FDA-APPROVED

Rigorous clinical trials were required before Botox was determined to be safe and effective for these uses:

- **Strabismus (crossed eyes)**
- **Blepharospasm (eyelid spasms)**
- **Cervical dystonia (severe neck spasms)**
- **Severe underarm sweating**
- **Upper-limb spasticity**
- **Chronic-migraine prevention**
- **Overactive bladder**
- **Lower-limb spasticity**
- **Some facial wrinkles**

misbranding charge and pay \$375 million. The company acknowledged that its marketing of Botox led to off-label uses of the drug. Allergan also agreed to pay \$225 million to resolve civil charges alleging that the marketing of Botox had caused doctors to file false reimbursement claims, though Allergan denied wrongdoing. The company said in a statement that the settlement was in the best interest of its stockholders because it avoided litigation costs and “permits us to focus our time and resources on ... developing new treatments.”

As with any drug, Allergan is legally required to make known Botox’s most severe potential side effects, and in 2009 the FDA required Botox to bear a black-box warning—the strongest type of warning label given to any drug—cautioning that there was evidence the drug had been linked to serious side effects. With Botox, this includes effects spreading from the injection site to other parts of the body, causing muscle weakness, double vision and drooping eyelids.

In physicians’ offices—where patients typically don’t see the box the vials are packed in and therefore may be unaware of the black-box warning—the onus is on doctors to outline the potential risks with any patient choosing to try Botox for any condition, FDA-approved or not.

Ray Chester, an attorney in Austin who has represented several plaintiffs in lawsuits against Allergan, says that just about all the cases he has handled involved off-label use of the drug. In 2014 a New York couple argued that Botox, which they chose to try off-label to treat their son’s cerebral-palsy symptoms, caused life-threatening complications. The family was awarded \$6.75 million by a jury. Allergan, which initially planned to appeal, ended up privately settling the case with the family, and the terms of the settlement have been kept confidential.

Though the off-label use of drugs makes many experts—including some at the FDA—uncomfortable, the practice is de rigeur in medicine. It’s how doctors learned that Lyrica, which is approved to treat nerve pain, can treat anxiety, and how they learned that finasteride, a drug that treats enlarged prostates, can reduce male baldness.

“A separate balancing of risks and benefits is necessary for each intended use of a drug, even once it is approved, to ensure the benefits of using the product to treat a particular disease or condition outweigh the risks,” says FDA press officer Sarah Peddicord.

#### **OFF-LABEL**

Once a drug has been approved for one condition, doctors can use it for any disorder they think it can help. Here are just a few uses doctors have embraced:

■ **Severely cold hands**

■ **Lockjaw**

■ **Back pain**

■ **Cleft-lip scars**

■ **Painful sex**

■ **Depression**

■ **Premature ejaculation**

■ **Parkinson’s-disease symptoms**

■ **Anal fissures**

■ **Drooling**

■ **Teeth grinding**

That’s why for any off-label uses that Allergan wants to market to doctors and the public—depression, cold hands, atrial fibrillation in heart-surgery patients—the company must conduct its own clinical trials to show its efficacy and safety.

Allergan does not disclose its research-and-development budget for Botox specifically, but the company’s annual R&D budget is about \$1.5 billion. “This drug is not done in terms of its different applications,” says Allergan’s Brin. “It still has many different, exciting, meaningful opportunities for patients.”

**THE STUDIES USING BOTOX** for depression, like other research into Botox’s off-label potential, were so encouraging that they caught the attention of Allergan. In Rosenthal and Finzi’s research, 74 people with major depressive disorder were randomly assigned to receive Botox injections or a placebo. Six weeks later, 52% of the people who received Botox experienced a drop in reported symptoms, compared with 15% of the people given a placebo. “Over 50% of people responding is a high number,” says Finzi. “These are people who have already tried other treatments, and they are significantly depressed.”

Now Allergan hopes to replicate the findings on a larger scale, and the company is currently running its own Phase 2 clinical trial. If its results are in line with Rosenthal and Finzi’s, it would be huge, paving the way for Botox to obtain official approval for the drug as a depression treatment. That wouldn’t change anything for doctors, of course—they can already prescribe it off-label, and some do, with great results—but it would allow Allergan to begin marketing Botox for depression, a change that could dramatically increase its adoption and sales.

Still, Botox’s use for depression raises a question that confounds some researchers. In some cases, how Botox works is evident: the toxin can block the signals between nerves and muscles, which is why it can help calm an overactive bladder, say, or a twitching eye, or the facial muscles that make wrinkles more apparent. In other cases, however (with migraines as well as with depression), scientists are flummoxed. They may have noticed that the drug works for a given condition, but they aren’t always sure why—in sciencespeak, they don’t know what the mechanism is.

With depression, Rosenthal and Finzi think it may relate to what’s known as

**A balancing of risks and benefits is necessary for each intended use of a drug, even once it is approved:**

SARAH PEDDICORD, FDA

the facial-feedback hypothesis, a theory stemming from research by Charles Darwin and further explored by the American philosopher and psychologist William James. The theory posits that people's facial expressions can influence their mood. Lift your face into a smile and it may just cheer you up; if you can't frown or furrow your brow in worry, perhaps you won't feel so anxious or sad.

But it could be something else altogether. In 2008, Matteo Caleo, a researcher at the Italian National Research Council's Institute of Neuroscience in Pisa, published a controversial study showing that when he injected the muscles of rats with Botox, he found evidence of the drug in the brain stem. He also injected Botox into one side of the brain in mice and found that it spread to the opposite side. That suggested the toxin could access the nervous system and the brain.

"We were very skeptical," says Edwin Chapman, a professor of neuroscience at the University of Wisconsin–Madison, after reading Caleo's study. But in August 2016, Chapman and his graduate student Ewa Bomba-Warczak published a study in the journal *Cell Reports* showing similar spreading effects in animal cells in the lab. For Chapman, it explained what he was hearing anecdotally from doctors: that Botox might be influencing the central nervous system and not just the area where it's being injected.

Ironically, it's the off-target effects of Botox that have some researchers most excited. "Botox may be working in a way that is different from what we think," says Bomba-Warczak. "It may be even more complex."

Chapman and Bomba-Warczak both think Botox is safe when used correctly, but they say their inboxes quickly filled with messages after their study was published. "We were startled by the number of people who feel they were harmed by these toxins," says Chapman. "We feel these were pretty safe agents. Now it seems that for some people, they believe the toxin can sometimes cause something that may be irreversible. And that's a total mystery."

Allergan says Botox is well established as a drug and that the benefits and risks of toxins are well understood. "With more than 25 years of real-world clinical experience ... approximately 3,200 articles in scientific and medical journals, marketing authorizations in more than 90 markets and many different indications, Botox and Botox Cosmetic are [among] the most widely

researched medicines in the world," an Allergan rep wrote in an emailed statement.

Even if Botox's mechanism isn't always well understood and some of its off-label uses are still unproven, interest in the drug isn't likely to wane. "Botox is a big cash cow for the physicians' practices," says Ronny Gal, an investment analyst at Sanford C. Bernstein who has watched the drug closely for more than a decade. "When I talk to physicians, they say, 'Botox is not a problem. It works and gives you the result you want.' If it works for depression and atrial fibrillation, it could be massive."

**IN NOVEMBER**, the FDA held a two-day hearing asking for expert comment on the agency's rules concerning off-label drug use and marketing. Some said the practice paves the way for scientific progress and gives doctors and their patients much needed alternatives for hard-to-treat medical conditions. Others said that off-label drug use is primarily financially motivated and that it poses a serious threat to public health, particularly when drugs are used experimentally on children.

Off-label use is a topic the FDA has been eyeing for some time. "There have been many instances where unapproved uses of a drug, even when commonly accepted by the medical community, have later been shown to be unsafe or ineffective or both—sometimes with devastating consequences to public health," says the FDA's Peddicord.

It's unclear how the FDA's focus will pivot with the next Administration. President-elect Donald Trump has pledged that in his first 100 days, he would be "cutting the red tape at the FDA," and insiders have speculated that a Trump Administration would loosen the agency's already limited oversight on off-label use.

But even if the laws remain unchanged, as long as off-label uses are permitted by law, expect doctors to keep pushing the boundaries of Botox's applications—sometimes in the name of medical progress and sometimes with remarkable results.

Norman Rosenthal, the Maryland psychiatrist who recommended Botox for his suicidal patient, says he's seen the upside firsthand. The patient, persuaded by Rosenthal, did indeed get Botox shots on his forehead and between his brows. Days later, Rosenthal got an email from the patient. It was a thank-you note. Finally, the patient wrote, he was feeling better. □

**'Botox may be working in a way that is different from what we think. It may be even more complex.'**

EWA BOMBA-WARCZAK, University of Wisconsin–Madison



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# Time Off

'SOMEONE LIKE ME DOESN'T EXIST IN THOSE NARRATIVES—AT LEAST NOT IN A WAY THAT I WOULD WANT TO BE A PART OF.' —PAGE 60



As Pope Pius XIII on HBO's *The Young Pope*, Law governs his flock cruelly

## TELEVISION

### On HBO, a tyrannical new Pope lusts for power

By Daniel D'Addario

A NEW POPE BECOMES MANY THINGS at once: a leader whose decisions shape the lives of 1.2 billion believers, a geopolitical figure whose approval is sought by heads of state and, inevitably, a celebrity. It's that last part *The Young Pope* exploits brilliantly.

On HBO's new drama (debuting in the U.S. Jan. 15 after airing last year in Europe), Jude Law's Pope Pius XIII cultivates his earthly image more assiduously than he does his relationship with the divine. He'll shepherd his flock only after he's dominated them with a punishing campaign of personal charm and terrifying force. *The Young Pope* is both a deliriously imaginative glimpse behind the locked doors of Vatican City and a clear-eyed examination of how tyrants consolidate power.

The series imagines a first

American Pope in an alternate universe in which Francis seems never to have existed. It begins with Pius XIII having just gotten the nod from the College of Cardinals. Those who selected him to lead trust that his obvious suboptimal personal characteristics will be sanded down by the church's strictures. (Some of his brusqueness seems to be cultural difference: born Lenny Belardo, and later the Archbishop of New York, this Pope has an outer-borough attitude.) But from his first moments in charge, Pius seeks less to evolve the church's mission than to break it apart, using his charisma as a wedge and his nostalgic vision of a pious past that may never have existed as a replacement for the existing order. His first public speech plays up not each

believer's potential but the greatness of the leader himself: "I am closer to God than I am to you," he declares, before demanding that members of the church turn their focus solely toward faith.

Fiercely protective of his image, Pius refuses to allow the dissemination of images he hasn't approved. When he speaks to the world, he's obscured by darkness, the better to allow his words to resonate. Law is terrific as Pius—his voice crackling with anger—but he's better still as Lenny, the man who, in private, marvels at the fact that he has risen to one of the world's highest offices. Pius believes far more strongly in his own calling to greatness than he does in the vitriol he spits about redoubled faith. The rhetoric, devoured by his fans and tolerated by those still hoping to regain control, allows him to further cement his own power.

**WHY DOES LENNY BELARDO**, perhaps not even one of the faithful—he jokes about not believing, though no one knows if he's meant to be taken literally—want power so badly? The show has some ideas, showing flashbacks to an itinerant childhood in which he felt isolated, removed from warmth and kindness. (His parents abandoned him to be raised by nun Sister Mary, played in the present day by the excellent Diane Keaton, ever defending the man she knows to be great.) But the show's central puzzle remains what Pius will do with the power he's amassing. Various Vatican City eminences (including Silvio Orlando in a deliciously unctuous turn as the Cardinal Secretary of State) alternately try to cajole, trick and outright command their new charge into following established law.

And yet these priests, bound by centuries of established mores within which they've lived their entire lives, are ill equipped to deal with a genuine revolutionary. Show creator Paolo Sorrentino, the Italian director of films including *The Great Beauty*, has a careful eye for detail, as when the Cardinals surveil the Pope with a handheld spyglass. These are creatures of habit, political animals lazily untrained in the ways of real intrigue. They're the perfect sort to be colonized by a man with a vision for himself.

**'Hollywood'**

Catholicism has provided the arts with rich themes from forgiveness to family ties. Here are five that made a mark in cultural history:



**THE GODFATHER (1972)**

Marlon Brando's family life is defined by faith and tradition—from weddings to, yes, baptisms

**THE EXORCIST (1973)**

Max von Sydow fights Satan in this head-spinning hit, one of the biggest grossers ever; a TV version currently haunts Fox

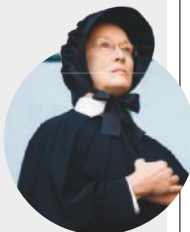


**BRIDESHEAD REVISITED (1981)**

A young man is taken in by a devout Catholic family in this TV sensation, based on Evelyn Waugh's novel

**DOUBT (2008)**

Meryl Streep plays a nun toxically secure in her wisdom—bulldozing all who stand in her way, including Viola Davis' troubled mom



**SPOTLIGHT (2015)**

The Oscars' reigning Best Picture shows Boston reporters facing down the vast power of that city's diocese

After all, the papacy is not much fun, at least not in Sorrentino's telling. Law shows us Pius' restless soul, the edgy bit of Lenny in his curled lip as he baptizes baby after baby in a long-established tradition of favor trading. He's also governed by unseemly appetites of the flesh. Pius extends the showiness of the office—stagy ceremony is part of the gig—to boundary-pushing flirtations with female disciples. The most interesting thing about the way Law spins the role is his utter lack of doubt: if he does it, it's papal.

*The Young Pope* is as compellingly watchable as anything else you'll find on TV. Sorrentino intuitively understands that which makes Catholicism—with its crosscurrents of guilt and exuberant hope as well as the opulent pageantry of the Vatican—fascinating grist for storytelling. And he's unafraid to go what seems at first too far in service of a story that finds the universal in one warped leader's specificities.

Take, for instance, a scene in which Pius gets dressed to address his Cardinals. LMFAO's "Sexy and I Know It" plays, thumping and vacuous, as we see Law slowly try on his robes and his miter, adding various juicily colored rings atop his gloves. The camera eats up every bit of finery, fascinated by the pomp.

Though Sorrentino treats the subject without irony, we're still inclined to chuckle, up until Pius is fully dressed. Then our Pope, all kitted out, stiffens his spine under his robes and orders his Cardinals to show "blind loyalty." "Everything that was wide open," he intones, "is gonna be closed." That which the skeptics have feared has come to pass: Pius is proposing sweeping changes, including the end of forgiveness of sins. And yet he is so assured that they have no choice. One of the Pope's greatest critics rises from his seat and kisses Pius' elegantly shod foot. Led by an operator more enthralled by himself than by any work of man or God, one of the world's greatest powers has been brought to heel. What authority does the institution have over the man who knows he's right?

**THE YOUNG POPE** airs on HBO Sundays and Mondays at 9 p.m. E.T.

DOUBT: PHOTOFEEL; THE EXORCIST, THE GODFATHER, SPOTLIGHT, BRIDESHEAD REVISITED: EVERETT



AWARDS SEASON

# Your Golden Globes workout plan

By Eliza Berman

Statue season starts in earnest on Jan. 8. Fully catching up is probably impossible. Fortunately, a fraction of nominees account for the lion's share of potential winners. Here's a guide:

## Movies

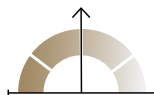


### LALA LAND

7 NOMINATIONS



Emma Stone and Ryan Gosling's musical is a sometimes melancholic Technicolor romance



### MOONLIGHT

6 NOMINATIONS



Barry Jenkins' stunning film follows a young Miami man from childhood to young adulthood



### MANCHESTER BY THE SEA

5 NOMINATIONS



Casey Affleck brims with emotional turmoil as a janitor who becomes his nephew's guardian



### FLORENCE FOSTER JENKINS

4 NOMINATIONS



Meryl Streep delights as a socialite whose love of singing is as great as her voice is bad



### HACKSAW RIDGE

4 NOMINATIONS



Mel Gibson returns after a decade-long directing hiatus with the true story of a World War II hero

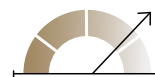


### LION

4 NOMINATIONS



Dev Patel and Nicole Kidman star in a film about an Australian who uses Google Earth to find his birth family in India



### HELL OR HIGH WATER

3 NOMINATIONS



Jeff Bridges is a Texas Ranger on his last mission in this neo-western drama



### NOCTURNAL ANIMALS

3 NOMINATIONS



Fashion designer turned director Tom Ford's thriller traces a long trail of betrayal

### THE NOMINATION KEY

- MOVIE/SERIES
- ACTOR
- ACTRESS
- SUPPORTING ACTOR
- SUPPORTING ACTRESS
- DIRECTOR
- SCREENPLAY
- ORIGINAL SCORE
- ORIGINAL SONG

### HOURS TO CATCH UP

8.2

### THE PEOPLE VS. O.J. SIMPSON

5 NOMINATIONS



The buzziest series of the year revisits complicated history

6.0

### THE NIGHT MANAGER

4 NOMINATIONS



Tom Hiddleston is the spy in this John le Carré miniseries

8.7

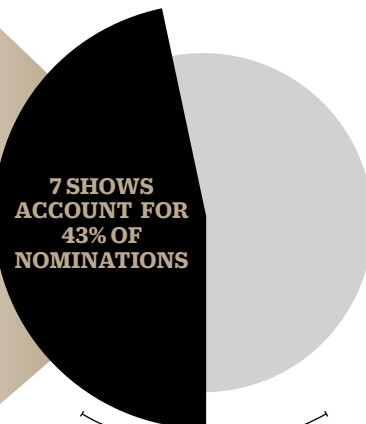
### THE CROWN

3 NOMINATIONS



Elizabeth II's early years prove fertile ground for drama

## Television



8.7

### THE NIGHT OF

3 NOMINATIONS



HBO's tense miniseries examines race and the criminal-justice system

7.1

### THIS IS US

3 NOMINATIONS



Mandy Moore cements her acting comeback as a mother of triplets

11.0

### WESTWORLD

3 NOMINATIONS



Androids attempt to achieve sentience at a theme park for the ultra-rich

20.3

### BLACK-ISH

3 NOMINATIONS



In its third season, the sitcom continues to mine the complexities of race and family

## MOVIES

## Hidden Figures proves there's power in numbers

By Stephanie Zacharek

IN THE GRAND SCHEME OF THINGS, numbers mean everything: our very bodies are made of equations. Yet movies about people who deal in numbers—often foisted on us as spinachy, good-for-us entertainment during prestige-movie season—tend to be deadly dull. Who needs to see another white dude grab a piece of chalk and start writing feverishly on a blackboard?

But even if numbers are everywhere, they still have the capacity to surprise us. *Hidden Figures*, both a dazzling piece of entertainment and a window into history, bucks the trend of the boring-math-guy movie. Its characters are based on real-life people, a trio of African-American math whizzes who happened to be women, and who were employed by NASA in the early 1960s to help crunch crucial data for the first space missions. When Al Harrison (Kevin Costner), the harried engineer in charge of NASA's groovily named Space Task Group, says in exasperation, "We don't have a single person in this entire building that can handle analytic geometry?" the unassuming woman who's sent to his office is Katherine Goble, later Johnson (Taraji P. Henson), a former child prodigy who has found work at Langley research center as a "computer," the term given to people skilled at running calculations on an adding machine. (And because this is still-segregated Virginia we're talking about, she's dispatched from a room designated for "Colored Computers.")

Katherine can do more than just run an adding machine, as she quickly proves. Even so, the obstacles she faces are almost as daunting as putting a man in space. Jealous, resentful colleagues (one of them played by *The Big Bang Theory*'s Jim Parsons) try to undermine her. She's black and a woman, a double whammy their threatened white male egos just can't handle. When she tries to pour coffee from the office's communal coffeepot, her colleagues,



Monáe, Henson and Spencer play math whizzes who shake up the space program

all white and nearly all male, shoot knowing glances at one another—and the next day, a small, separate-but-supposedly-equal pot appears on the table, specifically for her use. The only restroom she's allowed to use is in another building, a half-mile away. She brings her work with her on these bathroom breaks, but that doesn't matter. The round-trip takes so long that her absence raises eyebrows.

Meanwhile, two of Katherine's friends and colleagues at Langley steer around their own roadblocks. Ultra-capable Dorothy Vaughan (Octavia Spencer) does the work of a manager, though her covertly racist boss (Kirsten Dunst) refuses to either promote her or pay her what she's worth. And Mary Jackson (Janelle Monáe), another gifted mathematician, decides to make the leap to become an engineer—only to find that if it's hard enough for a white woman to pull that off, it's nearly impossible for a woman of color.

**'They did the work to be a part of something greater than themselves.'**

OCTAVIA SPENCER, in *Entertainment Weekly*, on how African-American women refused to let segregation stop them

**IT'S ONE THING**, though, to outline what *Hidden Figures* is about. It's something else entirely to bask in the movie's spirit. Directed by Theodore Melfi (*St. Vincent*) and adapted from Margot Lee Shetterly's book *Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race*, the picture is buoyant and alert. Henson, Spencer and Monáe all give superb, luminous performances: watching them is pure pleasure. Even Katherine's big writing-on-the-blackboard moment is different from what we've seen thousands of times before. Her drive to use numbers to show the world who she truly is has a specific and pointed context here: numbers have no color, and no gender either.

And when Katherine walks into the Space Task Group office for the first time—as a sea of white guys in identical white shirts and dark ties turn to stare at her, wondering what on earth she's doing there—the spirit of the room shifts perceptibly. She's different from them, because she's a woman and she's black. In her simple, unassuming plaid dress and smart-girl cat-eye glasses, she's about to challenge their world—and change it for the better. *Hidden Figures* brings that stealth triumph into the light, one number at a time. □

## QUICK TALK

# Sigourney Weaver

The actor, 67, plays an austere British grandmother in *A Monster Calls*, a fantasy drama (see review, right) about a boy who summons an imaginary monster to help him cope with death.

**How did your own family inform the way you approached this role?** I had an English grandmother and mother, so I was interested in going to that more reserved place. I don't think she's cruel. She's saying, If the world ran the way it's supposed to, my daughter wouldn't be dying, so I'm going to run my world the way it's supposed to be run.

**The movie is about a 12-year-old boy, but it deals with very adult themes.**

**Who is it for?** I think children are often overprotected. Things are presented to them in a sanitized way. I love Disney, but the little birdies won't be there to help you get dressed. I read a lot of Maurice Sendak to my daughter. He felt that children were clued in to the darkness around them. A movie like this will reassure them that they are respected.

**You've been in sequels to *Alien* and *Ghostbusters*, with several planned for *Avatar*. Any others in your future?** When I started, sequels were considered very déclassé. Sequels are born at the studio or they come because the fans are dreaming about more. Not for *Avatar*—I think people wanted to see more, but no one said, I need to see four more! But I think they'll be very happy once they come out.

**You spoke about climate change at the Democratic National Convention. How do you view the incoming Administration?** On Inauguration Day, the President will take a sacred vow to protect all American citizens. To me, dismantling the restrictions against fossil fuels will put us directly into jeopardy. When I see the people he's putting in charge, it's like all the pigs going to the trough. It's going to be a bonanza for anyone in energy, but we pay a terrible price. They may send dividends sky high, but if you can't breathe the air and drink the water, who cares? —ELIZA BERMAN

## ON MY RADAR

**ARRIVAL**  
*'It's the only movie I've seen in the theater recently. I thought it was fascinating, and Amy Adams was extraordinary.'*



Conor (MacDougall) stares down his very literal, very CGI demon

## MOVIES

# A *Monster Calls* offers a big, less-friendly giant

CHILDREN AREN'T VERY GOOD AT SEEING outside of themselves. If they're doing the work of being children, selfishness comes with the territory—and learning that others feel things keenly too is where adulthood begins.

That's the idea captured in *A Monster Calls*, in which a gnarly tree-like beast (voiced by Liam Neeson) pays a series of visits to 12-year-old Conor (played by Lewis MacDougall, a young actor with quizzical, perceptive eyes). Conor is going through a rough patch: He's bullied at school. He dislikes his uptight grandmother (Sigourney Weaver, left), whom he sees as increasingly intrusive. And his mother (Felicity Jones), who is raising him by herself, has been ill for a long time and isn't getting better. Conor's monster, a surly, growling personification of childhood anger, tells the boy three morally ambiguous stories—and asks him to cap them off with one honest story of his own.

*A Monster Calls*—directed by J.A. Bayona and adapted by Patrick Ness from his own novel—is meticulously and sensitively made, though its best moments may be the lovely but intense watercolor-toned interstitial animated sequences that illustrate the monster's thorny spiritual allegories, cartoons for grownups rather than for little ones. But then *A Monster Calls* isn't so much for kids as it is for grownups. It's a reminder of the time when we, too, thought only of ourselves—and found it too much to bear. —S.Z.



BOOKS

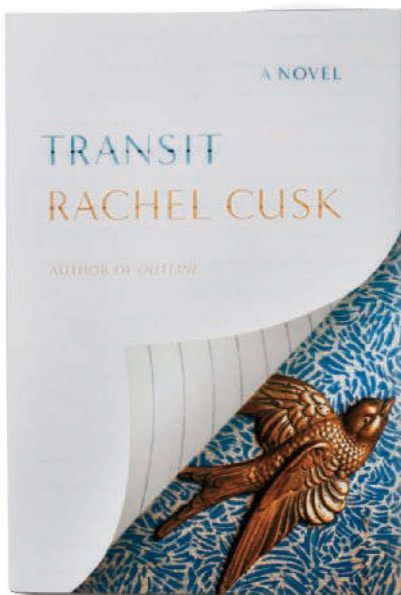
# When less plot is actually more

By Sarah Begley

AFTER WRITING SEVEN NOVELS AND three works of nonfiction, acclaimed British author Rachel Cusk began to find fiction “fake and embarrassing.” Two years ago, she explained to a British newspaper, “Once you have suffered sufficiently, the idea of making up John and Jane and having them do things together seems utterly ridiculous.”

No surprise, then, that her 2014 novel *Outline* was anything but plot-driven. It was more like a series of observations by a narrator as she traveled to Greece to teach writing. The people she met along the way essentially became the subjects of miniature profiles crafted through dialogue. The novel was widely applauded for its elegance and realism. Cusk plans to make the work a trilogy, the second installment of which, *Transit*, will be out in the U.S. on Jan. 17.

This time narrator Faye is back in London, getting her shabby flat renovated and again gauging different worldviews through personal interactions with those around her: her contractors, her friends, her dates and her students. While these characters emerge as full portraits on the page, the narrator—whose name is mentioned only once at the end of each book—is more of an outline. Her lines of



conversation often go missing in the text, leaving readers to infer what she’s said and meant via her companions’ responses. Yet as the nonstory progresses, Faye’s passivity begins to crumble. By the end, she admits that she has “started to desire power because what I now realized was that other people had had it all along, that what I called fate was merely the reverberation of their will.”

Cusk depicts the process of self-determination—by her narrator as well as the novel’s other characters—with both skepticism and curiosity. She skewers London’s gentrifying pubs,

*Some were bothered by the sharp detail in Cusk’s nonfiction about her kids and divorce*

where efforts to make the design look old and authentic make them all look alike. Yet she allows that seemingly superficial choices can emerge from a meaningful place, as when one character determines to better himself by replacing his grilled-cheese lunches with smoked duck. “What kind of world is it,” he says, “where comfort can be found in a mass-produced sandwich? What kind of person am I, that that’s what I think I deserve?”

Faye’s own period of self-adjustment is not at all superficial. Her marriage ended shortly before the first book begins, and in both volumes she spends a short time apart from her children. It would be dismissive to describe the crux of this series as a midlife crisis—the prose is too enchanting, the insights too sophisticated—but tectonic shifts are surely under way. It seems that in the next book, Faye will be ready to confront herself critically and change her life. “We are so schooled in the doctrine of self-acceptance,” explains one character, “that the idea of refusing to accept yourself becomes quite radical.”

Cusk’s perspective on the human condition provokes and bewitches. To those who appreciate books where not much happens, the end of *Transit* will feel like an existential cliffhanger. Perhaps in the third volume, the outline will finally be filled in. □

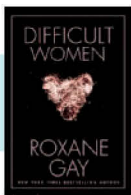
## New year, new books

January always brings a fresh crop of writing to look forward to. Here’s fiction and nonfiction to watch for



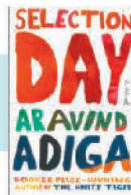
**LETTERS TO A YOUNG MUSLIM, BY OMAR SAIF GHOBASH**

The UAE ambassador to Russia reflects on the challenges of modern Islam in letters to his son



**DIFFICULT WOMEN BY ROXANE GAY**

The author of *Bad Feminist* and *An Untamed State* returns with stories about women in trying circumstances



**SELECTION DAY BY ARAVIND ADIGA**

The Man Booker Prize-winning author of *The White Tiger* tells a story of two cricket-obsessed brothers in Mumbai



**ALWAYS HAPPY HOUR BY MARY MILLER**

Southern women looking for love in all the wrong places are the protagonists in this short-story collection

TIME PICKS

TELEVISION

Starring Catherine O'Hara and Eugene Levy, Canadian sitcom **Schitt's Creek** returns on Jan. 11 for a third season about the trials of the once wealthy, still spoiled Rose family.



BOOKS

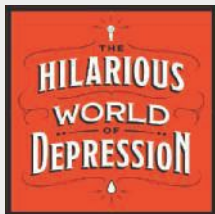
Lisa Wade maps the path forward for women with **American Hookup: The New Culture of Sex on Campus**, a detailed account of contemporary sex. Read an excerpt at [time.com/american-hookup](http://time.com/american-hookup) (Jan. 10).

MUSIC

Brian Eno gets experimental (again) with **Reflection** (Jan. 1), his latest ambient-music project.

PODCASTS

On **The Hilarious World of Depression**, Maria Bamford, Paul F. Tompkins and other comedians try to blunt the stigma of mental illness by telling their own stories—with jokes.



VIDEO GAMES

## Mario on an iPhone? It works

THIS WAS NOT SUPPOSED TO happen. For years, fans had pleaded, cajoled and bully-ragged Nintendo to put Mario on smartphones. And for years, the masterminds behind some of gaming's most enduring franchises simply refused. Until Dec. 15, when Nintendo released *Super Mario Run* (free to try, \$9.99 for full access), a vamp on the iconic series about a turtle-clobbering plumber, for Apple iPhones and iPads. The bigger surprise? *Super Mario Run* is excellent.

This is the Mario those who grew up with Nintendo know best, the one who dashes from left to right across fields of grassy blocks, rivers of coins and grooving flora. The difference is that Mario (or other characters players can eventually unlock, like Luigi and Princess Peach) moves automatically as soon as a level loads, animated by an algorithm. Instead of controlling Mario directly, players tap to interrupt his default motion and make more imaginative choices. Like redirecting him to sop up rows of coins or trounce enemies with last-second spins. A quick rap makes Mario hop, while a longer one boosts him twice as high. If you need to clear a chasm, tap midair and he'll pirouette, gliding a bit further. It's intuitive. Yes, you really can play one-handed.

The simplicity masks deeper layers. Tap near a wall or when landing on blocks painted with reverse arrows, for instance, and Mario

springs backward, letting you subvert the game's one-way-ness. Some of *Super Mario Run's* smartest sequences involve sussing out zigzag trajectories hidden in plain sight—where sticking your landings requires genuine mastery of the new tap-swipe controls. Left to his own devices, Mario automatically springs over low obstacles or enemies in his path, freeing players to focus on big-picture antics. It's smart, less-is-more design that plays to the strengths of touchscreen gaming without sacrificing precision. For all its hesitance in embracing smartphones and tablets, Nintendo seems to have had no trouble designing software for them.

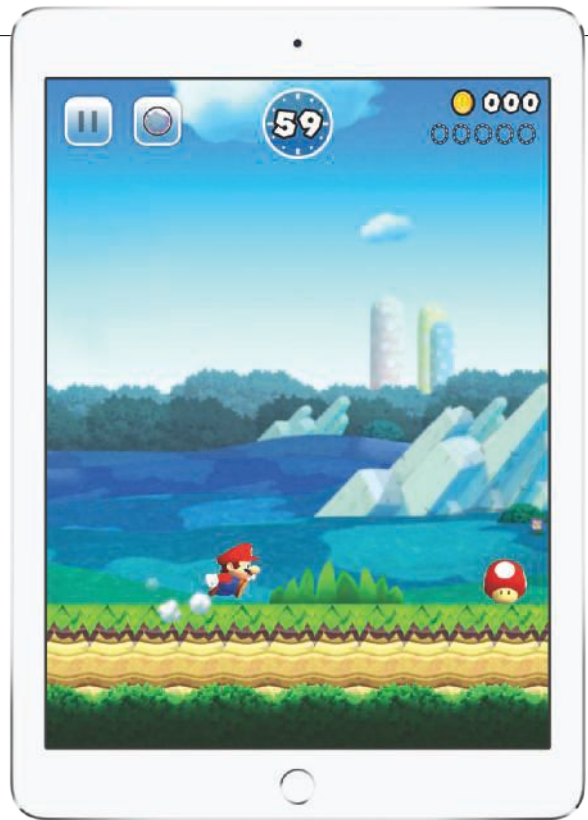
Taps and swipes aren't stand-ins for button presses, but a kind of parallel grammar for engaging with a boisterous little red-and-blue missile fired each time the clock starts. This is Mario in a garden of forking paths,

a relentless money-Hoover who trips into armfuls of jingling cash, but who'll take artful finessing to snatch a level's coveted collectibles.

There is one fairly serious problem with *Super Mario Run*: the game works only with an active Internet connection. Sever that and the game throws up an error screen. There's no way around it. This means you can't play *Super Mario Run* on a plane without paying for wi-fi. You're out of luck for the part of your subway commute that involves cell-service dropouts. And you'll have to proxy the kids' iPads through a smartphone if, like me, you live in flyover country and drive for hours to visit the in-laws.

Other than that, *Super Mario Run* impresses in ways sure to convince that designing games on smartphones is still a rapidly evolving—and improving—art form.

—MATT PECKHAM



FUN RUN

Nintendo's first Mario game for iPhones and iPads proves the firm can create fun on mobile gadgets

## Zoe Saldana, actor

She's conquered space in some of the biggest sci-fi films of the past decade, but returns to earth as a gangster's girlfriend in Ben Affleck's *Live by Night*. Saldana talks battling racism and sexism in Hollywood, and why she had to start a production company

Nobody owns the franchise market quite like Zoe Saldana. The actor, 38, has a prolific track record playing otherworldly women in three of the biggest blockbuster sci-fi series: *Avatar*, *Guardians of the Galaxy* and *Star Trek*. Yet Saldana does not fear being pigeonholed. "I feel I have a greater chance of setting an example for young women when I do movies [that take place] in the future because I'm less likely to be boxed in," she says. "I'm not playing someone's girlfriend. I can be tougher. The future represents hope."

The past is trickier. "I look at the films I love so much, like the beautiful Jane Austen adaptations, but someone like me doesn't exist in those narratives—at least not in a way that I would want to be a part of," she says. "Honestly, it makes me sad. I think about how someone like me would have been treated."

Saldana's mother is Puerto Rican and her father is Dominican, which the actor says makes her either "too dark or too light" to star in most of Hollywood's historical dramas. She suffered blowback last year for wearing dark makeup to play singer Nina Simone in the biopic *Nina*—after initially passing on the role—

but feels that many popcorn films dealing with race lack nuance. "I've been disappointed before," she says. "Racism is often used as a plot device. Sometimes it's glamorized."

That's why Ben Affleck had to work hard to convince her to star in *Live by Night*, out widely on Jan. 13. Affleck, who also directed the film, plays a Prohibition-era gangster who builds a small bootlegging empire in Tampa when he joins forces (and becomes romantically involved) with Saldana's Graciella, a Cuban woman who imports rum with her brother. Their partnership puts them in the path of the Ku Klux Klan. The director employs this worn plotline to make an extended comment on race in America today.

**SALDANA GREW UP** in Queens until she was 9. After her father died in a car accident, her mother sent her and her two sisters to live with relatives in the Dominican Republic. There, Saldana fell in love with dance, and when she returned to New York as a high schooler, she set out to become a ballerina. She realized she'd never be good enough to be prima ballerina, but she did land a role in her first feature film, *Center Stage*, in 2000. She played a rebel dancer, the type of girl

who extinguishes a cigarette with her pink satin slipper. As a young actor, she dreamed of getting roles like *Alien's* Ellen Ripley and *Terminator's* Sarah Connor—lone female warriors. "Like all other young actresses, I saw other women as competition. If there were 50,000 of us going out for the role, and if I got it, I must be the best," she says.

Now a star, Saldana is tired of being the sole woman surrounded by men. "I feel lonely on set. And it's not just that you're the only woman in the cast. There are very few women on the crew. You hardly ever get to work with a female director. Some female producers try to blend in with their male colleagues and won't stand up to them. You're completely outnumbered. And you take a hit in your paycheck as a woman too. I'm so f-cking tired of it."

So Saldana started a production company, Cinestar Pictures, with her two sisters, Mariel and Cisely, aiming to create content for female and Latino audiences. Saldana says she was compelled, in part, by the realization that her twin sons, age 2, would encounter so many Latino stereotypes in the media. "In 2060, Hispanics will be 30% of the population," she says. "We have to show the next generation that they can be the face of America as much as anyone else."

Being her own boss comes with other perks. "Behind the scenes, the actors are the ones with the least power.

You're told what to do, what to wear, where to stand. Your creative inputs are ignored," she says. Through Cinestar, she produced and starred in a TV version of *Rosemary's Baby* and backed an upcoming documentary on the epidemic of missing or murdered indigenous women in Canada. Saldana hopes to continue creating space for stories about women and people of color who can't always advocate for themselves. "We keep our heads down because we're afraid of losing our jobs," she says. "But we can't just complain anymore. We have to band together with love and respect and do something about it." —ELIANA DOCKTERMAN

### TAKING CENTER STAGE

**ONSCREEN**  
Saldana will star in at least two more Marvel superhero films and three more *Avatar* movies

**OFFSCREEN**  
She made headlines when her husband Marco Perego took her name





## As usual, you saw that coming.

There are a lot of things that are easy to see coming, like man buns and homemade kombucha going out of style, but some things are a little harder to detect. Like that pedestrian unexpectedly jaywalking. That's why **Toyota Safety Sense™ P**,<sup>1</sup> including a Pre-Collision System<sup>2</sup> with Pedestrian Detection,<sup>3</sup> comes standard on the new 2017 Corolla.

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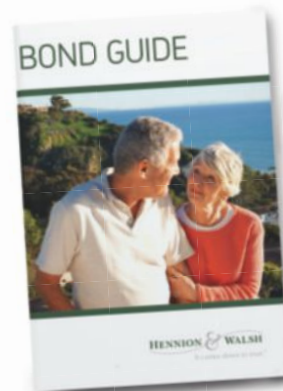
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## The unexpected benefits of ending up at the back of the pack

By **Susanna Schrobsdorff**

IN LATE DECEMBER, I WENT FOR A HIKE WITH MY TWO daughters. And by hike I mean we walked, climbed and slid for five hours through a thick, wet mountainous patch of Costa Rican jungle to get to what promised to be a spectacular waterfall. It felt like we were either clawing our way up at a 90-degree hillside or slipping uncontrollably down through red-clay mud toward hidden ravines rife with poison dart frogs and tiny, vicious biting ants. In other words, it was like the rest of 2016.

My daughters are spry and strong. And I thought I was too. But it became pretty obvious as we went on that while we were all falling and covered with mud, laughing at the absurdity of it all, they got up quicker and kept up with our guide more easily. I was always the slowest and the sweatiest.

They'd wait for me if I got too far back, watching as I picked my way toward them. It reminded me of the first glimpses I had of my mom as someone weaker than I, like when she started to get out of breath walking across parking lots. I remember reaching the doors of a supermarket and looking back bewildered, because she was still barely out of the car. And then there was the year my sister and I started making most of Thanksgiving dinner. It's a slow shift that happens in small jolts over decades, until one day you're your mother's mother making sure she eats dinner.

When we got back to our vacation cottage and the Internet, I read that Debbie Reynolds had died just a day after her daughter Carrie Fisher. Fisher's death was sobering. She wasn't that much older than me, and selfishly I wanted to hear what she'd have to say about life in her 60s. Surely she would have shown us how to meet old age with wit and honesty.

The death of the two, mother and daughter, a famously entwined pair, was ineffably sad and kind of amazing. As Carrie's brother Todd Fisher put it, theirs was a beautiful love story. Unique in its intensity and extremes, but not so different from most families in its shifting balances of authority, wisdom and health.

**AS OUR TRIBES** expand and contract, we evolve to fit the new paradigms. The oldest child gets bogged down with her own kids and abdicates her spot as leader, the baby steps up and takes over. There will inevitably be illness, which can shatter all the old dynamics. So can betrayal or bankruptcy. We have to adapt, instead of clinging to stale expectations of ourselves or the people we love. There's probably nothing harder to do than that.



*A lifelong duet: Carrie Fisher and Debbie Reynolds onstage early in Fisher's career*

When the girls and I finally got to that waterfall, it was indeed stunning: a 40-ft. wall of water crashing down with such fury that we had to shout above the noise. We peeled off a few sappy layers and jumped into the deep pool at the base. It was shocking, not because of the blast of coolness in the jungle, but because of the force of the current. It didn't look swift, but underneath it was flowing so fast into the small river behind us that you could swim with all your strength and not get any nearer to the waterfall. It was like one of those home-exercise pools they sell on late-night TV.

For a while we tried, the three of us kicking wildly, to see who could move a foot closer only to be driven back into the pack again. Then the youngest of us figured out how to navigate the sharp rock walls around the edges where the water was calmer and almost made it to the base of the falls.

We gathered up our stuff, arguing over who would return with the heaviest pack. I did not get a pass due to age. Hadn't they seen me struggling back there? Instead I was accused of being "able-bodied." As we set off, back in formation, the girls climbed just ahead of me, talking intensely about something I couldn't quite make out above the squawk and trill of the wildlife.

**ONE CAN IMAGINE** that if Fisher hadn't collapsed on that long London-to-L.A. flight, her 84-year-old mother would have gone before her, as these things are supposed to go. I want to believe that Fisher would have been O.K., that she would have adapted, that with her family she would have found a way to keep the most pernicious aspects of her bipolar disorder in check without Reynolds' care. Of course, that's what every generation hopes for the next—that they'll be able to take care of each other without you, that when you slow down, they'll have each other. □

**Glenn Beck** The conservative broadcaster whose star turn at Fox News made him a household brand for divisiveness explains his apparent change of heart

**First question: Who are you and what have you done with Glenn Beck?** I'm still the same Glenn Beck. I'm interested in talking to people after the election to say to the left, The way you're feeling right now, I understand. And to the right, Please don't mock or dismiss the real fears of people on the left. They're just as valid as the fears that you had with the last President. We made it through. And we'll make it again if we don't demonize each other. If the left doesn't make the mistakes I made and the right doesn't make the mistakes that the left did.

**Doesn't it seem a bit disingenuous for you to say, "Let's not demonize the other side" when for several years, you made a good living doing just that?** I'm 52, I'm older, I'm wiser. We all should be. This is not a sudden change. I've been moving in this direction for five years, hard. We have to stand together on principles, learn from the mistakes of the past and be peacemakers.

**After opposing Donald Trump's campaign, you called him. Have you heard back from him?** No.

**What would you say to him?** "How can I help you?"

**What do you think of his actions as President-elect so far?** My greatest concern is I think Russia is clearly an enemy. Perhaps he's playing some grand negotiating scheme I don't understand. He is supposedly one of the greatest negotiators in the world. I'll wait to see it play out. But I am fascinated by the lack of self-awareness from the left who is now preaching to me that Russia is an enemy, when they called me a fear-monger when I said that before.

**To come together, we need a source of news that both sides agree is reliable. What is your go-to media?** I urge my listeners and viewers to follow whatever it is that they don't think is relatable, because we must listen to each

other. There are far more points where we agree than disagree. I'm amazed to hear conservatives say, Well, the mainstream media hasn't covered this. And I say, You just think it hasn't because you don't read it. But I could also go to where Barack Obama said doctors are cutting off diabetes patients' feet for the extra money. That wasn't reported almost in any so-called mainstream media. *[Editor's note: In 2009, Obama proposed new financial incentives for preventive diabetic care while noting surgery cost more. He did not say doctors amputated for extra money.]*

**You settled with Abdulrahman Alharbi, who sued you for implying he was involved in the Boston bombings. In the light of fake news, have you changed the way you or the website you own, the Blaze, operate?** Not in the least.

**But it's quite clear he wasn't the bomber ...** I'm not going to litigate this with you.

**What kind of marks would you give President Obama?** On his constitutional steadfastness? I'd give him a D. On his ability to move forward a progressive agenda, I'd give him an A+. On his willingness to engage with people who disagree with him, I'd give him an F.

**What did you think of Roger Ailes' exit from your former employer, Fox News?** Well, as sexy as I am, he never hit on me, so it came as a surprise.

**On that subject, where do you get those cardigans?** At the store. They remind me of my grandfather, who was a big influence in my life. That's not exactly a turn-on for my wife, but it is what it is.  
—BELINDA LUSCOMBE

**'I'm amazed to hear conservatives say, Well, the mainstream media hasn't covered this. And I say, You just think it hasn't because you don't read it.'**





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