

TIME

DOUBLE ISSUE

NOV. 28 / DEC. 5, 2016

THE  
MOST  
INFLUENTIAL  
PHOTOS  
OF  
ALL TIME

time.com

Plus  
A USER'S  
GUIDE TO  
PRESIDENT  
TRUMP



**6 | Conversation**  
**8 | For the Record**

**The Brief**

News from the U.S. and around the world

**9 | Hate-crime reports spiked after Trump's victory, but they had already been on the rise long before**

**11 | India's cash crisis explained**

**12 | Ian Bremmer on why U.S.-Russia relations will improve with Trump as President**

**13 | Judy Collins remembers fellow folk musician Leonard Cohen**

**14 | View of the supermoon**

**The View**

Ideas, opinion, innovations

**17 | What a Trump White House means for the Paris accord, the international agreement to fight climate change**

**18 | The case for the four-hour workday**

**20 | Cliff hanger: a weather-resistant cabin for mountain climbers**

**20 | How more personal accountability leads to more personal happiness**

**22 | Joe Klein: what Hillary Clinton's campaign speeches missed**

**The Features**

**▣ The Most**

**Influential Photos**

The stories behind the images that shaped our world **66**

**Trump's Transition**

Done campaigning, President-elect Donald Trump now must govern. A guide to the pressing policy and staffing issues  
*By Philip Elliott, Zeke J. Miller* **24**

**A New War on AIDS**

Inside a New Orleans HIV clinic that is working to eradicate the virus by 2030  
*By Alice Park* **38**

**Best Inventions 2016**

TIME's annual roundup of the most innovative new gadgets, from self-tying shoelaces to a levitating lightbulb **43**

**Time Off**

What to watch, read, see and do

**93 | Holiday Movie Preview:** What to expect from Tinseltown, featuring J.K. Rowling's *Fantastic Beasts and Where to Find Them*—starring Eddie Redmayne—and *Hidden Figures*, a biopic about three female African-American math experts who helped NASA win the space race

**111 | Joel Stein and his wife look into fleeing the country**

**112 | 5 Questions for actor Natalie Portman**

**▲ RNC chair Reince Priebus hugs Trump at the New York Hilton Midtown as election results come in early on Nov. 9**

*Photograph by Jim Watson—AFP/Getty Images*

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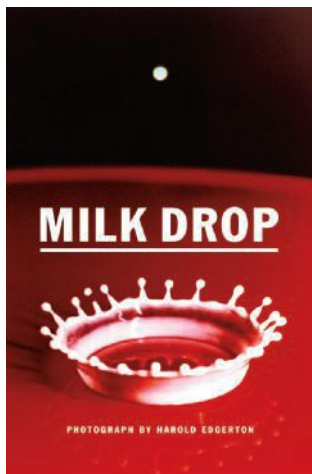
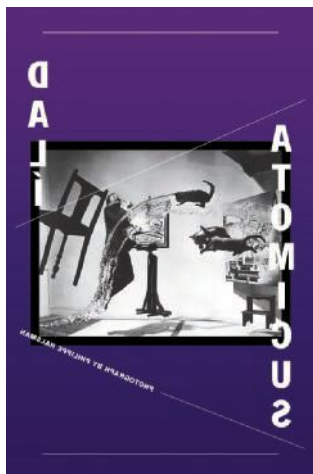
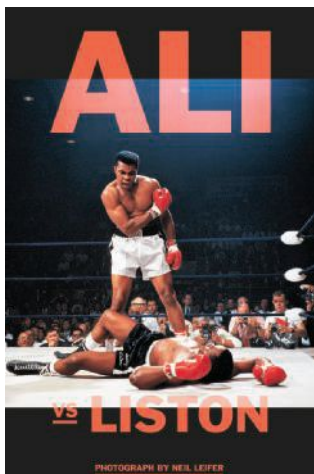


## Conversation

TO CRAFT A LIST OF THE 100 MOST INFLUENTIAL photographs in the history of the medium, TIME conducted thousands of interviews and consulted an international team of curators, historians and editors. Now, in essays and short films, we delve into the stories behind such world-changing images as (*below, from left*) Muhammad Ali towering over Sonny Liston in the first

**100**  
PHOTOGRAPHS  
THE MOST INFLUENTIAL  
IMAGES OF ALL TIME

round of a 1965 bout, taken by *Sports Illustrated* photographer Neil Leifer; Philippe Halsman's meticulously crafted 1948 portrait of Salvador Dalí; Harold Edgerton's 1957 stop-motion photo *Milk Drop Coronet*; and Harry Benson's 1964 snap of the Beatles at the dawn of world fame, pillow-fighting at a Paris hotel. Read more on page 66, and see the full list at [time.com/100photos](http://time.com/100photos)



**THE BOOK** A 234-page hardcover, available on Amazon and in the TIME Shop, explores each image and has a foreword by Geoff Dyer and an afterword by David Von Drehle. Learn more at [shop.time.com](http://shop.time.com)



**THE VIDEOS** Our series includes on-camera interviews with photographers Donna Ferrato and Ron Galella (*far left and center*) and an exploration of the impact of a 1955 picture of Emmett Till, narrated by Bryan Stevenson of the Equal Justice Initiative (*right*).



### What you said about ...

**PRESIDENT-ELECT TRUMP** “It is time to recognize that a very significant number of people in the heartland have spoken, and are thoroughly disgusted with the status quo.” That was how Dick Roy of Lawrenceville, Ga.—who felt the media had missed important campaign stories because

of a liberal bias—reacted to TIME’s Nov. 21 cover package about the results of the presidential election. Meanwhile, responding to Zeke J. Miller’s piece on how Donald Trump won, Don Marine of Sun City West, Ariz., saw a different side of the equation. “While Miller and most others credit the ‘Joe the plumber’ crowd for electing Trump, the professional elites up and down my street unearth their Trump signs—hundreds of them—and head for the golf course,” he wrote. Many others, rather than looking back at how Trump won, expressed fears about what his win will mean for the future. Keith Paul of South Hadley, Mass., urged TIME to “hold Mr. Trump’s feet to the fire when necessary.”

**BONUS**  
TIME  
HEALTH

Subscribe to TIME’s health newsletter and get a **weekly email full of news and advice to keep you well.** For more, visit [time.com/email](http://time.com/email)

**SETTING THE RECORD STRAIGHT** ▶ In “The Dirtiest Election Ever?” (Nov. 21), we misidentified Andrew Jackson’s opponent in the election of 1828. It was John Quincy Adams. A photo caption with a story on Yemen’s civil war (Oct. 24) misstated the target of a deadly airstrike. It was a funeral hall.

#### TALK TO US

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**Introducing the new Volkswagen Golf Alltrack with 4MOTION® all-wheel drive.  
Soon to be everywhere.**

When it comes to the moments we remember, how many take place in your living room? If you're still trying to recall, perhaps it's time to reacquaint yourself with a world beyond Wi-Fi, where the stunning beauty of a vista in front of you is not virtual reality but reality reality. The Golf Alltrack comes with 4MOTION all-wheel drive, Off-Road Mode, and enough turbocharged power to motivate you off the couch. Because happiness favors the spontaneous.



**Volkswagen**

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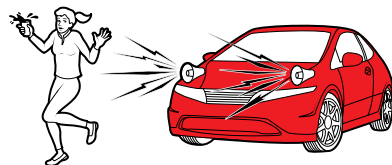
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'IT IS SO BIG. IT'S SO ENORMOUS. IT'S SO AMAZING.'

DONALD TRUMP, U.S. President-elect, reflecting on the significance of his victory, in a *60 Minutes* interview that aired Nov. 13

**2,400**

Number of pedestrian injuries that the U.S. Department of Transportation expects will be prevented annually by 2020 as a result of new rules requiring "quiet" electric and hybrid vehicles to make more audible noise



'This office has a way of waking you up.'

BARACK OBAMA, U.S. President, describing the difference between campaigning and governing and what that means for President-elect Donald Trump, during his first post-election press conference, on Nov. 14

'It was Han and Leia during the week, and Carrie and Harrison during the weekend.'

CARRIE FISHER, actor, confirming to *People* magazine the long-time rumors that she'd had an affair with actor Harrison Ford while filming the original *Star Wars* movie (1977), when she was 19 and he was 33, married and a father of two

**Newt Scamander**  
The hero debuted in *Fantastic Beasts and Where to Find Them*



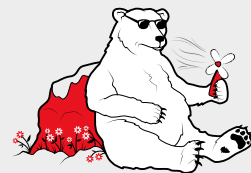
**Salamanders**  
Three new species were found in Mexico, but they are becoming extinct

'WE ARE GIVING YOU, THE SICK AND THE WOUNDED, 24 HOURS TO EXIT IF YOU WANT.'

THE SYRIAN GOVERNMENT, in a Nov. 13 text message to all citizens of rebel-held Aleppo, warning of an impending strike, according to a report and translation by al-Jazeera; the subsequent bombings, executed with the Russian regime, were the first major offensive since Oct. 18

**\$0**

The price at which the U.S.S. *Sequoia*, the last presidential yacht and a national landmark, can be acquired by an investment group specializing in ship restoration, after a Delaware court ruled in its favor



**2016**

Year set to be the **hottest on record**, according to the World Meteorological Organization, with average global temps up 1.58°F over the 1961–90 period that the WMO uses as a baseline

'The railway was way out over the sea.'

RICHIE MCCAW, describing the scene after New Zealand's South Island was hit on Nov. 14 by a 7.8-magnitude earthquake, killing at least two people and stranding more than 1,000; McCaw, a two-time Rugby World Cup winner and pilot, helped with helicopter rescues

ILLUSTRATIONS BY BROWN BIRD DESIGN FOR TIME

# The Brief

'TRUMP ISN'T GOING TO CRITICIZE PUTIN FOR BUILDING A POTEMKIN DEMOCRACY AT HOME.' —PAGE 12



A community softball field in Wellsville, N.Y., near the Pennsylvania border, on the morning of Nov. 9

NATION

## The U.S. continues to come apart in the wake of a divisive election

By Karl Vick

THERE WAS PROBABLY NO WAY THE insurgent campaign that propelled Donald Trump to his upset victory was simply going to stop the day after the election. It had too big a head of steam. But instead of morphing into a cable channel after a loss, as many observers expected, it has careened into the postelection space where, by tradition and necessity, healing usually occurs. The passions Trump stoked as a candidate have only increased since his election, impelling chants of “Not my President!” in cities across the country, a surge in reported hate crimes, profound fear among the people the candidate vowed to expel from the country and, not least, the mainstreaming of white nationalists.

Every bombshell releases shock waves, even the political kind. But

here’s a question worth considering: When was the last time a presidential vote sent an eighth-grader off to school with a fluttery stomach? “Will we be deported?” Teofila Silverio’s son Alessandro asked her after the election. The answer, for them, was no. Born in Mexico, Silverio has papers. But that’s not true of everyone in Manhattan’s Inwood neighborhood or across a diverse nation where the reaction to the Trump victory was not noisy protests but stunned, funereal silence. “It was such a heavy air,” says waitress Jazmin Colon, born in New York to Puerto Rican parents. “They’re traumatized.”

Statisticians do something called regression analysis—which sounds like a way to measure whether the quest to Make America Great Again is, in fact, moving us backward. The



method actually addresses a crucial question: In a complicated situation, which factor matters most? In the 2016 election, the answer turned out to be economic dissatisfaction, coupled with anger directed at a political establishment that ignored the pain of the people left behind. In key Rust Belt states, Trump prevailed even with many voters who told exit pollers they were bothered by his temperament and treatment of women.

Anger is still coursing through the Republic after the election—only now it flows from two sides. Backlash protests formed daily outside Trump Tower and turned violent in Portland, Ore. The frustration was aggravated by the fact of Hillary Clinton’s popular-vote lead, which has reached more than a million votes, even though Trump dominated the Electoral College. And the chant “Love trumps hate” gained resonance with each new reported attack on minorities—especially the Muslim Americans candidate Trump called a security risk. The incidents stacked up so quickly that, on *60 Minutes*, the President-elect addressed his followers directly: “Stop it.”

A sampling: In Georgia, an anonymous letter urged a Muslim teacher to hang herself by her headscarf. Graffiti in Durham, N.C., read, “Black Lives Don’t Matter and Neither Does Your Vote.” Some Trump supporters claim the incidents are exaggerated or staged. The 437 tallied by the Southern Poverty Law Center in the five days after the election were, in fact, partly self-reported on a web page that offered no immediate vetting. But the trend was clear even before the FBI released its annual tally of hate crimes, on Nov. 14, showing attacks against Muslims up 67% last year.

By then Trump had named campaign CEO Stephen Bannon as White House “chief strategist,” putting the head of the far-right Breitbart News site on equal footing with the chief of staff. The appointment was hailed by David Duke of the Ku Klux Klan and the American Nazi Party and excoriated by many on the left and right. “What we do in this moment,” says Rabbi Jonah Pesner of the Religious Action Center of Reform Judaism, “what this Administration does and says and how our communities act will be the great test of this era.”

Lately, new Presidents have fashioned what’s known as “the permanent campaign,” even in office. But Trump’s campaign does

not much lend itself to the unity he now calls his top priority yet clearly struggles with. “Very unfair!” he tweeted on Nov. 10, blaming the media and “professional” protesters for the demonstrations. Nine hours later, he sent a tweet celebrating the protesters’ passion for the country. Trump was likewise munificent at the White House that day, where President Obama modeled responsible adult behavior without a trace of condescension to the man he had called unfit for office. Three days later, the victor elevated Bannon, whose site, two weeks after the murder of nine African Americans in Charleston, S.C., featured this headline: “Hoist It High and Proud: The Confederate Flag Proclaims a Glorious Heritage.”

“I’m just praying that all of this was an act to get in there and he’s not really like that,” says Darceil Liverman, 31, in a New York City supermarket. “He’s a businessman, but he’s also an actor.” A black woman, Liverman appreciates the transformational potential of a U.S. election. Obama’s two terms empowered the movements that declared Black Lives Matter just as Clinton’s ascension to Democratic nominee made the *Access Hollywood* tape a line in the sand. Finally recognized as equals, marginalized groups looked around and announced, “We’ve got a few things to share.”

What follows the election of an angry white man? For some, it’s a call to action, to defend precious gains. “If Hillary had won, we’d all be celebrating and continuing our lives,” says Anjali Emsellem, 17, a student activist in Berkeley, Calif. “I feel like we’re awake now. We see what’s on the table.”

But Liverman has a bad feeling. Growing up in Chesapeake, Va., “I never felt the color of my skin mattered,” she says. “I could go into a predominately white place, and I never felt they would look at me differently.” She pauses. “That isn’t true now.”

Not long after Trump’s win, she started a new job as a server. On her first day, one manager would not look her in the eye and another, also white, “didn’t seem to want me to be here.” She hesitates to make too much of it. It’s not a brick through a window, she says. “It’s a vibe.” — *With reporting by* MAYA RHODAN/WASHINGTON *and* KATY STEINMETZ/BERKELEY, CALIF.

437

Hate incidents reported to the Southern Poverty Law Center in the five days after the election

20,000

Contributions (of 160,000 total) to Planned Parenthood in the name of Mike Pence since Nov. 8

52

Minimum number of U.S. cities with postelection anti-Trump protests



TICKER

Facebook, Google to tackle ‘fake news’

Following backlash over the dissemination of “fake news” shared on the Internet during the U.S. election cycle, Facebook and Google have moved to adjust their advertising policies, targeting the revenue sources of bogus news sites.

Colombia reaches new peace deal

Colombia’s government and FARC rebels signed a new peace deal, after voters rejected the original accord in an October referendum on the grounds that it was too favorable to the militants. The changes include an inventory of rebel assets, which will be used to compensate victims.

Hong Kong court bars lawmakers

Hong Kong’s high court ruled that two pro-independence activists cannot serve as city legislators because they rejected Beijing’s sovereignty when they took their oaths of office. The verdict raises fears about China’s influence on the rule of law in the autonomous territory.

More teens report depression

More young people have been dealing with bouts of depression in recent years, researchers say. The annual rate of people ages 12 to 20 reporting a major depressive episode jumped 37% from 2005 to 2014.

DATA

FOREIGN STUDENTS IN U.S. SCHOOLS

The number of international students in U.S. colleges and universities topped 1 million for the first time in the 2015–16 academic year, according to the Institute of International Education. Here's a breakdown of nationalities:

1

1. **China**  
328,547

3. **Saudi Arabia**  
61,287

5. **Canada**  
26,973

8. **Brazil**  
19,370

11. **Iran**  
12,269

15. **Germany**  
10,145

3

5

8

11

15



**PARK PROTEST** South Koreans hold placards that read, “[President] Park Geun-hye Out” during a Nov. 12 protest in Seoul calling for her resignation. Hundreds of thousands demonstrated as Park prepared to become the nation’s first President to be interrogated in a criminal case over a growing corruption scandal. Her friend Choi Soon-sil is accused of using her proximity to Park to meddle in state affairs and obtain money from local firms. *Photograph by Jung Ui-chel—EPA*

**WORLD**  
**India pays steep price for cash withdrawal**

ON NOV. 8, INDIAN PRIME MINISTER NARENDRA Modi unexpectedly scrapped banknotes accounting for 86% of all money in circulation. His targets: tax evaders with stockpiles of illicit cash and currency counterfeiters, who would be forced either to reveal themselves by exchanging their dirty cash for newly issued notes or to destroy their ill-gotten wealth. But in a country where only about 10% are estimated to have ever made a noncash payment, the move has sparked chaos.

**NEW MONEY** The policy replaces the old 500- and 1,000-rupee notes (worth about \$7.50 and \$15) with a refreshed 500- and a new 2,000-rupee bill. Modi said people could exchange their old money at banks and post offices.



**CASH CRUNCH** The switch is easier said than done, however. Hours-long queues are forming daily outside banks amid a scramble for the new currency. Many ATMs have been shut down until they can be reconfigured to accept the new notes. Millions of poor Indians, who operate outside the formal banking sector, have been hardest hit. Small businesses too are suffering losses, with the property and retail sectors seeing demand plummet.

**BOTTOM LINE** Modi’s government seems to be betting that support for tackling cash hoarders and tax cheats will temper public frustration. But the bigger threat may be the hit to India’s economy, whose current rate of growth is, at over 7%, among the world’s fastest. The long-term impact is unclear at this stage, but analysts warned growth could be stunted if the situation isn’t resolved soon. —NIKHIL KUMAR/NEW DELHI

◀ Modi’s surprise move led to huge lines outside banks and ATMs





**TICKER**

**Florida law linked to murder surge**

Florida's "stand your ground" law, which protects those who use legal force in self-defense, may be responsible for a spike in homicides, a new study has found. Florida's monthly homicide rate has increased by 24.4% since the controversial law was introduced in 2005, researchers say.

**French president race heats up**

Emmanuel Macron, a former protégé of French President François Hollande, launched a bid for the country's presidency as an independent. Polls forecast a close race in 2017, with far-right National Front leader Marine Le Pen gaining support.

**U.S. forces face war-crime probe**

Prosecutors at the International Criminal Court said members of the U.S. military and the CIA may have committed war crimes by torturing detainees in Afghanistan. They will decide whether to launch a full probe.

**Dad found guilty in boy's hot-car death**

A jury convicted Justin Ross Harris of murder, siding with prosecutors who argued that the Georgia man left his 22-month-old son Cooper to die inside a sweltering car in June 2014 to escape his parenting responsibilities.

THE RISK REPORT

**Trump will thaw chilly U.S.-Russia relationship**

By Ian Bremmer

NO FOREIGN POLICY QUESTION LOOMED larger during the bitter presidential campaign than U.S. relations with Russia. Hillary Clinton painted Russian President Vladimir Putin as an aggressive autocrat who threatens U.S. national security, while Donald Trump treated him as a strong and decisive leader with whom Washington could do business. Putin, a Soviet man from head to toe, has always chafed at what he sees as U.S. post-Cold War triumphalism. He has never welcomed claims by Americans that the U.S. is an indispensable and exceptional nation with a responsibility to promote Western values everywhere, including across Russia's neighborhood and inside Russia itself. Putin likes Trump in part because he believes that the new President has no interest in asserting that privilege.

He's right. Trump isn't going to criticize Putin for building a Potemkin democracy at home. His Administration will see no value in challenging Russia's claim to Crimea or in going nose to nose over the broader question of Ukraine, an issue Putin cares deeply about. Nor is he going to fight Putin over the future of Syria's Bashar Assad. Trump wants to destroy ISIS, preferably with Russian help, and he doesn't care about the Syrian strongman's use of chemical weapons against civilians. Trump isn't going to treat Putin like

a thug and his country as a second-rate power.

That's why, once Trump takes the oath, we should expect improvement in U.S.-Russian relations. He might even ease U.S. sanctions against Russian businesses and individuals. And there is value in this for the U.S. Both Democrats and Republicans in

**The U.S. could benefit from better relations with Russia in managing growing tensions with Europe**

Washington have a bad habit of picking fights that other powerful states care much more about than Americans do. That creates costs and risks for U.S. policymakers and taxpayers with little promise of a successful return.

The U.S. could benefit from better relations with Russia in managing growing tensions with Europe, coordinating to help stabilize Middle East hot spots and even dealing with problems in Asia. Trump has a point that confrontation is pointless and that there is surely something to gain from toning down what might become a dangerous escalatory spiral in cyberconflict.

A new approach to Moscow might even appeal to those who mistrust Putin most and despise his government. Russia now faces a long period of economic decline, one brought about more by technological change in energy markets and Moscow's own failure to modernize and diversify the Russian economy than by Western pressure. Perhaps the shortest path to change in Moscow is to deny Putin a foreign scapegoat as Russia's economy becomes encased in rust. □

ROUNDUP

**The sky is falling**

A large metal cylinder, thought to be a part of a Chinese rocket, crashed into the jade-mining area in northern Burma on Nov. 10. The 15-ft. drum is just the latest piece of space junk to come crashing down to earth. —Tara John

**U.S.**

A woman in Tulsa, Okla., felt something brush her shoulder while on a walk in 1997. It was a part of the Delta II rocket, launched in 1996. The woman was unharmed and is thought to be the only person ever hit by re-entering debris.

**CANADA**

The Soviet satellite Kosmos 954, which sported a tiny nuclear reactor, crashed into the Canadian Arctic in 1978, scattering radioactive waste across thousands of square miles. Only 0.1% of the debris was ever recovered.

**AUSTRALIA**

When a titanium sphere was found in western Australia in 1965, it was initially thought to be a UFO phenomenon and labeled the "Merkanooka ball." The sphere was later found to be a water tank from the Gemini 5 spacecraft.





## Milestones

### MUSICIAN

## Leon Russell Master of the boogie

If pop music had a Forrest Gump, it was Leon Russell. The Oklahoma-born piano prodigy, who died on Nov. 13 at 74, generated an infectious groove that was heard on hundreds of recording sessions for artists as varied as Frank Sinatra, Bob Dylan, the Rolling Stones, Willie Nelson and Joe Cocker. He wrote hits for the Carpenters (“Superstar”) and George Benson (“This Masquerade”) while dozens more covered his signature “A Song for You.” Wearing sunglasses and a voluminous beard, Russell called his solo-artist billing the Master of Space and Time, scoring hits with a sound steeped in gospel and Southern boogie. In 2010, he collaborated on a final, soulful smash with Elton John, who considered him a mentor and inspiration. “Thank God we caught up with each other and made *The Union*,” John wrote on Instagram. “He got his reputation back and felt fulfilled.”

—Isaac Guzmán



*Songs like “Suzanne” and “Chelsea Hotel No. 2” spoke to baby boomers, but “Hallelujah” found a new generation*

### SONGWRITER

## Leonard Cohen Singer of the sublime

By Judy Collins

ONE AFTERNOON IN 1966, LEONARD COHEN CAME TO MY home in New York City to play me his songs. A mutual friend, Mary Martin, had been telling me for years about this obscure poet from Montreal, and how she loved his obscure poetry. When she said he had written some songs, I asked if they were also obscure. “Oh, yes,” was her reply. Leonard arrived and talked with me and my friends, and then we went to dinner, where I learned an awful lot about Leonard and his poetry and how he was living with his girlfriend Marianne on the Greek island of Hydra and barely scraping by. As we parted, I said, “You never sang for me!” He came back the next day and played “Suzanne,” “Dress Rehearsal Rag” and “The Stranger Song.” I fell off my chair and I said, “Oh my God!” It was momentous to hear Leonard singing those songs. He went right to the core with an expression that was so unusual and deep.

In the last interview I saw, Leonard was sitting with his son Adam and said, “I intend to live forever.” Earlier he had said, “I’m dying.” Both are true. They’re both essential ingredients of what’s happening to all of us. As he put it, “We must be ready for the moment—the disasters, the joys and the sorrows.”

**Collins** was the first person to record Cohen’s songs, on her 1966 album *In My Life*

### NEWS ANCHOR

## Gwen Ifill Trailblazing journalist

GWEN IFILL, WHO died of cancer on Nov. 14 at 61, was not only one of the best journalists of her generation but also a model for reporters of all colors in a business that is still largely white and male. Certain of her calling from the age of 9, Ifill worked at the *Baltimore Evening Sun*, the *Washington Post* and the *New York Times* before jumping to broadcast news (first at NBC and then PBS) and becoming the first black woman to host a political-affairs talk show. The daughter of an AME pastor, she brought an uncommon human feel to covering the lives of politicians and personalities and yet a steely determination to hold to account those same figures. “I always appreciated Gwen’s reporting,” said President Obama, “even when I was at the receiving end of one of her tough and thorough interviews.”

—MICHAEL DUFFY









**LightBox**

## **In the Valley of the Gods**

A nearly full moon rises above red rock formations near Mexican Hat in southeastern Utah on Nov. 13. At its peak, this “supermoon”—an effect that occurs when a full moon reaches its closest point to Earth—became the largest since 1948. The moon will not be this close again until 2034.

*Photograph by  
Jim Lo Scalzo—EPA*

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# The View

'THE FASTEST WAY TO ENHANCE RELATIONSHIPS IS TO REMOVE THE BLAME THAT BREAKS THEM DOWN.' —PAGE 20



*Trump promises to resurrect the coal industry, which has been hit hard by regulations and cheap natural gas*

## ENVIRONMENT

### Trump's presidency could mean the end of a livable climate

By Bryan Walsh

THE THOUSANDS OF DIPLOMATS AND activists who gathered at the annual U.N. climate summit, held this year in Marrakech, Morocco, on Nov. 7, must have thought the hard work was over. Just days earlier, the Paris Agreement, by far the most ambitious international deal to fight climate change ever negotiated, had entered into legal force. Those who work in the field of climate change are rarely upbeat—regularly grappling with the end of the world can have that effect on your disposition—but there were greater grounds for optimism than ever before.

Then Nov. 8 happened. Climate activists were as shocked as many others by Donald Trump's election victory, but they have special reason to fear what it could mean for their cause. And because we all live on this

planet too, so do the rest of us.

President-elect Trump is on record denying the science of man-made climate change, saying on Twitter in 2012 that it was “created by and for the Chinese in order to make U.S. manufacturing noncompetitive.” He has promised to pull the U.S.—the second largest carbon emitter in the world—out of the Paris Agreement, which would gut the international deal and encourage other countries to backslide on their commitments. He has pledged to kill the Clean Power Plan, the Obama regulations that would reduce carbon emissions from the electricity sector 32% below 2005 levels by 2030. He has said he will revive the U.S. coal industry, one of the biggest sources of man-made carbon emissions.



All of this adds up. According to a study by Lux Research that was published before the election, Trump's policies would lead to U.S. emissions being 16% higher after two terms in office than they would have been after two terms of Hillary Clinton. That's 3.4 billion tons of additional carbon emissions.

Climate change is only one of the many areas where Trump could set back the progress of the Obama era. But it is the one that will have by far the most lasting impact. The world is doing more now to fight climate change than ever before—global carbon emissions from fossil fuels and industry were all but flat for the third year in a row—but that doesn't mean we're winning. According to the World Meteorological Organization, 2016 is "very likely" to be the hottest year on record—which would make it the warmest year since last year. (Sixteen of the 17 hottest years on record have been in the 21st century.) In parts of the Arctic, temperatures have been as much as 6°C above the long-term average. The annual summer minimum of Arctic sea ice—the best gauge of the health of Arctic ice—melted to its second lowest extent on record, after 2012. In September the atmospheric concentration of CO<sub>2</sub> permanently passed the 400 parts per million threshold—a problem, considering many scientists now believe the level needs to be at 350 ppm to avoid catastrophic climate change.

That's only what's happening now. Climate change works on an utterly different calendar than a political one. It will take decades for the full warming effect of the CO<sub>2</sub> we emit today to be felt by the climate, which means we could stop all greenhouse-gas emissions immediately and still be locked into more warming, and with it sea-level rise that will displace millions, potentially stronger storms and more intense droughts. Even if the countries that signed on to the Paris accord meet their pledges to control greenhouse-gas emissions, the world will still be on target for a temperature rise of at least 2.7°C by 2100—well above the 2°C rise that many scientists have identified as a red line. A Trump Administration—should the President-elect do what he has promised—makes it far less likely the world will meet its Paris targets, let alone put in place the drastic emissions cuts needed to preserve a livable climate.

In Marrakech, U.S. Secretary of State John Kerry pleaded to world leaders—without mentioning Trump by name—to not let climate progress come undone. "I ask you on behalf of billions of people around the world... do your own diligence before making irrevocable choices," he said. But an irrevocable choice was made on Nov. 8 by American voters—and now the whole world may have to pay the price. □

**VERBATIM**  
**'I'm going to give him a chance, and we, the historically disenfranchised, demand that he give us one too.'**

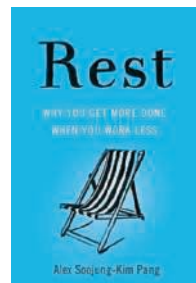
DAVE CHAPPELLE, referring to President-elect Donald Trump during his *Saturday Night Live* opening monologue



**BOOK IN BRIEF**

**The workaholic's case for a four-hour day**

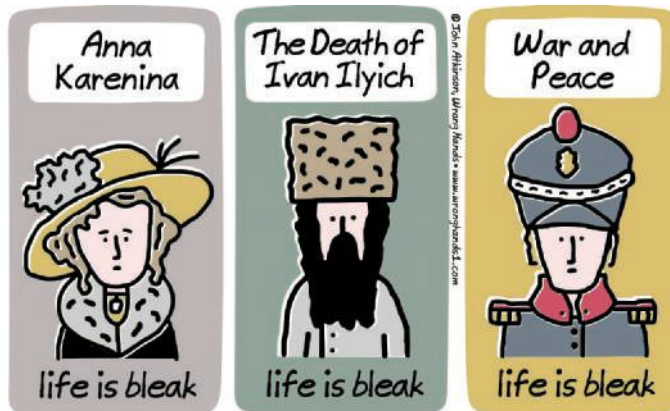
AMERICANS MAY HAVE COME AROUND to the importance of rest in our frenzied, workaholic society. But what if that's a philosophical problem? In his new book, *Rest: Why You Get More Done When You Work Less*, Alex Soojung-Kim Pang makes the case for rest, not as an antidote to work but as an aid. The greatest thinkers in history, like Charles



Darwin, Ingmar Bergman and Alice Munro, all realized that maximum productivity requires only about four hours a day of focused work. To get the most out of this window, the remainder of the day must be spent doing restful activities, like taking long walks and short naps. It's during these times that we draw the inspiration for our greatest achievements. Pang focuses on creative types with flexible days, but we can all benefit from downtime. "We shouldn't regard rest as a mere physical necessity to be satisfied grudgingly," he writes. "When we stop and rest properly, we're not paying a tax on creativity. We're investing in it." —SARAH BEGLEY

**CHARTOON**

**Spoiler alert: Tolstoy edition**



JOHN ATKINSON, WRONG HANDS





**Protect  
yourself**

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**Holiday  
Self**



All the treats, stress and indulgence of the holidays can bring out a certain side of us. Protect yourself from your Holiday Self with Nexium 24HR, the #1 selling brand\* for frequent heartburn.

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\*Based on IRI sales data 52 weeks ending 2/14/16 among OTC brands. Use as directed. May take 1-4 days for full effect. © 2016 Pfizer Inc.

## SNAPSHOT

## A precarious but picturesque perch

The alpine view from Mount Kanin on Italy and Slovenia's border may be gorgeous, but seeing it involves a steep ascent and often extreme weather. To house climbers, Slovenian firm OFIS Architects helicoptered in a tiny cantilevered cabin. The three slender bench-beds in the wood-and-glass lodgings are free but accessible only by foot or helicopter, and visitors shouldn't overstay their welcome. "You're not meant to spend your holidays there," says Spela Videcnik of OFIS. "Maybe spend one or two nights and that's it." —*Julia Zorthian*



## VIEWPOINT

## Hold yourself accountable—you'll be happier

By John G. Miller

PEOPLE TEND TO EXTERNALIZE WHEN THEY encounter problems—to look beyond themselves and find fault with others when things go wrong. Society's mantra is "There's plenty of blame to go around!" You can hear it echo in the reactions to the election. But when we choose to hold ourselves accountable, we're more likely to be happier and successful in work and in our relationships.

Life is filled with traps that let people avoid personal accountability. It's easy to make excuses, play the victim, feel a sense of entitlement or procrastinate. Taking ownership for your actions and reactions lets you avoid anger, cynicism, envy and frustration and instead focus on positive emotions and healthy living. Our daily energy is finite, so why waste one iota on negative thinking that

leads to unproductive behaviors?

Research has shown that when employees feel accountable for their work, they are more likely to contribute to solving problems and achieving organizational goals. Believing that if others would change, everything would be better—and then trying to force them to do so—drives people apart. The fastest way to enhance relationships is to remove the blame that breaks them down. Whether it's selling more products, building stronger connections or making political change, owning up and taking responsibility can help us move forward.

*Miller is the founder of QBQ, an organizational development firm, and author of The QBQ! Workbook*



## HOW TO AVOID POLITICAL TENSION AT THANKSGIVING



Conflict in families is inevitable, especially during the holidays—and probably never more so than after this election. Here are some steps to keep opposing views from turning the festivities into a disaster:

1

### AVOID PERSONAL ATTACKS

Don't follow the candidates' leads by personally insulting people who disagree with you. Focus your comments on the substance of what they're saying.

2

### TIME YOUR TALKS

If you're tired or hungry, you're more cranky and less likely to have a reasoned and respectful discussion.

3

### DON'T CONDEMN

Many people have valid reasons for their political views; you don't have to agree with them, but you should listen and try to respect them.

4

### REMEMBER: THIS TOO SHALL PASS

We elect a President every four years; airing and discussing different views is the way we work toward change for the better.



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# Crazy.



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## Why we must focus now on maintaining democracy, civility and perspective

By Joe Klein

TWENTY-FIVE YEARS AGO, AT THE BEGINNING OF THE ERA that has just ended, I watched Bill Clinton give a pretty good speech in Chicago. Afterward, we talked about it—I was his traveling press corps that evening, and George Stephanopoulos was his entire staff. I had a strange itch of an idea: “Why don’t you ever congratulate the American people for winning the Cold War? Why don’t you thank them for their patience and sacrifice—the taxes paid, the money spent defending the free world against an existential threat?” Or something like that. Clinton didn’t answer directly, but he did begin to mention the Cold War victory in his speech. Then he stopped. I’m not sure why. Perhaps it wasn’t as compelling as the need to address the first stirrings of populist anger caused by the recession in 1992. Factories were closing. Clinton was taking a tough line on China, which he later reversed in office.

**I THINK ABOUT THIS NOW**, at the end of the Clinton era, because there was a speech that Hillary Clinton could have given that might have made a difference in the campaign. She might have congratulated all Americans on the extraordinary human-rights victories—for African Americans and Latinos, for women, for the gay community—that have been won over the past 50 years, a movement that shattered almost all legal barriers, even if some dreadful habits of mind remain. There hasn’t been a 50-year transformation like this, or even close, in human history. About half of the African-American community is middle- or upper-class, though an intolerable 25% remain in poverty. Black women are attending college at a greater rate than any other demographic group, including white women and Asians. It’s no longer news that women graduate from college and gain employment more frequently and easily than men. The glass ceiling is cracked, crumbling and near collapse. I suspect it will be a memory by the time my daughter is a grandmother. The gay-rights revolution, which occurred almost overnight, has obliterated centuries of needless human suffering. These are thrilling developments, and deserve to be celebrated.

Hillary Clinton could have celebrated them, praising the overwhelming majority of Americans for their embrace of a new, more just social order. Instead, Clinton and the Democrats focused on grievances, many of which are real and still need to be addressed, but now need to be put in perspective. “Stronger Together” was a good slogan, but it needed to be a message aimed at a white majority that felt left out. It is not hard to imagine how ridiculous the accusations of “white privilege” by the college-educated leaders of Black Lives Matter

### VOTE COUNT



20

The number of points Obama beat Mitt Romney by in working-class Youngstown, Ohio, in 2012. Hillary Clinton and Donald Trump tied there.



28%

The estimated percentage of white voters without a college degree who chose Clinton in the 2016 race. In 2012, Obama got 34% of that vote.

sounded in Appalachian Ohio and central Pennsylvania. There really was a “whitelash,” as Van Jones—a constant voice of reason this year—said on CNN.

It got scary ugly. And now the ugliness has trickled down to high school corridors and shopping malls. Steve Bannon’s presence in the White House seems a guarantee that the big lies, dog shouting and conspiracy theories will continue, especially if things begin to go south for President Trump. That is how demagoguery works. Consequently, it’s probably not wise for anti-Trump protesters to continue in the streets. Demagogues feed on the threat of chaos, which provides a ready excuse for a crackdown. Indeed, if the election results had been reversed and Trumpists were in the streets, the left-wing protesters would have climbed their high horses to pontificate about the need to respect election results in a democracy.

**THERE WILL BE** plenty of time for protest if Trump resumes his divisive ways. It is striking, though, how unlike candidate Trump the President-elect has been. He has been humble and respectful—the cock crowing has been held to a minimum—and some of the names bruited about for Cabinet positions are good ones (others are most assuredly not). It seems clear that many of Trump’s proposals are opening offers—as he himself has said in the past—that will be sanded down in the legislative process. His wall is becoming a fence; his deportations seem limited to convicted criminals, a policy that President Obama has been pursuing quietly but effectively. Some of his ideas, regarding climate change for example, are myopic; others, like his coddling of Vladimir Putin, are dangerously weird. The fate of the Supreme Court was decided in the election, by the 3.5 million Obama voters who did not show up for Clinton. That is what happens in a democracy. And democracy, civility and perspective are things we must struggle to maintain now. There is no higher priority. □

# THE YEAR'S BIGGEST BREAKOUT TV STAR



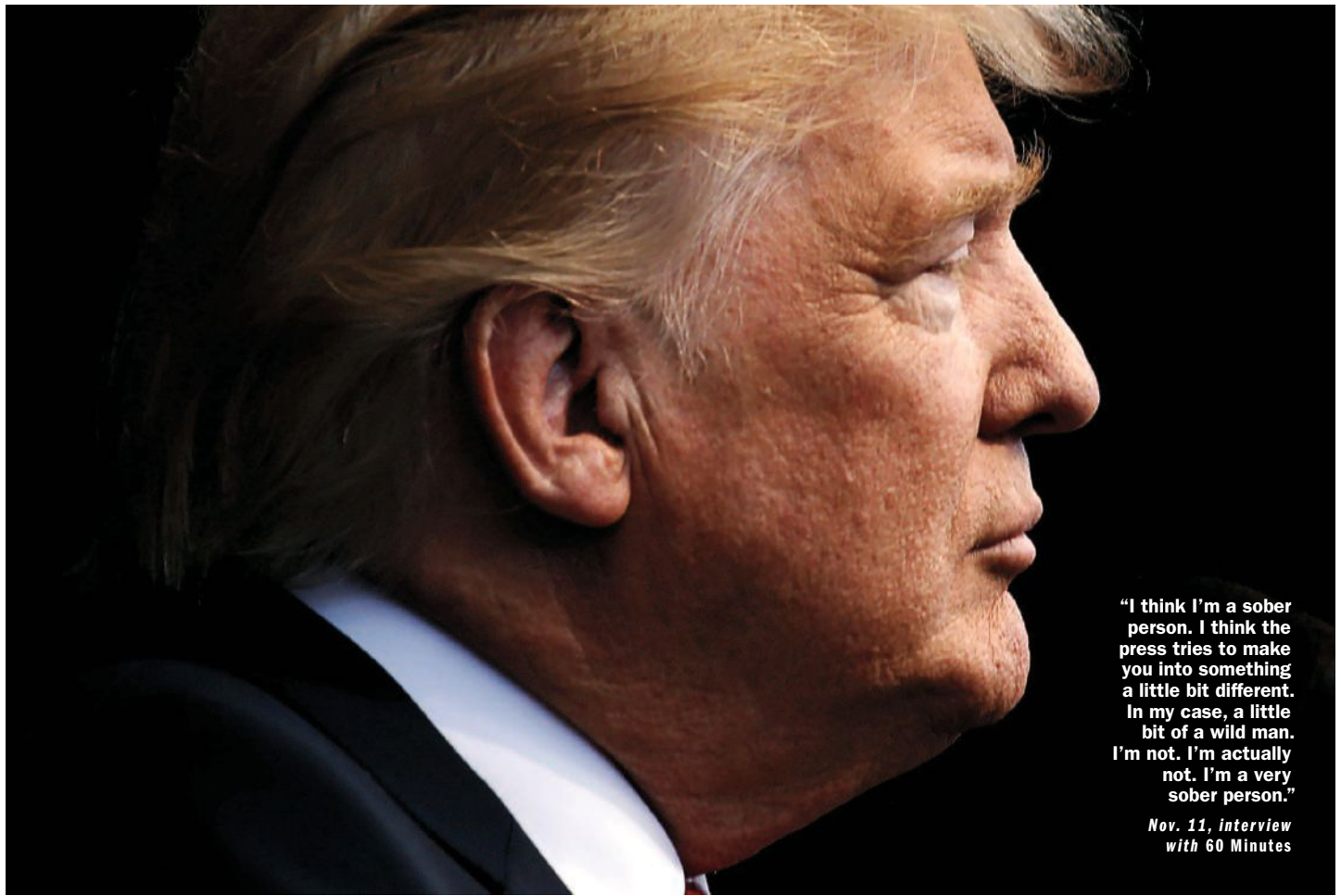
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**"I think I'm a sober person. I think the press tries to make you into something a little bit different. In my case, a little bit of a wild man. I'm not. I'm actually not. I'm a very sober person."**

*Nov. 11, interview with 60 Minutes*



**"I can be presidential, but if I was presidential I would only have—about 20% of you would be here because it would be boring as hell."**

*April 4, at a rally in Superior, Wis.*



Nation

# TRUMP TAKES OVER

The President-elect lays the groundwork for his January move into the Oval Office. But he's quickly learning that politicians campaign, Presidents govern. Inside the chaotic first days of Donald J. Trump's transition to power, it's clear that he faces a steep learning curve

BY PHILIP ELLIOTT AND ZEKE J. MILLER

# **D**onald Trump spent the hours after he won the White House perched in his 26th-floor office as a long line of well-wishers cycled through with grand ideas about his government. The President-elect contemplated his visit to the White House

the next day to set in motion one of the most unexpected transitions of power America has seen in its history. But first: something special. As he gazed out on Central Park, Trump mused about a weekend victory tour to places that delivered his surprise win, sending aides scurrying to prepare. Trump had fed off the energy of his audiences for the 17-month campaign, and he wanted one final fix. He was a winner, and winners are rewarded.

Trump's aides, who themselves were just coming to grips with the enormity of the task they faced, nearly all implored their boss to focus on the decidedly unsexy task of putting together a government instead. In the end Trump agreed, and in the process perhaps revealed the most important lesson of his first week as leader-of-the-free-world-in-waiting: only when he faces a united front will he reverse one of his decisions. It was an all-voices-on-deck moment for the Trump-whispering group of advisers known as the Foxhole amongst themselves, and as the Avengers to the outsiders.

If the week after Election Day is designed to be a pageant of peaceful transition, it is also a period for the brutal consolidation of power. The winners decide who from the campaign stays and who goes, while losers lick their wounds and look for answers. In the aftermath of Election 2016, those dramas played out for the American public like never before, plus a close look at the 45th President as he started working out both in private and in public what sort of leader he would become.

Surprise is almost always part of the deal. During one lull in daydreaming on Nov. 9, Trump picked up the phone and had a brief conversation with the man who for months had been working to move the political operation from a New York campaign to a Washington machine. "Are we all set?" he asked New Jersey Governor Chris Christie, a longtime pal who combined governing experience with brashness to rival Trump's. It was a work in progress. On Election Day, Christie had signed the legally required memorandum of understanding with the White House to begin the formal transfer of power. But the entire Cabinet-in-waiting was an open question, along with

everyone at the White House, from the party planners and receptionist to his top policy wonks and the men and women who would explain it all to the public.

In the American system, a President has more than 4,000 political appointments to begin filling in the crucial weeks between election and inauguration. Christie had made many trips to Washington to set up a transition, but progress had slowed as the polls seemed to indicate no such effort would ultimately be needed. It wasn't long before the first transition to take place was Christie's. The New Jersey governor had never been a favorite of conservatives, or of Trump's son-in-law Jared Kushner, whose father Christie had sent to jail years ago for making illegal campaign contributions, tax evasion and tampering with a witness. By Nov. 10, Christie had breakfast with Vice President-elect Mike Pence in New York, and it wasn't long after that Pence had replaced Christie as transition chief. Christie could stay around with a title if he wanted, but everyone suspected his days as a member of the formal inner circle were over. Days later, even those close to Christie, like intelligence expert and former Representative Mike Rogers and Christie attorney William Palatucci, would be purged as well. Trump subsequently called Rogers, trying to bring him back. Christie was still fielding calls from Trump after the shake-up. "This thing is heading into a bridge abutment. It didn't have to be this way," one senior Republican involved in the transition said of the turmoil. "But it is."

There was little doubt about who in Trump-land signed Christie's execution order. Kushner, 35, the boyish-looking son of another real estate magnate, who is married to Ivanka Trump, had been the hidden hand within the campaign since June, when the family became convinced his existing team was ill-prepared for the challenge of running a general election. Kushner, a real estate and media executive, had little experience in elective politics or governing. But with his unfettered access to Trump and his cherished older daughter, he came to become the shadow campaign manager. His role in the White House, whatever it is, will be among the most important to watch.

**THERE WERE SUGGESTIONS**, no proof, but hints, certainly, that the Donald Trump who has emerged through the crucible of the campaign as President-elect is not the same as the one who closed out the campaign, with a defiant blitz of bombast that covered eight states in the final two days. The new Trump looked and sounded almost subdued. "It's enormous," he told Lesley Stahl of *60 Minutes* during his first broadcast interview as President-elect a few days later. "I've done a lot

## **Trump's inner circle**

The President-elect won the White House with a small cadre of loyal aides, many of whom are set to play key roles in his Administration.



**Reince Priebus**

The chairman of the Republican National Committee will serve as Trump's chief of staff. A key ally of House Speaker Paul Ryan, Priebus was a comforting choice for the GOP establishment.



**Stephen K. Bannon**

Hired as Trump's campaign CEO in August, Bannon will become chief strategist in the West Wing. The appointment of the onetime Breitbart boss has drawn criticism from Democrats.

of big things. I've never done anything like this."

Instead of repeating his calls to imprison Hillary Clinton for behavior the FBI said didn't rise to the level of indictment, he praised his rival and her husband, the ex-President, for their gracious phone calls after the upset. "I don't want to hurt them. They are good people," he told Stahl. He again mentioned that he'd work to save parts of Obamacare and not work for a wholesale repeal, though he had said such things before. And he suggested, once again, that he would reconsider his plan for mass deportations of those in the country illegally but had not committed violent crimes. As for the wall at the Mexican border, he signaled that he would be fine with fencing in some places.

But key features of the man had not changed. He still wanted to revisit trade deals and loved his Twitter account, which returned to frequent media criticism. In business and politics, Trump had always prided himself on unpredictability. "It's a great form of communication. Now, do I say I'll give it up entirely," he told CBS. "I'm not saying I love it, but it does get the word out." And he seemed to delight in the first week of his new power in keeping the country guessing. "I am the only one who knows who the finalists are!" he tweeted, discussing his Cabinet picks.

**TWO DAYS AFTER VOTERS CHOSE**, when Trump flew to D.C. to meet with the man he would succeed, it was clear that the reality part of his great political reality show was setting in. He sounded sober and avoided eye contact after he and Barack Obama talked for an hour and a half about the weight of the world that would transfer from one man's shoulders to the other's. "This office has a way of waking you up," Obama helpfully observed on Nov. 14. He emphasized the need for Trump to hire the best people for the really important jobs.

On the other hand, the ceremonial first visit was not exactly according to script. Ordinarily an incoming chief of staff and other top aides would accompany the President-elect to meet with their counterparts. This time, it was current White House chief of staff, Denis McDonough, taking a stroll along the South Lawn with Kushner. Also joining the White House tour? A spokeswoman and the social-media director.

But it was the announcement of Stephen K. Bannon, a former naval officer turned Goldman Sachs executive turned publisher of far-right vitriol, as chief strategist that signaled an astonishing departure from presidential norms. The sort of role once held by the storied likes of David Axelrod, Karl Rove and Ed Meese would now be filled by the executive chairman of the right-wing Breitbart, a website that has pushed



**Mike Pence**

The Vice President-elect's job during the campaign was to reassure wary Republicans. As chair of the presidential transition team, he's now serving as chief liaison to the GOP-controlled Congress.



**Kellyanne Conway**

A ubiquitous television presence and Trump's premier surrogate, the former campaign manager is weighing whether to enter the Administration or to advise it from the outside.



**Jared Kushner**

Ivanka Trump's husband has emerged as one of his father-in-law's most trusted advisers. He is expected to play an important role in the White House.



**Retired  
lieut. general  
Michael Flynn**

A vocal ally, the former Defense Intelligence Agency director briefs Trump on global affairs and is likely to be named National Security Adviser.

racist, sexist, xenophobic and anti-Semitic material into the vein of the alt right. He is a warrior who has publicly called for a "virulently antiestablishment" populist movement and privately urged grassroots activists to hold Republican leaders accountable.

As ballast, Trump simultaneously anointed Reince Priebus—the affable chairman of the Republican National Committee who spent much of the campaign aiming to tame Trump's less constructive instincts—as chief of staff. Over the course of the campaign, Priebus and his aides had developed a close working relationship with Kushner as they sought to keep Trump on message. The Wisconsinite spent his first days as Trump's new chief undergoing an interesting internecine loyalty test, defending Bannon against complaints that he had stoked an agenda based on bigotry. Priebus, who is poised to become one of the most powerful aides in Washington, was stuck hearing revolting Breitbart headlines quoted at him. Priebus' allies commiserated that this might be the new norm.

Both power centers explained Trump's rise—the indifferent relationship with the truth and the long-cultivated Establishment willing to fritter away principle for its first national win in 12 years. And both camps had reason to think they would prevail as the larger team came together. It is not clear that Trump even knows how this story will end.

Once Trump picked a voice to whisper from each shoulder, the assembly of a government started in earnest. Phones were ringing in the stretch of luxury office buildings that keep rents high in downtown Washington. Those whose livelihood Trump promised to end were suddenly in demand for their skills and Rolodexes. Veterans of George W. Bush's Administration—the last Republican to hold the presidency—heard from their pals now suddenly involved in the transition project. Those who answered were aghast that Trump had spent months belittling Bush and was now asking his loyalists to fill his Administration. The initial calls seldom lasted longer than two or three minutes, but the attempt that usually followed was a longer conversation. After all, both Presidents Bush had phoned Trump to offer their help for the good of the country.

Trump's team realized that the rhetoric it had unleashed during its campaign was having consequences, and not just in the abstract. The insults Trump had hurled at Establishment Republicans left more than a sting, sometimes forcing his ad hoc HR department to knock on doors with hats in hand. Even jobs with bland titles hold huge hidden power. Backwater agencies affect everything from wait times at airports to the price of cheese, and



Trump didn't want to be blamed for disappointments.

Abroad, there were concerns too. Trump's cavalier approach to foreign policy had left world leaders spooked. His decision to accept an impromptu visit from Brexit cheerleader Nigel Farage drew consternation from Downing Street. The U.S. foreign policy establishment, which largely shunned Trump, offered help. In victory, Trump's team said no thank you in undiplomatic terms. "You lost" was the message relayed to former State Department counselor Eliot Cohen, who advised Condoleezza Rice but disliked either of his 2016 options. To his former colleagues, Cohen warned on Twitter: "Stay away. They're angry, arrogant, screaming."

Those still interested in the jobs were watching the names leaking from Trump Tower for clues. Power was coming back to the conservative political class, and proximity was the coin of the realm. The candidate who conceded he received his military advice from the generals on TV seemed poised to cast his top officials straight from Sunday-show bookings. There was no cohesive theme running through the leaks other than loyalty to Trump and star power.

Pence and Priebus had been hearing from Capitol Hill, where GOP leadership was frustrated by the slow pace of Trump's transition effort and worried about lost opportunity. Senator Mitch McConnell, the Kentucky Republican who maintained a slight majority, signaled he would rather deal with Pence than Trump. "We all really like Pence," McConnell told reporters on Nov. 9.

Maybe. Meanwhile, House Speaker Paul Ryan struck a more optimistic note, which no doubt conceals the coming fights between his conservative members and Trump over issues such as Medicare and Social Security reform. "Welcome to the dawn of a new, unified Republican government," Ryan said instead, on Nov. 15.

Meanwhile, communications with the Obama White House all but ground to a halt after the Christie shake-up. Christie's ouster required Pence to sign a new transition agreement. It wasn't until late on Nov. 15 that the replacement copy made its way to the Administration, with the White House still waiting for the transition group's ethics statement, which prohibits lobbyists from serving in areas where they have business interests. More than a week after Election Day, binders of handoff materials from the Administration sat in waiting for the Trump team. None of the officials responsible for agency transitions between Teams Trump and Obama had met, and some hadn't even been named.

Such missteps were normal during the campaign, but the stakes were never as high. "Either he is going to be the fastest study in the world, or Mike Pence is going to be President," said Elaine Kamarck, a former Clinton White House aide whose most recent book, *Why Presidents Fail*, should be required reading in Trump Tower.

On election night, when a veteran adviser turned to congratulate him with the title he was soon to earn, Mr. President, Trump stopped him. "Not yet," he said. He can only say that for so much longer. □

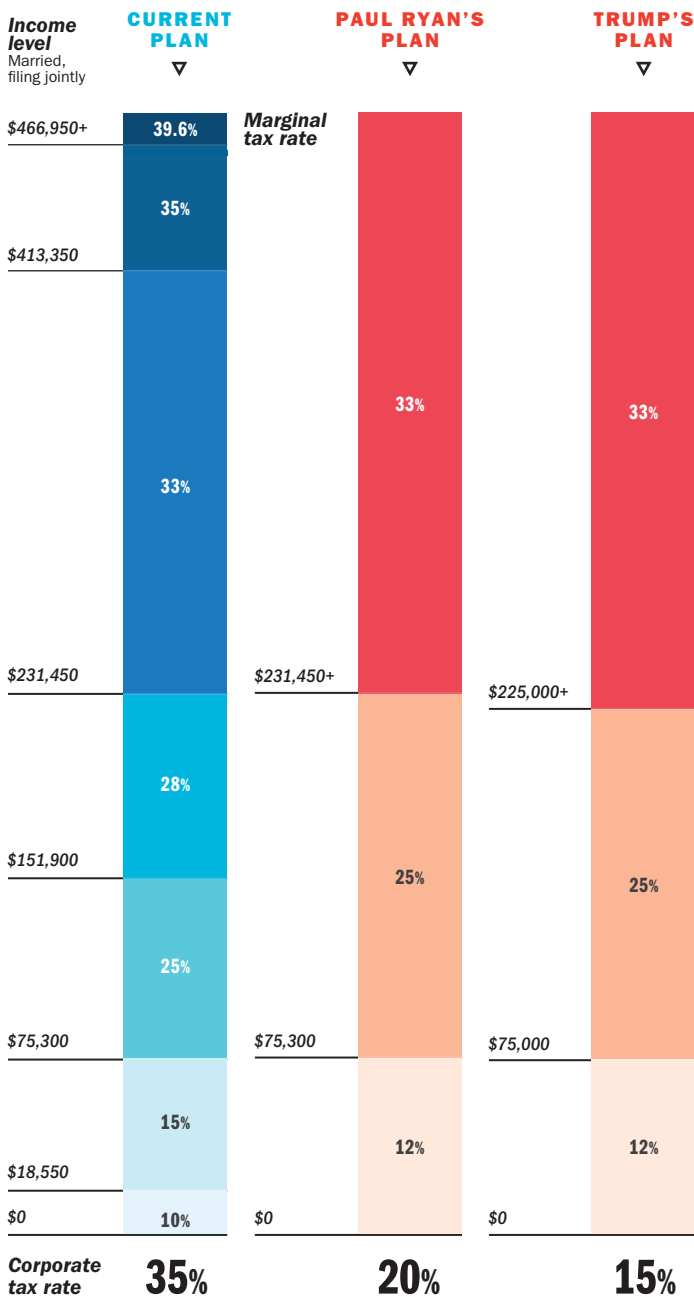


## ISSUE TAXES

# Overhauling the tax code

BY HALEY SWEETLAND EDWARDS

Donald Trump and congressional Republicans agree on this much: they want to change the U.S. tax code. Both Trump and House Speaker Paul Ryan have proposed streamlining the number of tax brackets, scaling back individual deductions and nixing the estate tax. But Ryan wants to reform social-spending programs like Medicare, while Trump's plan doesn't touch entitlements and could add up to \$9.5 trillion to the national debt by 2026. Both plans would deliver windfalls to the wealthiest Americans.





◀ An aerial image of the Arak nuclear reactor, southwest of Tehran, collected by a satellite in February 2013



ISSUE  
**FOREIGN POLICY**

## Hot spots and double-talk

BY MASSIMO CALABRESI

NOWHERE DOES DONALD TRUMP HAVE more unilateral power than in his role as Commander in Chief. And nowhere has he been more contradictory than in his remarks about three global hot spots where regional stability and American lives are at stake: Iran, Syria and North Korea.

In March, Trump told a meeting of the American Israel Public Affairs Committee (AIPAC) that his “No. 1 priority” is to “dismantle” the international deal that froze Iran’s nuclear program in exchange for the suspension of most sanctions against the country. As President, Trump can make that happen with the stroke of a pen. To reach agreement with Tehran, President Obama waived economic sanctions, and Trump can reinstate them as soon as he is sworn in. Iran would then restart its nuclear program, likely prompting Israel to once again prepare military strikes to destroy it, potentially drawing the U.S. into a new war in the Middle East. But in the same speech to AIPAC, Trump said that “at the very least, we must enforce the terms” of the Iran deal, suggesting he might simply continue Obama’s existing approach.

Next door, in Syria and Iraq, Trump has said he intends to “bomb the hell out of ISIS.” He pledged to cut off aid to rebels fighting Syrian strongman Bashar Assad

and join with Russia in targeting Assad’s opponents. But Assad and Russia have spent little time fighting ISIS. Rather, they’ve targeted moderate groups opposing the Assad regime. In Iraq, Trump has called the U.S.-backed effort by Iraqi and Kurdish forces to oust the terrorist group from the city of Mosul a “disaster,” even as those forces have broken initial ISIS resistance and driven deep into the city. It’s not clear what Trump would do differently. Of his plan to oust ISIS, Trump says, “I’m not going to say anything. I don’t want to tell them anything.”

In the communist hermit state of North Korea, which Western experts estimate may have more than a dozen nuclear weapons, Trump has alternately said that the dictator Kim Jong Un is a “bad dude” and a “madman,” and offered to meet the despot “over a hamburger” so he could cut “a good deal.” During the presidential campaign, Trump suggested that South Korea should develop its own nuclear weapons so that the U.S. would no longer have to bear the cost of defending Seoul against the North. But one of his first acts as President-elect was to call South Korean President Park Geun-hye and assure her that the U.S. stood with Seoul “against the instability in North Korea.”

—With reporting by CHARLIE CAMPBELL/BEIJING and JARED MALSIN/ISTANBUL



ISSUE  
**WOMEN'S HEALTH**

## A new abortion landscape

BY CHARLOTTE ALTER

Trump has pledged to appoint antiabortion Justices to the Supreme Court and suggested that those jurists would vote to overturn *Roe v. Wade*, thus allowing states to again criminalize abortion. He also supports a federal legislative ban on late-term abortions and has pledged to make the Hyde Amendment—an annually renewed statute that bans almost all taxpayer funding for abortions—into permanent law. Repealing or amending the Affordable Care Act, which forces health insurers to cover contraceptives, could make it harder for some women to get birth control. The GOP Congress has long sought to end federal funding for Planned Parenthood, a major provider of family planning for the poor. Trump defended Planned Parenthood in the primaries but announced in September that he supports federal defunding of the group if it continues to provide abortion services. “This is the gravest situation I’ve ever seen,” says Donna Crane of NARAL Pro-Choice America.





ISSUE  
**HEALTH CARE**

# The Obamacare conundrum

BY HALEY SWEETLAND EDWARDS

DONALD TRUMP WILL SOON FACE THE consequences of a familiar admonition: be careful what you wish for. The President-elect is poised to help the new Republican Congress finally repeal the Affordable Care Act. Most health care experts expect Obamacare to be expunged from the books by February. But Trump's next steps are trickier. How does his Administration replace a law that re-made the health care market, providing 21 million Americans with access to insurance?

It won't be easy. Trump's health care plan, which borrows heavily from the House Republicans' proposal, offers a grab bag of small-bore regulatory tweaks. It calls for making individual health care premiums tax-deductible, expanding families' access to private, tax-free health savings accounts and allowing for the sale of health insurance across state lines. Trump's plan, like that of House Republicans, also suggests handing block grants for Medicaid to the states. But even if Trump is able to shepherd those provisions through a friendly Congress, he would still have to answer to millions of lower- and middle-income Americans who now use federal subsidies to afford their premiums.



HEALTH CARE: MATTHEW BORKOSKI—GETTY IMAGES; THE MILITARY: U.S. AIR FORCE/SIPA USA

▲  
*Republicans finally have a chance to repeal Obamacare; figuring out how to replace it may be a tougher challenge*

He would also have to decide what to do with the other parts of Obamacare that changed health insurance for the rest of the country.

Trump seems to grasp this puzzle. In an interview with the *Wall Street Journal* just days after the election, the incoming President suggested that he is open to preserving two of the most popular provisions of the law: the rule allowing young adults to remain on their parents' health care plans until they are 26 and the prohibition barring insurers from discriminating against patients with pre-existing conditions. "I like those very much," Trump told the newspaper.

But Trump can't keep just his favorite parts



ISSUE  
**STOCK MARKET**

# Investors try to predict Trump

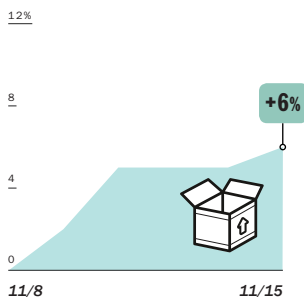
BY HALEY SWEETLAND EDWARDS

For months before Election Day, Wall Street analysts suggested a Trump victory would send stocks into a swoon. Some even predicted a global recession. Instead, in the wake of the President-elect's unexpected victory, investment in certain sectors has soared. Here's why:

INCREASE REFLECTS THE CHANGE FROM THE CLOSE PRICE ON NOV. 8 TO THE CLOSE PRICE ON NOV. 15. SOURCES: S&P DOW JONES INDICES

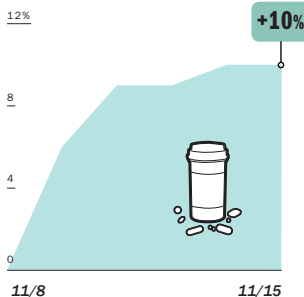
### INDUSTRIALS

Trump campaigned on massive new infrastructure investments and increased defense spending. The values of aerospace companies, defense contractors and construction firms all rose on his victory.



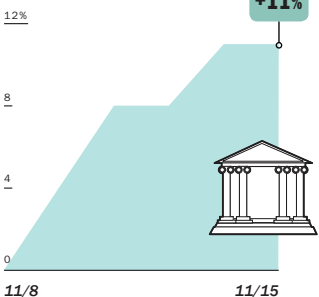
### PHARMACEUTICALS

With a Republican House and Senate, investors are betting that President Trump won't try to impose new rules to lower drug prices and that global drug firms will be able to bring home foreign profits at a reduced tax rate.



### FINANCIALS

With interest rates rising, big bank investors cheered Trump's promises to soften financial regulations, undo taxes on investment income and dismantle Dodd-Frank, the Obama Administration's financial-reform law.



of Obamacare and jettison the rest. The Affordable Care Act is a carefully constructed mix of carrots and sticks. Stripping certain parts would throw the whole market out of balance.

Consider what would happen if Trump keeps the law's ban on refusing patients with pre-existing conditions but repeals rules requiring insurers to offer all customers in a community plans at the same price. That would allow insurers to slap patients who suffer from serious illnesses—like cancer or rheumatoid arthritis—with premiums that run as high as \$10,000 per month. If Trump scraps the rule requiring that everyone buy insurance—the much maligned “individual mandate”—more healthy Americans would wait until they get sick to buy coverage. As a result, insurers would hemorrhage money with a sicker population to serve, spurring them to raise premiums or stop selling individual plans altogether.

Trump has not yet addressed these contradictions. But the clock is ticking. Rhetoric can win campaigns, but economic reality tends to shape what happens in the Oval Office.



ISSUE  
CHINA

## Beijing welcomes Trump

BY HANNAH BEECH

Trump has vowed to take a tougher line toward China. Yet its political establishment struggled to contain its glee after his victory. Analysts say Trump's opposition to the Trans-Pacific Partnership gives the Middle Kingdom freer rein in the region, while his authoritarian streak suggests he'll pay scant attention to human rights. Under Trump, says Zhang Ming, a professor at Beijing's Renmin University, “there will be less trouble for the Chinese government.”



ISSUE  
ETHICS REFORM

## The first steps to ‘drain the swamp’

BY SAM FRIZELL

One of the cornerstones of the President-elect's campaign was a promise to crack down on Washington special interests. While Trump has arguably violated the spirit of this pledge already—by naming a transition team studded with corporate lobbyists—his push for ethics-reform legislation presents a rare chance for bipartisan agreement with congressional Democrats. “The things that he said about ‘draining the swamp’ and about lobbyists,” said Rhode Island Senator Sheldon Whitehouse, “are things that we would tend to support.” Some steps can be done immediately by executive order, but legislation will be required to make them permanent. Here are three areas Trump has identified as priorities for ethics reform:

1

### EXECUTIVE-BRANCH LOBBYING



Trump wants to impose a five-year ban on former executive-branch officials registering as lobbyists. President Obama also imposed a ban on his hires, restricting them from lobbying the executive branch for the duration of his presidency.

2

### LONGER LOBBYING BANS



Trump supports barring former members of Congress and their staffs from lobbying activities until they've been out of government for five years. Current laws require a one-year “cooling-off period” for House members and two years for Senators.

3

### FOREIGN LOBBYISTS



The President-elect says he wants to permanently block former senior employees of the executive branch from lobbying on behalf of foreign governments. Trump also wants to stop registered foreign lobbyists from raising money in U.S. elections.



ISSUE  
THE MILITARY

## The limits of spending more

BY MARK THOMPSON



Trump's stated solution to the U.S. military's woes is more money. Aides say he wants to boost the annual Pentagon budget by about 10% and reinvigorate the Department of Veterans Affairs. That would pay for more troops, new bombers and submarines to deliver nuclear weapons, as well as a “state-of-the-art missile defense system.” But cash alone probably won't cut it. President Obama spent more on defense than his predecessor and hiked the Department of Veterans Affairs budget by 77%. Trump also wants to hire more mental-health professionals and trim wait times for veterans, who could be offered free health care at private medical facilities. Fulfilling those proposals would require Congress to lift budget limits that aren't set to expire until 2021. Capitol Hill's deficit hawks are committed to keeping those caps in place.

◀ Trump wants to increase the number of Air Force fighters by about 10%, including F-35 jets like this





*A tugboat guides a ship loaded with freight containers near the Port of Long Beach, Calif.*



ISSUE  
**TRADE**

# Remaking global trade with a pen

BY HALEY SWEETLAND EDWARDS

It's too early to tell whether Trump will make good on his campaign vows to renegotiate or withdraw from trade deals and slap hefty tariffs on U.S. partners. But the law gives him broad latitude to fulfill his pledges. Here are three ways the new President could disrupt the global trade order during his first weeks in office—with little more than a flick of his pen.

**1** **Impose large tariffs on goods made abroad** During his first 100 days in office, Trump has promised to introduce the End the Offshoring Act, which would tax certain goods made in foreign countries. It's not clear how high those tariffs would be or which countries would be targeted. But even if Trump can't persuade a Republican Congress to pass his bill, he could invoke a handful of federal statutes to help him accomplish his goal. So long as the President-elect claims that a foreign nation is acting "unreasonably or unjustifiably," says Michael Gadbow, a former U.S. Trade Representative's attorney and Georgetown University law professor, Trump has the authority to impose tariffs, import restrictions or other retaliatory measures without congressional approval. On the campaign trail, Trump suggested a 45% tax on Chinese imports and a 35% tax on Mexican goods. If enacted,

those rates would raise costs and likely trigger a trade war, possibly hastening a new global recession.

**2** **Declare China a currency manipulator** Trump often said during his campaign that on Day One of his presidency, he would call out China for keeping its exchange rate artificially low to gain an unfair export advantage against global competitors. He repeated the promise in an action plan for his first 100 days, which he released in October. Labeling China a currency manipulator comes with international legal ramifications. But if Trump follows through on that threat, he could impose new sanctions, justify tariffs on imports and preclude China from some U.S. financing deals. Trade experts say such a move could spark a diplomatic row with Beijing and hobble U.S. strategic interests in Asia.

**3** **Renegotiate NAFTA** One of Trump's biggest applause lines on the trail was a promise to either rework or withdraw from the North American Free Trade Agreement, which he called the "worst trade deal in history." Ending the U.S.'s commitment to the 22-year-old pact requires nothing more than a letter and a six-month waiting period. What happens next is fuzzier. Legal experts say it's unclear whether the decision would be subject to court review or legislative approval, as well as whether Congress would have to vote to undo certain provisions. Either way, the U.S. business community—including corporate giants like General Motors and Coca-Cola—would fight the move tooth and nail.





ISSUE  
ENERGY

## The return of ‘drill, baby, drill’

BY TESSA BERENSON

It really is a new day for U.S. energy policy. The President-elect has pledged to roll back environmental regulations, invest in new pipelines and allow drilling on public lands—and he can make many of the changes unilaterally once in office. On their own, Trump’s appointees can issue drilling permits and approve pipelines, including the Keystone XL oil pipeline, which President Obama rejected last year. Trump can begin to scuttle some emissions regulations, like standards for smog, mercury and coal ash, through a new rulemaking process.

Trump will also be able to change the direction of legal fights over clean air. In February, the U.S. Supreme Court blocked the Clean Power Plan, a set of federal regulations designed to curb carbon emissions from coal-fired power plants. It’s now the subject of a battle in a lower court. Trump could try to kill the plan by declining to defend it, appointing an industry-friendly Justice to the Supreme Court or asking Congress to write new legislation.

He may have more trouble fulfilling his pledge to withdraw the U.S. from the Paris climate agreement. Participating nations must wait four years to quit the pact. But in the meantime, Trump could withhold funds earmarked for the implementation process or ignore the targets for U.S. emission cuts laid out in the deal.

All of which is cause for cheer among drillers and miners, but not environmental activists. Trump, warns the Sierra Club’s Michael Brune, “could be devastating for our climate.”



▲  
*A pump jack at an oil well and fracking site in California’s San Joaquin Valley*



ISSUE  
IMMIGRATION

## A new hard line would affect millions

BY MAYA RHODAN

**The wall may be a fence in some places. And the ultimate fate of all of America’s undocumented immigrants is still not clear. But here are three Trump plans to look for in the first 100 days:**

**1 Deport millions**  
Trump has scaled back his mass-deportation target and now pledges to start by focusing on 2 million to 3 million with criminal records. Experts estimate that the real number of undocumented immigrants with records is lower. Meeting that target would require more enforcement agents, detention beds and immigration judges. “It is impossible to [remove] 2 million” during Trump’s first term without more resources, says John Sandweg, the former Acting Director of U.S. Immigration and Customs Enforcement.

**2 Reverse DACA**  
The President-elect could reverse Obama’s 2012 Executive Order that gave legal status to roughly 700,000 undocumented immigrants brought to the U.S. as children. As a result, they would again be eligible for deportation and unable to get legal work permits.

**3 Target sanctuary cities**  
The incoming President has vowed to restrict federal funds for cities where local authorities do not report undocumented immigrants. He could stop some grant funding unilaterally, a move several so-called sanctuary cities like New York and Chicago have pledged to resist.



▲  
*A county employee fixes a pothole in Galloway, N.J.*



ISSUE  
INFRASTRUCTURE

## Making airports and bridges great again

BY SAM FRIZELL

In his victory speech, Trump repeated a campaign pledge to fix the nation’s crumbling roads, buckling bridges and dilapidated airports. The President-elect has proposed \$150 billion in tax credits, which could spur a new construction boom he says will create “millions” of jobs. He has not identified a way to pay for the projects, beyond arguing that increased economic activity could boost tax receipts.

Democrats also favor spending projects, and they’re receptive to an infrastructure bill that could help create jobs, even if they disagree on the details. Hillary Clinton campaigned to deliver some \$500 billion in infrastructure spending, while Senator Bernie Sanders proposed twice that in federal funds. The party’s leaders would prefer direct government investments paid for through tax reform, including a onetime tax on overseas profits of U.S. corporations. But there’s room for an alliance with Trump on the topic. “We can work together to quickly pass a robust infrastructure jobs bill,” House minority leader Nancy Pelosi said after Trump’s triumph.

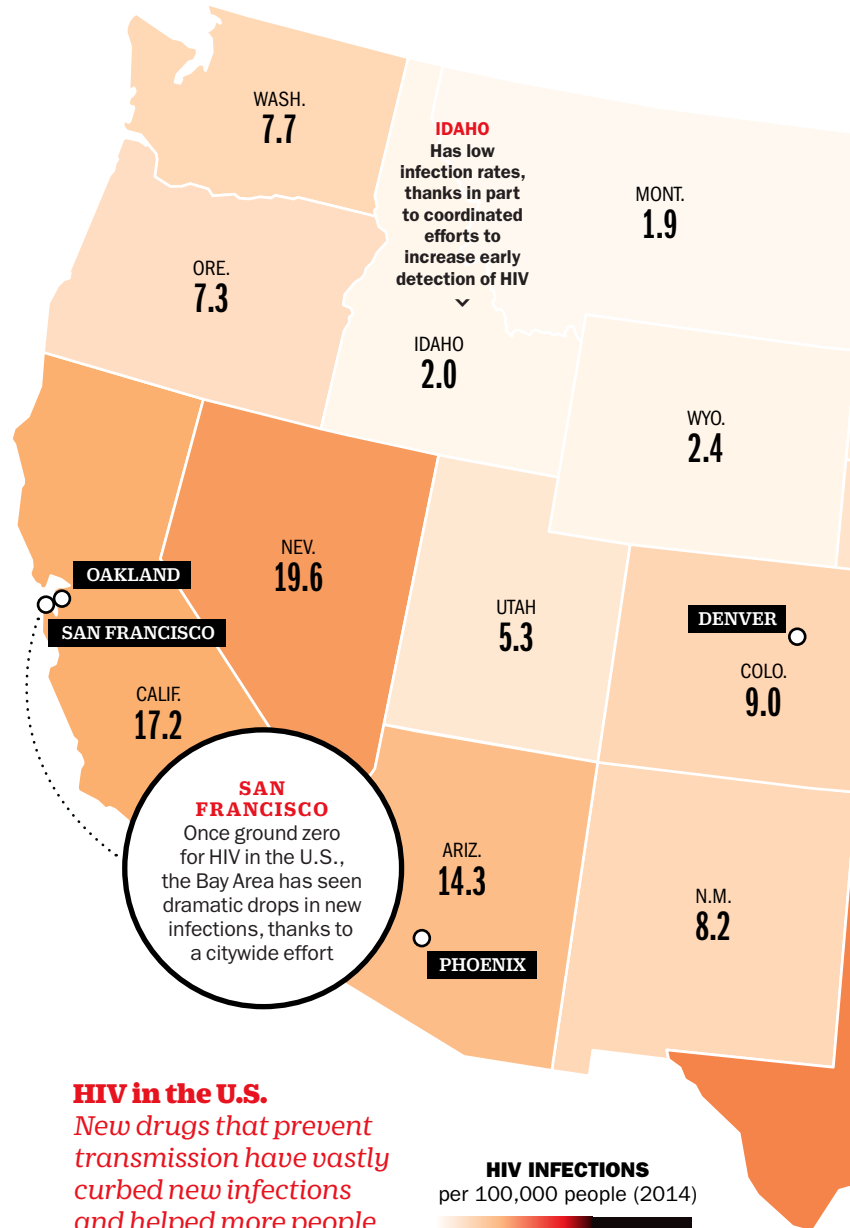
It’s many Republicans who aren’t yet on board. Ideologically suspicious of large stimulus packages, conservatives worry that the money will be misused or wasted. Republicans point out that Congress already approved three major infrastructure bills during the past year. “It’s more of the same,” says Michael Sargent, a research associate at the Heritage Foundation. In a unified GOP Congress, Trump’s own party could deny him an early victory on one of his top domestic priorities.

NEARLY A DOZEN U.S. CITIES HAVE PLEDGED TO DRASTICALLY REDUCE NEW INFECTIONS AND DEATHS FROM HIV/AIDS.

PROGRESS HAS BEEN UNEVEN AT BEST.

# THE RACE TO ZERO

BY ALICE PARK

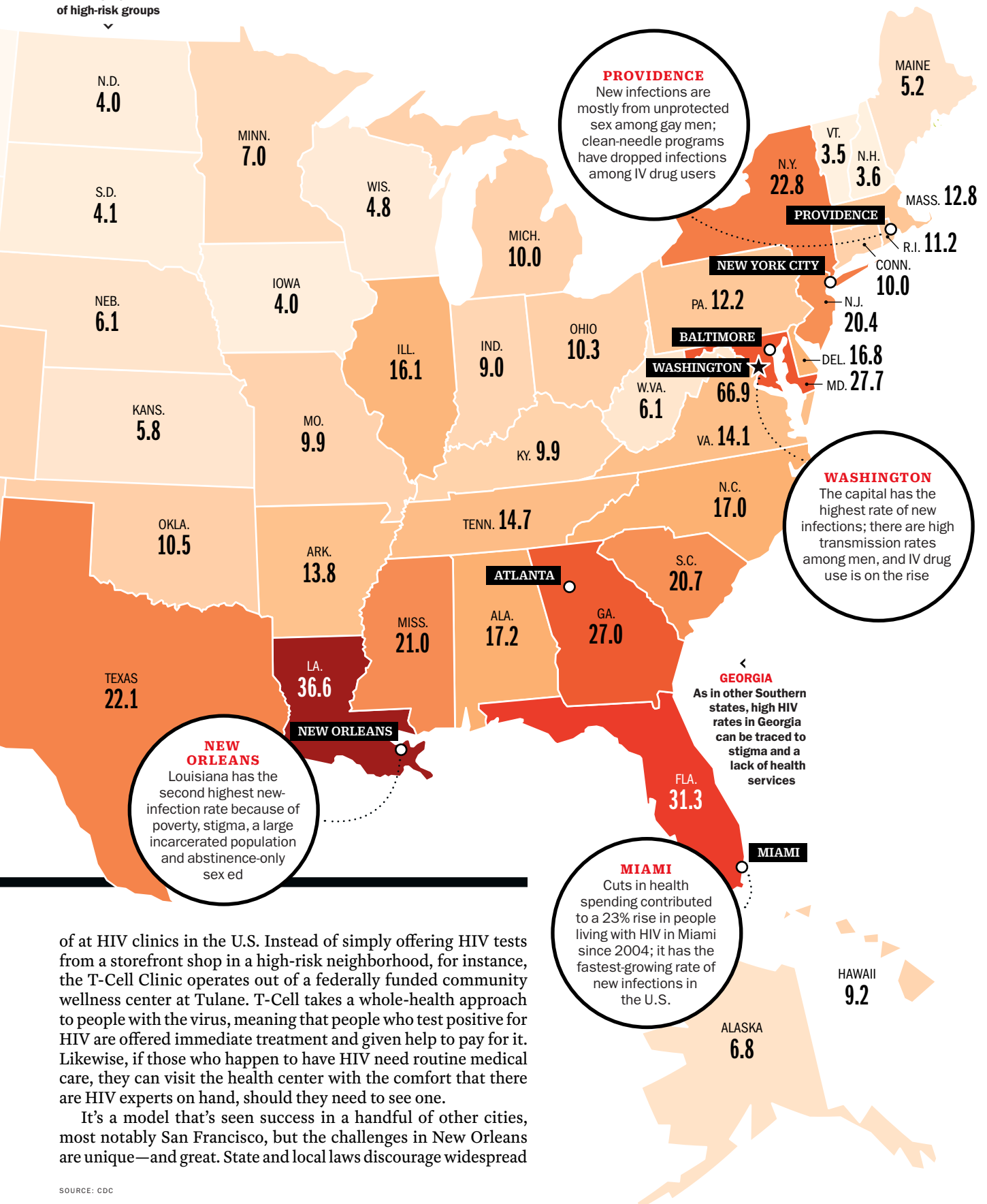


**HIV in the U.S.**  
*New drugs that prevent transmission have vastly curbed new infections and helped more people live with HIV—but some states continue to struggle*

VERY LITTLE ABOUT DR. MARKALAIN DERY COULD BE DESCRIBED as ordinary. The HIV specialist at Tulane University in New Orleans favors three-piece suits and French-cuff shirts to white coats, khakis and Crocs. Under his shirtsleeves, his arms are a canvas for tattoos—a fleur-de-lis, an old-school radio microphone, a sexy portrait of his wife. Standard modes of transportation aren't for him, either. Stashed in the corner of his office is the four-wheeler he uses to get around town: his skateboard.

Dery's penchant for iconoclasm goes beyond appearances. As director of the Tulane T-Cell Clinic—an HIV patient center deliberately named without those three stigma-filled letters—Dery is testing an approach to disease management that's mostly unheard

**NORTH DAKOTA**  
Has among the lowest infection rates in the U.S. in part because of its smaller proportion of high-risk groups



**PROVIDENCE**  
New infections are mostly from unprotected sex among gay men; clean-needle programs have dropped infections among IV drug users

**WASHINGTON**  
The capital has the highest rate of new infections; there are high transmission rates among men, and IV drug use is on the rise

**NEW ORLEANS**  
Louisiana has the second highest new-infection rate because of poverty, stigma, a large incarcerated population and abstinence-only sex ed

**GEORGIA**  
As in other Southern states, high HIV rates in Georgia can be traced to stigma and a lack of health services

**MIAMI**  
Cuts in health spending contributed to a 23% rise in people living with HIV in Miami since 2004; it has the fastest-growing rate of new infections in the U.S.

of at HIV clinics in the U.S. Instead of simply offering HIV tests from a storefront shop in a high-risk neighborhood, for instance, the T-Cell Clinic operates out of a federally funded community wellness center at Tulane. T-Cell takes a whole-health approach to people with the virus, meaning that people who test positive for HIV are offered immediate treatment and given help to pay for it. Likewise, if those who happen to have HIV need routine medical care, they can visit the health center with the comfort that there are HIV experts on hand, should they need to see one.

It's a model that's seen success in a handful of other cities, most notably San Francisco, but the challenges in New Orleans are unique—and great. State and local laws discourage widespread



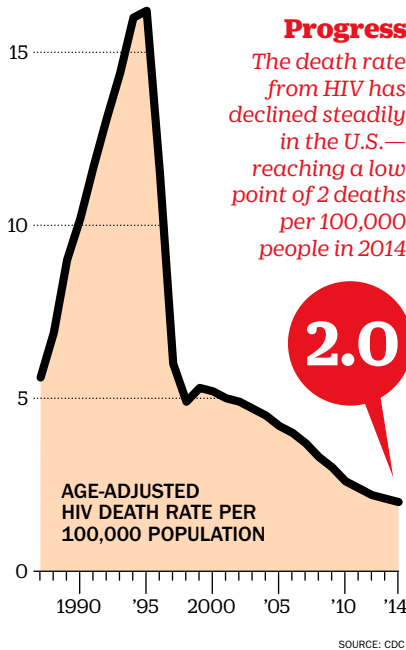
adoption of the most basic HIV-prevention strategies, such as condom distribution in schools, safe-sex public-health campaigns and clean-needle exchanges. Meanwhile, high poverty and low education rates have pushed health needs to the bottom of social and civic priorities. Add to that the economic devastation following Hurricane Katrina, which wiped out health resources, and it's no surprise that New Orleans has the third highest rate of new HIV infections in the U.S.

Still, for all the challenges, Dery says there are some early signs of hope. New Orleans is one of 11 cities in the U.S. and dozens around the world that have committed to the ambitious goal of eradicating HIV by 2030. Getting there begins with the simple but critical step of making sure the vast majority of people living with HIV are aware they have the disease. Next, provide HIV-positive people with drugs, and monitor them until their viral levels are so low as to be undetectable. The last goal is the hardest to quantify: to eliminate stigma around HIV and discrimination against those who have it.

**ENORMOUS PROGRESS** has been made in the U.S. in fighting the AIDS epidemic that at its peak killed 50,000 people in a single year. Since the late 1990s, deaths from HIV have dropped by one-third. Still, while some cities have seen dramatic drops in infection rates and deaths from HIV, the number of new people contracting the virus remains stubbornly high in certain swaths of the country because of resistance to safe-sex campaigns and cuts in government health care services. "There's no sugarcoating it that in the South, we take one step forward and then five steps back," says Dery.

That's why his clinic pushes for testing anyone who comes in for any health issue, for instance, as well as making sure that anyone who tests positive for HIV is not given an appointment for some later date but is instead brought to the clinic and given anti-HIV medications on the spot.

It's what Dery thinks will work. It did in New York City and San Francisco, after all. But such dramatic progress wouldn't be possible anywhere if it weren't for breakthroughs in drug treatments.



Just 30 years ago, an HIV diagnosis was a death sentence. Today people who start taking the latest class of antiretrovirals can often bring down HIV levels in the blood to undetectable levels. At that point, it becomes highly unlikely they would ever spread HIV during sex. Doctors have also learned that the same drugs can protect uninfected people as well, preventing them from getting HIV in the first place. Now health centers across the country, including the T-Cell Clinic, offer the preventive drug Truvada to uninfected people who are at high risk. This treatment, called pre-exposure prophylaxis, or PrEP, has become a cornerstone of most successful strategies to reduce HIV infections, because to control the epidemic on a population level—as opposed to simply treating people once

**‘TESTING, TESTING, TESTING, IS THE MOST IMPORTANT THING IN REDUCING NEW INFECTIONS.’**

DR. MARKALAIN DERY,  
Tulane University

they're sick—prevention is critical.

With other infectious diseases such as measles and polio, vaccines serve this purpose, but since an effective HIV vaccine doesn't exist, these drugs are the next best thing for throwing up roadblocks to a virus that is continuously on the hunt for new hosts. The fewer hospitable homes a pathogen like HIV can find, the more quickly it's wiped out.

It's insights like these that prompted San Francisco, the nexus of the AIDS epidemic during its peak—and cities like it—to toy with the bold idea of eradicating HIV from within its borders entirely. Experts there—including those from the medical community as well as patient advocates and even political leaders—realized that to get to zero, it wasn't enough to distribute the medicines. They would have to go out of their way to deliver them to those who need them most.

HIV advocates in San Francisco established universal free testing in hospitals; they provide same-day appointments with specialists, sometimes going so far as to put patients into cabs to get them to the nearest clinic; and perhaps most important, they provide people with a starter supply of HIV drugs. Most patients take the first dose before leaving the clinic.

In order to reduce attrition, case managers ensure that paying for drugs isn't prohibitive. They also keep tabs on all new patients to make sure they're taking their medicines and, hopefully, getting viral loads so low that they become undetectable.

**DERY IS HOPING** that what worked so well in San Francisco—there are now entire zip codes with no new infections—can also work in New Orleans.

The first hurdle is helping people learn if they are infected or not. "Testing, testing, testing, is single-handedly the most important thing in reducing new infections," Dery says. New Orleans has the highest rate of people infected with HIV who are undiagnosed—77%—because testing isn't as available there as it is in other parts of the country; nationally, that ratio is 1 in 8.

Pairing testing with treatment for people who are HIV-positive is the next step. That's where cities like New Orleans face unique challenges. Stigma against HIV



remains high—that’s why the Tulane clinic carefully avoids the term *HIV* in its name, opting instead for a medical term for the cells that get attacked by the virus.

“In some communities, stigma against HIV and homophobia definitely come into play,” says Dr. Nicholas Van Sickels, medical director of CrescentCare, a clinic that receives federal funds to provide HIV treatment and other health care. In smaller cities throughout the state, he says, “clients come in the back door for HIV services because they know if they come into the clinic, people are watching and they’ll see.” (For its part, T-Cell tries to control for this by its location inside the Tulane wellness center.)

Nearly 70% of New Orleans’ new infections are among young African-American men, with most transmission occurring from men having sex with men, making New Orleans’ problem especially daunting. African Americans often don’t have access to health services, and discussing HIV risk presents an even greater challenge among young males because of strong cultural biases against homosexuality. That may explain why young black men make up only about one-quarter of people taking PrEP.

Poverty also hampers consistent care: many who need drugs and testing the most can’t afford the bus ride to Tulane or any other health clinic for an HIV test. “If I can whittle down the barrier to controlling HIV to one word, it’s

^  
*Dr. MarkAlain Dery is pushing to test and treat more people for HIV in New Orleans to bring infection rates down*

poverty,” says Dery. He offers bus tokens and child care at the clinic to make visits as inexpensive for patients as possible.

Louisiana has the added burden of having the highest incarceration rate in the country; while HIV rates are about three times as high among prisoners as in the general population, Louisiana prisons are discouraged from distributing condoms, exacerbating the problem.

Laws in the region also work to perpetuate misunderstanding and discrimination. Sex education in schools isn’t mandated, and when it is taught, abstinence is the strategy pushed for avoiding pregnancy, STDs and HIV. Public-health groups can’t provide condoms in schools. And if police officers in New Orleans find condoms during a search of someone suspected of prostitution, they could in theory be used as evidence in the event of an arrest. It was enough to prompt some sex workers, transgender women and other people at high risk of infection to engage in unsafe sex without condoms out of fear of getting arrested.

For these reasons, some HIV advocates in the state are more hesitant than Dery to try the test-and-treat model that worked so well in the Bay Area, in no

small part because if people don’t take the medications as directed, for as long as directed, the downstream consequences can be dire. Some experts worry such lapses will fuel the rise of resistant HIV that can’t be treated with the drugs that currently work so well.

“If people take them, then don’t take them, take them and then don’t take them, that could ruin the effect of the medicines,” says Dr. Lynn Besch, medical director of the infectious-disease center at University Medical Center in New Orleans.

That’s why the state is concentrating its efforts on those who do get diagnosed and making sure they don’t drop out of the HIV-care program. The Louisiana health department has expanded the team of caseworkers who go to people’s homes if they don’t come back for their appointments to find out what’s preventing them from continuing their care.

**THERE ARE ENCOURAGING SIGNS** that such efforts are beginning to pay off. While the overall number of new HIV diagnoses hasn’t changed much yet across the state, the percentage of people who are diagnosed and being treated has increased from 81% in 2014 to 86% so far this year. That’s leading to reduced virus spread as well—two years ago, 70% of people living with HIV controlled their virus to below detectable levels; in a year, that increased to 79%.

“We are seeing some successes and see more people getting into care more quickly after they are diagnosed, getting treatment and staying on treatment to keep their virus suppressed,” says DeAnn Gruber, director of the STD/HIV program for the Louisiana department of health.

It’s a start. And while New Orleans’ HIV rates may take a bit longer to come down, Dery and the city’s HIV experts are confident that they will—eventually. “We are particularly motivated because we are handicapped by all the social determinants that keep HIV rates high,” he says.

“I see us as the underdogs,” Dery continues. “But sometimes the underdogs play a little harder and more passionately. So yes, I think we could get to a point where we are reaching zero new infections. The question is not if but when.” —*With reporting by* MERRILL FABRY/  
NEW YORK CITY □



## What's Watson working on today?

Between ages two and five, a child learns more—and more rapidly—than any time in life. Working with IBM Watson, Sesame Street is helping make the most of each child's potential. They're helping to personalize learning, allowing each child to be taught based on their learning style, ability and needs. Thanks, Elmo. This is cognitive education. [ibm.com/outthink](http://ibm.com/outthink)

**When everything thinks, you can outthink.**





*the best*

25

*inventions  
of 2016*

BY ELIZA BERMAN, ELIANA DOCKTERMAN, LISA EADICICCO, ALEX FITZPATRICK,  
JEFFREY KLUGER, BELINDA LUSCOMBE, DAN MACSAI, SIOBHAN O'CONNOR,  
KATE SAMUELSON, ALEXANDRA SIFFERLIN, JUSTIN WORLAND AND JULIA ZORTHIAN

PHOTOGRAPHS BY LUCAS ZAREBINSKI FOR TIME

FOR THE

# future

THE BEST INVENTIONS EMBRACING NEXT-GEN TECHNOLOGY

*To maximize comfort, the straps distribute the headset's weight across a user's head instead of pressing it against her face*



## THE HEADSET LEADING A VIRTUAL REVOLUTION

**PLAYSTATION VR** / \$400

In order to access the most cutting-edge virtual reality, people typically have to shell out thousands of dollars—not just for a headset (like the \$800 HTC Vive), but for a computer that's powerful enough to support it. Sony's PlayStation VR, by contrast, is designed to work with a console that millions of people already own: the PlayStation 4. That's a boon for gamers in search of what Sony engineer Richard Marks calls "the most intense, most extreme" action, as well as casual consumers, who now have an easier way to experience VR.



*In order to make images look more vivid, Sony enhanced the red, green and blue pixels on the display panel*



*LED lights and motion sensors help the PlayStation camera track the position of a player's head in real time*





# for the future

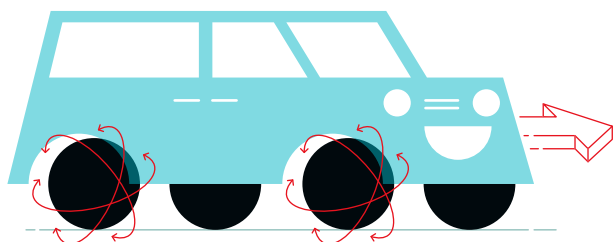
THE 25 BEST INVENTIONS OF 2016



## SOLAR PANELS THAT DON'T STICK OUT

**SOLAR ROOF** / DEVELOPED BY TESLA AND SOLARCITY

Help the environment, save some money—and litter your roof with bulky metal boxes. That's the dilemma home-solar-panel buyers have faced for years. Tesla's response: the Solar Roof, a series of tiles designed to blend together while also harnessing the power of the sun. The product line, which will be available next year, is a collaboration between Tesla and SolarCity, a longtime provider of traditional solar panels. (The former is set to acquire the latter.) And although pricing information has not yet been released, SolarCity CEO Lyndon Rive is optimistic about Solar Roof's potential. "It's addressing a new segment," he says, referring to the 5 million Americans who install new roofs each year, some of whom might want to go solar.



## TIRES THAT SPIN IN EVERY DIRECTION

**EAGLE 360** / DEVELOPED BY GOODYEAR

As companies race to develop self-driving cars, Goodyear is reinventing their wheels. Its spherical concept tire, which debuted in March, allows cars to move in many new directions, including sideways into a parallel parking space and at specific angles and speeds to counteract slippery surfaces. The key, says Sebastien Fontaine, an industrial designer at Goodyear, is magnetic levitation: whereas traditional tires are bolted to cars, the Eagle 360s hover beneath them, free from "the limits of [traditional] steering." To be sure, these tires won't hit pavement anytime soon: they're meant for self-driving cars that are likely at least five years away. In order to shift the status quo, says Fontaine, "we need different companies working with us, together."



## THE ULTIMATE ALARM CLOCK

**HELLO SENSE** / \$149+

It's hard to believe that an alarm clock—the cruel, clunky gadget that jolts you awake and ruins your morning—could not only be beautiful but also improve your sleep. That it could gauge the temperature, humidity, light and even air quality in your bedroom to help you engineer a perfect sleep environment. That it could monitor your sleep cycles and wake you when you're least likely to feel groggy—all thanks to simple voice commands. Indeed, Sense (and its companion pillow sensor) is no ordinary alarm clock. It took hundreds of prototypes to get it right, says James Proud, founder and CEO of Hello, which makes Sense. Early adopters report that using the small glowing orb feels almost as natural as crawling into bed. That was key, says Proud, who adds, "Nobody wants to introduce complexity into their lives, least of all when it comes to sleep."

SOLAR ROOF: TESLA; ALARM CLOCK: LUCAS ZARBENSKI FOR TIME; TIRES: ILLUSTRATION BY MARTIN GEE FOR TIME

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*Design*

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# for the future

THE 25 BEST INVENTIONS OF 2016

*The Mavic Pro can avoid obstacles and hover precisely in place using a combination of cameras and sensors*



*Its 4K camera is stabilized by a three-axis gimbal, which allows it to capture smooth footage during flight*

## A DRONE WITH MASS APPEAL

**DJI MAVIC PRO** / \$999

In recent years, drones have become smarter flyers, faster racers and better photographers. But for the most part, they're still too big and bulky to carry around comfortably, which can turn off more-casual consumers. Not so with DJI's Mavic Pro, which debuted in September; it's got all the trimmings of a state-of-the-art drone—obstacle-avoidance technology, a 4K camera and the ability to track subjects while flying—but it can also fold down to the size of a loaf of bread, smaller than any of its competitors. Realizing that goal required DJI's engineering team to “rethink all the aspects” of a typical drone, says Darren Liccardo, who helped lead the project. But ultimately, he adds, the effort paid off: because of its smaller size, the Mavic Pro is more nimble and less prone to accidents—yet another selling point that could attract new users.





## CANNABIS PENS THAT COULD REPLACE PILLS

**HMBLDT VAPE PENS / \$100 EACH**

Millions of Americans rely on over-the-counter medicine to treat routine complications such as insomnia and headaches. What if they took hits of pot instead? That's what California-based HmblDt is banking on with its new line of vaporizer pens. When inhaled, the pens dispense a dose of cannabis oil that HmblDt says has been chemically engineered to make people feel a certain way—calm, sleepy, relieved of pain—without getting high. Cannabis-delivery methods like this one haven't yet been thoroughly vetted by physicians. But as more states legalize medical marijuana, and more studies show that it does have merits, products like HmblDt's (now available only in California) could become increasingly commonplace. "This really can help people feel better," says Jason DeLand, the company's head of strategy.



WHAT'S NEXT FOR **FOOD**

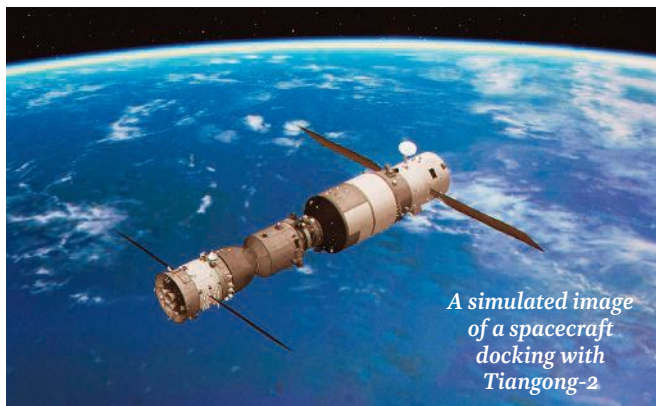
## SEAWEED EVERYTHING

*"We're going to be eating it whether we like it or not," Bren Smith, CEO of the ocean-farming group GreenWave, says of seaweed, which may well become a go-to nutrition source as the world's population climbs. Why? Because it's cheap, healthy and simple to farm. Smith also insists it's more palatable than it seems; fried dulse (a.k.a. sea lettuce), for example, has a bacon-like taste and texture.*

## CHINA'S 'HEAVENLY' SPACE STATION

**TIANGONG-2 / DEVELOPED BY CHINA'S NATIONAL SPACE AGENCY**

When China's newest astronauts, Jing Haipeng and Chen Dong, arrived in orbit earlier this year, they docked at some impressive digs. Specifically: the orbital laboratory Tiangong-2 (Heavenly Palace 2), which is more than 34 ft. long and nearly 14 ft. wide and includes an exercise area and a medical-experiment bay. Yes, that's all modest compared with the multimodule International Space Station (ISS), which is roughly the size of a football field, but it's a remarkable machine all the same. China, after all, built Tiangong-2 on its own, just over a decade after launching its first man into space; the ISS is a collaboration among 15 nations, including space veterans like the U.S. and Russia. China's next move: launching the core module for a much bigger space station, set to happen sometime in 2018.



*A simulated image of a spacecraft docking with Tiangong-2*

FOR

# good!

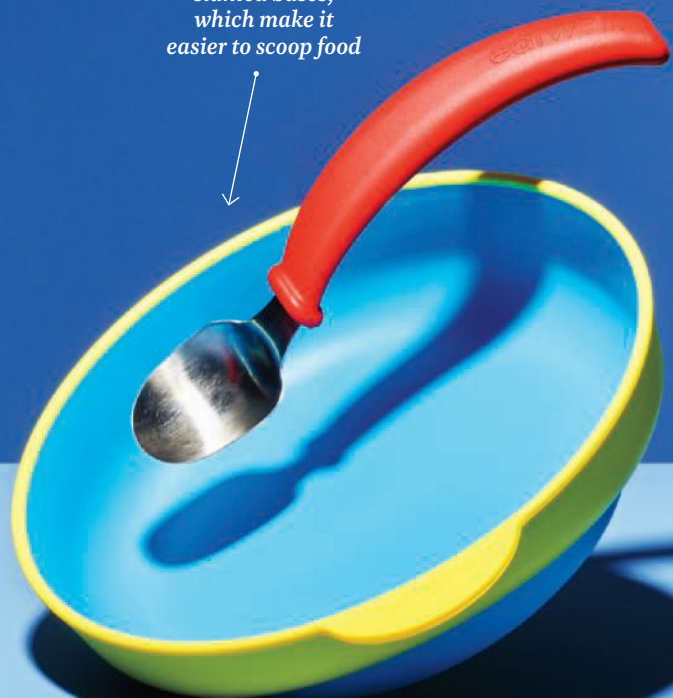
THE BEST INVENTIONS MAKING THE WORLD BETTER



*The cups have suction bases to help prevent spills*



*The bowls have slanted bases, which make it easier to scoop food*



## DISHES THAT WORK AROUND COGNITIVE DECLINE

EATWELL ASSISTIVE TABLEWARE / \$60+

After her late grandmother was diagnosed with Alzheimer's, Sha Yao felt helpless. It was especially frustrating, she recalls, to sit with her during meals while she struggled to perform basic functions, like using silverware without spilling. "There was nothing I could do," Yao says. Inspired by her grandmother's plight, Yao created Eatwell Assistive Tableware, a dining set designed to make mealtime easier for people with Alzheimer's and other diseases that affect brain and body function. (Among the design hacks: using bright colors to help people distinguish their plates from their food.) The goal, Yao says, is to "bring back the joy of sharing a meal together."



IT'S TIME TO REDEFINE WHAT PAINT CAN DO.



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*Children in Mozambique were some of the first to receive the orange-fleshed sweet potato*



## SWEET POTATOES THAT COULD SAVE LIVES

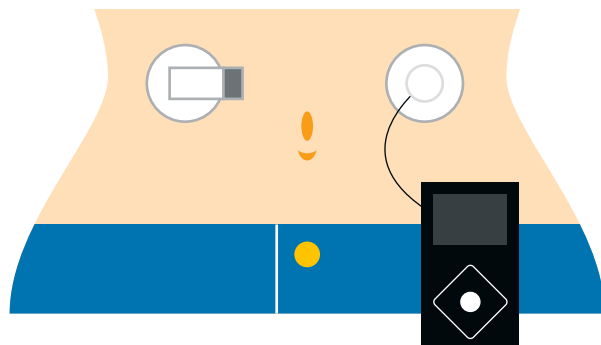
**THE ORANGE-FLESHED SWEET POTATO** / DEVELOPED BY THE INTERNATIONAL POTATO CENTER (CIP) AND HARVESTPLUS

In sub-Saharan Africa, vitamin A deficiency afflicts more than 43 million children under age 6, leaving them vulnerable to blindness, malaria and more. It's inefficient to provide entire countries with pills, so plant scientists from HarvestPlus and the CIP are helping countries grow their own solutions—in the form of sweet potatoes. The key is biofortification, or cross-breeding locally grown sweet potatoes with versions rich in vitamin A, so that over time the crops naturally get better at addressing the deficiency. Plant scientists have also bred them to be more resistant to droughts (as Maria Andrade did in Mozambique) and viruses (as Robert Mwanga did in Uganda). This year, Andrade and Mwanga shared the World Food Prize for their work, alongside agricultural economist Jan Low and HarvestPlus founder Howarth Bouis. Sweet potatoes may once have been seen as “a crop of the poor,” says Low, who’s helping to bring the super-spuds to more countries. Now they’re “a healthy crop for all.”

## THE ARTIFICIAL PANCREAS

**MINIMED 670G** / DEVELOPED BY MEDTRONIC

In order for people with diabetes to stay healthy, they must continually check their blood sugar and adjust it with insulin or snacks. Medtronic aims to render this tedious process obsolete with its MiniMed 670G, a.k.a. the “artificial pancreas,” which has been in development for years but was only recently approved by the FDA. (It will be commercially available next year.) Once users attach the iPod-size device to their body, it measures their blood-sugar levels every five minutes, providing more insulin or withholding it as needed. For now, they still need to manually request a dose after they eat. But Medtronic is working on a fully automated version, which Fran Kaufman, chief medical officer of the company’s diabetes group, says she hopes will help the 1.25 million people living with Type 1 diabetes “spend less time managing their disease and more time enjoying life.”



SWEET POTATOES: BENJAMIN RAKOTOMARISOA; PANCREAS: ILLUSTRATION BY MARTIN GEE FOR TIME; TOOTHBRUSHES: LUCAS ZAREBSKI FOR TIME

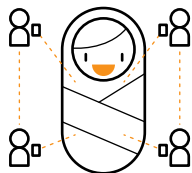


Quip users can opt into a subscription service to get new brush heads and toothpaste every three months for as little as \$50 per year (including a brush)

## A SLEEKER, SMARTER TOOTHBRUSH

QUIP / \$25+

When it comes to dental hygiene, most Americans are slackers: 1 in 2 don't brush twice a day, and 3 in 4 don't replace their bristles every three months, no matter how many times they're warned of the risks (which include cavities and gum disease). "We needed to get people to care a lot more," says designer Simon Enever. So he and partner Bill May set out to make brushing feel more rewarding. The result is Quip, a simple, affordable, battery-powered toothbrush that works like its counterparts from Oral-B and Sonicare—a two-minute timer vibrates every 30 seconds, reminding users to switch positions—but looks and feels like something you'd find in an Apple store; customers can even opt for a matte metallic finish. "It's a nicer experience," says Enever, who adds that he's already working on his next design challenge: getting you to floss.



WHAT'S  
NEXT FOR  
CHILD CARE

## NANNIES ON DEMAND

*“Child care is highly inefficient,” says sharing-economy expert Rachel Botsman, noting that it’s tough to know how to get last-minute help with your kids. But she foresees a general shift toward apps that allow families and child-care providers to find each other in real time and rate each other as they would on Uber.*



## THE FOLDING BIKE HELMET

**MORPHER** / \$119

Like many cyclists, Jeff Woolf has been involved in a serious crash—one that might have killed him were it not for his helmet. So why, he wondered, do so many of his contemporaries refuse to wear one? Turns out, it’s mostly because they’re hard to carry around; they’re thick and bulky, and don’t fit into bags or backpacks. And that was a problem that Woolf, an engineer, knew he could fix. The result: Morpher, a bike helmet made from interweaved plastics that is just as strong as its traditional counterparts (it meets general safety requirements in both the U.S. and Europe), but flexible enough to fold almost totally flat, making it easier to transport. Woolf recently shipped the first units to his Indiegogo backers, who helped raise almost \$300,000; he’s now in talks with stores too. “It’s inevitable that as more people take to the road on a bicycle, more people will have accidents,” Woolf says, adding that he hopes Morpher will save lives.



## A PERSONAL AIR PURIFIER

**WYND** / \$89

No matter where you live and work, you’re breathing in chemicals and pollutants, some more dangerous than others. And while changing that norm will take years, if not decades, of policy work, there are interim solutions. Among them: Wynd, a portable air filter—roughly the size of a water bottle—that creates a clean-climate bubble by sucking up pollutants in your immediate vicinity, including ones that can contribute to cancer and heart disease. “What we breathe matters,” says Ray Yu, creator of Wynd, which raised more than \$600,000 on Kickstarter and should be commercially available next year. “We want to enable everyone to enjoy a healthy environment, no matter where they live or travel.”

HELMET: LUCAS ZAREBINSKI FOR TIME; NANNY SHARING, AIR PURIFIER: ILLUSTRATIONS BY MARTIN GEE FOR TIME





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# OUT THERE.

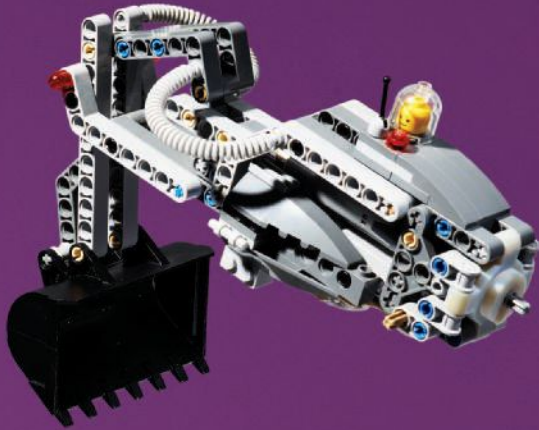
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FOR

# Life

THE BEST INVENTIONS SOLVING EVERYDAY PROBLEMS




Attachments such as a digger, a rocket ship and a superhand are all designed to enable creative play

## A PROSTHESIS THAT'S BUILT TO PLAY

IKO / DEVELOPED BY CARLOS ARTURO TORRES

By design, most prostheses aren't fun—they're built to fill a utilitarian need. And while that's fine for adults, who need to work, it can be tough on kids, who want to play along with their friends. Enter Iko, a prosthetic arm built by Carlos Arturo Torres to enable children to replace a lost limb with one that could have come from *Inspector Gadget*. When they need a hand, they have one. But they can replace it with any number of toy-like attachments, all of which are compatible with Lego products. (Torres developed the device while working at Lego's experimental Future Lab in Denmark.) Torres is still finalizing distribution details, but his larger hope is that Iko will destigmatize disability—like it did for 8-year-old Dario, an early tester. Before the test, one of Dario's friends told Torres he felt sorry for Dario, because there were things he couldn't do. That changed after the friend watched Dario use Iko. "I want one too," he said.

The hand attachment pops off with a simple turn-and-click mechanism



Torres says the arm may sell for \$5,400, a fraction of the cost of most prostheses

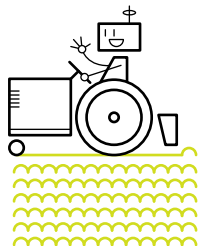




WHAT'S  
NEXT FOR  
**FARMING**

## SELF-DRIVING TRACTORS

*“Not only would they free up a lot of farmers’ time,” says Carlo Ratti, director of MIT’s Senseable City Lab, “but they would help create more diversity in the fields”—allowing farmers to disperse seeds in more complex and precise patterns, for example, so they would get more use out of their land.*



## THE ALL-PURPOSE SHELTER

**BETTER SHELTER** / CO-DEVELOPED BY THE  
IKEA FOUNDATION

Last year, Ikea made headlines when its philanthropic arm, the Ikea Foundation, helped launch Better Shelter, a line of temporary houses—equipped with features like door locks and solar panels—that could be shipped flat and assembled in under four hours, much like the retailer’s popular furniture. But now that the U.N. High Commissioner for Refugees has helped send more than 16,000 of these units all over the world, they’ve taken on a life of their own. Just as DIY experts have found ways to remodel Ikea staples into expensive-looking furniture, refugees and aid agencies are turning Better Shelter structures into hospitals, reception areas and more. In Greece and on its border with Macedonia, the shelters are being linked together and used as early-childhood-development centers; in Djibouti, their walls have been retrofitted with “air conditioners” (plastic bottles cut in half to facilitate air flow). Now designers are trying to revamp the Better Shelters to allow for even more flexibility. After all, says Johan Karlsson, managing director of the Ikea Foundation, “we cannot design a one-for-all shelter.”

*In Nepal’s Gorkha district, residents turned a Better Shelter structure into a primary health care clinic*



SELF-DRIVING TRACTOR: ILLUSTRATION BY MARTIN GEE FOR TIME; SHELTER: BETTER SHELTER; BULL: LUCAS ZARĘBSKI FOR TIME



*Flyte's LED bulbs  
last for up to  
50,000 hours*

## THE LEVITATING LIGHTBULB

FLYTE / \$349

Since he was a child, Simon Morris has been obsessed with making objects float in midair. At one point he even managed to turn a skateboard into a hoverboard, though as he recalls it, "I couldn't ride on it." Now he's applying that same passion to Flyte, a lightbulb that relies on electromagnetism to levitate and spin, and on resonant inductive coupling—a technical term for wireless power transmission—to shine. Morris sees his design as a seamless blend of science and art honoring both pragmatists, like Thomas Edison, and dreamers, like Nikola Tesla. And consumers appear to agree: Morris says Flyte has sold so well since its official January launch that his team is planning to introduce a whole ecosystem of floating products, including a planter, Lyfe, which debuted in June. "We're just scratching the surface," he says.



# A STRONGER, SOFTER HAIR DRYER

**DYSON SUPERSONIC** / \$399

James Dyson has famously streamlined all kinds of air-centric appliances, most notably vacuums and fans. Now he has set his sights on the hair dryer. Unlike traditional models, which Dyson dismisses as “noisy, heavy and not that fast,” the Supersonic does its job with remarkable efficiency. It’s quiet, thanks to a tiny, jet-engine-like motor that reaches 110,000 revolutions per minute (making it ultrasonic and therefore inaudible to the human ear). It’s fast, thanks to a design that multiplies air flow. And it’s consistently gentle, thanks to a sensor mechanism that keeps hot blown air at one of three exact degree settings. This is hair drying as Dyson thinks it should be, even if it comes at a cost. “We never design down to a price,” he says.

*The nozzle's core is hollow, which—thanks to Dyson's technology—helps amplify air flow*

*The motor is housed in the base, not the nozzle, which reduces the traditional weight imbalance*





## THE NO-TOUCH THERMOMETER

**ARC INSTATEMP** / \$40+

Anyone who has ever had a sick child knows what a hassle it can be to take someone's temperature using the traditional method—slipping a thermometer under her tongue, getting her to sit still for minutes at a time and hoping that whatever reading you get is accurate. That's why, in recent years, many brands have started to make no-touch thermometers, which use infrared technology to measure core body temperature quickly and precisely. But one model stands out both for its design and its efficacy: Arc's InstaTemp (and its more precise, clinical version, InstaTemp MD), which was recently approved by the FDA. Once the device is placed roughly an inch from a patient's forehead, it spits out a temperature in 2.5 seconds—coded red, yellow or green, depending on the reading. "If you can take a temperature this way, why would you do it any other way?" says Irwin Gross, CEO of Arc, which is marketing the InstaTemp devices to consumers and health care professionals alike. "We think this is the way all temperatures will be taken in the future."



## A CROWD-PLEASING ELECTRIC CAR

**CHEVROLET BOLT** / \$40,000



For most buyers, electric vehicles fall into two camps: too expensive (think the \$66,000 Tesla Model S) and too limited (the Nissan Leaf gets just 100 miles per charge). General Motors aims to bridge that gap with the Chevrolet Bolt, which touts crowd-pleasing features, like more than 200 miles of driving on a single charge, at a relatively low cost. "This is an opportunity to take electric cars mainstream," GM engineer Pamela Fletcher says of the Bolt, set to launch in December. One industry analyst estimates that GM could sell as many as 80,000 Bolts next year, which would boost the overall market by almost 67%—a small but significant step toward reducing our collective reliance on planet-warming fossil fuels.

FOR

# play

THE BEST INVENTIONS HELPING US HAVE MORE FUN

## SHOES THAT TIE THEMSELVES

NIKE HYPERADAPT 1.0 / \$720

Almost everyone who sees *Back to the Future* wants three things: a time-traveling DeLorean, a working hoverboard and a pair of self-lacing shoes. Now, thanks to Nike, the shoe dream is a reality. When wearers press a button near the tongue, the HyperAdapt 1.0s automatically tighten and loosen around their foot. And although this technology may sound frivolous, it's not just for kicks: simplified shoe fastening could give athletes an edge during competition, and it's especially useful for people with impaired motor function. "We're already seeing powerful feedback" from the disabled community, says Tinker Hatfield, Nike's vice president of design and special projects.

While they do have laces, the shoes rely on tiny internal cables and a pressure sensor to get a grip on your feet



*Apple delayed the AirPods' launch, initially set for October, but analysts expect production to start very soon*



## HEADPHONES THAT MAKE WIRELESS COOL

**APPLE AIRPODS** / \$159

Apple has a history of changing the technological status quo, from digitizing music to making phone screens touch-sensitive. So when the tech titan announced that its iPhone 7 would not have a 3.5-mm headphone jack, which has been standard on most audio gadgets for decades, it also previewed a compelling alternative. Unlike many of their Bluetooth predecessors, Apple's AirPods not only have microphones (enabling you to control your phone via Siri) but also can detect when they're in your ears—allowing you to automatically pause music, for example, if you pop one out to have a conversation. But their most convenient feature may be automatically pairing with an iPhone, which eliminates the need to dig through settings menus.



WHAT'S  
NEXT FOR  
**ENTERTAINMENT**

### RESPONSIVE CLOTHING

*Forget smell-o-vision. The next dimension of entertainment is clothes that "send feelings," says Lisa White of the trend-forecasting firm WGSN. Examples include a football jersey that brushes against you when a player gets hit, or a sweatshirt that "hugs" your child.*



## THE SPEAKER THAT SPEAKS BACK

**AMAZON ECHO** / \$180

Echo may look like a standard Bluetooth speaker, but at its core lies one of modern society's holy grails: the ability to talk to your tech. This isn't a new idea; Apple's Siri and Microsoft's Cortana have been around for years. But in many ways, Amazon's version, Alexa, which is embedded in Echo, is more powerful. Since its 2014 launch, Amazon has greatly expanded Alexa's functionality; it's now integrated with dozens of third-party apps, enabling you to call a car (via Uber), turn off lights (via Philips Hue bulbs, among others) or even order pizza (via Domino's). And Amazon appears determined to keep its edge. It recently launched a junior version of the Echo (the \$50 Echo Dot), and it's working to make Alexa even more intuitive. "We don't want to teach someone how to speak to Alexa," says Daren Gill, who heads product and customer experience for Alexa. "They should be able to just speak the way they naturally do."



# for play

THE 25 BEST INVENTIONS OF 2016



## BARBIES THAT LOOK MORE LIKE REAL GIRLS

MATTEL BARBIE DOLLS / \$10 EACH

For 57 years, the world's most famous doll has been stick-thin, setting an unrealistic—and, studies show, damaging—beauty standard for generations of young women. That all changed in January when Mattel, faced with slumping sales, decided to make Barbie look more like the girls who play with her. Although the original doll still exists, she now has three additional body types (petite, tall and curvy)—a shift that has boosted global sales of the Barbie Fashionista brand by 44%. Of course, society is still a long way from solving its body-image issues; that's "a heavy burden for [Barbie's] tiny shoulders," says Robert Best, a Barbie designer. But the new shapes, along with the new skin tones and hair textures introduced last year, are undeniably a step in the right direction.



## SOCCER FIELDS THAT FIT ANYWHERE

THE UNUSUAL FOOTBALL FIELD / DEVELOPED BY AP THAILAND

The Khlong Toei district in the heart of Bangkok is packed tight with buildings and people—which doesn't leave much room to build new parks, let alone giant rectangular fields on which kids can play soccer. So real estate firm AP Thailand took a different approach. As part of a recent project, the company used aerial photography to find what developer Pattaraphurit Rungjaturapat calls "untended areas," or unusually shaped patches of land that weren't being used. Then it covered them with concrete, paint and anti-slip materials—all the trimmings of a proper sports venue, without the typical boundaries. Not that locals seem to mind: Rungjaturapat says the first two fields (above), which opened earlier this year, are packed with kids as soon as school lets out. This December, AP Thailand plans to open a third.



## A BRACELET THAT HELPS KIDS GIVE BACK

UNICEF KID POWER BAND / \$40

One in four American children doesn't get enough exercise, and 1 in 4 children globally doesn't get enough food. UNICEF's Fitbit-like Kid Power Band aims to address both problems at once. Its mobile app encourages kids to be physically active with videos from stars like Pink and Alex Morgan. Once they meet step goals, it awards them points, which translate to real food packages that UNICEF sends to malnourished children all over the globe (funded in part by sales of the device). The band "allows kids to feel like they can change the world," says Rajesh Anandan, who co-created it. Since Kid Power Band's soft launch in 2014, participants have collectively walked over 7 million miles to feed more than 30,000 severely malnourished children.

SOCCER: AP THAILAND; BARBIE DOLLS: KID POWER BANDS: LUCAS ZAREBSKI FOR TIME



# Cloud Optimized SERVER AND STORAGE SOLUTIONS



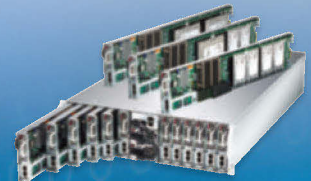
1U Ultra  
10 NVMe



2U Simply Double  
48 NVMe



60 Bay Storage  
Support for 6 NVMe



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Supports to 24 NVMe in 3U



6U MicroBlade  
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**WE SET OUT  
TO FIND  
IMAGES THAT  
CHANGED  
THE WORLD.  
ALONG THE  
WAY, WE  
UNEARTHED  
INCREDIBLE  
STORIES OF  
HOW THEY  
WERE MADE**

# **MOST INFUENTIAL PHOTOS**

◀ *Twelve of the 26 negatives Philippe Halsman took to create Dali Atomicus*

WE BEGAN THIS PROJECT WITH WHAT SEEMED LIKE A straightforward idea: assemble a list of the 100 most influential photographs ever taken. If a picture led to something important, it would be considered for inclusion. From that simple concept flowed countless decisions. Although photography is a much younger medium than painting—the first photo is widely considered to date from 1826—the astonishing technological advances since its beginning mean that

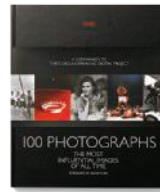
there are now far more pictures taken on any given day than there are canvases in all the world's galleries and museums. In 2016 alone, hundreds of billions of images were made.

How do you narrow a pool that large? You start by calling in the experts. We reached out to curators, historians and photo editors around the world for suggestions. Their thoughtful nominations whittled the field, and then we asked TIME reporters and editors to see whether those held up to scrutiny. That meant conducting thousands of interviews with the photographers, picture subjects, their friends, family members and others—anywhere the rabbit holes led. It was an exhaustive process that unearthed some incredible stories that we are proud to tell for the first time. You'll find a selection in the pages ahead. The complete collection can be found in TIME's new book, *100 Photographs: The Most Influential Images of All Time*, as well as on our multimedia site [time.com/100photos](http://time.com/100photos), where you can view original documentary films about key works.

There is no formula that makes a picture influential, and a list about influence necessarily leaves off its fair share of iconic pictures and important photographers. A survey class in great photographers would surely include Ansel Adams. And yet no single one of the pictures Adams took inside Yosemite—majestic as they are—could rival in influence Carleton Watkins' work (*page 84*), which led to the creation of the park. Some images are on our list because they were the first of their kind, others because they shaped the way we think. And some made the cut because they directly changed the way we live. What all 100 share is that they are turning points in our human experience.

**PHOTOGRAPHY WAS BORN** of a great innovation and is constantly reshaped by new ones. So it is fitting that our definition of an influential photo changes along with the ways pictures are taken and seen. The world first saw Abraham Zapruder's haunting images of John F. Kennedy's assassination not as a moving picture but as a series of frame-by-frame stills published in LIFE magazine. Before televisions were in every home, the photos that ran in LIFE influenced how a lot of people understood their world. When Philippe Kahn rigged his cell phone to take a picture of his newborn daughter nearly 20 years ago (*page 90*), he could scarcely imagine that his invention would change the world.

Now everyone is a photographer, a publisher and a consumer. This has largely been to the good. Our connection with photography is more personal and immediate than ever—that it took several days and multiple flights for Robert Capa's pic-



▲  
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**The 100 Photographs project was curated and edited by:**

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Director of photography and visual enterprise

**Paul Moakley**  
Deputy director of photography and visual enterprise

**Ben Goldberger**  
Nation editor

tures of the D-Day landings to see the light of day seems impossible when today our social-media feeds are bursting with images from every corner of the globe. But the digital revolution has made quantifying influence a particular challenge. Likes and shares are a very real metric, but are they enough? And what of a picture that was never published in a traditional way? Unless you are in viral marketing, there is nothing to admire in the poorly framed, celebrity-packed selfie organized by Ellen DeGeneres at the Oscars in 2014 (*page 90*). Yet the photo's astounding reach through social media makes it one of the most seen images of all time.

In the process of putting together this list, we noticed that one aspect of influence has largely remained constant throughout photography's nearly two centuries: the photographer has to be there. The best photography is a form of bearing witness, a way of bringing a single vision to the larger world. That was as true for Alexander Gardner when he took his horse-pulled darkroom to the Battle of Antietam in 1862 as it was for David Guttenfelder when he became the first professional photographer to post directly to Instagram from inside North Korea in 2013.

James Nachtwey—the photographer who made the deeply moving image *Famine in Somalia* (*page 80*), among many, many others—has dedicated his life to being there. As he puts it, “You keep on going, keep on sending the pictures, because they can create an atmosphere where change is possible. I always hang on to that.”

—BEN GOLDBERGER





**'WHAT'S A MEETING THAT ISN'T PHOTOGRAPHED BY SALOMON?  
PEOPLE WON'T BELIEVE IT'S IMPORTANT AT ALL!'**

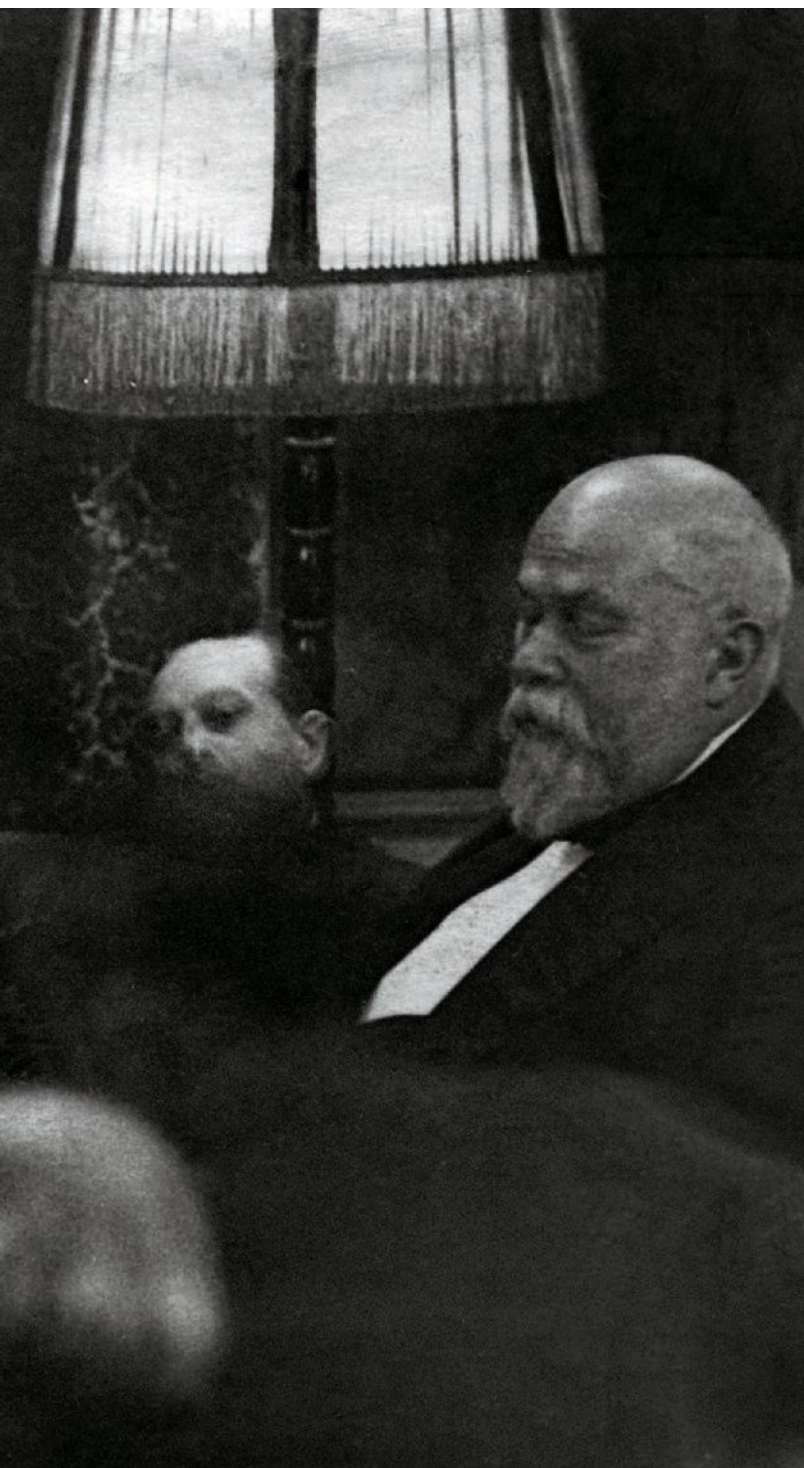
*—Aristide Briand, Prime Minister of France*



▲

The Hague

Erich Salomon, 1930



BPK/SALOMON/ULLSTEIN BILD VIA GETTY IMAGES

# The first behind- the- scenes political photo

Portly statesmen have long gathered to weigh the fate of nations, with cigars and brandy at the ready. But they were always sequestered far from prying eyes. German photojournalist Erich Salomon changed all that, slipping into those smoke-filled back rooms with a small Leica camera built to shoot in low light. Nowhere was his skill on greater display than during a 1930 meeting in the Hague over German World War I reparations. There, at 2 a.m., Salomon candidly shot exhausted Foreign Ministers after a long day of negotiations. The picture created a sensation when it was published in the London *Graphic*. For the first time, the public could look through the doors of power and see world leaders with their guard down. Salomon, who later died in Auschwitz, had created backstage political photojournalism.

Michael  
Jordan

“Co”  
Rentmeester,  
1984

# The image that made an icon

It may be the most famous silhouette ever photographed. Shooting Michael Jordan for LIFE magazine in 1984, Jacobus “Co” Rentmeester captured the basketball star soaring through the air for a dunk, legs split like a ballet dancer’s and left arm stretched to the stars. A beautiful image but one unlikely to have endured had Nike not devised a logo for its young star that bore a striking resemblance to the photo. Seeking design inspiration for its first Air Jordan sneakers, Nike paid Rentmeester \$150 for temporary use of his slides from the LIFE shoot. Soon the “Jumpman” logo was etched onto shoes, clothing and bedroom walls around the world, eventually becoming one of the most popular commercial icons of all time.

With Jumpman, Nike created the concept of athletes as valuable commercial properties unto themselves. The Air Jordan brand, which today features other superstar pitchmen, earned \$3.2 billion in 2014. Rentmeester, meanwhile, sued Nike for copyright infringement. The case was dismissed, but Rentmeester has appealed. No matter the outcome, his image captures the ascendance of sports celebrity into a multibillion-dollar business, and it’s still taking off.

‘IT’S  
GOTTA  
BE THE  
SHOES.’

—Nike  
commercial







Dalí  
Atomicus

Philippe Halsman,  
1948

## A portrait like no other

**'BEFORE  
THERE WAS  
PHOTOSHOP,  
THERE WAS  
PHILIPPE.'**

—Irene Halsman,  
daughter of  
Philippe Halsman

Capturing the essence of his subjects was Philippe Halsman's lifework. So when Halsman set out to shoot the Surrealist painter Salvador Dalí, his friend and longtime collaborator, he knew a simple seated portrait would not suffice. Inspired by Dalí's painting *Leda Atomica*, Halsman created an elaborate scene to surround the artist that included the original work, a floating chair and an in-progress easel suspended by thin wires. Assistants, including Halsman's wife and young daughter Irene, stood out of the frame and, on the photographer's count, threw three cats and a bucket of water into the air while Dalí leaped. It took the assembled cast 26 takes to capture a composition that satisfied Halsman. And no wonder. The final result, published in LIFE magazine, evokes Dalí's own work. The artist even painted an image directly onto the print before publication.

Before Halsman, portrait photography was often stilted and softly blurred, with a clear sense of detachment between the photographer and the subject. Halsman's approach, which brought people such as Albert Einstein, Marilyn Monroe and Alfred Hitchcock into sharp focus as they moved before the camera, imbued a staid form with action, redefining portrait photography and inspiring generations of photographers to collaborate with their subjects.

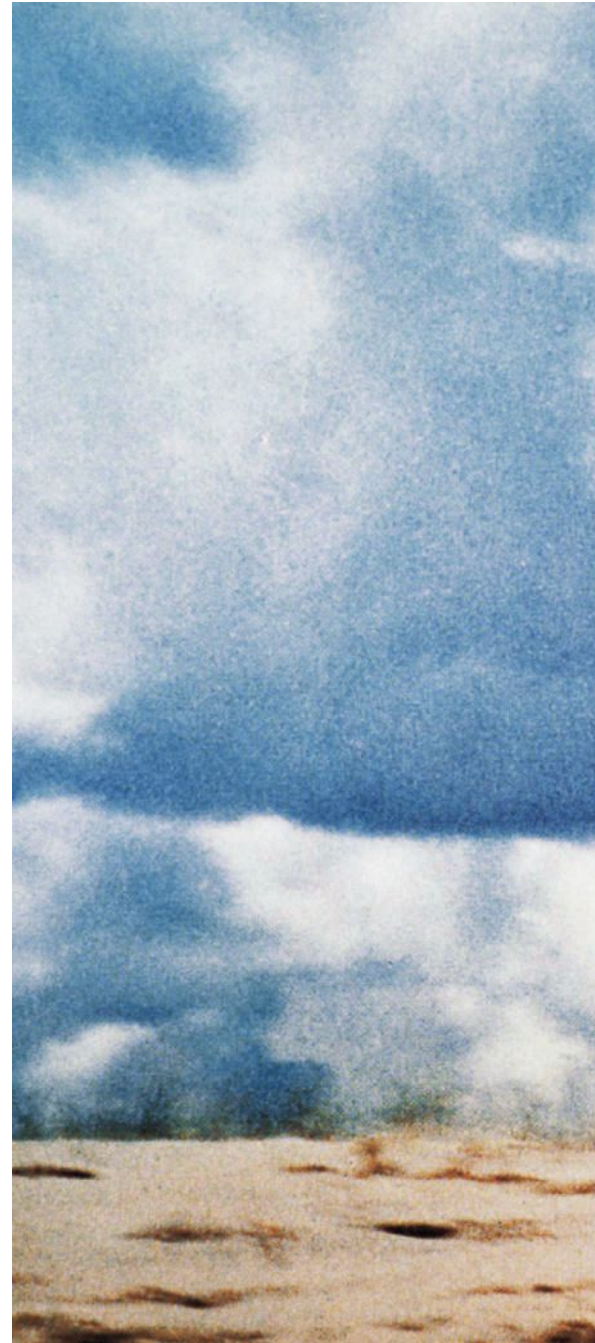
► To watch  
an original  
documentary  
about this photo,  
visit [time.com/  
DaliAtomicus](http://time.com/DaliAtomicus)

# The ultimate appropriation

The idea for the project that would challenge everything sacred about ownership in photography came to Richard Prince when he was working in the tear-sheet department at Time Inc. While he literally deconstructed the pages of magazines for the archives, Prince's attention was drawn to the ads that appeared alongside articles. One in particular caught his eye: the macho image of the Marlboro Man riding a horse under blue skies. And so, in a process he came to call "rephotography," Prince took pictures of the ads and cropped out the type, leaving only the iconic cowboy and his surroundings. That Prince didn't take the original picture meant little to collectors. In 2005, *Untitled (Cowboy)* sold for \$1.2 million at auction, then the highest publicly recorded price for the sale of a contemporary photograph. Others were less enthusiastic. Prince was sued by a photographer for using copyrighted images, but the courts ruled largely in Prince's favor. That wasn't his only victory. Prince's rephotography helped create a new art form—photography of photography—that foreshadowed the era of digital sharing and upended our understanding of a photo's authenticity and ownership.



▲  
*The original Marlboro cigarette  
ad that Richard Prince  
turned into his controversial  
Untitled (Cowboy)*



▲  
*Untitled (Cowboy)*  
**Richard Prince, 1989**



► To watch an original documentary about this photo, visit [time.com/cowboy](http://time.com/cowboy)



**'I WAS TRYING TO AVOID ANY REFERENCE TO THE FACT THAT I WAS ACTUALLY COPYING A PAGE FROM A MAGAZINE, OR THE DOT PATTERN, THE PRINTED QUALITY. I WAS TRYING TO MAKE THE PHOTOGRAPH AS MUCH MINE AS POSSIBLE.'**

**—Richard Prince**



**'I ALSO WAS THINKING IF I GET A PICTURE OF THIS,  
AT LEAST PEOPLE WILL BELIEVE THAT IT REALLY HAPPENED.'**

—Donna Ferrato



▲  
Behind  
Closed Doors

Donna Ferrato,  
1982

► To watch an original  
documentary about this  
photo, visit [time.com/  
DomesticViolence](http://time.com/DomesticViolence)

# The photo that brought domestic violence out of the shadows

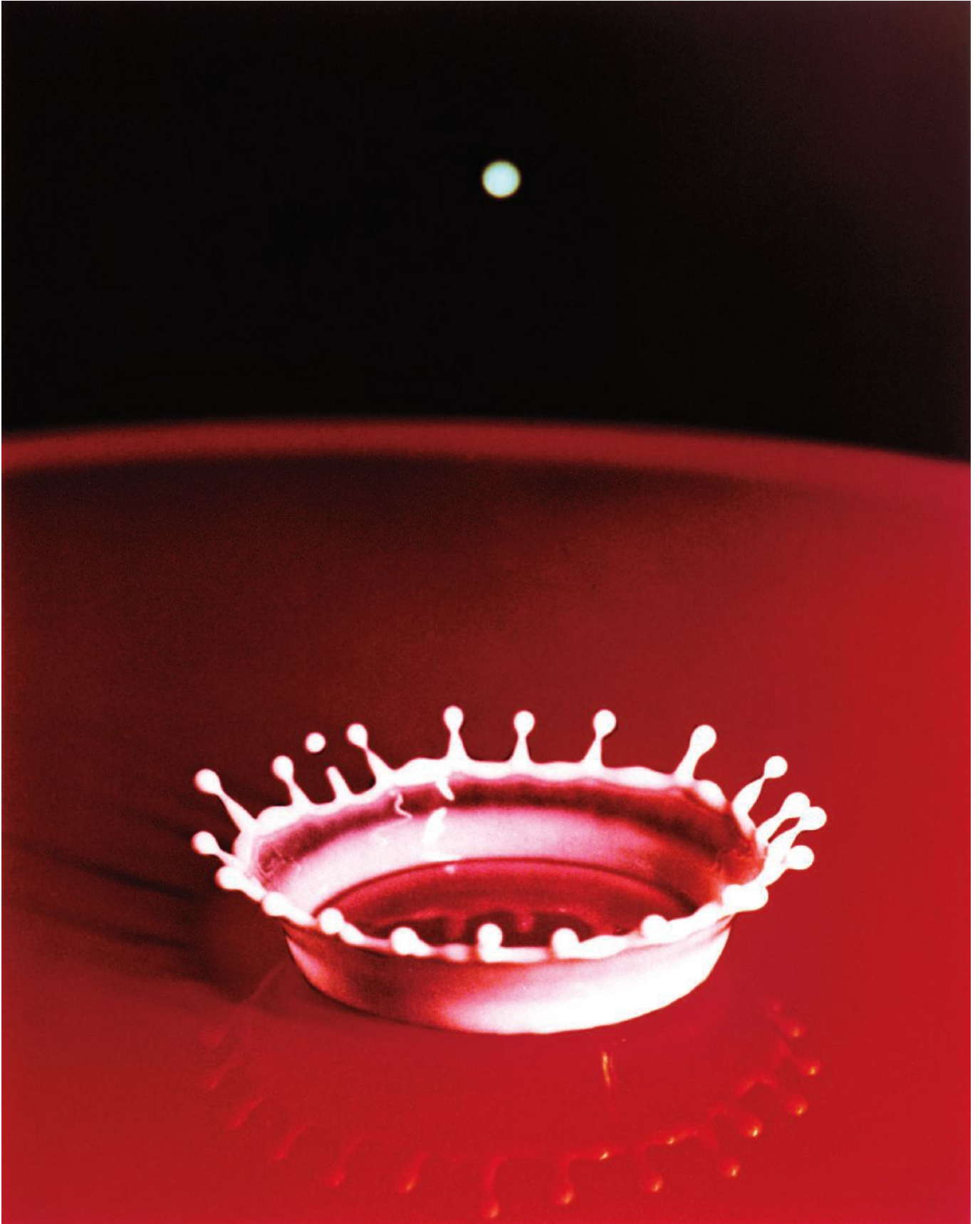
There was nothing particularly special about Garth and Lisa or the violence that happened in the bathroom of their suburban New Jersey home one night in 1982. Enraged by a perceived slight, Garth beat his wife while she cowered in a corner. Such acts of partner violence are not uncommon, but they usually happen in private. This time, another person was in the room: photographer Donna Ferrato.

Ferrato, who had come to know the couple through a photo project on wealthy swingers, knew that simply bearing witness wasn't enough. Her shutter clicked again and again. She approached magazine editors to publish the images, but all refused. So Ferrato did it herself, in her 1991 book *Living With the Enemy*. The landmark volume chronicles episodes of domestic violence and their aftermath, including those of the pseudonymous Lisa and Garth. Their real names are Elisabeth and Bengt; his identity was revealed for the first time as part of this project. Ferrato also captured incidents and victims while living inside women's shelters and trailing police. Her work helped bring violence against women out of the shadows and forced policymakers to confront the issue. In 1994, Congress passed the Violence Against Women Act, increasing penalties against offenders and helping train police to treat it as a serious crime. Thanks to Ferrato, a private tragedy became a public cause.



► Elisabeth, who was identified by the pseudonym Lisa in the image above, photographed by Ferrato in 2015. She became a domestic-violence activist after ending her abusive relationship







**'SECONDS. THERE IT IS. SOMETIMES IT'S NO USE AT ALL. SOMETIMES IT'S TREMENDOUS VALUE.'**

—Harold Edgerton

# The image that stopped time

Before Harold Edgerton rigged a milk dropper next to a timer and a camera of his own invention, it was virtually impossible to take a good photo in the dark without bulky equipment. It was similarly hard to photograph a fleeting moment. But in the 1950s in his lab at MIT, Edgerton was tinkering with a process that would change the future of photography. There the electrical-engineering professor combined high-tech strobe lights with camera shutter motors to capture moments imperceptible to the naked eye. *Milk Drop Coronet*, his revolutionary stop-motion photograph, freezes the impact of a drop of milk on a table, a crown of liquid discernible to the camera for only a millisecond. The picture proved that photography could advance human understanding of the physical world, and the technology Edgerton used to take it laid the foundation for the modern electronic flash.

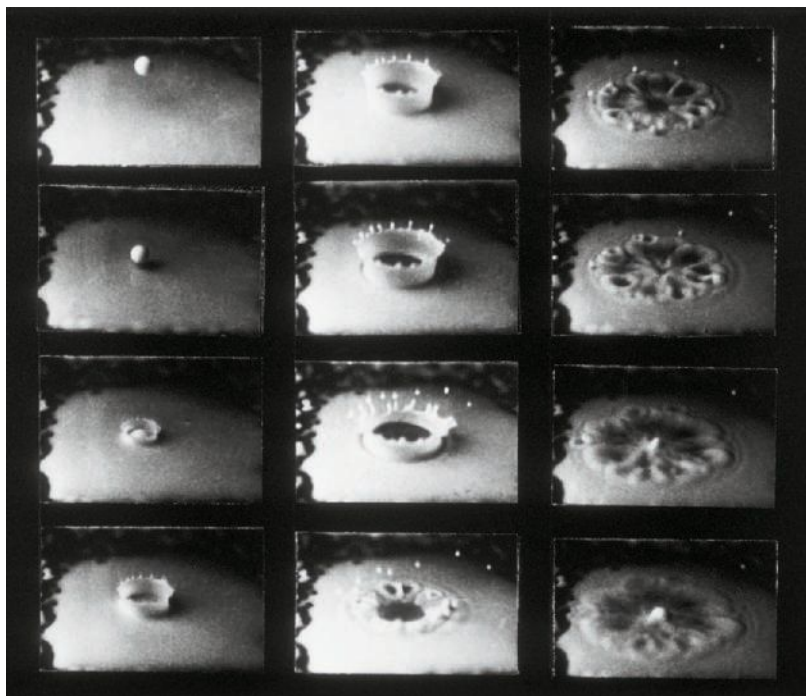
Edgerton worked for years to perfect his milk-drop photographs, many of which were black and white; one version was featured in the first photography exhibition at New York City's Museum of Modern Art, in 1937. And while the man known as Doc captured other blink-and-you-missed-it moments, like balloons bursting and a bullet piercing an apple, his milk drop remains the quintessential example of photography's ability to make art out of evidence.

## ◀ Milk Drop Coronet

Harold Edgerton,  
1957

▶ To watch an original documentary about this photo, visit [time.com/MilkDrop](http://time.com/MilkDrop)

▶ A series of high-speed images of a milk drop falling on a plate of milk, likely from 1933, from Edgerton's early experiments with photo technology



**'IF PEOPLE ARE IN NEED, OR IF THEY ARE SUFFERING, IT DOES NOT MEAN THEY DON'T EXPRESS DIGNITY.'**

—James Nachtwey

## Famine in Somalia

James Nachtwey, 1992

# How a picture can save 1.5 million lives

James Nachtwey says he couldn't get an assignment in 1992 to document the spiraling famine in Somalia. Mogadishu had become engulfed in armed conflict as food prices soared and international assistance failed to keep pace. Yet few in the West took much notice, so the American photographer went on his own to Somalia, where he received support from the International Committee of the Red Cross (ICRC). Nachtwey brought back a cache of haunting images, including this scene of a woman waiting to be taken in a wheelbarrow to a feeding center. After it was published as part of a cover feature in the *New York Times Magazine*, one reader wrote, "Dare we say that it doesn't get any worse than this?" The world was similarly moved. The Red Cross said public support resulted in what was then its largest operation since World War II. One and a half million people were saved, the ICRC's Jean-Daniel Tauxe told the *Times*, and "James' pictures made the difference."





▲ Alan Kurdi

Nilüfer Demir,  
2015

## The photograph that opened borders

The war in Syria had been going on for more than four years when Alan Kurdi's parents lifted the 3-year-old boy and his 5-year-old brother into an inflatable boat and set off from the Turkish coast for the Greek island of Kos, just three miles away. But within minutes after they pushed off, a wave capsized the vessel, and the mother and both sons drowned. On the shore near the coastal town of Bodrum a few hours later, Nilüfer Demir of the Dogan News Agency came upon Alan, his face turned to one side and bottom elevated as if he were just asleep. "There was nothing left to do for him. There was nothing left to bring him back to life," she said. So Demir raised her camera. "I thought, This is the only way I can express the scream of his silent body."

The resulting image became the defining photograph of an ongoing war that had killed some 220,000 people by the time Demir pressed her shutter. Yet it wasn't taken in Syria, a country the world preferred to ignore, but on the doorstep of Europe, where its refugees were heading. Dressed for travel, the child lay between one world and another; waves had washed away any chalky brown dust that might locate him in a place foreign to Westerners' experience. The Kurdis sought that experience for themselves, joining a migration fueled as much by aspiration as desperation. The family had already escaped bloodshed when they arrived in Turkey; they died trying to reach a better life.

Demir's image whipped around social media within hours, accumulating potency with every share. News organizations were compelled to publish it—or publicly defend their decision not to. European governments were persuaded to open closed frontiers. Within a week, trainloads of Syrians were arriving in Germany to cheers, as a war lamented but not felt suddenly brimmed with emotions unlocked by a picture of one small, still form.

**'AS A FATHER, I FELT DEEPLY MOVED BY THE SIGHT OF THAT YOUNG BOY ON A BEACH IN TURKEY.'**

—David Cameron,  
then British  
Prime Minister



# The photo that proved a black life matters

In August 1955, Emmett Till, a black teenager from Chicago, was visiting relatives in Mississippi when he stopped at Bryant's Grocery and Meat Market. There he encountered Carolyn Bryant, a white woman. Whether Till really flirted with Bryant or whistled at her isn't known. But what happened four days later is. Bryant's husband Roy and his half brother, J.W. Milam, seized the 14-year-old from his great-uncle's house. The pair then beat Till, shot him, strung barbed wire and a 75-lb. metal fan around his neck and dumped the lifeless body in the Tallahatchie River. A white jury quickly acquitted the men, with one juror saying it had taken so long only because they had to break to drink some pop.

When Till's mother Mamie came to identify her son, she told the funeral director, "Let the people see what I've seen." She brought him home to Chicago and insisted on an open casket. Tens of thousands filed past Till's remains, but it was the publication of the searing image in *Jet*, with a stoic Mamie gazing at her murdered child's ravaged body, that forced the world to reckon with the brutality of American racism. For almost a century, African Americans were lynched with regularity and impunity. Now, thanks to a mother's determination to expose the barbarousness of the crime, people could no longer pretend to ignore what they couldn't see.



▲  
*David Jackson photographing Emmett Till's  
mutilated body in 1955*

Emmett  
Till ▶

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**David Jackson,**  
1955

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▶ To watch  
an original  
documentary  
about this photo,  
visit [time.com/  
EmmettTill](http://time.com/EmmettTill)



**'WHEN PEOPLE SAW WHAT HAD HAPPENED TO MY SON,  
MEN STOOD UP WHO HAD NEVER STOOD UP BEFORE.'**

**—Mamie Till-Mobley**





▲  
Earthrise

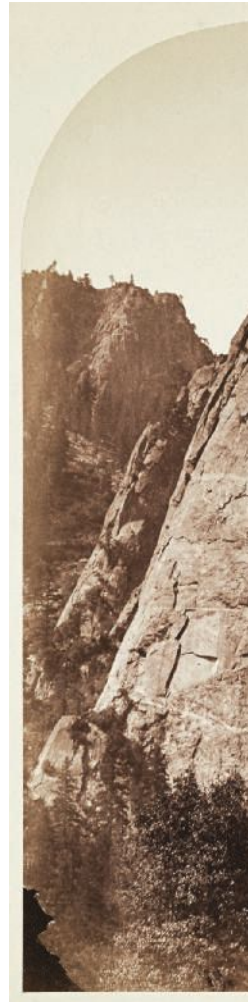
**William Anders, NASA,**  
December  
1968

## Our world in living color

It's never easy to identify the moment a hinge appears in history. When it comes to humanity's first true grasp of the beauty, fragility and loneliness of our world, however, we know the precise instant. It was on Dec. 24, 1968, exactly 75 hr. 48 min. 39 sec. after the Apollo 8 spacecraft lifted off from Cape Canaveral en route to becoming the first manned mission to orbit the moon. Astronauts Frank Borman, Jim Lovell and Bill Anders entered lunar orbit on Christmas Eve of what had been a bloody, war-torn year for America. At the beginning of the fourth of 10 orbits, their spacecraft was emerging from the far side of the moon when a view of the blue-white planet filled one of the side windows. "Oh my God! Look at that picture over there! Here's the Earth coming up. Wow, is that pretty!" Anders exclaimed. He snapped a picture—in black and white. Lovell scrambled to find a color canister. "Well, I think we missed it," Anders said. Lovell looked through windows three and four. "Hey, I got it right here!" he exclaimed. A weightless Anders shot to where Lovell was floating and fired his Hasselblad. "You got it?" Lovell asked. "Yep," Anders answered. The image—our first full-color view of our planet from off of it—helped launch the environmental movement, letting human beings see that in a cold and punishing cosmos, Earth is something truly extraordinary.

**'IT WAS THE FIRST TIME THAT PEOPLE ACTUALLY KNEW WHAT THE EARTH LOOKED LIKE.'**

—William Anders



▲  
Cathedral Rock,  
Yosemite

**Carleton Watkins, 1861**





**'A PERFECTION OF ART  
WHICH COMPARES  
WITH THE FINEST  
EUROPEAN WORK.'**

—*Oliver Wendell Holmes Sr.*



# The image that created the national parks

Decades before Ansel Adams ever saw Yosemite's jagged peaks, Carleton Watkins packed his mammoth plate camera, tripods and a makeshift tent darkroom onto mules and ventured into the remote California valley. When he returned, Watkins had 130 negatives that offered the first widely printed images of Yosemite's towering masses, glacial geology and jaw-dropping expanse. The photos, including Watkins' intimate view of the majestic Cathedral Rock, floored the growing nation's power brokers. John Conness, a U.S. Senator from California, owned a set of the prints and became an evangelist for the work. On June 30, 1864, President Abraham Lincoln signed into law the Yosemite Grant Act, laying the foundation for the National Park System. Today the system protects some 84 million acres of land for public use.

▲  
*Four of 30 mammoth plate  
photos from Watkins'  
portfolio of the Yosemite  
Valley, which are said to  
have inspired Abraham  
Lincoln to make Yosemite  
a national park*

Ron Galella,  
October 1971

# The perfect paparazzi moment

People simply could not get enough of Jacqueline Kennedy Onassis, the beautiful young widow of the slain President who married a fabulously wealthy Greek shipping tycoon. She was a public figure with a tightly guarded private life, which made her a prime target for the photographers who followed wherever she went. And none were as devoted to capturing the former First Lady as Ron Galella. One of the original freewheeling celebrity shooters, Galella created the model for today's paparazzi with a follow-and-ambush style that ensnared everyone from Michael Jackson and Sophia Loren to Marlon Brando, who so resented Galella's attention that he knocked out five of the photographer's teeth. But Galella's favorite subject was Jackie O., whom he shot to the point of obsession. It was Galella's relentless fixation that led him to hop in a taxi and trail Onassis after he spotted her on New York City's Upper East Side in October 1971. The driver honked his horn, and Galella clicked his shutter just as Onassis turned to look in his direction. "I don't think she knew it was me," he recalled. "That's why she smiled a little." The picture, which Galella proudly called "my Mona Lisa," exudes the unguarded spontaneity that marks a great celebrity photo. "It was the iconic photograph of the American celebrity aristocracy, and it created a genre," says writer Michael Gross. The image also tested the blurry line between newsgathering and the personal rights of a public figure. Onassis, who resented the constant attention, was twice embroiled in court with Galella and eventually got him barred from photographing her family. No shortage of others followed in his wake.

**'ON THE CORNER, I DID A BRILLIANT THING. I TOOK A TAXI BECAUSE YOU HAVE TO HIDE TO GET THE OFF-GUARD PICTURE.'**

—Ron Galella



▲  
Galella photographs Jackie Onassis on Oct. 7, 1971, in New York City

▶ To watch an original documentary about this photo, visit [time.com/WindblownJackie](http://time.com/WindblownJackie)







**'I DIDN'T KNOW THAT IT WAS GOING TO BE THE PHOTO THAT CHANGED HOW PEOPLE LOOKED AT AIDS.'** —*Therese Frare*



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► To watch an original documentary about this photo, visit [time.com/AIDS](https://www.time.com/AIDS)

# The picture that humanized AIDS

David Kirby died surrounded by his family. But Therese Frare's photograph of the 32-year-old man on his deathbed did more than just capture the heartbreaking moment. It humanized AIDS, the disease that killed Kirby, at a time when it was ravaging people largely out of public view. Frare's photograph, published in LIFE magazine in 1990, showed how the widely misunderstood disease devastated more than just its victims. It would be another year before the red ribbon became a symbol of compassion and resilience, and three years before President Bill Clinton created a White House Office of National AIDS Policy. By then, the clothing company Benetton had used a colorized version of Frare's photograph in a series of provocative ads. Many magazines refused to run it, and a range of groups called for a boycott. But Kirby's family consented to its use, believing that the ad helped raise critical awareness about the disease at a moment when it was still uncontrolled and sufferers were lobbying the federal government to speed the development of new drugs. "We just felt it was time that people saw the truth about AIDS," Kirby's mother Kay said. Thanks to Frare's image, they did.



▲  
The Face  
of AIDS

Therese Frare,  
1990



▲  
*A colorized version of Frare's image was used in a Benetton ad campaign in 1992, increasing its exposure while sparking a heated debate*





# The moment that made us all photographers

Boredom can be a powerful incentive. In 1997, Philippe Kahn was stuck in a Northern California maternity ward with nothing to do. The software entrepreneur had been shooed away by his wife while she gave birth to their daughter Sophie. So Kahn, who had been tinkering with technologies that share images instantly, jerry-built a device that could send a photo of his newborn to friends and family—in real time. As with any invention, the setup was crude: a digital camera connected to his flip-top cell phone, synched by a few lines of code he'd written on his laptop in the hospital. But the effect of it has transformed the world.

Kahn's device captured his daughter's first moments and transmitted them instantly to more than 2,000 people. He soon refined his ad hoc prototype, and in 2000, Sharp used his technology to release the first commercially available integrated camera phone, in Japan. The phones were introduced to the U.S. market a few years later and soon became ubiquitous. Kahn's invention forever altered how we communicate and perceive and experience the world, and laid the groundwork for smartphones and photo-sharing applications like Instagram and Snapchat. Phones are now used to send hundreds of millions of images around the world every day—including a fair number of baby pictures.

▲  
First  
Cell-Phone  
Picture

---

Philippe Kahn,  
1997

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**'THE  
CAMERA  
PHONE WAS  
BORN IN  
SANTA  
CRUZ ON  
JUNE 11,  
1997,  
AT THE  
SUTTER  
MATERNITY  
CLINIC.'**

—Philippe Kahn





**'IT WAS THIS INCREDIBLE MOMENT OF SPONTANEITY THAT I WILL NEVER FORGET. AND THANKS TO THE SELFIE, NEITHER WILL ANYONE ELSE.'**

—Ellen DeGeneres

MOST  
INFLUENTIAL  
PHOTOS



▲  
Oscars Selfie

Bradley Cooper,  
2014

## **The world's most valuable selfie**

It was a moment made for the celebrity-saturated Internet age. In the middle of the 2014 Oscars, host Ellen DeGeneres waded into the crowd and corralled some of the world's biggest stars to squeeze in for a selfie. As Bradley Cooper held the phone, Meryl Streep, Brad Pitt, Jennifer Lawrence and Kevin Spacey, among others, pressed their faces together and mugged. But it was what DeGeneres did next that turned a bit of Hollywood levity into a transformational image. After Cooper took the picture, DeGeneres immediately posted it on Twitter, where it was retweeted over 3 million times, more than any other photo in history.

It was also an enviable advertising coup for Samsung. DeGeneres used the company's phone for the stunt, and the brand was prominently displayed in the program's televised "selfie moment." Samsung has been coy about the extent of the planning, but its public relations firm acknowledged that the photo's value could be as high as \$1 billion. That would never have been the case were it not for our increasing connectivity and the ever more important role images play in our lives.

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# Time Off



2016

## HOLIDAY FILM PREVIEW

**DRAMA:** *The true story of the black scientists who plotted America's journey into space*

**ACTION:** *The next Star Wars explores a multicultural universe* **COMEDY:** *Hailee Steinfeld puts a fresh spin on the teen dream* **FAMILY:** *Eddie Redmayne introduces us to fantastic beasts*

PHOTOGRAPH BY NINO MUÑOZ





AMERICAN VOICES

## HIDDEN FIGURES CALCULATES THE SUM OF A STORY UNTOLD

By Eliza Berman

KATHERINE JOHNSON WAS ALWAYS RUNNING. SHE RAN, several times a day, the half mile from her desk at NASA to the “colored ladies” restroom on the other side of Virginia’s Langley Research Center, toting binders full of calculations so as not to lose precious time that—this being the height of the space race—the Soviets no doubt were using well. She ran around her home, chasing three daughters whose father had died of a brain tumor. And she ran, on a February afternoon in 1962, from the West Area Computing Unit back to Mission Control when John Glenn refused to take off on his orbit around Earth until Johnson, and only Johnson, double-checked his launch calculations.

When Taraji P. Henson, who plays the sprinting space scientist, read the script for *Hidden Figures*, Theodore Melfi’s drama about the black female mathematicians, engineers and programmers who helped get Americans into space, her knee-jerk reaction was anger. “I was like, What?” she recalls. “I’m 46, I went to college, and I don’t know this?” Henson’s co-stars—Janelle Monáe, who plays engineer Mary Jackson, and Octavia Spencer, who plays supervisor Dorothy Vaughan—both assumed they were reading a work of fiction.

“It’s cognitive dissonance,” says Spencer. “Black women being recruited to work as mathematicians at NASA’s southern

^  
Henson,  
Spencer and  
Monáe play  
NASA’s “colored  
computers”

installation defies what we think we know about American history.” Not to mention how Hollywood, historically, has depicted it. Consider movies about geniuses, like *Good Will Hunting*, *A Beautiful Mind*, *Amadeus*, *The Theory of Everything*, *The Social Network*. The brainiacs at the chalkboard, the piano and the computer are almost always white, almost always male. Consider films about accomplished black women—like Tina Turner, Josephine Baker, Billie Holiday—all singularly talented, but all entertainers. “We are tired, as consumers, of seeing the same protagonist be the hero,” says Monáe. “We need new heroes, and these women are new heroes for us.”

**THE PHRASE** *colored computer* may bring to mind the candy-hued Apple iMac of the late 1990s, but in the early 1960s, it referred to the African-American female mathematicians who performed calculations and plotted data in NASA’s research divisions. Although white women had been employed in these roles since the 1930s, black women were not considered for them until 1943. With men at war and an Executive Order from President Roosevelt prohibiting discrimination in the defense industry, doors began to open for talented black





## As usual, you saw that coming.

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mathematicians.

The story of Johnson, Jackson, Vaughan and their comrades in computation surfaced thanks to Margot Lee Shetterly, whose father worked at NASA with them, and who began work in 2014 on a book about them—now a best seller—also called *Hidden Figures*. Producer Donna Gigliotti optioned the rights the day after reading the proposal, Melfi backed out of talks to direct a *Spider-Man* movie, and Pharrell Williams, a space junkie who grew up near the subjects' homes in Hampton, Va., signed on to produce and work on the score.

Filming in the Georgia heat this past summer, the actors formed a sisterhood inspired by their characters. "You saw these women vent to one another, encourage each other," says Monáe. "They were dealing with obstacles and had reason to give up. But the relationships they had with one another gave them fuel to go on."

There is more than a whiff of the classic American up-by-the-bootstraps narrative in each of their stories. Jackson petitions the city of Hampton to take courses at its whites-only high school so she can qualify to train as an engineer. Vaughan teaches herself programming when the arrival of computers threatens to make her job obsolete. But *Hidden Figures*, which will hit theaters on Christmas Day, downplays individual success in favor of the collective: these women pull one another up. Vaughan, in limbo as an undercompensated "acting" supervisor, laments her stagnation but rejoices in Johnson's promotion to work on the calculations that will get Glenn, Alan Shepard and the Apollo 11 astronauts into space. "Any upward movement," she declares, "is movement for us all."

**"NASA: FAST WITH ROCKET SHIPS, slow with advancement."** This is how the women of *Hidden Figures* describe their employer, an agency that relies on inertia to keep its shuttles on their flight paths but maintained a different kind of inertia on the ground—one that kept



#### NASA'S UNSUNG HEROES

Vaughan (top left) was NASA's first black manager. Johnson (right), now 98, received the Presidential Medal of Freedom in 2015 for her crucial calculations. Jackson was one of NASA's first black engineers.

the colored computers stalled at the intersection of sexism and racism.

The movie's white characters are not monolithic villains but humans whose attitudes toward their black colleagues fall on a spectrum: there's the mission-driven color blindness of the boss (Kevin Costner), who doesn't care who does the calculations as long as they're correct. There's Jim Parsons' head engineer, who can't decide whether he's more threatened by Johnson's gender, her race or the possibility that she might be better at math. And then there's Kirsten Dunst's supervisor, perhaps most insidious of all, whose claims of goodwill are not backed by a genuine belief in equality.

When Dunst's character has a run-in with Vaughan in the bathroom (more than a few critical moments take place there), she tells her, "I have nothing against y'all," to which Vaughan replies,

"I know you probably believe that." Spencer sees, in their confrontation, a lesson. "A lot of people don't see that their views could be hurtful. The only way you find out is if you have discourse. When you point a finger at somebody, all they see is the finger in their face."

Fifty years later, Americans find themselves living with divisions wider than the passage of half a century might suggest. "We still have unfinished business," says Monáe. "Right now in America, sexism and racism are alive and well. We can't just hit the cruise control and think we're going to get there in time to save this next generation." For Henson, Johnson's story is an appeal for unity and mutual respect:

"You're in a war, you're fighting with a soldier, and he saves your life. Do you give a damn what color he is? What bible he reads?"

When we watch movies to learn about the past, we're also scanning for insight into the future. Johnson, Jackson and Vaughan could be to young girls what Cicely Tyson and Oprah Winfrey were to a young Spencer, who dreamed of acting—to borrow a phrase from transgender activist and actor Laverne Cox—possibility models. Confirmation, in other words, that a path has been walked before and is available to those watching, too. For women of color, those onscreen models were, for so long, limited—to the maid, the jezebel, the sassy friend. The greatest equation *Hidden Figures* leaves unsolved may be whose story we'll see next, and what moonshot she'll be running to achieve.

Partway through the film, the cadre of mathematicians learns that rather than getting laid off as a result of the new IBM, they'll be reassigned to help process its endless data. As they exit the windowless room in which they've toiled for years, headed for the center of NASA's Virginia universe, trumpets blare as though they're marching into battle. But it's kitten heels, not combat boots, tapping cadence on the linoleum floor. And instead of firepower, they're armed with brainpower. □



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## IN A TRAGEDY, CASEY AFFLECK FINDS TRIUMPH

By Sam Lansky

IN KENNETH LONERGAN'S NEW FILM, *Manchester by the Sea*, there's one moment that's so powerful, it's almost unwatchable. Lee (Casey Affleck), who fled his New England hometown in the wake of a family tragedy but has returned to care for his orphaned nephew, runs into his estranged wife Randi (Michelle Williams) on the street. The former lovers had once built a life together and suffered great loss, yet with the passage of time they had become strangers. Over lunch at a vegan restaurant in West Hollywood, Affleck says the hard part of shooting the scene wasn't letting the emotion out but reining it in. "The challenge," he says, "was to have all of those feelings and hold it without weeping and wailing and gnashing your teeth. To be there, and not be there."

Affleck, 41, approaches a lot of his work with this blend of sensitivity and critical detachment. He politely deflects personal recognition for his work. To hear him describe it, the credit goes to writer-director Lonergan: "He creates characters that you believe in." Of his co-star Williams, he says, "She is so good that you have to throw out all your plans and just be there with her." Yet despite this self-effacement, *Manchester* is unmistakably Affleck's film. The actor, who has delivered consistently strong work across many genres over the past two decades, carries the movie on the strength of a textured performance as a grieving father who unexpectedly has to step back into a parental role.

To do that, Affleck says, he had to give himself over entirely to the heartbreaking material. During production, Williams recalls, her co-star was deeply absorbed. "The Casey that I know and spend time with now seems pretty carefree and loose, easy and happy—that's not the person I knew then," she says. "He was really seized by the material and the character."

In conversation, Affleck is genial but introspective. "Some people go, 'I was so moved, and I don't really know why,'" he says. "When I read the script, I was crushed every time I got to a certain point. It pulls out your emotions for you."

The current moment of political discord—half the country is elated, the other half despondent—might seem like an inopportune time to release an emotionally shattering family drama. (Audiences are often more inclined to seek out a lighthearted escape during such times.) But for all of *Manchester's*



Lee (Affleck) and his brother Joe (Kyle Chandler) come to grips

### LITTLE GOLD MEN

Affleck was nominated for an Academy Award for Best Supporting Actor in 2008 for *The Assassination of Jesse James by the Coward Robert Ford*

weight, it's also a compelling look at the complex interior life of a type that's often pigeonholed but rarely examined.

In *Lee*, Affleck finds a taciturn handyman from blue collar roots who's disinclined to emote. But as his reticence gives way to begrudging tenderness, it becomes clear that Lee isn't cold—he's just afraid to love given the fragility of life. Those are the types of difficult characters that Affleck says he loves best. "Parts where the character could easily be two-dimensional, I want to flesh them out and make them real humans," he says. "I look for roles in which that's hard to do."

Although he found it in *Manchester*, he admits that he was still surprised by how hard it hit when he saw the film. "I had read it and worked on it and shot it, but still, the emotions crept up on me," he says. "Suddenly I was so moved." Affleck knows it's a tough film to watch, but that makes it all the more worthwhile—even the really painful scenes. "My favorite movies still make me cry," he says, "at all the same places." □



# Lion's true story of an unlikely homecoming

BY CADY LANG

It's the kind of tale that would be unbelievable if it weren't true: a young boy gets lost on the streets of Kolkata and lands in an orphanage, where he is adopted by an Australian family. Nearly two decades later, he tracks down his birth family in a remote Indian village by using Google Earth.

Yet it happened to Saroo Brierley, who told the story in his 2013 memoir *A Long Way Home*, which inspired the new film *Lion*, out Nov. 25. The British actor Dev Patel (*Slumdog Millionaire*) says he responded instantly to the way themes of family and identity were explored in the script. "It took me 10 years to land a role like this," he says.

Patel spent months prepping for the film, traveling to India to retrace Brierley's trip and visiting orphanages like the one Brierley stayed at as a child. Along the way, Patel found similarities between Brierley's story and his own, especially when it came to their shared Indian heritage. "He's more an Aussie than he is an Indian, so he goes back there like an alien," Patel says. "There was a lot I related to in having connections to a country but rediscovering your culture and history."

Patel's turn in the role has generated awards-season buzz. But the most meaningful review might be the one from the real-life Brierley, who says, "I don't think there's a person out there that could have done a better job."



As Brierley, Patel puzzles over his origin story

## NOCTURNAL ANIMALS

Nov. 18

A divorced couple reckons with the **boundaries of love, violence and revenge** in a romantic thriller from Tom Ford, which sees a successful gallery owner (Amy Adams) haunted by her novelist ex (Jake Gyllenhaal) and his violent new book.

## RULES DON'T APPLY

Nov. 23

Warren Beatty's first film in 15 years dramatizes the life of **Howard Hughes (Beatty) and explores the restrictive sexual mores of 1950s Hollywood** through a forbidden relationship.

## MISS SLOANE

Nov. 25

Jessica Chastain plays a **ruthless Washington lobbyist with fungible ethics** who will allow nothing to stand in the way of passing a gun-control bill.

## LA LA LAND

Dec. 9

Emma Stone and Ryan Gosling star in this **wistful Technicolor musical from Whiplash director Damien Chazelle**, about an actor and a musician trying to make it in love and Los Angeles.

## THE FOUNDER

Dec. 16

John Lee Hancock directs this **biopic about Ray Kroc and the rise of McDonald's**, with a captivating performance by Michael Keaton as the relentless Kroc.



Lily Collins plays an ambitious actor with a secret in *Rules Don't Apply*

## PASSENGERS

Dec. 21

Aboard a **spacecraft transporting them to a new planet**, two ex-earthlings (Jennifer Lawrence and Chris Pratt) fall in love after their hibernation pods malfunction 90 years before they were scheduled to reach their new home.

## SILENCE

Dec. 23

**Martin Scorsese's new drama** stars Andrew Garfield and Adam Driver as 17th century Jesuit priests who travel to Japan on an evangelical mission that doubles as a search for their mentor (Liam Neeson).

## 20TH CENTURY WOMEN

Dec. 25

Annette Bening gives a stellar performance in this new dramedy from director Mike Mills (*Beginners*), in which three women—played by Bening, Greta Gerwig and Elle Fanning—**pitch in to raise a teenage boy while figuring out their own lives in late-1970s Southern California**.

## FENCES

Dec. 25

Denzel Washington directs and stars in this **adaptation of August Wilson's 1983 play about a Negro League baseball player** struggling to support his family in 1950s Pittsburgh. Washington and co-star Viola Davis won Tonys for their onstage portrayals.

## GOLD

Dec. 25

A failing businessman (Matthew McConaughey) and an eager geologist (Edgar Ramirez) **search for gold in the jungles of Indonesia**, but the adventure really gets going once they reach the boardrooms (and investors) of Wall Street.

## PATERSON

Dec. 28

Minimalist indie director Jim Jarmusch named his new movie both for its main character, a **bus-driving poet played by Adam Driver**, and the struggling New Jersey city in which he lives and works. Both are in for subtle, unforeseen changes.



**STAR WARS**

Where the movies fit in the fictional timeline

**EPISODE I:  
THE PHANTOM  
MENACE**

**EPISODE III:  
REVENGE OF  
THE SITH**

**HAN SOLO MOVIE**

*Coming Soon*

Alden Ehrenreich will play a young Han Solo and Donald Glover a young Lando Calrissian in a 2018 spin-off about the smuggler.

**ROGUE ONE**

**Dec. 16, 2016**

This boots-on-the-ground story follows ordinary rebels trying to steal the plans for the Death Star so Luke Skywalker can destroy it.

**EPISODE V:  
THE EMPIRE STRIKES  
BACK**

**EPISODE VI:  
RETURN OF  
THE JEDI**

**EPISODE IV:  
A NEW HOPE**







## ROGUE ONE REWINDS— AND REWRITES—THE STAR WARS LEGACY

By Eliana Dockterman

DISNEY KNOWS NOSTALGIA IS A potent force, especially when it comes to *the Force*. Last year's *Star Wars: The Force Awakens* became the third highest-grossing film of all time and kicked off a run of six new *Star Wars* movies that will hit theaters before 2020. This year's entry, *Rogue One* (out Dec. 16), turns back the clock to just before the 1977 original, *A New Hope*. The new film tells the story of the ordinary Rebel spies who endeavor to steal the plans to the Death Star—the same plans that (39-year-old spoiler alert) eventually help Luke Skywalker destroy the ultimate weapon in a galaxy far, far away.

But in *Star Wars'* case, nostalgia is a tricky thing: in order to rewind, Disney is finding that it also has to rewrite for a contemporary, global audience. In retrospect, *A New Hope* lacks the racial and gender sensibilities of modern blockbusters. The film's heroes were predominantly white and male. Women didn't wield lightsabers until the prequels in the 2000s, and even then only minor female characters had the privilege. That leaves the studio trying to tap into a lucrative longing for yesteryear while creating a very different set of heroes.

So *Rogue One* returns to the original *Star Wars* era with a diverse, international cast. "In *Star Wars*, you're not just talking about different nationalities. You're talking about different species and creatures living in different galaxies," says Mads Mikkelsen, who plays Galen Erso, a scientist who works for the Empire. "It would be really weird if everybody just came from America." It's admirable—now kids in all countries can pretend to destroy the Death Star. It's also savvy business, given the primacy of the international box office.

**LIKE THE FORCE AWAKENS**, which stars Daisy Ridley's Rey, *Rogue One* stars a female protagonist, Jyn Erso,

played by Oscar-nominated Felicity Jones. "It doesn't feel at all radical to have both Rey and Jyn as heroes," says Jones. "We want you to identify with Jyn as a person, not to objectify her but to empathize with her." And as in *The Force Awakens*, the cast in *Rogue One* is a global one. The movie features Bodhi Rook (British-Pakistani actor Riz Ahmed), Captain Cassian Andor (Mexican actor Diego Luna), warrior Chirrut Imwe (Hong Kong actor Donnie Yen) and resistance fighter Saw Gerrera (African-American actor Forest Whitaker).

"I think that films like *Star Wars* have the great potential to let so many different people put themselves in someone else's shoes, and there are so many different pairs to try on," says Ahmed, who has spoken out about the limited types of roles offered to actors like him—often cab drivers and terrorists. "I made a decision not to play characters that were reinforcing stereotypes with two-dimensional portrayals. I hope the work that I've done forces the culture to stretch a bit."

This is not exactly a new problem. Some franchises have run so long—*Star Trek*, *James Bond*, some superhero films—that they've been overtaken by a culture that makes even futuristic settings look dated, in terms of both character and theme. George Lucas said he created the original *Star Wars* in response to Nixon and the Vietnam War—a story of teenage rebellion to save democracy. The updated *Rogue One*, directed by Gareth Edwards, may function as a metaphor for a more global struggle. "I would say this film is a reaction to the world that we live in today," says Luna. "The multiracial cast, the role of a woman in these stories, it's all about how people of all different backgrounds need to join together to fight for good." □

● Already released ♦ Coming Soon

### EPISODE VII: THE FORCE AWAKENS

### EPISODE VIII AND EPISODE IX

#### Coming Soon

The characters from *The Force Awakens* will return for these two yet-unnamed movies in 2017 and 2019.



ACTION  
CALENDAR

From Nazi spies to time-traveling assassins

A comeback king  
fights his way  
back into the ring

BY ELIZA BERMAN

Boxing movies work because they're so literal: the boxer gets knocked down, he gets back up again, he knocks the other guy down. Everyone doubted him—now they love him.

Of course, the best boxing films aren't really about boxing. The newest addition to the genre, *Bleed for This* (Nov. 18), follows Vinny Pazienza's return to the ring 13 months after a 1991 car wreck that broke his neck and made even walking again a doubtful prospect. But it's also the story of a community: his mother who prays, her back to the television, every time he fights; his father, who pushed him into a violent profession; and his trainer, who needs a comeback just as badly as the athlete himself.

Stepping into the role of Pazienza, Miles Teller notes that the boxer's dedication was remarkably steadfast. "Five days after breaking his neck, he was down in his basement," Teller says. "He always knew he was going to fight again." Aaron Eckhart, who plays trainer Kevin Rooney, says the ethics of working with Pazienza despite the risk of paralysis never gave Rooney pause. "There was no choice," Eckhart says. "He was going to do it with or without us, so better to be with him."

In the film, Pazienza's resolve is uncomplicated, a potent blend of unsinkable confidence and the rejection of the thought that he might have been born for any other purpose. Boxers like him, says Teller, "fight because they don't know how to do anything else."



Eckhart's trainer prepares Teller's Vinny Pazienza for a fight

## THE TAKE

Nov. 18

*Game of Thrones'* Richard Madden plays a **Paris-based pickpocket trapped in a terrorist plot** after stealing a bag that, unluckily for him, explodes soon after he discards it. Idris Elba's rule-bending CIA agent, realizing his target is small fry, teams up with the petty thief on a mission to expose a grand scheme of corruption. Originally scheduled for last February, the film's release was pushed back after the Paris attacks in November 2015.



Pitt and Cotillard as spies in *Allied*

## ALLIED

Nov. 23

In this WW II-era romantic thriller, Marion Cotillard takes on several identities: **French Resistance fighter, wife of an American intelligence officer (Brad Pitt), mother to their child and, perhaps, German spy.** From director Robert Zemeckis (*Back to the Future*, *Forrest Gump*), the period piece is an exploration of the bounds of love during wartime, brimming with tension as Pitt's agent decides whether to kill his wife or face execution for disobeying orders.

A KIND OF  
MURDER

Dec. 16

An adaptation of a 1954 novel by Patricia Highsmith, who also wrote *The Talented Mr. Ripley* and the novel that inspired last year's *Carol*, this noir thriller centers on **two men whose wives turn up dead at the same roadside diner.** Starring Patrick

Wilson, Jessica Biel, Haley Bennett and Vincent Kartheiser, it's a gripping whodunit replete with smoky rooms, affairs, jealousy and seduction.

for an overdue confrontation with his nemesis. With Jeremy Irons, Michael K. Williams and Charlotte Rampling.

## PATRIOTS DAY

Dec. 21

Three years after the **Boston Marathon bombing that resulted in the deaths of three civilians and a police officer,** director Peter Berg tells the story of Bostonians' resilience and local law enforcement's manhunt for the perpetrators. Mark Wahlberg, a Boston native, stars as a police sergeant; John Goodman plays police commissioner Edward F. Davis; and Kevin Bacon is an FBI special agent assigned to the case.

ASSASSIN'S  
CREED

Dec. 21

Michael Fassbender, Cotillard and director Justin Kurzel, who worked together on last year's *Macbeth*, bring prestige to this **adaptation of a popular video-game franchise.** Fassbender plays a criminal who travels through time to relive his ancestors' memories, training

## LIVE BY NIGHT

Dec. 25

In this Prohibition-era crime thriller based on a 2012 novel by Dennis Lehane—author of *Mystic River* and *Shutter Island*—Ben Affleck directs and stars as the son of a Boston (where else?) police captain who rejects the lawful life his father exemplified. Instead, he transforms into a **gangster, bootlegger and rumrunner in the dark underbelly of Tampa's Ybor City district.** With Zoe Saldana, Elle Fanning and Scott Eastwood, the film navigates the layers of the criminal world and the rules that define it.







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## TEEN ANGST WITH A NEW EDGE

By Sarah Begley

THERE'S A MOMENT HALFWAY THROUGH *The Edge of Seventeen* that sums up just how messy life has gotten for Nadine (Hailee Steinfeld). She has stolen her mom's car and parked it at an elementary-school playground. She is seated on a slide crafting a desperate message to a classmate who barely knows her name, offering to hook up with him in the back room of the pet store where he works. Then she thinks better of it—and accidentally hits Send.

The scene is funny, but its poignancy comes through too. Nadine is at a place reserved for kids, fumbling with a most grownup thing. This is the region staked out by *The Edge of Seventeen*, out Nov. 18, which blends sharp humor with an unusual tenderness for the adolescent experience. "It's a true, honest telling of what being a teenager really feels like," says Steinfeld.

On the surface, the actor could not be more different from her character. At 19, Steinfeld already has an Oscar nomination, for her 2010 turn in *True Grit*. She's also a budding pop star; her recent single "Starving," with electronic artists Grey and Zedd, hit No. 14 on the Hot 100. She's a fashion-world darling and a member of Taylor Swift's famed "squad." Nadine, meanwhile, is an awkward, smart-alecky high school junior who gorges on junk food, can't hold her liquor and alienates almost everyone she meets. But Steinfeld says the film cuts through to something universal about the experience of growing up. "More than a teen movie or a high school movie, it's a movie about figuring out who you are and what your place is," Steinfeld says. "That's what resonated with me."

The film tracks Nadine as her longtime best friend (Haley Lu Richardson) suddenly begins dating her brother (Blake Jenner), a handsome jock whom Nadine despises. When Nadine gives her friend an ultimatum—him or me—it backfires, sending her on a downward spiral. Her distracted mother (Kyra Sedgwick) and a gruff teacher at her school (Woody Harrelson) aren't much help. The loneliness and anxiety of being a teenager are vividly rendered, which is part of what spoke to Steinfeld. For all her evident success, she says she struggled to make friends and was bullied when she was younger. "It's a time in life that's confusing and messy and not always great," she says.

Writer-director Kelly Fremon Craig (who wrote the screenplay for the Alexis Bledel vehicle



### SIREN SONGS

Steinfeld's first EP, *Haiz*, drew attention with hits like the provocative "Love Myself," an ode to self-indulgence of all varieties. Her first full album is due next year.



*Post Grad* and makes her directorial debut here) says the film is really a story for outsiders of all ages. "The thing about life I wanted to explore was that feeling that you have, particularly at that age, where you are sure that everybody else has life figured out except you," she says. "That's a feeling that never quite goes away."

The film, stirring without being saccharine, recalls comedies like *Little Miss Sunshine* and *As Good as It Gets*—written and directed by James L. Brooks, who produced *The Edge of Seventeen*. In fact, Nadine's lovable jerk is along the lines of the Jack Nicholson character in *As Good as It Gets* (minus the homophobia, racism and misogyny). She repeatedly insults people who want to connect with her, including her sweet, love-struck classmate Erwin (Hayden Szeto). "She's her own worst enemy, her own mean girl, the only person that's driving her crazy," Steinfeld says. Still, the viewer can't help rooting for her. To write a character who's so flawed yet so sympathetic, Fremon Craig says, it's critical to get "the whole, messy, complicated truth of somebody—even if it's ugly in places."

That also required finding an actor who can modulate from bratty to heartbreaking in a single shot. "We





*Nadine (Steinfeld) and would-be love interest Erwin (Szeto)*

spent almost a year auditioning every girl under the sun,” says Fremon Craig. “At some point you start to think, Oh, my God, she just doesn’t exist. She had to have comedic chops—she obviously had to have dramatic chops—she had to have just a charisma where you couldn’t take your eyes off her.” When Steinfeld eventually came in for an audition, Fremon Craig says, it was “emotional” to finally hear the lines in the right voice. “The little nuances between the lines were so beautiful. Just the way she’d hold her body and the little asides—she’s so alive in every moment.”

Steinfeld may have her life more together than Nadine, but she still relates to feeling like a misfit. For now, she’s just satisfied to have contributed to what feels like an honest portrait of teenage life. “It’s nice to have a story that you can watch and feel understood by and feel like you’re not alone,” she says. “*The Breakfast Club* and *Say Anything* and *Fast Times at Ridgemont High* are timeless for a reason. The feelings of betrayal and loss and love and friendship—those feelings don’t ever change.” She sounds wise beyond her years. □

COMEDY  
CALENDAR

Raucy reigns during the holiday and beyond

**I AM NOT  
MADAME  
BOVARY**

**Nov. 18**

Chinese movie star Fan Bingbing stars in this **sly political satire about Chinese bureaucracy and gender dynamics**. Fan plays a woman who colludes with her husband to split up for a real estate benefit, learns that he’s quickly moved on, then crusades to nullify the divorce so she can remarry and redivorce him—this time with a vengeance.

**BAD SANTA 2**

**Nov. 25**

In this sequel to the 2003 dark comedy that had Billy Bob Thornton **infusing the holiday season with equal parts booze and blasphemy**, the naughty St. Nick returns to swindle a charity out of its seasonal haul. In addition to his faithful sidekick (Tony Cox), he’s joined this time by Christina Hendricks as the do-gooder foil and Kathy Bates as the mother whose nastiness is matched only by her son’s.

**NERDLAND**

**Dec. 6**

Paul Rudd and Patton Oswalt lead a team of comedic all-stars, from Hannibal Buress to Laraine Newman, in this **remarkably raucy animated adult comedy**.



*Thornton takes a second swig from his depraved Kris Kringle act in *Bad Santa 2**

Having given up on their Hollywood dreams as their 30th birthdays approach, two best friends hatch a plan to secure a more instant and short-lived kind of fame: they set out to go viral.

**OFFICE  
CHRISTMAS  
PARTY**

**Dec. 9**

In an **ensemble comedy as raucous as its title is basic**, a group of employees (Kate McKinnon, Jason Bateman, T.J. Miller) try to save their failing company by inviting a high-profile client to an epic holiday shindig, much to the chagrin of their party-poopng boss (Jennifer Aniston). Expect drunken physical gags, naughty elves and reindeer frolicking very far from home.

**WHY HIM?**

**Dec. 25**

It’s like *Guess Who’s Coming to*

*Dinner*, if the parents were objecting not to the race of their daughter’s betrothed but to the fact that he’s a **crass, tattooed new-age tech-preneur**. Bryan Cranston plays the outraged dad, along with Megan Mullally’s prudish mom, Riley Keough as the smitten daughter and James Franco as the would-be fiancé.

**TONI  
ERDMANN**

**Dec. 25**

German filmmaker Maren Ade explores a very different set of father-daughter dynamics in this sweetly comic yarn. Fearful that his daughter is miserable in her demanding career as a consultant, a **disconnected dad hatches a plan, involving a matted wig and a set of false teeth**, to awaken the dormant sense of humor in the child he loves.



## EDDIE REDMAYNE WANTS TO MAKE YOU BELIEVE IN MAGIC AGAIN

By Megan McCluskey

EDDIE REDMAYNE IS STANDING WITH his toes pointed out and his heels together. He picks up his right foot and very gingerly sets it down in front of him at the same awkward angle as it started, without creating any sound. “When you track a creature,” he explains, “if there are twigs and leaves and you don’t want to make a noise, you have to put one foot down as slowly as you can.”

Newt Scamander was described to him as a character who walks his own walk. Redmayne plays the eccentric magizoologist—screenwriter J.K. Rowling’s word for a witch or wizard who studies magical creatures—in *Fantastic Beasts* and *Where to Find Them*, a *Harry Potter* prequel set amid not the undergrowth of an enchanted

forest but the social and political upheaval of New York City in the 1920s. Sitting with Redmayne at the Woolly, the retro-styled speakeasy in the basement of Manhattan’s Woolworth Building (which doubles as the American Ministry of Magic in the film), feels like time-traveling to that era.

Armed with an enchanted briefcase—in which the beasts under his care live—Newt arrives in Manhattan planning to complete a global research expedition before returning home to Europe. But when a chance encounter with a No-Maj, the American term for a nonmagical person, leads to the escape of several of his animal wards, he finds himself embroiled in a centuries-long conflict between the wizarding world and its secular counterpart.

Playing a wand-waving vagabond who spends his time studying imaginary creatures is by no means Redmayne’s usual shtick. In fact, the family-friendly *Fantastic Beasts* franchise—which is set to span five movies in all—is the first multi-installment series for the actor, 34, best known for starring in a string of critically acclaimed one-shots over the past few years, the most famous of which were grounded in actual history: those roles included Lili Elbe in *The Danish Girl*, which earned Redmayne a Best Actor nomination at the Oscars, and Stephen Hawking in *The Theory of Everything*, for which he won in the same category.

The shift to lighter subject matter brought no change in Redmayne’s preparation, though. A Method actor, he researched the role by going into the field. “I went to a wildlife park,” he says, “and met people who care for animals and watched all the idiosyncrasies of both how the animals behave and how the people who look after them behave.”

On its face, the action of *Fantastic Beasts* centers on a practical matter:





*Newt (Redmayne) and No-Maj Jacob (Dan Fogler) observe a Bowtruckle*

Newt's quest to retrieve his creatures. But on a deeper level, it explores the themes of intolerance and otherness that figure prominently in Rowling's seven-book *Potter* series. Our British hero struggles to understand the American laws that call for complete separation of the magical and nonmagical communities, a practice he without hesitation condemns as "backwards."

Redmayne says Rowling's ability to craft narratives that are entertaining but carry a message was a big part of the project's appeal for him. "She's weaving in bigger themes of repression and segregation," he says, "but manages to touch on them with a lightness that sticks with you afterward."

At the same time, even with its fantastical elements—including a rhino variant packing an explosive horn—*Fantastic Beasts* has all the hallmarks of a Redmayne film. Not so much as an awards contender, perhaps, but as a story that asks big questions while leaving room for a sensitive performance.

"You can only go on one's instinct for these things and for me, it normally tends to be a physical reaction. I felt it in *The Theory of Everything* and similarly in this." That gut feeling was what ultimately persuaded him to take on this ambitious commitment. "The script just did something really special that I thought was really unique," he says. "It was all these different genres somehow—there was high comedy and yet it left me really emotional."

Of course, there's also the allure of being inducted into the much beloved *Potterverse*—a global phenomenon since the release of Rowling's first novel in the summer of 1997. Callbacks to Potter's story are scattered throughout *Fantastic Beasts*, references that gave Redmayne a strong sense of nostalgia while reading Rowling's screenplay (which Amazon, prepublication, lists as the No. 1 best seller in children's reptile and amphibian books). "It had all this familiarity and the names of characters you've heard of and relatives of various protagonists from the *Potter* films," he says, "but in something that felt like its own thing."

Redmayne has his own ideas as to why the lore of Rowling's creation appeals so broadly. "I think all of us love escapism," he says. "The idea that there is a magical world running simultaneous to ours that is somewhere we can escape from the daily grind is kind of wonderful."

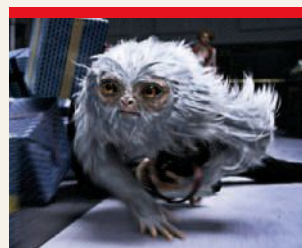
Although it's on track to earn a lower opening-weekend gross than any of the eight *Potter* films, there are nonetheless high expectations for *Beasts*. It debuts on the heels of other Rowling releases that have renewed fan excitement, including the two-part play *Cursed Child* that opened on London's West End and three collections of short stories. But it's the first opportunity audiences will have to return to the big-screen wizarding world in more than five years.

For his part, Redmayne is confident in his quirky protagonist's ability to enchant both new and returning viewers. "You realize he has great passion and qualities that don't immediately seem heroic," he says, "but a heart that's quite heroic." Put it this way: Newt's walk may look different, but it's clearly within Redmayne's stride. □

## NEW BEASTS

### Decoding the creatures

Take a look inside Newt's magical menagerie:



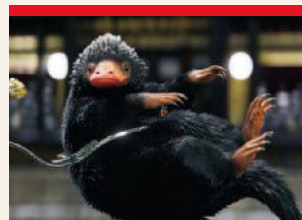
### DEMIGUISE

This primate-like herbivore from the Far East has the ability to both become invisible and see the future, making it nearly impossible to catch.



### ERUMPENT

A massive horn full of explosive fluid is the deadliest feature of the wizarding world's largest variation on the African rhinoceros.



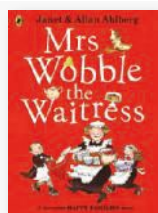
### NIFFLER

Valuables are best kept out of reach of this long-snouted sneak, whose extreme penchant for shiny objects lends it kleptomaniacal tendencies.

## WHAT'S IN EDDIE REDMAYNE'S LIBRARY

By Megan McCluskey

Eddie Redmayne may be the star of the *Harry Potter* prequel film *Fantastic Beasts and Where to Find Them*, but his literary tastes are not confined to J.K. Rowling's wizarding world. The actor tells TIME his list of favorites includes a historical accounting of the building of Venice, a kids' book based on a classic card game and a collection of drawings done by a 19th century French post-Impressionist. Not that he doesn't have a soft spot for the Potterverse. "It's that amazing thing: even though in theory they're children's stories, whatever age you read them at, there's something for you," says Redmayne.



### MRS. WOBBLE THE WAITRESS

By Allan and Janet Ahlberg

A children's tale of a clumsy waitress

'IT'S MY FAVORITE CHILDREN'S BOOK. I SUPPOSE AT A YOUNG AGE—WITHOUT KNOWING IT—IT TEACHES YOU TO THINK CREATIVELY.'

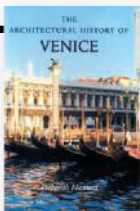
'This is kind of a weird one, but it's just a book I always look at, even though it's a book of drawings. So it's really the drawings that I love. I find them mystical and moving.'



### GEORGES SEURAT: THE DRAWINGS

By Jodi Hauptman, Karl Buchberg, Hubert Damisch, Bridget Riley, Richard Shiff and Richard Thomson with drawings by Georges-Pierre Seurat

A collection of Seurat's compositions on paper



### THE ARCHITECTURAL HISTORY OF VENICE

By Deborah Howard

A guide to the Floating City's design

'IT SOUNDS VERY SPECIFIC AND NICHE—AND IN SOME WAYS IT IS—BUT [I READ IT] BEFORE I KNEW ANYTHING ABOUT ARCHITECTURE, AND I FOUND IT THE MOST WONDERFULLY LUCID INROAD TO NOT ONLY AN AMAZING CITY BUT HOW TO LOOK AT BUILDINGS.'

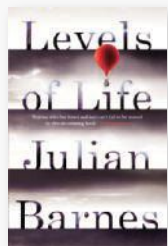
'It's an incredibly personal book written by a very wise person, so it's a book that I'll go back to in a way that's unlike any other. It also has a chapter on Yves Klein, who happens to be my favorite artist.'



### A FIELD GUIDE TO GETTING LOST

By Rebecca Solnit

An essay series exploring what it means to lose oneself



### LEVELS OF LIFE

By Julian Barnes

An amalgam of essay, fiction and memoir examining sorrow

'It's a meditation on grief, and I just found it profoundly moving. The way in which he approaches [grief] is so unique.'





MacDougall answers when the monster (Liam Neeson) calls

**MOANA**

Nov. 23

Auli'i Cravalho voices **Disney's first Polynesian princess in an animated tale set thousands of years ago.** With the help of a tattooed demigod named Maui (Dwayne Johnson) drawn from pan-Pacific mythology, Moana sets sail from her island home to navigate the ocean and return a lost gem to where it belongs—discovering, along the way, her true identity.

**COLLATERAL BEAUTY**

Dec. 16

Mourning the death of his young daughter, **Will Smith's advertising executive withdraws from the responsibilities of daily life,** leaving his colleagues (Kate Winslet, Edward Norton and Michael Peña) in a professional bind. He begins writing philosophical letters addressed to intangible concepts,

and starts to believe he's going crazy when they are answered, in the flesh, by Love (Keira Knightley), Time (Jacob Latimore) and Death (Helen Mirren).

**THE SPACE BETWEEN US**

Dec. 16

In this sci-fi teenage romance, the first human born on Mars—after his astronaut mother **discovers she is pregnant while on a voyage to colonize the Red Planet**—is all grown up and heading to Earth for the first time. Asa Butterfield plays the biplanetary teen as he explores the old planet and embarks on a romantic adventure, despite the risks Earth's environ-

ment poses to his unacclimated body.

**A MONSTER CALLS**

Dec. 23

From Spanish director J.A. Bayona comes this fantastical tale of a boy (British newcomer Lewis MacDougall) who **befriends an ancient, anthropomorphic tree that helps him cope with his mother (Felicity Jones), who suffers from a terminal illness.** Adapted from the novel by Siobhan Dowd, who was terminally ill herself when she wrote it, the film explores the healing power of courageously confronting one's most difficult emotions.

*Winslet and Smith go beyond skin-deep in Collateral Beauty*



McConaughey goes Carly Rae in animated Sing

BY ELIZA BERMAN

This December, **Matthew McConaughey has two movies coming out within four days, and both pivot on a conniving salesman who, as he puts it, "wills his way into pulling off what he pulls off."** But where his character in the R-rated *Gold* is a money-hungry gold prospector, the other hustler is a smidge more innocuous: an animated koala with a crisp red bow tie. "I don't think they'll compete with each other," he jokes.

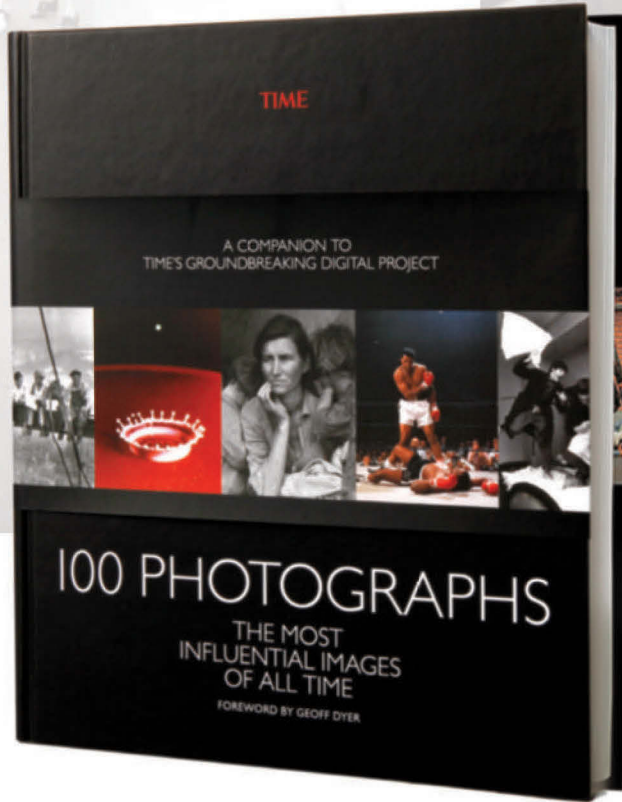
In *Sing*, an animated musical due Dec. 21 from the studio responsible for the Minions empire, **McConaughey's Buster Moon is a businessman who makes a last-ditch effort to save his sinking theater by putting on an amateur singing competition. Opposable thumbs or not, the menagerie of competitors has problems that mirror our own: Ash, the punk-rock porcupine (Scarlett Johansson), has a boor of a boyfriend; Rosita the pig (Reese Witherspoon) is mom to 25; and Johnny the gorilla (Taron Egerton) dreams of trading a life of crime for stardom.**

McConaughey had been seeking voice work for years when Buster came his way. To prep, he studied his three kids' comedic tastes, he says, "introducing them to animated films, hearing them laugh and going back and looking at what they thought was funny." He also takes his singing from shower to screen, crooning Carly Rae Jepsen's "Call Me Maybe" on a soundtrack that ranges from Sinatra to Gaga. In a season full of serious fare, *Sing* is about surrendering to silliness even when all else seems to demand otherwise. "When is that ever out of style?" McConaughey asks.



Buster gets an earful from Miss Crawly (Garth Jennings) in *Sing*

**OWN A MOMENT IN TIME.**



# 100 PHOTOGRAPHS



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## Bummed about the election? Finding a new country is a lot harder than it looks

By **Joel Stein**

MY LOVELY WIFE CASSANDRA AND I HAD VERY DIFFERENT emotional reactions on election night. Her fight-or-flight response leans heavily toward fight, whereas mine takes a third option wherein it gets sleepy and avoids talking. So when I got in bed at 10 p.m., I was surprised when Cassandra walked into our bedroom in full flight mode. “I know I’m being crazy, but just for me to be able to sleep tonight, I need to think about where we can go if things get really bad. I just need some sense of control, otherwise my brain won’t shut off,” she said. I mumbled something about checks and balances and Paul Ryan, but she cut me off: “You’d be one of those Jews who was put on a train and said, ‘Oh, fun! Camp!’”

Admittedly, I tend to dismiss doomsayers, which must be frustrating for someone named after a doomsayer everyone dismissed. So I told Cassandra that no matter what I thought, I would trust her if she ever said we had to abandon America. Then I explained Israel’s law of return for Jews and their spouses, which she found only slightly comforting. I went back to sleep even though it was hard to see my wife spending a night feeling like black people do all the time.

Then at 3 a.m. she woke me up. “Everybody is posting ‘New Zealand,’” she said, standing over me. “I don’t know what’s going on with New Zealand, but they’re going to be full. I need other options.” When she mentioned France, I told her they had a powerful far-right party. Italy and Germany too. Sweden, I vaguely remembered, has an anti-Muslim party. She started getting excited about Spain, but all I knew was that it hadn’t had a leader for a year, which seemed to provide dubious stability. “You’re not making this easier for me!” she said. “You’re supposed to be the uplifting one. You’re supposed to tell me one of these countries will work out!”

**I TOLD HER** I’d call some experts the next day, which calmed her down. But when I woke up a few hours later, I had three emails from her listing various countries’ immigration policies. When Cassandra got up after a pill-fueled sleep, she wanted to go over our emergency emigration plans. I had found out that you had a good shot at living in Mexico if you buy a house that costs at least \$172,000. We’d be with lots of Americans, more of whom have moved there in the past three years than vice versa. This seemed like a perfect safety net, since we would be protected from Trump by a giant beautiful wall.

But she rejected the option. “I want a first-world quality of life,” she said. Israel was out because of café bombings, though I thought if things were dire enough to expatriate, we could go without cappuccinos for a while. I suggested



Canada, but she turned that down too. “After 10 years in L.A. there’s no way I’m moving there. It’s too cold,” she answered.

**AFTER A TEACHER** at my son’s school was yelled at to move back to China and two actors from *Silicon Valley* were accosted at a bar near us by Trump supporters, Cassandra thought we should re-explore the Canada option, even if it meant buying coats. So I went to the country’s immigration website, which was back online after crashing from being deluged on the night of the election. I took the test to see if I had the 67 of 100 points required to be considered for a fast-track as a skilled worker. Unfortunately, I sucked at French in high school and I’m really old, so I only got 64. I could get 10 more points if an employer had a job for me. So I emailed Nancy Gibbs, the editor of this magazine, to ask if I could run the Vancouver bureau of TIME, which would be a desk inside a very small, well-heated apartment. She answered with an emoticon that did not look like it was taking applications in the Vancouver bureau.

Getting increasingly nervous, I called my friend Neil Strauss, who wrote *Emergency: This Book Will Save Your Life*, about how he became a survivalist and got dual citizenship in St. Kitts and Nevis, which has no income tax. If I paid \$400,000 for a place in St. Kitts, I could sell it five years later but keep the passport, which I could use if there are worldwide travel restrictions against hordes of fleeing Americans. “The businesspeople and billionaires told me it makes sense to allocate a certain part of your income for insurance,” Strauss said. “This is insurance.”

Cassandra and I know that leaving your country is privileged, whiny and unhelpful, but in our defense, we are privileged, whiny and unhelpful. Still, we decided we’re staying. But we also have the name of a good real estate agent in St. Kitts. □

**Natalie Portman** The Oscar-winning actor stars in *Jackie*, about the emotionally turbulent week Jacqueline Kennedy endured after her husband was assassinated

**Jackie returns repeatedly to the image of the First Lady, in shock, holding her dying husband John F. Kennedy. What was it like to film such a traumatic moment?** It was the toughest thing to shoot. The actual assassination we've seen so many times on tape, but unfortunately for her—and luckily for the rest of the world—she's the only one who knows how that feels. It was the thing I was most concerned about. It's so extreme that you never know if you've gone far enough.

**Do you feel an added level of responsibility when it comes to playing a real person?** There's a higher emotional truth you can achieve by playing with fiction. The Arthur Schlesinger interviews were so helpful to me. They had transcripts, and she edited them, so there's big chunks missing, and that gave me a feeling of real liberty, because there's a lot of stuff she said that she did not want out there. It had to be relatively racy or make her or the family not look good.

**Jacqueline and Robert Kennedy's stoicism, more than anything, felt like something out of history.** The Paris attacks in November 2015 happened just before we started shooting just outside of Paris, and the area [where] we were shooting was under lockdown. There's a feeling when something happens like that—people don't want to go out. And the fact that she was, in the days after, planning a procession to honor her husband really shows this great bravery in the face of this terror. The country would go on and they would get back to normal and it was going to be O.K., even though something unspeakable had happened.

**After your Oscar win for *Black Swan* in 2011, you took a hiatus from acting to spend time with your family. Why return now?** For me, it was instinct. Most women don't have that luxury. I feel really lucky that I got to be at home as much as I wanted. And when I was

ready to work again, it wasn't that I had mountains of offers at my door, but I could still find something. It was well worth it for me.

**Did being a parent add to the role for you?** It makes you understand the ability to be calm and collected under that kind of emotional and psychological pressure. When you have kids, you can't afford to be a mess. There's moments when you are, but you need to pull it together. You see how that impacted her ability to gather herself under such awful circumstances.

**The movie argues that Jacqueline's genius is proved by the fact that Camelot is remembered so fondly—despite JFK's short tenure, during which he wasn't universally liked.** Having Pablo [Larraín] as director and the fact that he's Chilean—he didn't have a “Kennedys are king and queen” image, though he understood they had anointed themselves. It took a real insight and intellect and understanding of history—that the story that lasts is the best myth. Whoever comes up with the best fairy tale wins. It has nothing to do with what actually happened. She came up with something that lasted. It's very intelligent and quite feminist to say, “I'm going to be author of my own story. Not you.” Everyone does it now—this is the story of social media. But she was doing it 50 years ago.

**This is a risky take on an icon. What about the film gave you doubt?** Sometimes you're like, “Is it enough? This is the worst thing that could ever happen. It's got to be more.” And then you're like, “Is this too much?” The way Pablo approached it—looking for things that were a bit forbidden, emotions we wouldn't necessarily ascribe to Jackie Kennedy, who we all revere—allowed it to be more varied and interesting than just watching someone cry for two hours. —DANIEL D'ADDARIO

**'Whoever comes up with the best fairy tale wins. It has nothing to do with what actually happened.'**



MICHAEL TRAN—GETTY IMAGES





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