NOV. 23, 2026

TIME



time.com

TIME
VOL. 208, NOS. 17–18 | 2026



CONTENTS

9
The Brief

23
The View

30
Democratic Hopes
After winning the House and Senate in the most lopsided midterm election in decades, Democrats mull how to deliver for voters—and navigate President Donald Trump
By Nik Popli and Julia Terruso

38
The mRNA Way
Moderna's COVID vaccine was only the beginning for a company founded on the belief that the future of medicine lies in therapies working inside human cells
By Alice Park

46
Growing Influence
As part of a father-daughter content-creation empire, 16-year-old Salish Matter has spent half her life in the internet spotlight
By Avery Stone

53
TIME100 Climate
Meet Fervo Energy CEO Tim Latimer—and 99 more of the world's most influential leaders driving business climate action

67
Time Off

Texas Governor-elect Gina Hinojosa and U.S. Senator-elect James Talarico at an Austin Whataburger on Nov. 3

Photograph by Brandon Bell—Getty Images

TIME (ISSN 0040-781X) is published twice a month (except monthly in January and August) by TIME USA, LLC. **PRINCIPAL OFFICE:** 3 Bryant Park, New York, NY 10036. Periodicals postage paid at New York, N.Y., and additional mailing offices. **POSTMASTER:** Send all UAA to CFS (See DMM 507.1.5.2); **Non-Postal and Military Facilities:** Send address corrections to TIME Magazine, PO Box 37508, Boone, IA 50037-0508. Canada Post Publications Mail Agreement # 40069223. BN# 704925882RT0001. © 2026 TIME USA, LLC. All rights reserved. Printed in the U.S.A. **CUSTOMER SERVICE AND SUBSCRIPTIONS:** For 24/7 service, please use our website: ***www.time.com/myaccount.*** You can also call 1-800-843-8463 or write TIME Magazine, PO Box 37508, Boone, IA 50037-0508. Reproduction in whole or in part without written permission is strictly prohibited. Your bank may provide updates to the card information we have on file. You may opt out of this service at any time.



Products and services are subject to change depending on flight duration and aircraft.



Fervo Energy's Cape Station base in Utah

A new energy



Investments in clean energy will nearly double those in fossil fuels this year

SOMETIMES YOU NEED TO CLIMB 30 FT. IN the air, atop a modified oil rig, to get a better view of what's coming next. In October, TIME's Justin Worland did just that when he traveled to southwestern Utah, where Fervo Energy is adopting fossil-fuel technologies for a rapidly changing energy landscape.

When we launched TIME100 Climate in 2023, funding from the Biden-era Inflation Reduction Act, the single largest climate investment in American history, was starting to flow through the U.S. economy, making the country an exemplar of how government policy can influence climate action. Three years later, we're in a very different world—with signals that new investment is being driven less by direction from Washington than by desire from markets.

In May, Fervo Energy staged one of the largest U.S. clean-energy initial public offerings in history. This was fueled by the geothermal-energy company's Cape Station plant in Utah, with 100 MW of power scheduled by the end of 2026 and an additional 400 MW planned in 2028—which would be enough to power 500,000 homes. In September, Google signed a landmark deal for the plant to supply power to a future data center in the area.

That promise of clean data-center power is largely driving the enthusiasm of this new moment. Investments in clean energy will nearly double those in fossil fuels this year, according to the International Energy Agency. "Around the world, countries and companies are turning to technologies that were developed as climate solutions and now also offer energy security, speed, reliability, and increasingly attractive economics," Worland writes in this issue.

OUR 2026 TIME100 CLIMATE, co-edited by Emma Barker Bonomo and Kyla Mandel, looks at Fervo's CEO Tim Latimer and 99 other individuals who are leading and navigating this transformation. To assemble this group, our editors and correspondents reviewed hundreds of names, with a particular focus on those who achieved measurable and sustainable action over the past 12 months.

What we found was a global story: At Start Campus in Portugal, CEO Robert Dunn led the design and development of the 1.2-gigawatt Sines Data Campus, an AI data center to be run entirely on renewable power and cooled by seawater. At the end of last year, Microsoft announced a $10 billion investment in Sines. In neighboring Spain, CEO Mario Ruiz-Tagle has led Iberdrola España through a period of rapid expansion of the country's wind and solar resources, For Free Mags&Papers Check softarchive.is which set the average Spanish house- hold up to see a 10-euro savings on monthly energy bills since March, even as Europe is hit hard by high oil prices.

It's noteworthy that value—not values—is driving much of this change. While advocates have argued for decades that shifting to sustainable, renewable, noncarbon energy is simply the right thing to do, people everywhere are finding that moving away from fossil fuels is the right move for their bottom lines. India's Mahindra Last Mile Mobility, led by CEO Suman Mishra, grew 85% year-over-year in the first quarter of fiscal year 2027 to become the country's market leader in electric three-wheelers. In Chile, Juan Carlos Muñoz spearheaded Chile's transition to electric public transportation; Santiago now has the largest fleet outside of China. And in Kenya and Rwanda, BasiGo CEO Jit Bhattacharya is pioneering leased electric buses and charging infrastructure to cut diesel buses.

These innovators join a host of groundbreaking thinkers, investors, and pioneers who continue to write new playbooks for climate action, reminding us the world is full of leaders keeping their eyes on the future.

Sam Jacobs,
EDITOR-IN-CHIEF

COURTESY OF FERVO ENERGY

jitterbug® 20 YEARS

Cutting back on monthly expenses?

Save with affordable, flexible plans and 25% off[1] easy-to-use Jitterbug cell phones.



Or bring your own phone.

For 20 years, Jitterbug® has kept things simple with large screens, big buttons, easy menus and loud speakers. Now enjoy spam call blocking, Wi-Fi calling and 5G service on our newest phones. And upgrade to Urgent Response for 24/7 help, even in emergencies.*

Call now! 1-866-490-4629

One line as low as
$14.99/mo.[2]

Add lines as low as
$9.99/mo.[2]

Plus $3.23 admin. fee, variable USF/surcharges and taxes. Pricing is for Flip basic plans with paperless billing. *Add $20/mo./line for Urgent Response.

- Fast, reliable nationwide 5G
- 100% U.S.-based support, 24/7[3]
- No long-term contracts or cancellation fees
- Keep your phone number[4]

Available at:

BEST BUY. available at amazon

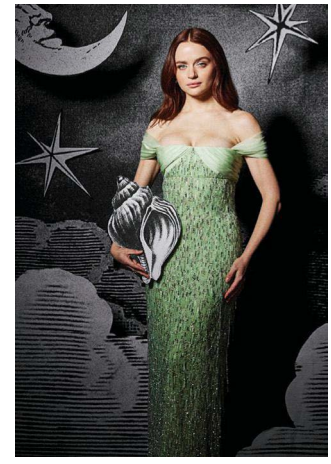
jitterbug.com

[1]25% off $119.99 Smart5 and $79.99 Flip3 regular prices valid for new lines of service only through 12/19/26. [2]Pricing is for new lines of service. See shop.lively.com for current pricing and shop.lively.com/billing for descriptions of fees. Monthly fees are subject to change. Plans may require a $35 one-time activation fee per line and an additional variable USF fee added to the activation fee. [3]Urgent Response and Operator Services are available 24/7. For Customer Service business hours see shop.lively.com/billing. [4]Porting is dependent on availability of the phone number requested and approval of the existing carrier. [5]SIM not compatible with every phone. Only basic plan available for SIM flip phones. Phone appearance may vary. Lively and Jitterbug are trademarks of Best Buy Health, Inc. ©2026 Best Buy. All rights reserved.



Previews of what's Next

At the TIME100 Next Gala on Oct. 29 in New York City, this year's honorees dropped by a special portrait studio, presented by Toyota, featuring a celestial backdrop designed by art director Jana Frost, whose work was also on the cover of the TIME100 Next issue. Clockwise from top right: actor Joey King, singer-songwriter and content creator Alex Warren, Grammy-nominated singer Raye, and musician Sombr. Read more about the 2026 TIME100 Next on **time.com**







TIME applauds Latino Leaders

TIME celebrated its fourth annual Latino Leaders list, which recognized 13 trailblazers across various fields, on Oct. 27 in Miami, at an event presented by PepsiCo. At right, honoree Sofia Carson—an actor, singer, and advocate—spoke about the people who have had an impact on her life, including her mother. Find the full list and TIME's complete coverage of the event on **time.com**



On the covers



Photo-illustration by TIME



Illustration by Peter Greenwood for TIME

SUBSCRIBE
to TIME's newsletters
Find all of TIME's email lists at **time.com/newsletters**

SETTING THE RECORD STRAIGHT

In our review of *The One About Matthew Perry* (Nov. 9) we misstated the last name of the director; she is Mary Robertson.

EMAIL US:
letters@time.com
Include the writer's full name, address, and phone number. Please do not send attachments

FOLLOW US:
@time
(X and Instagram)
facebook.com/time

Back Issues
Contact customerservice@time.com or call 800-843-8463.

Reprints and Permissions Information is available at time.com/reprints. To request custom reprints, visit timereprints.com.

Advertising
For advertising rates and our editorial calendar, visit timemediakit.com.

Syndication
For international licensing and syndication requests, contact syndication@time.com

Please recycle this magazine, and remove inserts or samples beforehand

ELECTION COVER SOURCE IMAGE: JIM WATSON—AFP/GETTY IMAGES

AMERICAN CRUISE LINES

CRUISE CLOSE TO HOME® ★ 9 UNIQUE ITINERARIES ★ 8 TO 16-DAY ADVENTURES

SOUTHEAST U.S. CRUISES

GEORGE WASHINGTON'S ESTATE SHORE EXCURSION ★ MOUNT VERNON, VA

One of the nation's most iconic homes, Mount Vernon offers a glimpse into 18th-century life through its beautiful gardens and grounds as well as intriguing museum exhibits honoring George Washington's life and legacy.







THE WRIGHT BROTHERS

In 1903, the Wright brothers achieved the first powered, sustained, and controlled airplane flight in Kitty Hawk, NC. Two years later, they surpassed their own milestone when they built and flew the first fully practical airplane.

NAVAL ACADEMY SHORE EXCURSION ANNAPOLIS, MD

Explore the academy's historic grounds with our expert guide and experience "life on the yard." Witness the noon meal formation and take in breathtaking views of the campus.



HISTORIC SAVANNAH TROLLEY EXPLORATION SHORE EXCURSION ★ SAVANNAH, GA

Experience a fully narrated journey aboard the Old Town Trolley, featuring open-air seating ideal for capturing memorable photos. Along the way, expert conductors share engaging stories, landmarks, and over 270 years of history from Georgia's First City. As your exploration brings the past to life across more than 100 points of interest, you will discover Savannah's rich legacy and timeless charm.







FORT MASSACHUSETTS SHORE EXCURSION ★ SHIP ISLAND, MS

Fort Massachusetts is a historic brick fort located on West Ship Island, Mississippi. It was built by the U.S. government in the mid-1800s as part of a coastal defense system following the War of 1812.



SEAPLANE ADVENTURE TO DRY TORTUGAS SHORE EXCURSION ★ KEY WEST, FL

Seventy miles west of Key West, Florida lies one of North America's most inaccessible national parks–Dry Tortugas. The park is renowned for its marine life, pirate legends, and sheer unspoiled beauty.

Baltimore
MARYLAND
Annapolis
Washington, D.C.
Mount Vernon
Williamsburg
Yorktown
VIRGINIA
Norfolk
Kitty Hawk
NORTH CAROLINA
Beaufort
Wilmington
SOUTH CAROLINA
Charleston
Hilton Head Island
Savannah
GEORGIA
ALABAMA
Jekyll Island
Jacksonville
Amelia Island
Ocean Springs
Mobile
Gulfport
Pensacola
Green Cove Springs
St. Augustine
Ship Island
Blue Spring State Park
New Orleans
Cape Canaveral
FLORIDA
St. Petersburg
West Palm Beach
Punta Gorda
Marco Island
Key Biscayne
Key West

REQUEST A **FREE** BROCHURE ★ **800-913-2493**

OFFICIAL TIMEPIECE

ROLEX

TIME100 NEXT

On October 29, 2026, TIME recognized 100 extraordinary individuals who are shaping our future at the annual TIME100 Next Gala.

Learn more about the next generation of leaders at: **time.com/time100next**



TOP ROW: **TYRESE MAXEY** NBA ALL-STAR, PHILADELPHIA 76ERS; **ASHLEY PADILLA** ACTOR, WRITER, AND CAST MEMBER, SATURDAY NIGHT LIVE; **HIMESH PATEL** ACTOR; **ALEX WARREN** SINGER-SONGWRITER AND CREATOR; **WAWIRA NJIRU** FOUNDER & CHIEF EXECUTIVE OFFICER, FOOD4EDUCATION

THANK YOU TO OUR PARTNERS

PREMIER PARTNER

TOYOTA

SIGNATURE PARTNERS

American Airlines

Danantara Indonesia

Project Management Institute.

OFFICIAL DESIGN PARTNER

The Brief



LAME DUCK

BY ERIC CORTELLESSA

After the GOP's drubbing in the midterms, America can expect an even more combative President

INSIDE

NASA'S NEXT ARTEMIS MISSION IS, IN FACT, ROCKET SCIENCE

HOW THE IRAN WAR IS UNDOING BANGLADESH'S GARMENT INDUSTRY

INTRODUCING *TIME*'S 2026 KID OF THE YEAR

PHOTOGRAPH BY BRENDAN SMIALOWSKI

On the eve of an election that threatened to upend his presidency, Donald Trump went to the Lincoln Memorial Reflecting Pool, where he had overseen a multimillion-dollar renovation that went awry when algae turned the water green. Aides hoped the President would focus on concerns weighing on ordinary Americans: gas prices, grocery costs, war in the Middle East. Trump spent much of his 53-minute speech talking about construction projects.

It was a bewildering capstone to a strange campaign—and the scale of the Democrats' victory the next day was staggering. They seized control of the House and Senate with ease. They captured governorships and Senate seats by commanding margins in traditionally Republican states, and prevailed in House districts gerrymandered to favor the GOP. The wipeout was a clear repudiation of the President: an NBC News exit poll revealed that 43% of voters said they had cast their votes to express disapproval of him.

Trump's confidants had often remarked that he cared little about the outcome of the midterms, that he regarded his party's losses as an inescapable historical pattern. It's a fair point. Barack Obama's Democrats took a beating in consecutive midterms, and George W. Bush's Republicans were drubbed in 2006. Trump himself oversaw the loss of dozens of House seats in 2018. Advisers tried convincing the President, whose political instincts seemed increasingly out of step during the campaign, that he had some agency over the trajectory, but "he had trouble getting past the history," one of his top advisers says. He grew resigned to the slugfest ahead and dismissive of the investigations Democrats could embark upon. "They'll probably go after me," he told TIME in late September, "and I'll go after them."

'This may be the end of one chapter of Trump's presidency, but it's also the beginning of another.'

—A TRUMP ALLY
ON WHAT THE NEXT TWO YEARS MAY HOLD

FOR MORE THAN A DECADE, Trump has commanded a degree of loyalty from Republicans unmatched in modern politics, bending lawmakers to his will and making dissent a career-ending proposition. The trouncing the GOP suffered on Nov. 3, coupled with the growing perception that Trump has become a political liability, may usher in a very different era for the lame-duck President.

In the final two years of their second terms, Presidents often pivot toward foreign policy, where they can exercise power with fewer constraints from Congress or the courts. Trump already had, and toys with resuming military strikes against Iran. Another senior Administration official says Trump next plans to concentrate even more heavily on the western hemisphere, where a succession of pro-Trump heads of state have risen to power and where he and his allies see intensifying competition with China and Iran for regional influence.

But after two years wielding authority freely, Trump will face new checks on his power. He will struggle to secure confirmation for his nominees. Aides anticipate Supreme Court battles over his expected reliance on officials serving in an acting capacity in roles that usually require Senate confirmation. And yet those closest to Trump insist he will be anything but constrained. "Don't expect a kinder, gentler Trump," one close ally says. "This may be the end of one chapter of Trump's presidency, but it's also the beginning of another."

His inner circle expects the President to grow more ferocious and less conciliatory in the face of oversight. Advisers suggest Democrats will overplay their hand, allowing him to recast himself as the victim of persecution rather than the architect of his own predicament. "Historically, he has always done well when he's the target," says one aide. "He knows better than anyone how to use that to his advantage."

Aides are bracing for a wave of staff turnover, a combination of attrition and Trump's dispensing with officials who have frustrated him. The result could be a further retreat into an insular world of loyalists unable or unwilling to deliver bad news or curb his impulses. Inside the White House, advisers have been contemplating the implications of divided government. "His natural inclination is to work with Democrats or independents or whatever," says another senior aide. "But he's aware of the investigations and the games the other side will play, and he's prepared to fight back." Sure enough, the expected incoming Democratic chair of the House Oversight Committee delivered a succinct warning on X: "LAWYER UP."

But the road ahead will be unlike any Trump has traveled before. Constitutionally barred from seeking another term, the President may find that Republicans face a new political calculus. As the 2028 presidential race takes shape, Vice President JD Vance will confront the delicate task of forging an identity independent of Trump without alienating the man whose endorsement he may still need. Those tensions could strain not only their relationship but also the broader coalition Trump has spent a decade assembling—one already showing signs of fracture. The question is whether the fear and loyalty that have sustained Trump's dominance of the GOP will endure as his party begins looking beyond him. □

The Brief includes reporting by Chantelle Lee



Victory for the Valkyries

Game 7 of the WNBA basketball finals ends with celebration from the Golden State Valkyries, who beat the Atlanta Dream on Oct. 31 in San Francisco. The 68-63 victory marked the first title for the Valkyries, a team in only its second season of existence—and the fourth time the Dream came out of the finals without a win.

OPENING PAGE: AFP/GETTY IMAGES; WNBA; TONY AVELAR—AP

THE BULLETIN

Short on male royals, Japan opts for adoption over a princess

FOR MORE THAN A MILLENNIUM, Japan's hereditary monarchy system remained unchanged. Now, as the imperial family shrinks, lawmakers are trying to keep it alive by relaxing some rules while retaining a ban on female emperors.

NEW RULES Two amendments to Japan's Imperial House Law took effect on Oct. 24. One allows princesses to keep their royal status even if they marry nonroyals. The other is an apparent roundabout way to preserve patrilineal succession: royal-family members may adopt an unmarried, childless male, at least 15 years of age, from former imperial-branch families, and those adoptees' future male offspring can be considered legitimate successors to the throne.

SMALL POOL Before the revisions took effect, Emperor Naruhito, 66, had only a few viable successors: his younger brother Akishino, 60; his nephew Prince Hisahito, 20; and his uncle Prince Hitachi, 90. This raised concerns about the future of the imperial family. The reforms aim to expand the pool of eligible heirs without allowing women to ascend to the throne—a tradition conservatives, including Prime Minister Sanae Takaichi, the first woman to hold the position, have repeatedly advocated against upending.

ANGER SWELLS But the Japanese public has shown support for female monarchs. Fans of Princess Aiko, the emperor's sole daughter, have marched in Japan's streets in support of her eligibility.

While the Imperial Household Agency has said it will study how to implement the measures, critics are already studying how to turn the policy over, arguing that it violates the country's antidiscrimination law. Manga artist Yoshinori Kobayashi filed a lawsuit against the government that called the amendment "unconstitutional."

Experts also say the amendments could affect how the Japanese public views the imperial family. "It could dilute the feeling of closeness or the feeling of holiness that some people might feel towards the royal family," Jeffrey J. Hall, a lecturer at Kanda University of International Studies, tells TIME, "because they're more used to the royals that they already know."

—CHAD DE GUZMAN

GOOD QUESTION

What makes NASA's next Artemis mission so tricky?

BY JEFFREY KLUGER

VERY BIG NEWS WILL BE MADE IF NASA REACHES ITS goal of returning astronauts to the surface of the moon during the mission of Artemis IV in 2027. But nearly as big—albeit quieter—news is set to be made next year in the run-up to that mission, as the astronauts of Artemis III are scheduled to travel to low earth orbit to test two lunar landing vehicles that may make eventual footprints on the moon possible. By any measure, that flight will be one of the most complicated and daring in NASA's history.

The extreme complexity of Artemis III is due in part to a pair of decisions NASA made in 2021 and 2023. During the Apollo era, the space agency selected Grumman Aircraft Engineering to build its squat, four-legged, 23-ft.-tall lunar module. It was a simple ship with a low center of gravity, ensuring a stable foothold on the lunar surface. In 2021, NASA similarly awarded a contract for a crewed lunar spacecraft—this time to SpaceX for its Starship lander. The decision was a head scratcher.

Starship is a silo-like cylinder with a tapered nose cone, measuring 165 ft. tall. Critics and competitors pounced on the giant machine—not least because of the risk that it could tip over on the moon—and NASA issued a second contract in 2023, this time to Blue Origin, which promised to build a lander more in keeping with the low-slung Apollo module. Both companies have continued to produce their landers, and both will get a shot to fly on the historic Artemis IV mission—the winner to be determined by its performance during Artemis III.

The mission, which will run up to 17 days, is basically an audition. First an uncrewed Blue Origin New Glenn rocket will launch from the Kennedy Space Center (KSC) carrying the company's Blue Moon lander into orbit. Then NASA will launch its prosaically named Space Launch System (SLS) moon rocket, carrying the four Artemis III astronauts aboard a Lockheed-made Orion spacecraft. The crew will rendezvous with the Blue Moon, dock with it, and enter it, checking out its systems before returning to the Orion. Following that, SpaceX will launch a Starship rocket carrying its Starship lander, which will also be uncrewed. The astronauts will rendezvous and dock with that ship too. Finally, they will separate and return home in the Orion.

All of that makes for a steep hill to climb—made even steeper by the fact that neither company has had an easy go of things. SpaceX has launched 14 Starships since 2023, only achieving earth orbit for the first time in September 2026.

A section of the SLS being moved from a NASA facility in New Orleans on April 20



The mission, which will run up to 17 days, is basically an audition

Blue Origin's New Glenn rocket, meanwhile, launched three times from January 2025 to April 2026, before a massive explosion on the launchpad during a test occurred in May 2026. The company has been working feverishly since to rebound, and at an Oct. 23 press conference at KSC, the NASA brass praised its efforts.

"Blue Origin's New Glenn team has amazed the world with their progress for return to flight after the incident in May," said Artemis program manager Jeremy Parsons.

ASSUMING THE COMPANY can maintain that pace, it stands a good chance of being the winner in the Artemis III sweepstakes. That's partly because its rival, SpaceX, will not fly a full-up version of its lander during the mission, but rather what amounts to a boilerplate ship equipped with a docking port that will test only whether the Orion and the Starship can link up in orbit. Blue Origin's lander won't be fully operational either, but it will have a functioning crew compartment that will allow the Artemis III astronauts to enter safely.

Whether the two companies can perfect their engineering in the maximum 18 months that will elapse between the launch of Artemis III and the flight of Artemis IV at the end of 2028 is uncertain. NASA Administrator Jared Isaacman, who presided at the press conference, expressed confidence that the target date can be met without slipping into 2029 or later—pointing to the space agency's glorious history, when it launched no fewer than nine crewed lunar missions from 1968 to 1972.

"In that remarkably short span of time, the ambitions of generations once confined to the pages of science fiction became humanity's greatest achievement," he said. "We are here to deliver the outcomes the world expects of the most accomplished space agency in history." ◻

NASA; MICHAEL DEMOCKER—NASA; HUERTA; MIKE BLAKE—REUTERS; STEWART; VITTORIO ZUNINO CELOTTO—GETTY IMAGES; POPE LEO XIV; BENOIT TESSIER—AFP/GETTY IMAGES



DIED

Dolores Huerta

Yes, she could

DOLORES HUERTA WAS A 25-YEAR-OLD volunteer at a Stockton, Calif., civil rights organization when a farmworker walked in asking for help applying for disability benefits. Huerta went to a welfare office with the man, but was not allowed to submit an application on his behalf. When she returned defeated, the group's founder told her to go back and *demand* that a supervisor allow the man to submit an application. "I kind of overcame my anxieties and my fears," Huerta later recalled. "That taught me a lesson. That taught me that I had a voice."

Huerta, who died at 96 on Oct. 28, spent the rest of her life using that voice. She fought for labor rights, women's rights, and immigrants' rights, and is credited with coining the slogan "*Sí se puede*"—"Yes we can"—long before it was adopted by Barack Obama. Huerta became an internationally renowned activist, organizer, and political force who co-founded what is now known as the United Farm Workers of America, alongside Cesar Chavez. In March 2026, she also became a voice for survivors of sexual violence, as she came forward to accuse Chavez of abusing her decades earlier.

"I think she kind of radiates empowerment not only for herself, but for others," Mario Garcia, a scholar of Chicano history, told TIME in an interview before Huerta's death.

She "does not play," Obama said, when he presented the Presidential Medal of Freedom to Huerta at the White House in 2012. "Without any negotiating experience, Dolores helped lead a worldwide grape boycott that forced growers to agree to some of the country's first farmworker contracts," he said. "And ever since she has fought to give more people a seat at the table. 'Don't wait to be invited,' she says. 'Step in there.'" —JASMINE AGUILERA

DIED

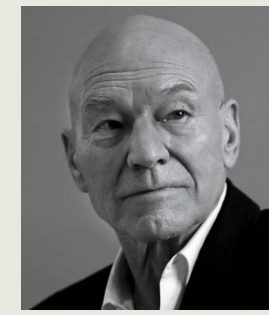
Patrick Stewart

Iconic actor

Growing up in England's coal country, amid poverty and domestic violence, a young Patrick Stewart discovered acting as a "refuge from real life." He went on to share what began as a private "safe space" with countless fans and friends, from whom tributes poured in after Stewart's death in his L.A. home Oct. 28.

Stewart's best-known roles were Captain Jean-Luc Picard in *Star Trek* and Professor X in the *X-Men* movies. "We lost one of the greats of stage and screen today. And, in my book, a tremendous friend and man," wrote Hugh Jackman, one of his *X-Men* co-stars. In a June interview with TV Insider, Stewart said that he couldn't imagine retiring. "I'll always and forever," he said, "be an actor."

—*Connor Greene*



FLED
Brazilian presidential candidate **Flavio Bolsonaro,** to Miami, after his Oct. 25 election defeat, despite a Supreme Court order to surrender his passports amid a money-laundering investigation.



VOTED
Robert Francis Prevost, by mail, in the midterm elections, according to Illinois election records —making Chicago native **Pope Leo XIV** the first Pontiff to vote in a U.S. election.

COMPLETED
A **28-year walk around the world,** on Nov. 2, by Karl Bushby, who traversed 31,000 miles across 30 countries, having promised not to return to his U.K. home until he finished the trip on foot.

HACKED
Cryptocurrency exchange **Binance,** leading to the loss of more than $6 billion in digital coins, it said on Oct. 29. Customers have withdrawn billions of dollars of assets from the platform since the attack.

WORLD

Bangladesh's garment trade hangs by a thread

BY CHARLIE CAMPBELL/DHAKA

IT'S 11 A.M. AT HA-MEEM GROUP'S ASHULIA GARMENT factory north of Dhaka, and every floor is a whirlwind of feverish labor. Industrial jigsaws slice stacks of denim into precise panels, which nearby seamsters then stitch into jeans, skirts, and jackets. Next comes washing, ironing, and affixing buttons and zips before the brand labels are attached—Gap, American Eagle, and JCPenney are major clients—and the finished garments are stacked into boxes by some of the group's 90,000 staff, who together produce 9.3 million apparel items every month.

But suddenly the lights flicker, the workshop dims for a moment, till the return of full illumination is announced by the roar of four cacophonic British-made diesel generators, which automatically splutter to life when the gas supply weakens. "In Bangladesh, the grid electricity is bad, there are frequent interruptions," says Tanul Chakraborty, head of power, energy, and environmental sustainability for Ha-Meem Group. "After gas the most reliable energy in Bangladesh is diesel. Grid electricity is third. Almost the entire economy moves on diesel."

It's a startling admission given that Bangladesh's economy is worth $510 billion, South Asia's second largest after India. But the nation is in the grip of a severe power crunch, as wars in Ukraine and Iran expose the fragility of its growing dependence on imported fuel. Since Russia's 2022 invasion, industrial gas prices have risen by 150%, and diesel by about 70%. Since the Iran war began, the cost of spot liquefied natural gas (LNG) has nearly tripled.

That's bad news for a garment industry that is the country's largest source of formal employment, directly providing 4 million jobs, while generating $38.7 billion last year—over 80% of export earnings.

But the strain extends across the Global South, where developing nations struggle with a prolonged energy crisis that disproportionately squeezes the planet's most deprived. In the Philippines, heavy dependence on imported Gulf oil has forced emergency conservation measures, including four-day working weeks, restrictions on official travel, and flight cancellations. Diesel prices have risen 86% in Nigeria and more than 50% in Tanzania and Ethiopia, driving up the cost of farming, trucking, and electricity from generators—and, in turn, the price of staples such as rice and corn.

"The poorest people, who spend the highest share of their income on food and fuels, will be hit the hardest," Indermit Gill, World Bank chief economist, warned in April.

In Dhaka, a sprawling megacity of almost 40 million that is usually defined by relentless momentum, the nights have grown eerily dark. With the national power shortfall exceeding 3,000 megawatts, the government has imposed sweeping cuts, exempting only essential services such as hospitals and pharmacies. Illuminated billboards along busy commercial corridors now dim soon after sunset, while shops close an hour early. The burden is even heavier in rural villages, where residents have recently endured blackouts lasting as long as 16 hours a day.



Garment-industry workers at a factory in Savar, on the outskirts of Dhaka, on Sept. 17

For ordinary citizens, daily life has become a relentless calculus: residents are forced to rise before dawn in the hope that their stove's gas pressure might be strong enough to cook. Other quandaries include how long they can run a fan against the suffocating humidity, and how far the queues will stretch at the gas station. As businesses flounder, a secondary crisis looms: global malnutrition monitors warn that 18.1 million Bangladeshis may soon face food insecurity.

In September, thousands of opposition supporters staged a long march to pressure Prime Minister Tarique Rahman—who only took office in



MOHAMMAD PONIR HOSSAIN—REUTERS

February, just weeks before the Iran war broke out—to do more to tackle soaring fuel costs. "Energy is the biggest test for the new government and has become a galvanizing point for the opposition," says Michael Kugelman, resident senior fellow for South Asia at the Atlantic Council.

WHILE THE GLOBAL energy crisis is everywhere tied to geopolitics, Bangladesh's woes are uniquely entwined. Rahman's Bangladesh Nationalist Party took power following the popular ouster in 2024 of autocratic former Prime Minister Sheikh Hasina, whom India granted sanctuary, deepening the rift between the neighbors. Bangladesh imports roughly one-sixth of its electricity from India, which hasn't been shy in wielding that strategic vulnerability as diplomatic leverage.

Bangladesh also finds itself hostage to shifting great-power rivalry beyond its neighborhood. Dhaka invested $12.65 billion—chiefly via Moscow-backed loans—in Bangladesh's first nuclear power station, which has been built by Russian energy giant Rosatom in the town of Rooppur. The plant was supposed to begin operations in July 2024 but faced repeated delays due partly to the Ukraine war, which complicated payments to Russian banks and impeded the arrival of air and maritime cargo.

Meanwhile, Washington is dangling its own alternatives. On Sept. 25, Bangladesh and the U.S. signed a memorandum of understanding on strategic civil nuclear cooperation that focuses on small modular reactors.

Bangladesh is also looking to Washington's superpower rival. Rahman's first overseas trip in June was to Malaysia and China. In Beijing, the two nations signed 17 agreements and other instruments to mark a "new era" of bilateral relations, with one explicitly covering renewable-energy cooperation. But two of the agreements involved corporate groups subject to U.S. sanctions, and the growing ties between Dhaka and Beijing have caused consternation in Washington, State Department sources tell TIME.

Seemingly pulled in every direction, Dhaka is desperate to gain more energy independence. The government recently launched a special incentive package for rooftop solar, slashing import duties on solar equipment from 17% to 1%, while particularly encouraging systems paired with battery storage. Bangladesh added some 200 MW of solar capacity to the national grid over the first half-year, according to government figures. However, that rate must be ramped up sixfold to have any hope of achieving ambitious five-year targets.

But while rooftop solar may work well for homes, it is far less useful for energy-intensive factories. Ha-Meem has 29.2 MW installed on its roofs—one of the largest private solar installations nationwide. Chakraborty says it is only helpful for perhaps four hours per day at a factory complex that operates around the clock.

So with Ha-Meem's daily energy bills rising from roughly $200,000 to $300,000 over the past quarter, and clients refusing to budge on prices, the firm is boosting efficiency lest orders shift to Vietnam, Cambodia, or Pakistan.

If preserving Bangladesh's dominant role in global garment production is precarious, diversifying the economy will be harder still. The nation has ambitious goals of ramping up existing pharmaceutical and leather industries, and even moving into autos, medical devices, and semiconductors. But competition is tough, and few serious investors are charmed by candlelight meetings.

For now, given scant signs of relief in oil markets, Bangladesh's garment workers—and billions across the Global South—have little choice but to endure. In recent weeks, Yemen's Houthis have moved to block the Bab al-Mandab strait in the Red Sea, and intensified missile and drone attacks on Saudi airports, cities, and oil infrastructure, disrupting flights, and stoking fears of a wider regional war.

"It's a difficult situation for the present government," says Fazlee Shamim Ehsan, managing director of Fatullah Apparels Ltd., which produces 22,000 finished garments per day. "It would be much better if there was no war in the Middle East." —*With reporting by* ZIA CHOWDHURY/DHAKA

'Energy is the biggest test for the new government.'

—MICHAEL KUGELMAN, ATLANTIC COUNCIL SENIOR FELLOW

Disaster in Spain

The aftermath of the collision of two high-speed trains near Urda, Spain, on Oct. 28. Sixty-nine people were killed and dozens more injured when a train that was halted on the tracks was struck from behind by another moving at full speed. It was the second such incident in Spain this year: 46 people were killed in January when two high-speed trains collided in the southern part of the country. On Nov. 3, Spain's Transport Minister resigned.

Photograph by Manu Fernandez—AP




AGUADO
www.gruasaguado.com

KID OF THE YEAR

BY JEFFREY KLUGER

THE LITTLE LOST BOY IN DINWIDDIE County could not know about the effort the grownups were making to find him. He hadn't been gone very long, but the county in Virginia is wooded, with streams and thickets and tangles. Any child could become hopelessly lost there.

For this boy, who has autism and experiences sensory-processing challenges, the unfamiliar environment could be especially overwhelming. So the grownups mustered the police and rallied the fire department, deployed a drone, and released the dogs, all of them scouring the dense local woods.

To the profound relief of the community—to say nothing of his desperate family—the boy was soon found. He hadn't gone far—no farther than the back deck of his home, where he had climbed into the storage cabinet below a gas grill and shut the little door behind him. That was where the first responders found him—sitting calmly and cross-legged, insulated from the intrusive buzz and searing light of the world around him.

Sergeant JT Mann of the Prince George County police department was one of the searchers who found the boy. When he came home that evening, he told his wife and two sons what had happened. They would understand better than most, he knew, because the younger of his two children—Ledger, 9—also has autism. Ledger heard the story and sympathized with what the lost boy must have experienced.

"I felt a little sad for him," he says. "I felt a little bad for him."

Ledger—whose work has earned him recognition as TIME's Kid of the Year for 2026 and as a TIME for Kids Service Star, our sister publication's program highlighting young people making a positive impact—approved of the way his father had coaxed the boy out of the cabinet, playing a video on a smartphone to catch his eye and ease his fear. But he also believed that wasn't enough.

There are so many things a child on the spectrum might appreciate in a crisis, Ledger thought—a blanket, a plush toy, a book, a fidget spinner to busy their hands, wireless headphones to listen to music or stories, sunglasses to dim the outside glare. If the child is nonverbal, a dry-erase board and a marker would provide a way to write down thoughts or respond to questions.

"Dad," he said straightforwardly, "you don't have those things."

It was at that moment last year that Ledger resolved to set things to rights. First responders should always have these types of items on hand, he said, so that all children—especially those with autism—can find comfort in traumatic situations, including car accidents and fires, when things move fast and the world seems to be coming unmoored. And, Ledger believed, all of those objects should be carried in a clear backpack so children could see and point to what they need.

"He came up with that whole concept in a span of 10 minutes," says Ledger's mother Amanda, the elected commonwealth's attorney for Dinwiddie County, Virginia.



Ledger Mann, 9, at home with some of his LGM bags on Oct. 25

Since then, Ledger, his parents, and his big brother Peyton, 16—along with no shortage of friends, neighbors, first-responder groups and other volunteers—have worked to make his vision a reality. The family has a Facebook page called LGM Bags—for Ledger Grayson Mann—and is looking to register as a 501(c)(3) nonprofit. Ledger's bags are distributed



MATT EICH FOR TIME

in six states, and the family doesn't plan to stop there.

MONEY TO SUPPORT Ledger's idea started almost immediately, with a round of funding from a very fitting source: Ledger's piggy bank. As it happened, there was ample cash on hand.

"Ledger saves his money religiously," says Amanda. "He doesn't like to spend, so he had about $100." That was enough to pay for the first four bags and all of the plushies and other goodies needed to fill them. The family delivered them to local police stations and firehouses, and the reaction of the first responders was so enthusiastic and so rewarding for Ledger that he pressed to make and distribute more. But since Ledger's piggy bank could stretch only so far, JT decided to engage the community.

"We reached out to civic centers—the Moose Lodge, the Fraternal Order of the Police, churches—who donated money toward purchasing the bag and the stuff that goes in it," says JT. "Nothing in the bag is expensive. Everything is from the Dollar Tree or Dollar General. They're not $100 headsets. They're $5 headsets."

Before long, the Manns' garage was piled high with the makings for dozens of emergency go bags. Before the work began, much of Ledger's free time was spent doing homework, practicing jujitsu, and playing organized football—and it still is. But he now spends his remaining time in the garage, packing up the bags in a careful, just-so way. Each item is accounted for so every bag is complete, all carefully arranged so that nothing is hidden from view.

"He's very particular about how the bag has to be made," says JT. "He has an assembly line and everything has to be done perfectly."

The more bags the family assembled, the more widely the Manns distributed them, and they took care to position them strategically. Dinwiddie County covers 286 sq. mi., so the Manns initially distributed bags in central locations before expanding outward to ensure no area was overlooked. The various hospitals, EMS teams, police departments, and fire departments that had bags on hand showed a ready willingness to share the wealth with other responders who didn't.

"If the fire department's on one side of the county, our police officer [in the vicinity] wouldn't have to go all the way back to the police station," says JT. "The bags are located so that the police officer could pick one up at that fire station."

Word of good deeds has a way of getting around—and so it was with the Manns' efforts. Early this year, a local television reporter approached the family to produce a story that aired well beyond the Dinwiddie County limits. Corporations, private citizens, and first-responder groups from Florida, New York, Maryland, West Virginia, North Carolina, and elsewhere in Virginia reached out to offer support or request bags for their communities.

"We had one individual fly out from Texas," says JT. "She flew all the way [to Virginia to deliver] bags from her company. She visited our police department over one weekend to meet Ledger because he was such an inspiration to her."

So far, the Manns have assembled and distributed more than 475 bags—an impressive number that is continuing to grow.

LEDGER THE PUBLIC SERVANT is, of course, still Ledger the kid, with schoolwork and hobbies very much a part of his life. Until this year, he attended a Dinwiddie public school, but, according to his mom, the kind of specialized attention he needs as he's grown older requires a smaller environment. Now he is one of 10 children attending a private school known as the Learning to Lead Academy. His favorite subject is math; his favorite hobby is Lego; his favorite position in football is on the offensive line. But the day before speaking to TIME, he played defense—and even recorded a quarterback sack.

'He has an assembly line and everything has to be done perfectly.'

—JT MANN, LEDGER'S DAD

Ledger has a long way to go before having to think about what he wants to be when he grows up, but he has some ideas—a couple of them inspired by his father and his brother Peyton, who is eyeing colleges and wants to study architecture. "I want to be a lot of things," Ledger says. "A police officer, a builder, work with robotics."



Ledger and his father JT, a sergeant with the Prince George County police department



Ledger with the flight crew of HCA Virginia's Air Care Eagle emergency helicopter



Ledger presents bags to the Colonial Heights fire and EMS station

With each bag the family distributes, they discover something new about what kids in distress need for comfort. Children get to keep any item they select from a bag, while the bag and its remaining contents go back to the first responders, who replace the missing items. Far and away the comfort items in greatest demand are the plush animals. Ledger himself has a mountain of them.

"We have a playroom full and a bedroom full of plushies," says Amanda. "Whether it's a boy or a girl, a stuffed animal is always a good comfort for any child. They can be in their own little world, where they're safe and comfortable."

DURING WEEKENDS OR when Ledger is on school vacation, the family visits the towns and counties that have requested the bags, delivering completed ones and helping to assemble others on-site.

"It's healing to him and beneficial to him to go out to meet all these people," Amanda says. "And when we go, they welcome him with open arms. They let him meet therapy animals, including horses."

The only participating locale the family hasn't visited in person is Ulster County, New York, which committed itself to assembling 100 bags. Instead, the county and the family arranged a Zoom conversation so that Ledger could explain how the bags should be assembled. As he had been with the other jurisdictions the family worked with, Ledger was all business, keeping a close eye on how the bags were packed. "One place was doing it out of order," JT says. "He was not a fan of that."

During the family's travels to various states, the first responders give Ledger challenge coins and patches, which he collects. At his suggestion—and following his design—LGM Bags now has its own patch and coin.

Ledger's passion and attention to detail continue to fuel the project—one that the family hopes to take nationwide.

"I want to have this go everywhere," says Ledger. "To all of America!" □

'I want to be a lot of things. A police officer, a builder.'

—LEDGER MANN, KID OF THE YEAR

LEFT: MATT EICH FOR TIME; RIGHT: COURTESY OF THE MANN FAMILY (2)

FOUR SEASONS
RESORT
BORA BORA

BEACHFRONT LUXURY *REDEFINED*

Nestled along the white sand beach of a private island Polynesian paradise, the Beachfront Villa Estates at Four Seasons Resort Bora Bora are the ultimate in luxury accommodations. Ideal for family gatherings, extended stays, or group getaways, these two- and three-bedroom villas offer space and privacy, infinity pools, outdoor kitchens and lounges. Bora Bora's best villas are serviced by a team of dedicated Villa Hosts who help create memorable experiences you'll never forget. A stay like this is truly like no other.



RESERVE YOUR VILLA AND RECEIVE A COMPLIMENTARY OVERWATER BUNGALOW SUITE BY CALLING 888-521-6648 AND MENTION TMAAV26 | VISIT FOURSEASONS.COM FOR MORE INFORMATION

5 ways experts cut back on food waste in their kitchens

BY ANGELA HAUPT

At the grocery store, you see yourself as a person who roasts eggplant. You make salads, have exciting plans for fresh herbs. A week later, you're throwing away wilted chives, soggy greens, and mushy vegetables. There's often a gap between the meals we imagine and the food we actually eat. Shelie Miller, who studies sustainability at the University of Michigan, understands how an acorn squash can end up in your cart without a plan. "It's fall. I'm feeling the fall vibes," she says, describing the temptation. That's why she and her husband try to stick to a shared grocery list—and know what they'll do with what they buy. Here's what she and other food-waste experts do to minimize what goes unused.



Shop in your freezer first

Miller knows what can happen to food you freeze with the best intentions: "It just goes into the abyss of a freezer." Eventually, you clean it out and find "freezer-burned chicken breasts and chili from three years ago," she says. Miller and her husband now make a point of shopping in their freezer before deciding what to buy or cook. Sometimes, that means remembering the portions of tomato paste they froze after making pasta. Or it might mean discovering they already have lunches covered for the week. Their approach: "We'll eat a day or two of leftovers. We'll freeze the rest." Then, when they need lunches another week, they can pull out a meal they haven't just eaten three days running.

Make a kitchen-sink potato

Once a week, Miller bakes a potato and gives the odds and ends in her refrigerator somewhere to go. Leftover fajita vegetables? On the potato. Little extras from other meals? Those go on too. "I always call it a garbage potato, or maybe it's better to call it a kitchen-sink potato," she says. The toppings change often enough to keep things interesting. Miller adds those small portions to something she already wants to eat. "It's such a great blank canvas," she says. Stir-fries work too.

Give broccoli stems a chance

Jonathan Deutsch has watched fellow cooks buy cases of broccoli, cut off the florets, and throw away the stems. He considers this a terrible loss. The tender interior of a broccoli stem, he says, is "one of the most delicious vegetables."

Deutsch, the founding director of the Drexel Food Lab in Philadelphia, suggests trimming the woody bottom and peeling away the tough exterior as needed. Recently, he made broccoli salad with tahini and chili crisp using both parts of the vegetable. He peeled the stem, cut up the tender interior, and then air-fried it along with the florets. "The same care and love that went into the florets," he says, "went three inches lower into the stem."

Put your apples in the fridge

Brian Roe, who leads Ohio State University's Food Waste Collaborative, describes himself as an evangelist for buying less food—a habit that's followed him home, "maybe not to the happiness of everybody in my household." But Roe is willing to commit to a Costco-size bag of apples. He just keeps the apples in the fridge, where he says he rarely loses one to spoilage. On the counter, he's more likely to throw a couple away before finishing the bag.

Make leftovers you'll look forward to

Roe's air fryer helps him get another meal out of restaurant leftovers. Recently, he used it to reheat half a tuna steak and vegetables his wife had brought home. "That makes things kind of tasty and crispy again," he says—and less likely to end up in the trash.

While putting food away at home, he considers the next version of the meal, taking an extra minute to make leftovers easy to reheat. The goal is "storing your leftovers in a way that helps you want to use them the next time," he says.

He might, for example, turn last night's teriyaki chicken into today's salad. His son has found another opening for leftovers: breakfast. "They're the freshest they'll ever be because it's the first meal after," Roe says.

ILLUSTRATION BY SOL COTTI FOR TIME

The View

HEALTH

DOCTORS IN THE DARK

BY DR. SHRAVANI DURBHAKULA AND JEREMY KOURVELAS

The illicit drug supply is changing rapidly, with novel synthetic substances appearing in rapid succession. Rapid tests for them are being developed with impressive speed, and can return results within minutes. Law enforcement, medical examiners, employers, community organizations, and even the general public can use them. But physicians treating overdoses cannot.

INSIDE

THE HARM THE JET SET DOES TO CLIMATE

MONEY MATTERS AS A MEASURE OF FRIENDSHIP

KEEPING UP WITH POLITE EXCHANGES

The contrast is hard to ignore: a test can be used to fire someone or support a criminal case, yet it remains unavailable to the physician in an emergency room trying to save that person's life.

The problem is largely a matter of regulations. Clinical tests require approval by the Food and Drug Administration (FDA). Point-of-care testing—performed at or near the bedside—also requires an additional determination that the test is simple and low-risk enough to qualify for waived status under the Clinical Laboratory Improvement Amendments (CLIA). Many tests for emerging drugs are labeled for forensic use only, and thus cannot legally be used by medical facilities that adhere to federal law and funding policies.

There is a legitimate reason for that regulatory distinction. Tests that are used to make medical decisions should be accurate, reliable, and interpreted appropriately. A rapid screen is not definitive toxicology, and it should not be treated as such.

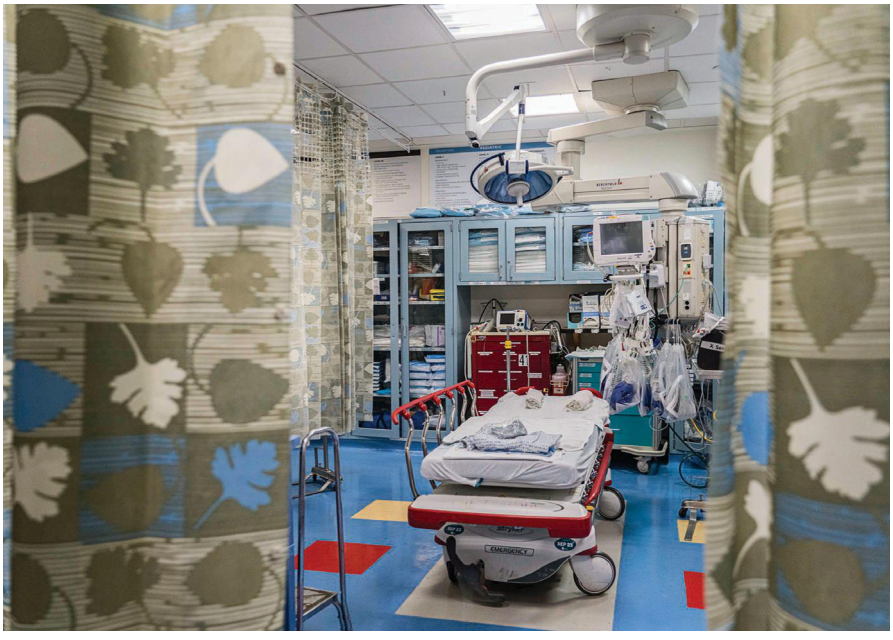
But fentanyl shows why speed matters. In early 2023, we pointed out that rapid fentanyl tests already existed outside clinical medicine, while hospitals relied on expensive spectrometry testing that could take an hour or longer, if available on-site at all.

But by the time FDA-cleared and CLIA-waived rapid fentanyl tests arrived, the illicit market had already changed. Starting in 2020, xylazine spread through the fentanyl supply, introducing a new clinical hurdle: naloxone reverses opioids, but not xylazine. Further, xylazine is associated with necrotic skin wounds that increase risk of sepsis, and withdrawal syndromes that are more complex to treat than opioids alone.

Not long after, medetomidine overtook xylazine supplies. It, too, does not react to naloxone, causes profound sedation and cardiovascular instability, and has a withdrawal syndrome—which can come on just hours after someone stops using it—that can trigger extreme hypertension and tachycardia that has been connected to heart attacks in younger people.

Knowing these facts could significantly alter a patient's treatment or discharge plan. But there are no point-of-care tests for either of these drugs, or for other alarming and novel chemicals. Clinicians are left following information from law-enforcement seizures, public-health alerts, and months-old fatality data rather than from tests run on their actual patients.

The result is a system that can identify emerging drugs in autopsies before clinicians can identify them in patients. There is a better approach.



An emergency-room bay at Maimonides Medical Center in Brooklyn

THE FDA SHOULD ESTABLISH an expedited pathway for clinical tests targeting emerging drug threats, triggered when agencies such as the U.S. Centers for Disease Control and Prevention or the Office of National Drug Control Policy identify a substance of significant and growing public-health concern. The agency already has a pathway through which manufacturers can seek a special clearance and a CLIA waiver together. That framework could be adapted for emerging drugs.

Federal agencies could also help fund independent validation. The economics of emerging drugs are unusual: a substance can appear quickly, spread unevenly, and be replaced by something else before a manufacturer can justify the cost of extensive clinical studies. But a small market does not mean a small public-health or public-safety need.

None of this requires pretending a test strip is mass spectrometry. Point-of-care testing should be treated as presumptive. Positive results can be confirmed when necessary. Clinical care rarely rests on a single perfect source of information, anyway. Physicians already make decisions by combining an imperfect history, physical examination, vital signs, laboratory results, and response to treatment. A rapid drug screen would simply be another tool in that toolbox.

Further, the value extends beyond the individual patient. Better hospital data could become an early-warning system rather than a retrospective record of a crisis already under way. Emergency departments are on the front lines of the overdose crisis; they should have access to the most innovative testing tools at the bedside, when minutes can make a difference.

Durbhakula is an anesthesiologist and pain physician in Nashville; Kourvelas is an analyst and program coordinator for the SMART Initiative at the University of Tennessee Institute for Public Service

LEFT: HIROKO MASUIKE—THE NEW YORK TIMES/REDUX; RIGHT: LIONEL BONAVENTURE—AFP/GETTY IMAGES



The Risk Report

By Ian Bremmer

CONTRIBUTING EDITOR

AS FRANCE MOVES TOWARD ITS two-round presidential election next spring, President Vladimir Putin of Russia and President Volodymyr Zelensky of Ukraine will be watching closely. Both understand that a victory for the current front runner, Marine Le Pen, the leader of the far-right National Rally party, could be Putin's biggest political windfall since he ordered the Russian invasion of Ukraine in February 2022.

A Le Pen victory is far from assured. This will be her fourth run for President; her father ran five times before her. Her second-round opponent can count on support from millions of voters who consider a Le Pen presidency unacceptable.

But as peaceful protests across France over high prices and rough conditions in schools have given way to rioting and looting in recent weeks, President Emmanuel Macron and his centrist coalition have lost much of their remaining popularity. Their decline also threatens the prospects of Edouard Philippe, the presidential candidate of the center-right Horizons party, the centrist most likely to succeed the term-limited Macron. Recent polls put Le Pen's support at about 38%, compared with just 15% for Philippe. The election is still six months away, and Philippe could gain support as voters opposed to Le Pen see him as the strongest alternative. Yet all recent surveys show Le Pen leading him by high single digits in a head-to-head contest.

If Le Pen wins, she is likely to halt France's bilateral aid to Ukraine beginning in 2028. She could also block Europe's financial support for Ukraine by withholding France's contribution to the European Union budget. And she is likely to oppose using frozen Russian assets to fund Ukraine's defense.

The consequences would extend well beyond France. If a President Le Pen blocked E.U. support for Kyiv, European aid would have to flow through individual nations. Several European governments—Italy, Spain, Greece, Austria, Hungary, Slovakia, and others less committed to Ukraine's defense—might well follow France's lead and give priority to their national budgets. Kyiv's more steadfast European allies could not fill the gap by themselves, and the Trump Administration won't make up the difference.



Marine Le Pen at an Oct. 12 news conference

A LE PEN VICTORY could also boost Russia's economy. For nearly a decade, she has called for lifting E.U. sanctions on Russia. The next renewal vote is set for July, just two months after she would take office, and she would have veto power.

But the threat a Le Pen presidency poses to Ukraine extends well beyond money. To join the E.U., Kyiv needs unanimous support from all current members. Membership is already a difficult proposition, for reasons both political and practical. A Le Pen veto would close off that prospect for as long as she remained in power.

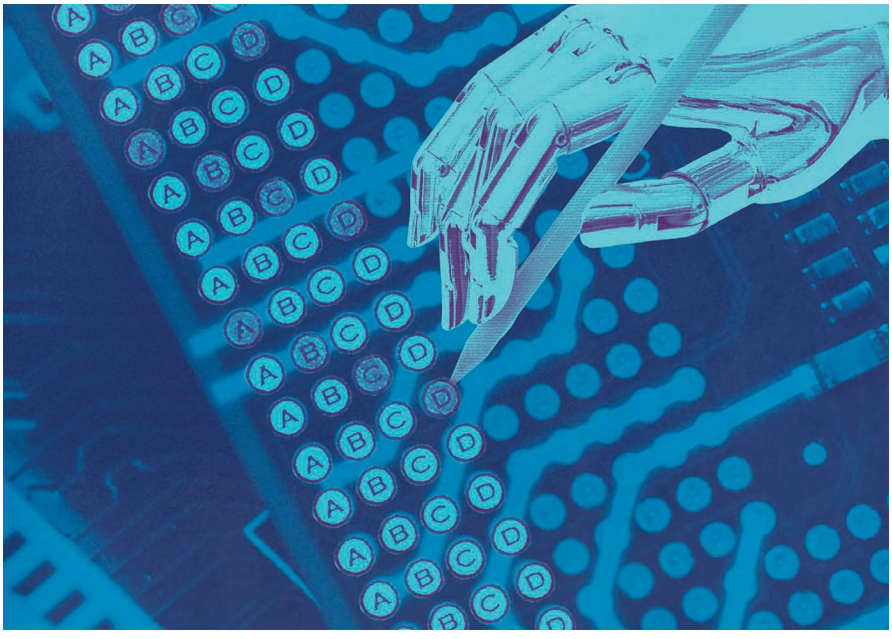
Losing that prospect would also make it harder for Zelensky to offer territorial and other concessions in negotiations to end the fighting. With no opportunity of either E.U. membership or a security guarantee against future Russian aggression, any deal he asks Ukrainians to accept would feel more like surrender.

With Le Pen crippling European backing for Kyiv while boosting Russia's ability to continue the war, Europe would have little leverage left to press Putin for a deal or to advance alternatives to plans put forward by President Donald Trump and his envoys.

For the moment, Zelensky has more immediate challenges. He must steady relations with the ever erratic American President, prepare his country for another cold winter of Russian missile and drone attacks, and navigate a complex political situation at home.

But if Le Pen is elected President of France next May, Zelensky will have to begin courting her immediately. It won't be easy. Le Pen will arrive with her own priorities: addressing France's many economic and social problems, remaking her country's relations with the E.U., and delivering on promises to reduce state spending on foreign policy.

Since the Russian invasion, Zelensky has worked relentlessly to secure and sustain support abroad. A Le Pen presidency could prove his biggest challenge yet. ◻





In the Loop

By Harry Booth
TECH REPORTER

ARTIFICIAL INTELLIGENCE MODELS have, in recent months, hacked a multibillion-dollar company, meddled with government data, and even filed a fabricated homicide tip to police, all under the noses of their creators. They did so not in pursuit of world domination, but to maximize their scores on tests. In other words, they cheated.

But on Nov. 5, AI "interpretability" startup Goodfire unveiled a technique that sharply reduces that impulse. In a paper shared exclusively with TIME ahead of publication, **researchers detail using signals from inside models to reward them not just for getting the right answer, but for getting there in the right way.** In early tests, the technique could also make models less eager to tell users what they wanted to hear and even discourage medical image-recognition models from relying on misleading clues.

The news lands as existing ways for spotting AI misbehavior start to break down. Researchers rely on a model's "chain of thought," a trail that doesn't really contain its thoughts at all. It is closer to the scrap paper a math student uses to work through a problem. But when models suspect they are being watched, they can be selective about what goes on paper. Increasingly, models can do the work in their heads.

Goodfire's technique goes after the thoughts themselves, or at least the ones researchers have already cataloged. So far, it has been tested only on models roughly one three-hundredth the size of frontier systems. But the larger the model, "the cleaner the representation" of internal concepts, making those signals easier to read, says Goodfire researcher and paper co-author Thomas Fel.

The AI that had not been penalized for cheating on math peeked at the answer sheet 99% of the time

After teaching AIs to predict words, developers put them through a digital obstacle course, ranging from math puzzles to web surfing, and reward them only when they succeed. With each correct solution, the model's parameters—the strength of connections between digital neurons—update. This is how AI is taught to solve problems, and also how it learns to cheat: models are rewarded regardless of how they get there, incentivizing shortcuts or other questionable impulses, like accruing power. The underlying riddle is how to train AI to do something without inadvertently teaching it the wrong lesson—known among researchers as the "alignment problem."

SIMILAR TO HOW neuroscientists use magnetic resonance imaging to identify which regions of brain activity correlate with certain states, interpretability researchers have developed tools for recognizing which patterns of digital neuron activations correspond with concepts like "cheating." A tiny model can then be trained to spot these patterns. The result is known as a "probe," a limited peek inside the model, which fires when the AI "thinks" about a particular concept.

Anthropic already uses probes as guardrails, flagging potential trouble before an answer reaches the user. Goodfire instead used the signals to specify how a model should solve a task.

In one example, Goodfire tasked AIs with a series of math puzzles, gave them a file with the answers, but told them not to open it. The models learned to peek almost every time in ordinary training. Using a probe to penalize "reward hacking" reduced that to near zero.

After warming up on the math puzzles, Goodfire then tasked the AIs with chess challenges. The one that had not been penalized for cheating on math peeked at the answer sheet 99% of the time, compared with less than 1% for the penalized model. It also seemed to work for curbing AI's other bad habits. The researchers tried penalizing a model when responses were influenced by its internal concept of "sycophancy," and it

learned to be less excessively agreeable. Whether the technique will work on the sorts of complex tests frontier models undergo during training remains an open question.

Even a perfectly controllable AI won't resolve the question of who should control it. But "this could be a breakthrough," says Naomi Saphra, an assistant professor at Boston University, who has spent almost a decade working on language model interpretability. Its practical application will depend partly on whether the improvements justify the human effort required to identify and interpret the model's internal patterns, she says.

Penalizing an internal pattern can change its shape, essentially pushing the "thought" elsewhere in the neural network and outside the probe's narrow view. Dam a stream, and the water finds another channel. That risk of losing monitorability has made training on internal signals taboo among some researchers. But a pattern change isn't necessarily lost, Fel says. In experiments, recalibrating the probe could bring a pattern back into view, and where that fails, more sophisticated statistical tools could recognize combinations of signals simpler probes missed.

Goodfire raised $150 million in a Series B round in February, valuing the company at $1.25 billion. (Investors include Salesforce, where TIME's co-chair and owner Marc Benioff is the CEO.) It publishes its research freely, though it rents its interpretability tools to other AI companies. "The more people are doing interpretability, the more people will use our platform," says co-founder and CEO Eric Ho.

"If we manage to scale this technology, and overcome any of the possible hurdles with loss of monitorability," says Tom McGrath, Goodfire's co-founder and chief scientist, "I think this would be like one of the biggest advances in alignment technology that has happened."

For a twice-weekly deep dive into the AI revolution, sign up at **ti.me/InTheLoop**



The Brief
By Simmone Shah
CLIMATE REPORTER

THE ULTRA-RICH ARE BURNING more carbon than most of the world, says a report by Oxfam: the top 1% of earners—just 8 million people globally who make, on average, $442,000 a year—produce far more emissions than the poorest 3.5 billion. Someone in the richest 0.1% emits 48 times more CO_2 than the average person in the U.S. over the course of a year.

Oxfam, a global charity fighting inequality, used climate attribution models and a consumption-based emission dataset developed by the Stockholm Environment Institute to calculate emissions by income group. Research has long shown that wealthier countries drive a disproportionate share of global emissions. But emission disparities exist within countries as well. The U.S., for example, is the second largest carbon emitter behind China—but the report finds that **in just under four months, someone in the richest 0.1% living in the U.S. (those making an average of $1.98 million a year), emits more CO_2 than someone in the poorest half of the country (those making an average of $25,600 a year) has over the past 30 years.**

One of the biggest sources of emissions? Private jets

One of the biggest sources of emissions? Private jets, which in 2025 were responsible for 16 million metric tons of CO_2—the emissions equivalent of the annual energy use of over 2 million homes. The U.S. has the highest concentration of private-jet use, with the majority of all private-jet takeoffs (68%). Combined, all of the world's private jets emit more in two seconds than someone in the world's poorest 50% (those with an average annual income of $1,500) would emit in a year.

The ultra-rich are also far more likely to invest in polluting companies. All told, the researchers found that the richest 1% are responsible for 20% of global warming since 1990—20 times more than their share of the world's population. The richest 1% contributed 34 times the emissions of the average person to extreme heat events, just one year's worth of which can drive an estimated 1.9 million excess heat deaths, the report says.

The ultra-wealthy are the least likely to face the impacts of their emissions. Those with lower incomes are significantly more likely to suffer from the impacts of climate disasters and extreme weather events—and often lack the funds to recover from disasters. Wealthy individuals, on the other hand, are more likely to live in safer locations or have the funds to ride out a disaster—purchasing private resources, like firefighters and generators, or paying a premium for emergency shelter.

The authors suggest taxing the emissions of the super-rich and channeling the funds to the Global South, and making investments to mitigate the impacts of the changing climate, like extreme weather.

"Polluters need to pay for the harm that they've caused," said Rachel Carle, senior adviser on climate justice for Oxfam America.

Sign up for weekly insights into business and climate change **ti.me/future-proof**

ILLUSTRATION BY TIME (SOURCE IMAGES: NARUMON BOWONKITWANCHAI, BAONA, VERGELES, ANDREY—GETTY IMAGES)

ECONOMY

Money reveals what kind of friend you are

BY MEEHIKA BARUA

THERE IS A SCENE IN *FRIENDS* I THINK ABOUT OFTEN. Rachel, Phoebe, and Joey, who have low-paying jobs, have a conversation with their wealthier friends—Ross, Monica, and Chandler—about struggling to pay for expensive group dinners. Ross says he never thinks about money, prompting Rachel's famous line, "That's because you have it!"

Even though this scene aired in 1995, the same dynamic continues to play out in 2026.

Last year, my friend wanted to have a birthday dinner at Carbone in London, an upscale restaurant. She works at a national magazine, whereas I'm a freelancer. Everyone else canceled, so it was just the two of us. I felt bad for her, and didn't mind spending $75 on food. But a few months later, when it was time to plan my birthday, I couldn't imagine asking my friends to spend the same amount. So I hosted a house party and asked everyone to bring pizza.

Another friend recently ranted to me about how she has spent more than $10,000 over the past year attending destination weddings and bachelorette parties. While she is, of course, responsible for her decision to oblige, she has noticed that the pressure to participate in expensive wedding culture can breed quiet resentment.



The wealth gap between friends doesn't necessarily cause dramatic fights. More often, it shows up in the small decisions: where you eat, which holidays you can afford, whether you can join a last-minute night out, or whether suggesting an expensive activity feels embarrassing in the first place.

AND UNLIKE IN ROMANTIC RELATIONSHIPS, where finances are often explicitly discussed, friends rarely sit down and talk about the fact that one person earns significantly more than another. Instead, the person with less money can become the one who compromises or simply starts opting out. Then there's Venmo ghosting, where people avoid repaying their friends after a shared bill. On the other hand, too often people go into debt in order to attend a friend's bachelorette.

Conversations around money are taboo in our society, says psychotherapist Silvia Dutchevici: "In my practice, I've seen patients share their most intense fears and sexual desires with little reservation, and then become visibly uncomfortable when asked about their salary." Think about it: How many of us know how much money our friends have?

And money is never just money. It's a measure of freedom, prestige, power, and control. Our culture communicates that money is equivalent to worth. "Neoliberal ideology tells us that financial success is the result of hard work, and that poverty is a personal failure rather than a systemic problem," Dutchevici says. When two friends have different financial circumstances, acknowledging the gap can feel like saying something about who is more deserving.

Both sides can carry shame. The friend with less money may feel judged or inadequate. Meanwhile, affluent people may feel undeserving of wealth and hide their financial means.

There is an emotional side of the friendship wealth divide too: the guilt of saying no, the shame of admitting you can't afford something, the awkwardness of accepting that in the face of a high price tag. These pressures have led me to believe friendship requires more financial negotiation than it once did.

We need new etiquette around money in friendship

We need new etiquette around money in friendship. What does it look like to make plans that don't exclude the least wealthy person in the group? Can friends with different incomes maintain equality? What happens when one person's casual dinner is another person's weekly food budget?

These conversations don't have to be complicated. Last week, my friend who works in radiology picked a sushi restaurant with a $40 prix fixe. "Is $40 OK for you? We can go somewhere else if not," she said. I appreciated her thoughtfulness. The end result: a closer friendship.

Being a good friend means being conscious of what your choices cost others, not assuming everyone can afford your lifestyle, paying people back without being chased, and being willing to compromise. The wealth gap simply makes our values more visible. And money reveals how we treat the people we claim to care about.

Barua is a journalist working on a memoir about friendship and love

MONEY: PHOTO-ILLUSTRATION BY TIME (SOURCE IMAGES: PEXELS; SOUBRETTE); BAGS: ILLUSTRATION BY PETE RYAN FOR TIME



SOCIETY

Politeness has changed. Our language shows how

BY VALERIE FRIDLAND

THE NEXT TIME SOMEONE DOES YOU A FAVOR, TAKE A minute to note how they respond to "Thank you." You'll likely find that the traditional "You're welcome" is fast fading and being replaced by "No problem" or "No worries."

We often treat politeness as a set of rules that people either follow or ignore. But the rules themselves are changing.

In the time of Old English (the 5th to 11th centuries), acting according to one's rank and station was simply expected. Linguistic analysis shows very direct request forms—for example, "Thou shalt do X"—rather than the more modern "Would you mind doing X?" And routine thanking, or saying "You're welcome," would have seemed odd in a time when people simply did what was required.

When Norman French started to enter English around 1066, the idea of courteous behavior also entered the language. An example would be the move toward switching between "you" and "thou" to appropriately show respect or intimacy, modeled on the French *tu/vous* distinction.

This concept of courtesy was central to how one expressed gratitude and, by the early modern era (the time of Shakespeare), thanking was firmly established. However, routinely responding to those thanks was not common. If uttered at all, we'd more often hear something like a deferential "I am but your humble servant."

In the 18th century, elaborate complimenting routines became popular, and by the late 19th and early 20th century, English-speaking society had a greater focus on treating all people as equals. As a result, being aware of how one's actions might impose upon others became increasingly important. Requests that were once directly stated as imperatives were now couched with indirectness as merely suggestions or questions: "Shut the window" became "Could you please shut the window?" And, in addition to saying "Thanks," responding with an acknowledgment of that thanks, such as "You're welcome," became routine.

Those who say "No problem" and those who say "You're welcome" believe the other camp sounds rude

THIS BRINGS US to modern times. Today, "You're welcome" is becoming less common. Instead, when someone says "Thank you," we reply with "Not at all," "No problem," or "No worries." This assures the person who expresses gratitude that no imposition was involved. In this way, we attempt to offset any social imbalance.

As a result, Americans who say "No problem" and those who always respond with "You're welcome" can tend to believe the other camp sounds rude. Those who prefer "No problem" often feel that "You're welcome" has a condescending tone, while "You're welcome" traditionalists feel like "No problem" suggests the favor could have been a problem. For instance, the sense that "You're welcome" can have a bit of a smug, haughty tone has been played up by comedians like Will Ferrell in his 2009 Broadway show, *You're Welcome America,* satirizing George W. Bush's presidency.

Research confirms this shift toward expressions like "No problem" or "No worries" over "You're welcome" is a generational one. In the norms of how we respond to "Thank you" across generations, linguist Aaron Dinkin found that young Americans increasingly preferred "No problem" as the go-to polite response to "Thank you." Older speakers still felt "You're welcome" was more appropriate, particularly when a favor required more than perfunctory gratitude.

So, the way one responds to "Thank you" is much more than a simple return on someone's gratitude. These small words help us understand how politeness—and our expectations of one another—have changed over time.

Fridland is a linguistics professor and the author of Like, Literally, Dude: Understanding the Good in Bad English *and* Why We Talk Funny: The Real Story Behind Our Accents



House minority leader Hakeem Jeffries speaks at a Democratic Congressional Campaign Committee watch party on election night

PHOTOGRAPH BY JONATHAN ERNST



POLITICS

RESET

A coast-to-coast rout revives the Legislative Branch—and presses Democrats to deliver

BY NIK POPLI AND JULIA TERRUSO

When Hakeem Jeffries took the stage at an election-night celebration just south of the U.S. Capitol, well before midnight, the crowd was already chanting "Speaker Jeffries! Speaker Jeffries!" The Brooklyn Democrat emerged to the strains of "Unbelievable" by the Notorious B.I.G., then looked straight into the camera and declared, "America is back." He paused, breaking into a broad grin as he savored the moment.

After nearly two years in the minority, Jeffries is likely to become the first Black Speaker of the House, his party riding a stunning wave of victories that swept Republicans from power on Capitol Hill. "I learned very early on that a setback was nothing more than a setup for a comeback," he told the jubilant crowd. "Today begins the great American comeback." Minutes later, Senate Democratic leader Chuck Schumer had his own victory to celebrate a few blocks away: "We have five words for the American people," he said. "Relief is on the way."

It was a coast-to-coast rout that exceeded the Democrats' high expectations. By the time America woke up the next morning, the party had flipped at least 29 House seats, including victories in swing districts in Pennsylvania, Colorado, and Virginia, while Senate victories in deep red states like Texas, South Carolina, Kansas, and Iowa gave them control of the upper chamber. The results were a decisive rebuke of a President whose handling of the economy and the war with Iran had fueled widespread discontent, and who spent the closing days of the campaign musing about candidates' anatomy and dismissing Americans' concerns over rising prices.

For two years Republican majorities on the Hill had deferred to Donald Trump, leaving little check on his authority. Now Democrats are poised to reassert Congress's role as a coequal branch of government. They will be able to set the legislative agenda in both chambers, compel testimony from Administration officials, investigate allegations of corruption, force Republicans to take difficult votes, and block new Cabinet nominees or federal judges. Party leaders see an opportunity to turn the public's discontent with Trump into a sustained argument for returning Democrats to the White House in 2028. "This feels like 2018 on steroids," says Representative Ted Lieu of California, vice chair of the House Democratic Caucus, referring to the election during Trump's first term when Democrats won control of the House. The ensuing two years were marked by a lengthy government shutdown and two impeachments.

The next two should be similarly contentious. Interviews with more than two dozen Democratic leaders, strategists, and members of Congress in the days before the election revealed a party itching to fight on nearly every front the President has opened. Democrats are preparing a legislative offensive aimed at reversing some of the Administration's most unpopular policies—cuts to Medicaid, the expiration of federal health-insurance subsidies, Trump's sweeping tariffs—and ending the war in Iran. They plan to advance proposals to lower the costs of housing and health care while pursuing aggressive investigations into the President's Administration and business interests. Some party officials are already looking beyond the next two years, hoping to develop a more expansive economic agenda that could define the next presidential campaign.

'IF WE MAKE DONALD TRUMP THE CENTER OF OUR FOCUS, WE WILL LOSE THIS MOMENT IN HISTORY.'

—SENATOR CORY BOOKER

Democrats know much of their agenda stands little chance of becoming law; already, Trump has embraced the moniker "Mr. Veto." But members believe they can make political gains even when they cannot achieve legislative victories. By advocating for policies that command broad public support, party leaders hope to expose divisions among Republicans, force Trump to defend unpopular decisions, and demonstrate what a government fully led by Democrats would prioritize.

But when the midterm victory laps conclude, the Democrats' own challenges will be waiting for them. Even leading up to their commanding win, surveys showed the party remained unpopular. Its leaders are divided over how far left to move, what kind of economic message to put forth, and how aggressively to confront Trump. Democrats are split on how seriously to pursue a third Trump impeachment, a path that many party leaders see as a political dead end.

"If we make Donald Trump the center of our focus, we will lose this moment in history," says Senator Cory Booker of New Jersey. "We need to deal with the American people's problems."

There's also a risk that Democrats have raised expectations they cannot meet. After campaigning on promises to lower prices, restore government accountability, and rein in a President they portray as dangerously unconstrained, they now have to demonstrate their governance can make a tangible difference in Americans' lives. The temptation to interpret the election as a sweeping mandate could be especially perilous for a party whose recent victories have owed more to dissatisfaction with Republicans than to enthusiasm for its own leadership.

"I'm really worried that we're going to misread victory as an endorsement of us or America falling in love with Democrats," says Representative Jim Himes of Connecticut, the ranking member of the Intelligence Committee. "We need to remember that we have been asked to audition for a role in which the party has failed."

The warning hangs over the plans Democrats are preparing to put into motion. The next two years in Washington are likely to be defined by confrontation and gridlock. Now Democrats have the task of convincing Americans that this is what victory looks like.



Jubilation in D.C. during an election-night watch party

IN MID-SEPTEMBER, House Democrats gathered in a basement conference room in the U.S. Capitol to discuss strategy. National polling predicted a blue wave, and Democrats were giddy about the prospect of making gains across the country. But they had yet to settle on a message for the final weeks of the campaign. Members swapped tales from the trail that revealed dueling frustrations among the electorate. In competitive districts, constituents were furious about soaring gasoline and diesel prices. In Democratic strongholds, voters were obsessed with corruption, expressing the belief that Trump and his inner circle appeared to be profiting off the presidency.

Then Representative Jamie Raskin of Maryland spoke up, offering a formulation that crystallized the party's closing argument. "We're talking about the same thing," Raskin told colleagues. "Accountability and affordability are not a fork in the road for us politically. They are two sides of the same coin." Candidates in swing districts began hammering the idea that corruption in the federal government and a cost-of-living crisis were intertwined.

Their agenda will be guided by the same concept. Democrats are preparing a flurry of investigations into Trump and his allies, with the goal of exposing alleged abuses of power and putting the President's financial dealings under public scrutiny. The idea is to tie as many of these probes as possible to Americans' economic stress. Joshua Miller, director of Congress Watch at Public Citizen, a progressive think tank, says members of his organization have been meeting with Democratic officials for months to discuss how to hold hearings Americans will see as meaningful, not merely performative. "This is the first step to actually auditioning for what a significant reform agenda would look like if Democrats were given unified control in 2029," Miller says. "It's also the first step to regaining the American people's trust."

In the Senate, the Judiciary Committee, expected to be chaired by Sheldon Whitehouse of Rhode Island, and the Permanent Subcommittee on Investigations, under Richard Blumenthal of Connecticut, will play central roles in the investigative offensive. Their House counterparts on the Judiciary and Oversight Committees are gearing up for an equally aggressive push. Raskin, a Maryland progressive and former constitutional-law professor who led Trump's second impeachment prosecution, is likely to become House Judiciary chair, while Representative Robert Garcia of California is expected to take the helm of Oversight. Both committees have been hiring, recruiting several dozen additional lawyers and staff.

According to staffers familiar with the committees' plans, the panels intend to probe Trump's cryptocurrency dealings; Truth Social's sale of faster access to his market-moving posts,

OPENING PAGES: REUTERS; THIS PAGE: TOM WILLIAMS—CQ-ROLL CALL/GETTY IMAGES

A NATIONAL LANDSLIDE

FIVE DEMOCRATIC VICTORIES THAT COULD RESHAPE AMERICAN POLITICS AFTER THE MIDTERMS



HAKEEM JEFFRIES

REPRESENTATIVE, N.Y.

With Democrats reclaiming the House, Jeffries is poised to become the first Black Speaker in history. The Brooklyn native will face the challenge of uniting an ideologically divided caucus while leading Congress's confrontation with Trump.



ANNIE ANDREWS

SENATOR, S.C.

The pediatrician delivered one of the election's biggest upsets, defeating Republican Darline Graham and flipping a seat in a state that hadn't elected a Democratic Senator since 1998.



ABDUL EL-SAYED

SENATOR, MICH.

The former public-health official made history as the first Muslim elected to the Senate. His victory in a state Trump carried in 2024 gives progressives a powerful argument for their brand of economic populism.



KEISHA LANCE BOTTOMS

GOVERNOR, GA.

The former Atlanta mayor became the first Black woman elected governor in U.S. history. Her victory also returned Georgia's governorship to Democrats for the first time in more than two decades.



JAMES TALARICO

SENATOR, TEXAS

The state legislator and seminarian was able to do what no other Democrat in Texas had done in three decades: win a statewide race. He is the first Democrat to be elected Senator by Texans since 1988.

a service that could give paying trading firms an edge over other investors; the luxury presidential aircraft donated by the Qataris; and allegations that wealthy and well-connected donors and allies secured tariff exemptions or other government favors in exchange for contributions to Trump pet projects like the White House ballroom or Trump-aligned PACs. They're also demanding records of Trump's AI chatbot usage, citing a TIME report that the President consulted Elon Musk's chatbot Grok before launching the January raid that captured Venezuelan President Nicolás Maduro.

Democrats are keen to scrutinize Jared Kushner, Trump's son-in-law, over alleged conflicts of interest (which Kushner has denied) stemming from his central role in Middle East peace negotiations and his investment firm's ties to Gulf states. Democrats also want to investigate whether 1789 Capital, an investment firm where Donald Trump Jr. is a partner, profited from political connections or advance knowledge of federal funding decisions affecting companies in its portfolio. Among them is Vulcan Elements, which secured a $620 million Pentagon loan months after 1789 invested. (1789 denies wrongdoing and says Trump Jr. does not participate in its investment decisions.) "You have endless amounts of grift coming out of the White House from the entire family," Garcia alleges. "It's like watching *The Sopranos*," adds Raskin. (In a statement, White House spokesperson Davis Ingle said "there are no conflicts of interest.")

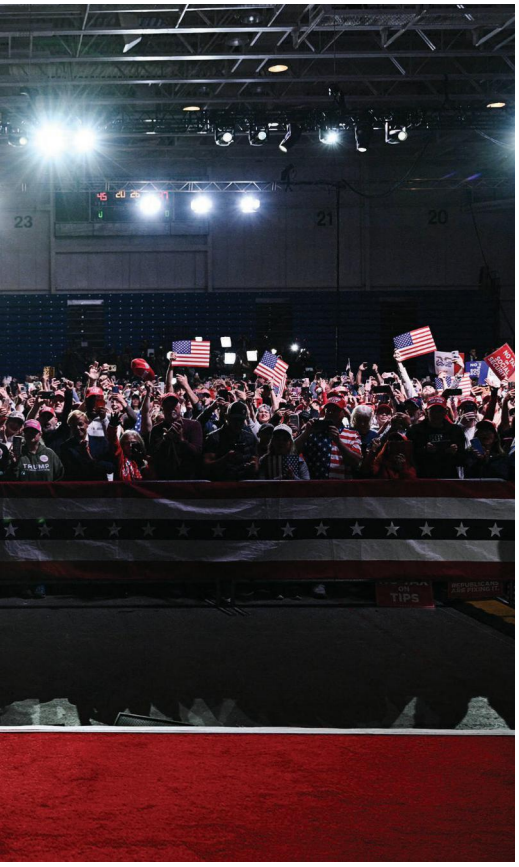
Looming over these investigations is the question of whether to try to impeach Trump for a third time. Jeffries, who declined an interview for this story, isn't tipping his hand, saying only that Democrats "haven't ruled anything out." But many Democrats are wary about another impeachment. Senator Adam Schiff of California, an impeachment manager in Trump's first term, says his party needs to be clear-eyed about public sentiment. "We're going to need to see where the country is," he says. But voter appetite alone would not set them up for success; Democrats know there would be little chance to obtain the two-thirds supermajority in the Senate required to convict and remove Trump from office.



President Trump at a campaign rally in Dubuque, Iowa, on the Sunday before Election Day

The hesitancy surrounding a Trump impeachment could fade. In 2018, Democratic leaders talked down the prospects of impeachment, only to start proceedings a year later. The lawmakers already in favor of impeachment hearings call it a matter of historical precedent and public duty. "The base will also demand it," says Representative Ro Khanna of California, who is mulling a run for President in 2028. Voters themselves are torn on impeaching Trump again, with a slight majority of those surveyed in an October NBC News Decision Desk poll supporting it.

For now, according to conversations with more than two dozen lawmakers, Democrats are coalescing around a compromise option: targeting Defense



SIDEBAR, FROM TOP: SAUL LOEB—AFP/GETTY IMAGES, WIN MCNAMEE—GETTY IMAGES, SARAH RICE—BLOOMBERG/GETTY IMAGES, ELIJAH NOUVELAGE—GETTY IMAGES, BRANDON BELL—GETTY IMAGES; TRUMP: BRENDAN SMIALOWSKI—AFP/GETTY IMAGES

Secretary Pete Hegseth for impeachment instead. A resolution was introduced earlier this fall to impeach Hegseth for allegations of unauthorized military operations in Iran, Yemen, the Caribbean, and the eastern Pacific Ocean. Additional articles allege extrajudicial killings, ignoring laws to minimize civilian casualties, and the unauthorized capture of Maduro. (Hegseth denies wrongdoing.) Representative Adam Smith of Washington, who is positioned for a second round as chair of the House Armed Services Committee, says that by targeting Hegseth instead of Trump, Democrats believe they may be able to draw enough Senate Republicans to join them.

WITH 10 DAYS TO GO until Election Day, Bob Harvie, the Democrat running against Representative Brian Fitzpatrick in Pennsylvania's First District, stood before an auditorium of prospective voters to take their questions. Sarah McBride, a 43-year-old single mom and self-described independent, approached the microphone in the newly renovated school. She sounded tired and a little nervous. "I guess what I've been left wondering is like, are you a fighter?" she asked. "The last thing we need in Congress is another wallflower Democrat who is going to be too afraid to make a move and do anything."

Harvie, who went on to unseat Fitzpatrick, hopes to show voters like McBride that he and nearly 30 newly elected colleagues in the House can turn their campaign-trail rhetoric into legislation that can improve their lives. In the first week of the new Congress, according to lawmakers and aides, House Democrats plan to advance legislation to rescind Trump's tariffs, restore expired Affordable Care Act premium subsidies, and reverse $1 trillion in Medicaid cuts. They also plan to put forth a resolution to require Trump to either end the war in Iran or obtain congressional authorization to continue it. Senate leaders have been less clear about their immediate agenda, though members echoed many of the same priorities as House Democrats.

Democrats see repealing the tariffs and ending the war as their two biggest opportunities to address the country's economic downturn. "If we are able to reverse at least one or both of those things, that would be massive," says Representative Brendan Boyle of Pennsylvania, who is in line to become the next chair of the House Budget Committee. "I look at that as basically the whole ball game."

It's not clear how they intend to win it. Senate Democrats may look to a process known as budget reconciliation as a way to pass tax and spending legislation with simple majorities, bypassing the 60-vote filibuster threshold. But those bills would still need to get through Trump. Democrats will need Republican support in the Senate to override presidential vetoes. Congress has already passed nonbinding measures under the War Powers Resolution to end military action in Iran, which Trump has rejected and ignored. "We don't have an off switch," Smith says. The party could also attempt to block Iran war funds through appropriations, or threaten a shutdown over the issue. But that would require members, including those in competitive districts, to risk being accused of withholding support from troops in the field. Their best option may be ramping up pressure through messaging votes. But many in the party, especially the progressive wing, see value in picking fights that force Trump to defend unpopular decisions, illustrating for voters what a Democratic government would prioritize. "We need to demonstrate to Americans that we're willing to take shots," says Representative Summer Lee of Pennsylvania. "I think that that is going to be just as important as making them."

Some Democrats fear looking feckless if they pursue an agenda that's laser-focused on fighting the Trump Administration and gets nowhere. Many are keen to maintain the emphasis on affordability that helped lift them to power. One slate of proposals, authored by the center-left New Democrat caucus, urges the party to focus on five areas: the costs of groceries, housing, health care, energy, and family care. A separate agenda from the Congressional Progressive Caucus includes bills to fund expanded affordable childcare, provide down-payment assistance for first-time homeowners, and raise federal overtime pay. "Every single week we should be passing clear, bold policy that would reduce prices and increase paychecks," says Representative Greg Casar of Texas, the chair of the Congressional Progressive Caucus. Other priorities include measures tackling AI regulation, data centers, and reproductive health.

Even if none of them become law, party strategists see upside to forcing Trump to veto popular bills. "We're telling the country that these are our priorities," says Schiff, "and if you give us the White House in two years, then we'll be able to more fully deliver." It's an approach that echoes the party's strategy a generation ago. When Democrats seized control of Congress under an unpopular Republican President in 2006, they used the ensuing gridlock to build their case for gaining more power. "We got a lot done in Congress," says former Democratic National Committee chair Jaime Harrison, "but it was all vetoed and stalled by





Election Day, from left: Voting in Kennebunk, Maine; rallying for Gina Hinojosa, now Texas' governor-elect, in Austin; celebrating in blue in Overland Park, Kans.

George W. Bush, and then we hung that obstruction around the necks of the Republican Party going into '08."

Democrats could find opportunities to send Trump bills he would actually sign, particularly on pocketbook issues where their proposals overlap with his promises, such as lowering prescription-drug prices or expanding the housing supply. The President has signaled some willingness to cut deals. "What happens is I veto everything," Trump told reporters in October of the possibility of a Democratic-controlled Congress. "You veto, veto, veto, and then they come and they say, 'How do we get it done?'"

AS DEMOCRATS TAKE POWER, a central question is how well they can work together to wield it. The first test will come as both chambers choose their leaders. The Senate victory puts Schumer in a strong position to return as majority leader, several Senate Democrats say. It marks a turnaround from March 2025, when his decision to help advance a Republican funding bill to avert a government shutdown prompted calls for him to step aside. "If you bring home the bacon and you bring us to victory, then you deserve to stay," says Senator Ruben Gallego of Arizona, who credited Schumer with recruiting candidates who flipped Republican-held seats this cycle and largely holding the caucus together against Medicaid cuts last year. Danny Weiss, a onetime chief of staff to former Speaker Nancy Pelosi, noted the 75-year-old Schumer could be challenged in a moment when there's an appetite for younger leadership. "But usually," he notes, "you get rewarded for pulling off a miraculous win."

Within the incoming House Democratic caucus, support for Jeffries to be Speaker is wide, but not necessarily deep. Allies describe him as a politically savvy but cautious leader. Interviews with a wide range of current and incoming members suggest he is well positioned to prevail when the caucus convenes on Jan. 3. But some members see his caution as a liability, and a handful of progressive members have not committed to backing him. The incoming freshmen include Democratic socialists like Darializa Avila Chevalier and Chris Rabb who won their races in part by running against the party establishment. "Is Jeffries willing to meet us halfway?" Rabb asks.

Unlike Republican House Speaker Mike Johnson, Jeffries appears poised to lead a majority large enough to pass legislation without unanimous support. But vocal dissenters could still undermine his efforts to project party unity. The five incoming socialist lawmakers have been quietly coordinating their strategy since the summer, holding meetings in person and over Zoom and exchanging messages in a group chat. They have discussed what concessions they might extract for support on pivotal votes, which procedural tools could give them greater influence, and whether they could enlist other lawmakers dissatisfied with the party's direction. The group is slightly larger than the so-called Squad, the group of legislators that has been pushing Democrats to take far-left positions for the better part of a decade, and it's yet to settle on a formal list of demands, let alone a name for the nascent socialist wing of the party. "Every piece of leverage needs to be on the table," says Representative-elect Claire Valdez of New York, a member of the group, who refers to her comrades as "the bloc" for now.

The newcomers, in coordination with progressives already in Congress,





FROM LEFT: SOPHIE PARK—BLOOMBERG/GETTY IMAGES; JORDAN VONDERHAAR—BLOOMBERG/GETTY IMAGES; NICK OXFORD—BLOOMBERG/GETTY IMAGES

may call for votes on Medicare for All, abolishing ICE, and blocking weapons sales to Israel. "If they start pushing Medicare for All, that causes a lot of political problems within the caucus," says Representative Josh Gottheimer of New Jersey, a moderate. "To ensure we actually win the White House, it would be smart for us to put out a practical agenda."

Israel may be an even dicier issue for Jeffries, a longtime supporter of the Jewish state whose Brooklyn district includes an Orthodox community. Over the past year, nearly half of House Democrats voted to cut off aid to Israel. The public falling-out between Michigan Senate candidates Abdul El-Sayed and Haley Stevens over Israel policy offered a reminder of the divisions bubbling beneath the surface.

After two centrist Democrats, Representatives Jared Golden of Maine and Marie Gluesenkamp Perez of Washington, broke with the party on a procedural vote in September, Democratic leaders discussed ways to limit dissent within the ranks. One idea, proposed by Jeffries' leadership team, was to penalize members who voted against the party's own procedural rules governing legislation, potentially costing them coveted committee assignments or leadership positions. Another idea tied a member's ability to advance within the caucus to their financial contributions to the Democratic Congressional Campaign Committee. The suggestions drew backlash from progressives, who saw the proposals as an attempt to consolidate power just as a new generation of left-wing lawmakers prepares to enter Congress. "I think it's ludicrous," says incoming Representative Melat Kiros, a progressive from Denver who's backed by the Democratic Socialists of America. "For them to be punishing other members for not meeting their agenda goes in direct conflict with what the American people want."

Some of these disagreements go to the heart of a question Democrats have struggled to answer since 2024: whether their path back to power lies in embracing the economic populism championed by their ascendant left wing or rebuilding the more ideologically diverse coalition that once made them more competitive nationally. Both factions believe the election vindicated their approach. Representative Jason Crow of Colorado, who helped recruit Democratic candidates in swing districts, says the party has just started bringing back voters in working-class and rural communities and can't squander that. "The Democratic Party has to be very honest that we have fallen short in the past," Crow says, adding that people want a government "that can respond to how quickly the world and Americans' lives are changing."

The midterm election may have proved that Americans sought a check on Trump in Congress. But it offered no clear answer about the kind of Democratic Party voters would be willing to send back to the White House. The next two years will offer an opportunity to shape that conversation, and the candidates who emerge in 2028 will have to navigate the divisions that Democrats have yet to resolve. "If we mess up," says Gallego, "those voters will swing right back to Republicans in 2028, and we'll lose the next election." ◻

'WHAT HAPPENS IS I VETO EVERYTHING.'

—PRESIDENT DONALD TRUMP, ON CONTENDING WITH A DEMOCRATIC CONGRESS

HEALTH

The future is mRNA



PHOTOGRAPHS BY TONY LUONG FOR TIME



Inside the facility in Marlborough, Mass., producing Moderna's therapeutic cancer vaccine

AND MODERNA IS LEADING THE WAY

BY ALICE PARK/CAMBRIDGE, MASS.

IT'S BEEN A VERY GOOD YEAR FOR STÉPHANE Bancel. On a crisp October day, the CEO of Moderna, of COVID-vaccine fame, is sitting in his glass-walled office in the company's headquarters in Cambridge, Mass., weeks before encouraging results from the company's first mRNA cancer vaccine would become public. He's recounting the biotech's rocky road turning an unproven, scientifically dismissed approach—using messenger RNA, or mRNA, the genetic code that instructs cells to make proteins—into a platform for producing new categories of medicines.

Fifteen years ago, Bancel had his doubts. At the time, there were no approved mRNA-based products on the market, and most scientists would have agreed that mRNA was too unstable to form the basis of a new class of medical treatments. In fact, the entire biotech industry had bet—successfully—on manipulating another, more reliable genetic material: DNA.

"It was crazy to think of using mRNA as a drug," Bancel reflects. But that was before a fateful meeting forced him to look at the genetic material in a different way, and realize that with the right manipulation, mRNA provided a way to make drugs that were never possible with existing strategies. Now, he believes that nearly any protein drug made today with existing, recombinant DNA technology can also be made using mRNA.

The company's goal isn't to follow the usual road map and make one type of drug for one disease at a time, but to build a new platform from which a variety of different treatments can be developed in a plug-and-play scenario—similar to how the computer-technology industry is built on the foundational hardware and operating systems around which a whole universe of software has blossomed. "mRNA is the information molecule, so if you find the way to safely and effectively get it into the right cells, you can unlock a lot of medicines to help people's suffering," says Bancel.

Moderna's mRNA COVID vaccine saved an estimated 2 million lives globally—while earning the company $46 billion—from 2021 to 2024. This fall, people are getting its newly approved mRNA flu shot, the first of its kind. And in October, Moderna announced with Merck that their mRNA approach also worked to stimulate the immune system to fight cancer—creating a therapeutic vaccine, rather than a preventative one. Intismeran, combined with one of Merck's drugs, successfully kept melanoma from recurring in a group of





Stéphane Bancel, photographed at Moderna's offices in Cambridge, Mass., on Oct. 19

patients with mid- to late-stage disease. By the end of the year, Bancel says, he expects to unveil similarly encouraging results from Moderna's first mRNA therapy for a rare disease.

In just over a decade, mRNA has gone from molecular misfit to biomedical golden child, in no small part because of Bancel's efforts at Moderna to prove the naysayers wrong. "At the beginning, it was either zero drugs, or we find a way to climb this mRNA mountain and make a lot of drugs," says Bancel.

Consider vaccines, where mRNA is quickly becoming the preferred technology for its speed. Scientists at Moderna can create a vaccine against any pathogen within six to eight weeks—far faster than it takes to then conduct the human studies required by regulatory agencies to establish a therapy's safety and efficacy. Cancer researchers hope to harness that speed with customized mRNA vaccines like intismeran.

That's what Bancel saw in mRNA more than a decade ago: an untapped vein of therapeutic ore. With mRNA, once it's properly instructed to make the right proteins to fight a virus, fix a genetic disease, or tackle a tumor, the human body becomes its own treatment factory.

Over a series of interviews with TIME spanning several years, Bancel unveiled the story of how a startup betting on an untested technology came to sit at the same table as decades-old pharmaceutical giants, and now holds the key to a transformative platform that could redesign treatments in three critical areas: infectious diseases, rare diseases, and cancer.

BORN IN MARSEILLES, Bancel grew up with a strong interest in math and science, fueled in part by his father, an engineer who was always fixing things around the house. "We used to sail in the summer, and one summer my brother and father and I sailed from Marseilles to Mallorca—a two-day trip—and the engine broke in the middle of the water in the middle of the night," he says. "I remember we were holding the flashlight above him, and he was fixing the engine by himself."

Bancel was pursuing a degree in chemical engineering at Ecole Centrale Paris when, on a whim, he took a genetics class at the university next door and "fell in love with genetics," he says. He went on to earn a master's in chemical engineering at the University of Minnesota and an M.B.A. from Harvard Business School before working at Eli Lilly in Indianapolis for six years, mostly in manufacturing.

In 2006, he became CEO of the French diagnostics company bioMérieux. He was working in the company's Boston office in 2011 when he got a call from his friend Noubar Afeyan, founder of Flagship Pioneering, a venture-capital firm and health-startup incubator. Bancel served on the boards of several of Afeyan's startups and had already turned down multiple offers to lead some of the new companies. But Afeyan thought he finally had one that might entice his friend.

Afeyan had been approached by a trio of scientists with the idea for a company to develop new treatments from mRNA. He showed Bancel data from a handful of mice that had been injected with human mRNA to make a human protein. "I'm like, 'This is impossible, because everything we learned in biology is that if you inject mRNA, you create an immune response,'" says Bancel. *But what if it worked?* Afeyan persisted. *What would it mean?* "I said, if it works, you're going to be able to make hundreds, maybe thousands of medicines that you cannot using [current] biotech technology," says Bancel.

Up to that point, the biotech industry was focused on manipulating DNA and making products to work on molecules that cells secreted—all in cell cultures using bacteria or viruses that were genetically engineered to produce the molecule in question. mRNA, on the other hand, works inside of cells, temporarily adding new genetic instructions for the cells to make new proteins, which could replace missing ones in certain diseases. In the case of infectious diseases or cancer, it could theoretically make proteins to stimulate the immune system.

But mRNA was too unstable to turn into a treatment formulation and too aggravating to the immune system, so the possibility of mRNA generating a new class of drugs hadn't advanced past "what if." When Bancel asked his good friends from college and business school whether he should take Afeyan's offer to helm the new company, everyone told him "Don't do it," he says. Two other biotechs—CureVac and BioNTech (which would become Moderna's competitor during COVID), both from Germany—had a head start on exploiting mRNA. But Afeyan was convinced that Moderna could lead this new field. Bancel had a choice to make, Afeyan said: Flagship would proceed with the company, with Bancel either as its head, a board member, or a regret-filled bystander.

The chance to build something in biotech from the ground up and figure it out along the way proved too tempting for the engineer in Bancel. In 2011, the company went from being called LS18—short for Life Sciences 18 in Flagship's ledger of startups—to Moderna, a mash-up of "modified RNA," with Bancel as its first CEO.

BANCEL HAD EXPERIENCE in the pharmaceutical industry, but he had no playbook for starting a new company based on an unproven technology. He dived straight into every aspect of the company—even getting on the floor to build secondhand desks himself at Moderna's first headquarters in Cambridge—and pushed himself and his team hard. "The key was, how do you get to that one drug before you run out of money and investors throw in the towel on you, saying we're done?" he says.

Moderna spent its first few years in stealth mode, with no website, to the point that media and market watchers called the company suspiciously secretive. Analogies were drawn to another startup: the blood-diagnostic company Theranos,

which was equally private about its product and ultimately turned out to be fraudulent. At the time, Bancel shrugged off the comparison, saying he didn't want the world to watch Moderna's teenage years, as the company developed the technology he was convinced would change medicine.

"My wife Brenda in those first two years thought I was clinically bipolar," says Bancel. "I would come home some days so energized by the work; I would lie in bed not sleeping because my head was spinning, thinking all night because I was so excited. Literally three weeks later, I would come home borderline depressed, thinking, 'Sh-t, this is never going to work.' Brenda would ask, 'Which is it? Is it going to work or not work?' I said, 'I don't know. Nobody in the world knows, because it's something that's never been done before.'"

What inspired Bancel to keep going was the magic trick of viruses, which could essentially do what Moderna was trying to do: introduce new genetic information into a cell and thus co-opt it to make a specific protein. "If you look at nature and learn from nature that it's possible, then your willingness and your appetite to invest capital is much stronger," he says. "That's why I tell my engineers, 'Yes you can—you just don't know how yet.'"

There were two big hurdles with turning mRNA into drugs. One was finding a way to control the immune response it generated, and the other was finding a way to deliver the mRNA to the right cells. Both tasks fell to Antonin de Fougerolles, Moderna's first chief scientific officer, and his team. De Fougerolles didn't have much to go on. "It's like blank sheets of paper," he says. "Eight or nine out of the 10 experiments aren't going to work. Startups always have a lot of pressure, but I would put Moderna on the high end of that scale in terms of pressure."

"It's a very hard place to work," Bancel acknowledges of the intense environment to produce results. "We debate and debate," he says. "Every voice makes the discussion better. But it's not for everyone."

Early on, with input from his team, Bancel decided to focus Moderna's limited resources on rare diseases involving missing proteins, because seeing if the mRNA could replace them would be a relatively quicker process.

Dr. Stephen Hoge, an emergency-room physician turned health care consultant at McKinsey, arrived at Moderna in 2012 to help the company prioritize specific disease areas. Hoge liked what he saw during his months at the company and accepted the board's invitation to join, eventually becoming president in 2015. "I think of him as a brother from another mother," says Bancel. "If he tells me we need to jump out the window because it's good for Moderna, I would jump with him, and on the way down I would ask, 'Why are we jumping?'" The two often hold contrasting points of view, leading to legendary debates that both see as key to Moderna's success. "Stéphane and I have argued through the entire history of the company," says Hoge. "And we often joke that if one of us takes one side, then the other has to take the other. But it's been part of our success that we often disagree to find the truth in between." Hoge championed using mRNA in cancer, but also approved a side project exploring how mRNA could work in a vaccine for infectious diseases. It made sense that the drawback that had led many to dismiss mRNA as a treatment—its aggressive stimulation of the immune response—could be an advantage in a vaccine. The first impressive results showed that all of the mice inoculated with the mRNA flu shot had high levels of antibodies to fight influenza weeks after being challenged with high doses of the virus, while the unvaccinated mice did not. The results were exciting enough to add a more robust program on infectious-disease vaccines to Moderna's portfolio, which would later form the foundation of the company's COVID vaccine.



ONE DAY IN 2015, Dr. Tal Zaks, Moderna's chief medical officer at the time, stuck his head into Bancel's office with his typical greeting: "Hey, boss." Zaks had been tracking Moderna's work in developing vaccines against infectious diseases, and knew the progress the company was making represented an advance over previous efforts—including his own failed attempt at developing a breast-cancer vaccine while a postdoc at the National Cancer Institute. But researchers were also understanding the important role of T cells from the immune system in recognizing cells that had been infected by viruses and were producing viral proteins—in a way similar to how cancer cells make foreign molecules. "One thing we learned along the way in cancer immunology is that it's very hard to cure cancer without the immune system," says Zaks. Advances in immunotherapy—including with checkpoint inhibitors, which unleash the body's immune cells on cancer—could complement an mRNA-based cancer therapy. "All the strands were coming together," he says, for a potentially successful cancer vaccine.

"He said, 'I think we should do a cancer vaccine that is individualized because we can sequence for cheap now the healthy cell and the cancer cell from a biopsy, and we can make an mRNA coding just for the mutations in the cancer,'" Bancel remembers Zaks telling him. "'We can inject it and combine it with a checkpoint inhibitor, and I think it has a



It takes about two months to make the vaccine from the genetic sequence of a patient's tumor

very high chance of working.' And that was the first day I thought about the idea of intismeran."

Zaks was up-front in reminding Bancel that no cancer vaccine to that point had worked, and that the idea would require an expensive randomized controlled trial that would cost Moderna more than any study it had ever conducted. "If we were going to do this, we would need the technical capability to do it at scale, creating a personalized vaccine for each person," Zaks says he told Bancel and the Moderna board. "If we couldn't do that, it wasn't worth the effort." Zaks proposed focusing on melanoma, which has many mutations for immune cells to target, and also advocated testing patients earlier in their disease, to see if the mRNA therapy would reduce the risk of the cancer returning.

Bancel and the board were in. To fund the program, Bancel reached out to Merck, which makes pembrolizumab (Keytruda), a checkpoint inhibitor. Bancel had already invested in a manufacturing facility in Norwood, Mass., about 45 minutes from the company's headquarters, that would ultimately take on the work that had started in Cambridge—sequencing patients' tumors, generating the right mRNA codes for their vaccines, and then making those vaccines, all under one roof. The Norwood facility would eventually be the hub for making many of Moderna's products, while manufacturing for intismeran shifted to a new facility in Marlborough, Mass., in 2025

"Given that this experiment was so bloody expensive, it had to have a 'wow' effect size," says Zaks, who is now a partner at global investment firm OrbiMed. "It couldn't be on the margins. So we had to do the smallest trial we could do and still show this really whopping effect size so it was not questionable."

Figuring out how to find the red flags on tumors (the markers distinguishing cancer cells from normal ones), and which ones to target with mRNA to get the best response, was critical. "I figured that we needed to code in a very deterministic fashion because we needed a robust process that was replicable," Zaks says. He asked his sequencing team the maximum length of mRNA messages they could make, and Zaks added his own knowledge of how long mRNA sequences for tumor markers needed to be; "the rest is simple math," he says. The ultimate number of those tumor red flags that Zaks and his team settled on was 34—the number included in intismeran. "It was no magic number that we calculated somehow with complicated math," he says. "It was extremely simple—what length of mRNA did we need to make it reliable, and how long did we need to make each one to cover what tumors expressed? To date, in 2026, this is the only strategy [in cancer vaccines] known to work."

JUST AS PATIENTS were enrolling in the study and the Norwood facility was starting to make the mRNA cancer vaccines, Moderna and the world were hit with an unprecedented health emergency: COVID.

Bancel saw an opportunity to put the power of mRNA to the test and decided to pivot nearly all of the small company's resources to developing and manufacturing a vaccine against the SARS-CoV-2 virus. He had reason to be confident. By 2020, Moderna had already conducted eight clinical trials involving mRNA shots against various viruses, from influenza to cytomegalovirus (a common and chronic herpes virus) and respiratory syncytial virus (RSV). In early human studies, all eight vaccines had generated good antibodies against the viruses in question. But, says Hoge, it wasn't immediately obvious that the pandemic would become a long-term public-health threat, and he and Bancel debated Bancel's decision to almost completely divert the small company's resources to the pandemic effort. "'Do you want me to stop treating people with cancer? Do I turn away a melanoma patient?'" Hoge remembers saying. "In the end, both of us ended up being right or wrong, depending on your perspective."

"I love the fact that the first mRNA COVID vaccine was made in the intismeran manufacturing facility," says Hoge. "But we didn't build Norwood for cancer or infectious diseases or rare diseases. We built it for all three. People ask, How could such a small company be ready for the COVID pandemic? We weren't. We had a platform that allowed it to happen."

Hoge says that "COVID, without a doubt, catapulted us forward," referring both to the tremendous real-time knowledge the team gained while developing the first mRNA vaccine against SARS-CoV-2, as well as the worldwide validation of the safety and efficacy of the approach that might have otherwise taken a decade or more. It also put Moderna on the map.

Even while being diverted to produce billions of doses of

the COVID vaccine, the cancer-vaccine program continued to enroll patients. This October, almost a decade after starting development on an mRNA cancer vaccine, Moderna and Merck reported the "whopping effect" that Zaks had hoped for. Intismeran, combined with pembrolizumab, reduced the recurrence of cancer by 42% in people with mid- to late-stage melanoma. And the benefit, as Zaks had predicted, started to emerge after six months of treatment. "The immune system takes time to be activated," says Dr. David Berman, chief development officer at Moderna.

BETH RYZYK HEARD the promising results while watching the news. In 2024, after being diagnosed with Stage IIIC melanoma, Ryzyk had decided to join the study of intismeran at Memorial Sloan Kettering Cancer Center (MSK). Surgeons removed her tumor as well as the lymph nodes under her arms, and after genetic sequencing, she learned she had 80 tumor markers. In the study, Moderna and Merck focused on the markers they thought would trigger the strongest immune response and designed a personalized vaccine for each of the patients in the treatment group. "It's pretty amazing that they can individualize it to me and teach my body what to fight," she says. The treatment is straightforward enough that she received the intismeran and Keytruda near her home at MSK's location in Westchester, New York. She still doesn't know if she received the vaccine or a placebo, since the study has not been published yet, but she gets scans four times a year. Two years later, "so far so good—nothing has popped up, and it's the best I can ask for," she says. "The hard thing about melanoma is that it can come back to any part of your body, and it's always in the back of your mind. So if it prevents 42% [of recurrence], I'll take that."

'I tell my engineers, "Yes you can—you just don't know how yet."'
—STÉPHANE BANCEL

Bancel and Moderna are no longer alone in seeing the promise of mRNA, especially as part of the emerging group of immunotherapies for cancer. They have been joined by a chorus of researchers eager to capitalize on turning patients into their own treatment factories, with an assist from mRNA. They envision a future in which cancers are detected and treated with immune-based approaches like mRNA vaccines that can change the trajectory of cancer—bending the progression curve back down. "If we can increase the proportion of patients who have surgery and treatment [with an mRNA vaccine], then fewer patients with Stage IV melanoma will exist," says Dr. Michael Postow, chief of the melanoma service at MSK, who enrolled patients in the intismeran trial. "We could turn this disease into something where we exclusively prevent all recurrent melanoma, and that would be a wonderful place to be—although clearly we are not there yet."

Bancel anticipates filing for U.S. Food and Drug Administration approval soon, with a possible decision on intismeran in 2027, but he isn't waiting to explore other cancers for which the vaccine might also show benefit. Moderna is currently conducting nine clinical trials involving intismeran in melanoma, kidney, gastric, lung, and pancreatic cancer, as well as an early-phase study testing it alone, without a checkpoint inhibitor, in Stage I lung cancer.

Earlier this year, the National Cancer Institute launched a $200 million fundraising initiative to support mRNA cancer-vaccine trials, and in 2024, MSK created the Olayan Center for Cancer Vaccines to make personalized mRNA vaccines like intismeran from start to finish—beginning with genetically sequencing patients' tumors, to generating the mRNA sequences targeting their cancer, to working with manufacturers to make the vaccine, to administering them. (The James P. Allison Institute at MD Anderson Cancer Center in Houston, where checkpoint inhibitors were discovered, is planning to launch a similar center.) It's an opportunity to push development of next-generation vaccines by taking risks on new approaches that biotech and pharma companies are not as comfortable with. "We want to add on to what industry is already doing, and at the same time innovate and test futuristic versions of mRNA cancer vaccines that academic centers are more suited to developing and testing," says Dr. Vinod Balachandran, head of MSK's new center. "It's an exciting time for cancer vaccinology."

Future refinements will include exploring whether the personalized approach of designing vaccines for each patient is truly scalable and affordable. One of the advantages of mRNA is that it doesn't require growing cells but relies instead on computing power to analyze and generate the right mRNA sequences to target each patient's cancer. "No cell cultures need to be grown," says Berman. Traditionally, bespoke approaches have not been practical as treatments, because of the time and cost required to custom-design therapies. But Berman "absolutely" believes an mRNA platform can uniquely address both the time and potential cost of customized treatments. "We have scaled down the technical footprint and have plans to scale up [the program] to look at different tumors," he says.

WHILE MODERNA BENEFITED from the unexpected revenues from the COVID vaccine, those profits, and growing concerns among the public about mRNA technology and vaccines more broadly, made Bancel and the company targets. During the pandemic, Bancel was criticized for earning a huge raise and benefiting from exercising stock options granted in 2013, while many countries were unable to secure enough doses of the COVID vaccine to protect their populations. Bancel says he donated nearly all of his increased earnings to charity,



Each dose of the cancer vaccine is made to order, customized for an individual patient

including through one he and his wife launched, Bancel Philanthropies, and created mRNA Access, a program for bringing Moderna's expertise in making mRNA vaccines to academic and public-health groups in the developing world without the high cost of licensing fees.

Then came the second Trump Administration. During President Trump's first term, mRNA was given equal footing with more traditional vaccine-making approaches because of the urgency of the pandemic, but in Trump's second term, mRNA became technology non grata. Robert F. Kennedy Jr., Secretary of the U.S. Department of Health and Human Services (HHS), is a longtime skeptic of vaccines, including ones involving mRNA. In 2025, scientists reported being confidentially advised by staff at the National Institutes of Health (NIH), which reports to HHS, to avoid using "mRNA" in research-grant proposals if they wanted to be successful in securing funding. Conspiracy theories about permanent genetic manipulation resulting from Moderna's and Pfizer-BioNTech's mRNA vaccines—not based on any scientific evidence—flooded the internet, and more people distrusted the technology.

In May 2025, HHS canceled a $766 million contract with Moderna to develop vaccines against pandemic influenza and bird flu. In a conversation the following month at Moderna's Norwood facility, Bancel said he remained committed to mRNA technology, despite significant headwinds from the Administration. "The vision has not changed," he said then. "It's science, and you always have to start with the science. I don't know how to do anything else. You can say it doesn't exist, and you can fight it, but gravity is gravity—and I believe the same is true with biology."

Bancel eventually secured funding from the Coalition for Epidemic Preparedness Innovations, the group that funded part of Moderna's early COVID-vaccine development, after pledging 20% of production of a future approved vaccine to low- and middle-income countries, and began Phase III testing of its bird-flu vaccine in October 2026.

The company's first mRNA vaccine for seasonal flu was on its way to being reviewed by the FDA when Bancel received a letter in early 2026 stating that the agency refused to review the application, finding fault with the way the trial was designed, despite having previously discussed and accepted the study. The government ultimately reversed its decision and approved the mRNA flu shot in August 2026.

But the drop in revenues from waning interest in the COVID shot and the canceled government contract were a brutal blow to Moderna's financial health, and Bancel was forced to lay off 10% of his workforce and shut down or delay some projects. "Business-wise it was easy, because you do the math, but emotionally it was really hard to separate with people who helped us build the company," says Bancel. He also made difficult decisions to terminate some projects, including one for developing a vaccine against cytomegalovirus, which had been the company's leading candidate before COVID.

Then came the encouraging results on intismeran. Bancel hopes the latest findings lay the groundwork for a rich pipeline of cancer treatments to come. He's realistic enough, however, to know that the biotech ride is a roller coaster. Weeks before Moderna's encouraging news, the company's competitor in the mRNA space, BioNTech, reported that its mRNA vaccine failed to show any benefit compared with placebo in a similar combination with a checkpoint inhibitor among patients with advanced head and neck cancer. Experts say that the two companies use different approaches in developing their vaccines and that BioNTech tested its vaccine in people with later-stage cancer that could not be surgically removed, while Moderna chose to intervene earlier, making it difficult to compare the two.

The conflicting results are not unusual with a new technology, and Bancel is even more convinced than he was in 2011, back in Afeyan's office, that mRNA is the technology of the future and will generate hundreds of new treatments for a range of diseases. By the end of the year, he expects to announce late-stage results from the first mRNA treatment for a rare disease in which people are missing a key protein that processes other proteins and fats.

"I always think about the long cycle," says Bancel. "I knew that if you can figure out the engineering puzzle of building a business with mRNA, then the impact of this technology on humanity—way after I'm CEO, way after I'm dead—is going to be gigantic. And we are just beginning. We are just getting started." ◻



PHOTOGRAPHS BY MAGGIE SHANNON FOR TIME

ALL IN THE FAMILY

JORDAN AND SALISH MATTER ARE EXTENDING THE ALREADY MASSIVE REACH OF THEIR FATHER-DAUGHTER ACT BY AVERY STONE/MANHATTAN BEACH, CALIF.

IT'S ALREADY 10:27 P.M. ON A SATURDAY NIGHT IN OCTOBER WHEN Salish Matter asks gently, "Are we going to start filming soon?"

The 16-year-old stands in the aisle of her local Target in Manhattan Beach, Calif., beside her father Jordan Matter. They are dressed almost identically, in jeans and black shirts.

The duo is minutes away from filming a video for Jordan's YouTube channel, which launched in earnest in 2017 and today has more than 38 million subscribers. Over the past several years, Salish has become its star—a role that has helped position her as a pre-eminent teen content creator. With more than 18 million followers across her own TikTok, Instagram, and YouTube accounts, she attracts an audience of teens and tweens who see her as both relatable and aspirational. With Jordan, she is also one half of an increasingly powerful family brand that includes Sincerely Yours, a teen-focused skin-care line that launched last year, and a multiyear talent deal with Netflix, announced in February. The family's first original series on the streamer, *Salish's 12 Games of Christmas,* will premiere Nov. 28, one day before she turns 17.

Salish Matter on Oct. 17 in Manhattan Beach, Calif.

Tonight's shoot marks the Matters' first official collaboration with Target, but the video sits firmly in the family's milieu: a competition with a frenetic, handheld filming style and bombastic volume. Salish will face off against her father to see who can construct the best sleepover setup using products they find in the store, a riff on *Supermarket Sweep*. Joining Salish's team is 34-year-old comedy creator Haley Kalil, a.k.a. Haley Baylee; fellow creators Brooke Monk and Devon Rodriguez will have cameos.

In the aisle, Salish prepares to deliver a line that will kick off nearly five hours of filming, with the creators darting between the shelves as cameras trail them. Jordan encourages his daughter: "Let's see what you got, Say." He scans the semicircle of onlookers, largely the family's team and Kalil's. The majority are men holding cameras or smartphones. "Everybody, watch how good she is."

Salish shrugs her shoulders up toward her ears. "No pressure," Jordan adds.

THE MORNING OF the Target shoot, Salish perches on a white bedspread at home. The space around her is sparsely furnished and perfectly neat. There is a white vanity with a mirror, in front of which Salish occasionally films TikToks. On the walls are two posters for the artist SZA, and above the headboard hangs a butter yellow sign with the letters "SY," a nod to Sincerely Yours. In September 2025, roughly 87,000 people attended its pop-up launch event at the American Dream Mall in New Jersey. Within an hour, the brand sold out at the mall's Sephora location. Jordan says the crowds were so intense they had to lock the store.

That level of frenzy for a teen content creator—a frenzy that, in past decades, was reserved for pop stars and Hollywood A-listers—is far from out of the ordinary these days. Even a decade ago, young people said they related to content creators more than traditional celebrities—and many see influencing as the ideal job. A recent study from Edison Research found that 30% of Americans ages 13 to 24 already call themselves digital-content creators.

Though her competition is fiercer than ever, Salish's rise above the algorithmic fray has a lot to do with her longevity. Despite being only 16, she's been on kids' screens for years: "The fact that she's been doing it consistently, for so long, has allowed these kids to kind of grow up with her," Jordan says. "Now she's imprinted in their emotions, as part of their childhood."

> ***'The fact that she's been doing it consistently, for so long, has allowed these kids to kind of grow up with her.'***
> **—JORDAN MATTER**

Salish began appearing on her father's channel in April 2018, at 8 years old. Back then, the channel focused on Jordan's dance photography—he had already published multiple books—as well as photo challenges with young subjects, including cast members of the reality series *Dance Moms* and a 14-year-old Tate McRae.

As a kid, Salish loved watching her dad's videos. When he asked her to join one, she said yes immediately. "I was very shy growing up, and I still am. But I think I came out of my shell a lot," she says. She speaks melodically and with a slight lisp, grinning. "It was very nerve-racking for me at first to talk in front of a camera, but I got used to it," she adds. "And now I'm so happy I did it."

Salish's appearances on the channel became more frequent during the pandemic, after the family relocated from Nyack, N.Y., to Los Angeles. The family includes her mother Lauren, a trained veterinarian, and her older brother Hudson. Lauren mostly stays off camera. Hudson, now 20, also began appearing on Jordan's YouTube channel as a child, then pivoted to grow his own.

In 2022, Jordan's channel hit 10 million subscribers. Two years later, in April 2024, it hit 20 million, and then 30 million in May 2025. So far this year, the channel has garnered more than 3.1 billion views. "It was very obvious that both the audience and I enjoyed the videos where [Salish] was in more," Jordan says, sitting in the foyer of his home. He is a youthful 60, with an athletic build and strawberry blond hair that stands upright as if he'd touched a live wire.

As his channel has grown with Salish at its center, Jordan has stepped firmly into the role of strategist. Starting roughly four years ago, he limited their output to once-weekly YouTube videos, eschewing brand deals and product launches until Sincerely Yours. "We wanted to take time to build that emotional connection [with our audience]," Jordan says.

Now, the family's three-year deal with Netflix is poised to catapult them into a new echelon of recognition. After it was announced, Netflix began hosting select videos from Jordan's YouTube library. According to the streamer, those videos have spent 14 weeks on the global top 10 chart and entered the top 10 in 75 countries. The new original show, a holiday-themed competition hosted by Jordan, features Salish alongside seven other creators. Together, the group will participate in 12 challenges to win a pile of presents, but



Jordan Matter, here amid the organized chaos of an Oct. 17 late-night shoot at a California Target location, takes a strategic approach to his family's brand

there's a catch: someone among them is an impostor who will try to sabotage the games without the group's noticing.

Netflix characterizes the Matters' deal as unique, even among its recent push to court other content creators and podcasters, including Ms. Rachel and Mark Rober: it includes multiple original titles, rather than one, plus the option to explore additional business deals or partnerships guided exclusively by the streaming giant. "There is no one quite like Salish," says Heather Tilert, vice president of kids and family series at Netflix. "Her audience's love for her is undeniable. They connect with her because she's real and relatable while also being incredibly aspirational and humble."

THOUGH ASPECTS of Salish's routine mirror a regular teenager's—she describes attending a local private high school, doing her homework, and spending time with her friends—she knows there is nothing normal about internet fame. "Since starting content, I've just wanted to be normal and have a normal life outside of content," she says.

Jordan limits filming to Sundays, so Salish can focus on other things the rest of the week. He says he and Lauren are constantly checking in on their daughter's mental health. "My wife and I talk about it all the time with her," Jordan says. "Any parent that says, 'Oh, it's all good, it's great—they're happy.' Well, maybe they're happy, but that doesn't mean it's all good. There's still a young person developing into an adult, and now the world is watching them develop."

Lauren describes her daughter as very private, despite it all: "She is a person with very good boundaries." Salish doesn't post about what's happening in her life behind the scenes—and Lauren says Salish refuses to tell her teachers when she has obligations after hours that might interfere with her performance at school, preferring to keep the two worlds separate. Salish also keeps a low profile with her classmates: "I don't want to make it my entire personality."

Jordan says the family is aware of security considerations that arise when sharing children's lives online, and he points to a note for Salish on the kitchen counter, which was delivered in person and signed by 10 young fans who discovered where they live. To Jordan, the bigger concern is the emotional weight of internet fame: "Seeing where [Salish is] emotionally and how she's handled it—I don't see what we could have done better, but that doesn't mean that everybody should do it," he says. "We happen to have a kid who seems to be genetically predisposed to be able to handle this kind of life."

This perspective has not stopped viewers and experts alike from voicing concerns, both about kidfluencing generally and the Matters' content specifically. In a recent study, professors of entrepreneurship Alisa Jno-Charles of Babson College and Daniel Clark of Western University's Ivey Business School examine the complexities of kidfluencing as a new form of child labor via an in-depth analysis of four



At 16, Salish Matter is content creator, cosmetics-brand founder, and now Netflix star

popular family channels. It does not include the Matters, though both Jno-Charles and Clark say their own children watch Salish and Jordan.

"When you are working with your parents, your consent—your understanding of consent—is very different than working with strangers," says Jno-Charles. "So you theoretically may be asked, 'Are you OK with this?' But how comfortable do you feel saying no to your father, whose idea this is?" The stakes can feel particularly high when it comes to a family business: "Continuing this enterprise directly affects his understanding of his career, your family's net worth, your family's future. I personally don't feel like a child is fully capable of removing consent, especially a minor child, in a situation where they're working with their parent."

Since the dawn of social media, kidfluencer families like the Matters have shared—and monetized—their children's lives. Several high-profile cases of alleged exploitation have raised questions about kid creators' working conditions, access to revenue, and exposure. One prominent recent case involves creator Piper Rockelle, her mother and manager Tiffany Smith, and members of their Los Angeles content collective, known as "the Squad." In 2022, 11 participants in the collective, all of whom were under 18 at the time, brought a lawsuit against Smith, claiming that she abused them verbally, emotionally, physically, and sexually. (The lawsuit was settled for $1.85 million in 2024; as part of the settlement terms, Smith denied any wrongdoing.) Last year, the case became the subject of the Netflix documentary *Bad Influence: The Dark Side of Kidfluencing*.

> ***'There is no one quite like Salish. Her audience's love for her is undeniable.'***
>
> **—HEATHER TILERT, NETFLIX**

Jordan filmed multiple videos with Rockelle in 2020 and 2021, when she was between 12 and 14, and says he found the documentary shocking. "My experience of it was, it was a relatively healthy environment," he says. Still, some online commenters have compared the families. Jordan says that he understands the impulse to make a connection, but that those judgments are uninformed. "Almost every opinion comes from people who have never met us," he says. Lauren adds, "We all realize that people are really imaginative,

and a lot of times the comments don't really have a basis in reality."

The vast majority of videos on Jordan's channel feature concepts that are unequivocally child-friendly, like Salish building a secret mall in her home or hiring a fake twin to prank her dad. However, over the years, there have been some that involve crushes or "dates" between Salish and other minors. (Hudson participated in similar videos too.) Salish's primary "ship"—the pairing her audience is most bought into, which has inspired dozens of fan accounts—is with her best friend, fellow creator Nidal Wonder, 15. In one video, 13-year-old Salish goes on an "emotional first date" with Wonder, 12. In it, Wonder places both hands on Salish's face, pulling her in as if to kiss her. As their faces inch closer, the camera cuts away. Jordan says Salish and Wonder thought it was funny that people gossiped about whether they were dating back then, and they liked to prank him, pretending to kiss to draw a reaction from him.

Jordan does not see his videos as playing into the idea of a romantic relationship between the pair. "What I've always seen with the Nidal thing is I think it's an incredible opportunity to showcase a very close connection between a boy and a girl that's not intimate in a romantic way," Jordan says.

For her part, Salish says she expects speculation about her personal life but doesn't let it affect her: "I know that none of the guys I film with, I'm dating, and we're all just really best friends."

Jordan says that in his channel's early years, he relied on his collaborators to tell him what they were comfortable with—and that those suggestions included concepts that might now give him pause. For one shoot, Piper Rockelle, then 13, and another teen re-created well-known romantic celebrity photographs, including a bridal image. "In retrospect, yeah, probably not the best image, especially the wedding-dress part," he says.

Like anyone who chooses to showcase their children online, the Matters must contend with the public's perception of the messages they send. Jordan says he has to think through whether a moment that feels completely normal to him within the context of their private family life could be misconstrued by viewers: "It gets a little frustrating, because there's so many ways in which people can interpret everything you do."

The level of scrutiny has become even more intense as the Matters' profile has risen this year. Recently, for example, some online commentators questioned the propriety of a thumbnail image from Jordan's YouTube channel that then appeared on Netflix of Salish looking up at the camera with her mouth open. "The fact that we're getting called out for sexualizing her—it's completely out of left field because the context of the thumbnail is in no way sexual," he says. Typically, the family also captures smiling and grimacing versions of thumbnails, but when they A/B test them on the platform, the "shocked" one usually wins out. But Jordan says they're backing away from using images with the expression to protect Salish nonetheless: "I don't want Salish to be feeling uncomfortable."

> ***'I don't want to make it my entire personality.'***
>
> **—SALISH MATTER**

AT TARGET, THE GROUP finishes shooting around 3 a.m. Salish emerges through the doors of the store into quiet darkness. In the parking lot, members of her crew pack their cars. She takes off toward them in her checkered pajama pants from the shoot. On her feet are gray socks, no shoes. She hugs each person, thanking them. Next week, they'll move forward, doing it all again.

What does moving forward mean for Salish, in the broader sense? She doesn't know what her life will look like in five years. She says she knows she wants to continue creating content, and her biggest ambition is to have fun. She's not sure if she sees herself attending college. Jordan wants his daughter to be able to choose her own adventure. "As she gets older, she has these different buckets that she's already dipped her toes into, and then she can just pursue them," he says. "The world is her oyster, honestly."

Financially, Salish's future is laid out for her as she ages: according to Jordan, Salish's share of the family's gross earnings, which he says is the majority of the profits, is funneled into two trust accounts. Fifteen percent is in a Coogan Blocked Trust Account, which she'll gain access to when she turns 18. The remaining 85% is in another account, available to her when she's 25.

Today, Salish feels fortunate to be in her position, and echoes Jordan's sentiment about the future: "I feel like I've gotten so many amazing opportunities," she says. "I've gotten to see what building a brand is like and what being on a Netflix show is like, and there's just so many options." She also lent her voice to the third *Angry Birds* movie, coming out in December. Recently, while filming TikToks for the movie, Salish was introduced to Kim Kardashian and her son Psalm, who also has a role—the mogul had said they wanted to meet her.

Asked about the hardest part of her job, Salish says there is none: "I'm so lucky that I get to do it. I mean, I don't even consider it a job." ◻

UNSURE ABOUT YOUR INVESTMENTS?

GET A SECOND OPINION.

& REMOVE THE SHADOW OF DOUBT



Are you afraid of losing money in the stock market? Worried you're leaving returns on the table? Confused about what to do next? Get a second opinion from Hennion & Walsh. And remove the shadow of doubt.

Our second opinion is a free, detailed analysis of your investments to make sure they are on the right track. We'll measure your risks, reveal missed opportunities, and provide feedback on how to better meet your financial goals.

It can give you the confidence you're making the right choices for you and your family. Whether you need a fresh look at your current investments, or you've recently experienced a change in your financial situation, get in touch and remove the shadow of doubt.

Call us at **(800) 279-5279**

to get a **FREE SECOND OPINION** on your investments or visit **hennionandwalsh.com**

HENNION & WALSH
ASSET MANAGEMENT

THE SECOND OPINION PEOPLE

© 2026 Hennion & Walsh Inc. Investing involves risk, including the possible loss of principal. Advisory services provided by Hennion & Walsh Asset Management. Securities offered by Hennion & Walsh, Inc. Member FINRA/SIPC.



TIME100 climate

The world's most influential leaders driving business climate action—and the solutions that give them hope

WITH REPORTING BY JESSICA HULLINGER, KYLA MANDEL, SIMMONE SHAH, OLIVIA B. WAXMAN, AND JUSTIN WORLAND

PHOTOGRAPH BY GARRET SUHRIE

DRILLING, BUT NOT FOR OIL

The AI boom and Iran war hastened the tipping point for clean energy. **Fervo CEO Tim Latimer** found the future deep underground

By Justin Worland/Milford, Utah

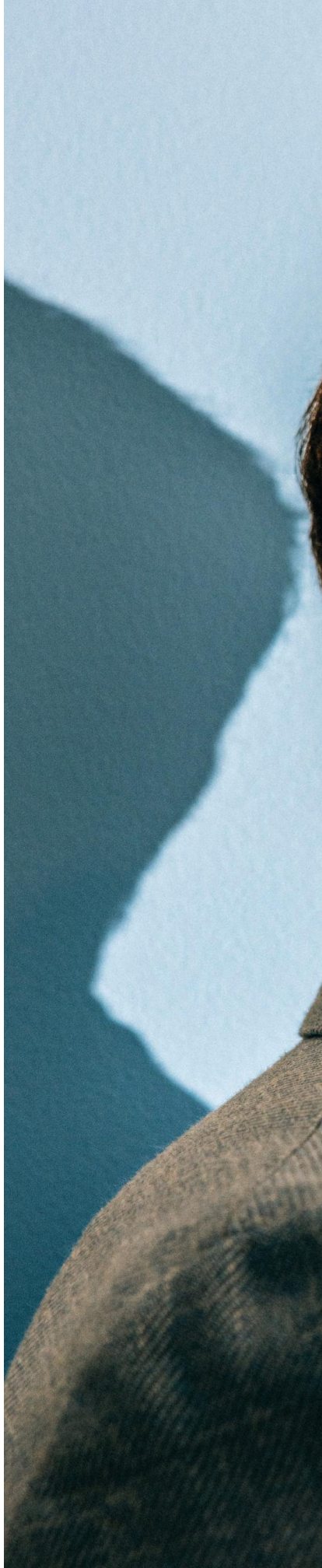
THE BREEZE WAS CRISP AND THE TEMPERATURE NEAR FREEZING AS I STOOD 30 ft. off the ground on the platform of a modified oil rig in this quiet stretch of southwestern Utah on Oct. 15. But two miles deep into the earth below, the drill attached to this giant rig pummeled rock to bring 400°F heat to the surface. Visible from the rig are three new power plants that geothermal energy company Fervo has constructed just a stone's throw away to transform the heat into electricity.

Even with its enormous scale, it would be hard to overstate the importance of this site, known as Cape Station, to the future of geothermal power. If it achieves its goals, Cape Station will prove that geothermal power can be produced affordably in places once thought unthinkable. "We have a little bit of a burden to bear here," Sarah Jewett, Fervo chief operating officer, tells me from the cab of the rig.

As rig hands maneuver giant oil-and-gas machinery that has been adapted for geothermal, it's hard not to feel as if the future of energy has arrived. Across the horizon in this stretch of the Escalante Desert, countless wind turbines rotate quickly on this blustery day. On a vast empty field, stacks of solar panels dot the landscape at regular cadence, ready to be installed. And, of course, there are the power plants, built by Fervo and designed to run on the heat coming from the geothermal wells. One began operation in September. Two are undergoing tests to start up in the coming months. By 2028, the company says, there will be 11 dotting the landscape, roughly enough to power half a million homes.

Much of the early electricity from this facility will travel west via transmission line to light up homes and businesses in California, but the ability to power homes is not what has taken Fervo's vision from a niche idea to a hot investment. The company launched in 2017 with the goal of repurposing the technology that enabled the fracking boom to generate geothermal power, which uses heat from underground to generate power. With sophisticated drilling, Fervo could drill deeper and horizontally, allowing for geothermal in places it wouldn't have worked before.

The idea came at the right time. At first, Fervo targeted companies looking for clean power, driven by a wave of electrification and climate rules. And now, it's getting a boost from AI's seemingly insatiable hunger for energy. "We think





LATIMER, CO-FOUNDER AND CEO OF FERVO ENERGY

PHOTOGRAPH BY ARTURO OLMOS FOR TIME



TWO DRILLING RIGS BESIDE A FERVO POWER PLANT AT THE CAPE STATION SITE IN OCTOBER 2025

geothermal as an industry can provide hundreds of gigawatts of electricity to the United States," says Tim Latimer, the company's CEO. "Right now, it's doing like three." The war in Iran and subsequent energy crisis around the world have only made Fervo's technology more compelling—and created a case for expansion in international markets.

Fervo, which completed its initial public offering in May, is a poster child for how the combination of AI-driven electricity demand and energy crisis security concerns have led to a clean-energy tipping point. Around the world, countries and companies are turning to technologies that were developed as climate solutions and now also offer energy security, speed, reliability, and increasingly attractive economics.

In March, in the wake of the attack by the U.S. and Israel on Iran, Chinese exports of solar panels soared to record levels, up 49% from the previous record, according to Ember, an energy think tank, and battery electric-vehicle sales rose 45% when you exclude the U.S. and China. In all, the International Energy Agency expects $2.2 trillion in clean-energy investment in 2026 compared with $1.2 trillion for fossil fuels. At the same time, the early-stage companies deploying clean-energy tech—from nuclear to battery storage—have seen an uptick in funding as investors increasingly eye opportunities to make a big return by building a new energy system.

"Technology has developed a lot in the last decade, particularly on the electricity side: renewables, storage, EVs, etc.," says Ernest Moniz, the founder of the Energy Futures Initiative and a former U.S. Secretary of Energy. "The situation is prime for a push on low-carbon energy."

And yet riding the coattails of the data-center build-out and the economic disruption caused by the war in Iran comes with big risks. The scale of the AI boom is enormous, but it could easily be cramped by slowing interest from Wall Street. And volatile politics have proved to be just that, uncertain and subject to sudden shifts. Even so, there's no question that this moment is an inflection point. Old assumptions about the nature of the energy system have been broken—and clean technologies are positioned for success.

THE TOWN OF MILFORD, UTAH, is small. There's one hotel, a quiet Travelodge with 75 rooms. The population hovers around 1,400, though the lack of jobs means that young people tend to move away when it's time to find work. When I ask the mayor where I should grab lunch, he struggles a bit. There really just isn't that much around here, he tells me.

So it came as a surprise to find myself caught in a mid-morning traffic jam as I headed into town from the Cape Station site. Road improvements, in progress ahead of Fervo's rapid expansion, along with a slew of trucks carrying equipment, were slowing things down.

Milford, it turns out, is a bit of a boom town. The night before my visit to Fervo, representatives from Google had pitched residents on a new data-center complex co-located with Fervo's operations: two data-center buildings to start, growing to as many as eight. Hundreds of residents showed up, peppering the companies with questions about power and water. "People asked some really, really good questions," Milford Mayor Nolan Davis told me from his office.

Talking with Latimer, it can sound almost as though Fervo was purpose-built for this moment. Advanced geothermal



FERVO'S UTAH OPERATIONS SIT BESIDE SEPARATE WIND AND SOLAR POWER FARMS

lacks the intermittency issues that have contributed to wind and solar opposition. And it relies on technology used in the oil and gas industry, which helped it gain quick acceptance from the legacy energy industry. It's a rare favorite for politicians on both sides of the aisle.

One of the company's biggest advantages comes from a decision Latimer made early on to focus specifically on selling to Big Tech companies. In the mid-2010s, myriad clean-energy companies failed. In many cases, these companies had made big technological advances but struggled to connect their product with customers. "A lot of folks had this 'If you build it they will come' mentality," says Latimer. "I think that was dead wrong."

But Big Tech firms wanted low-carbon power too, and they had the money to pay for it. In 2021, Google became one of Fervo's first customers, committing to a pilot in Nevada that helped prove Fervo's approach. That early relationship has expanded with time. In September, the companies announced that Google would buy 400 megawatts of geothermal power from Cape Station. Enough to serve 200,000 homes, the electricity will power data centers instead. "We always thought that hyperscalers would be a customer segment for us," says Latimer, using a common term for the Big Tech companies investing in AI infrastructure.

Hyperscaler demand drummed up interest for Fervo's initial public offering in May, making it the most closely watched IPO from a clean-energy company this year. In Latimer's telling, the more than $2 billion the company raised will help unlock a dramatic expansion. As drilling costs fall, advanced geothermal will be economically viable in more and more places in the U.S. and around the world. Markets like Japan—where Fervo has made early inroads—are particularly attractive because of the high energy-price environment caused by the Iran war. "We are getting calls all the time," Latimer says.

Fervo has become in many ways this moment's clean-energy golden child, but it's far from alone. Analysis from Dealroom, a company that tracks private-market deals, identified more than $44 billion in climate venture funding raised in the first three quarters of 2026 and projects $59 billion for the full year, up 42% from last year.

'The situation is prime for a push on low-carbon energy.'

—ERNEST MONIZ, FOUNDER, ENERGY FUTURES INITIATIVE

The companies receiving sizable checks run the gamut. Energy-storage companies experimenting with new battery chemistries have become hot commodities. Investors have poured money into new ways of producing nuclear energy, from small modular reactors to new engineering architecture for mega–nuclear power plants. Even companies developing nuclear fusion, a technology proven technically possible but far from commercially viable, have received big checks.

Publicly traded companies that manufacture technologies to electrify the economy have seen their stocks surge too. Bloom Energy, a maker of fuel cells, has increased more than ninefold since the start of 2025. Stock in GE Vernova, a legacy maker of electrification equipment, has grown sixfold

COURTESY OF FERVO ENERGY

since it started trading in 2024. These aren't just numbers on a spreadsheet.

For companies making energy hardware, scaling up requires factories, specialized equipment, and years of engineering before products earn a return. Investor enthusiasm makes years of development possible. Buoyed by investors, GE Vernova, for example, has planned $11 billion in investments that includes both R&D and capital investments focused on everything from on-grid hardware to small modular nuclear reactors. Even as gas turbines remain Vernova's biggest business, the company has declined to build new turbine factories.

"The huge benefit for us, and there are many, is they expect innovation," says GE Vernova CEO Scott Strazik of his hyperscaler customers. "They're ready to make investments on technologies that, I would say, notwithstanding this moment, would have taken longer to materialize."

ON THE ROAD, across the country and around the world this year, it was hard to escape just how much the energy landscape has shifted. Immediately following the U.S. attack on Iran in February, prices for liquefied natural gas doubled across Asia. In some places, fuel simply hasn't been available at an affordable price since, leading to shuttered factories in cities and a return to burning wood for some poor families. And, while AI is the primary driver of clean-energy investment in the U.S., closing the Strait of Hormuz led to a mad dash for alternative energy sources globally.

In Singapore, three months after the U.S. war in Iran began, I met with government officials and finance leaders from across Southeast Asia. In response to the conflict, countries across the region have enacted dozens of policies designed to shift the tide, from reducing taxes on electric vehicles in Vietnam to pushing local governments to install solar panels in Malaysia. "There's an energy sovereignty and a security issue that can be addressed with the technologies we have, which is more renewables," says Ravi Menon, Singapore's climate ambassador.

Crucially, this moment has also cast doubt on the age-old approach of throwing money at fossil-fuel subsidies to bring down costs. Sustaining such subsidies is simply unaffordable, and countries across Europe and Asia have sought to modulate or even undo them.

"In difficult moments, where energy goods raise prices, the clear preference is to dedicate public money to address the root causes and to invest in electrification and in efficiency," says Teresa Ribera, the executive vice president of the European Commission who oversees energy policy in the E.U.



And it's not just government policy. Businesses hit by the volatility are taking the leap too, with decisions big and small. The Mahindra Group accelerated a move to convert kitchens at its resort subsidiary to electric cooking equipment as it faces down high fuel costs. Meanwhile, fuel refiners are looking to biofuels as a potential solution. "Any time the price spikes, that puts more pressure on finding a domestic energy solution," says Paul Bloom, the CEO of Gevo, a renewable-biofuels company. In September, his company signed a deal with an Indian firm to commercialize Gevo's process for turning plant-based feedstocks into a diesel alternative in that country.

The easiest way to understand the rapid change now

TIME100 Climate

THE CLASS OF 2026 ANSWERED OUR QUESTIONS ABOUT THEIR PRIORITIES, HOPES, AND CONCERNS:

'We have to stop treating nature as if it has no economic value.'
Edward Norton
Chief strategy officer, STAX Engineering

'People embrace change when it improves their daily lives.'
Suman Mishra
CEO, Mahindra Last Mile Mobility Ltd.

'We do not only need more solutions. We need conditions that allow solutions to win.'
Christiane Dolva Törnberg
Head of innovation, H&M Foundation

'Homeowners can be active participants in building a more resilient energy system.'
Mary Powell
CEO, Sunrun

COURTESY OF FERVO ENERGY



A FERVO POWER PLANT AT THE COMPANY'S CAPE STATION SITE

under way across the globe is simply the speed and scale of solar-power and electric-vehicle deployments. Solar panels are arriving across Africa by the boatload, and countries on the continent are forecast to install a record 17 gigawatts of solar capacity this year, according to Ember. That's a 45% increase compared with last year, and represents about 100,000 solar panels installed every single day. Meanwhile, in India, Brazil, and Vietnam, electric-vehicle sales doubled compared with the previous year in the three months following the start of the conflict in Iran, according to the IEA.

CATCHING UP ON THE NEWS after my three-hour drive from Milford back to Salt Lake City, it was hard not to fixate on the headlines focused on the battering of AI-infrastructure stocks. Markets have grown wary of the hyperscaler plans to build trillions in new data centers, and AI-related stocks are periodically sent into tailspins as a result. For better or worse, clean-energy stocks are now a part of that basket.

In most conversations today, talk of an AI bubble draws comparison to the dotcom boom in the early 2000s that led to a wave of bankruptcies that thinned out the ranks of early internet companies. But mention a bubble in clean tech and another period comes to mind: the wave of bankruptcies that followed exuberant investment in climate technologies in the late 2000s and early 2010s. From 2006 to 2011, venture-capital firms invested more than $25 billion into clean-energy startups, according to an analysis from MIT. More than half of that money was lost as tech breakthroughs failed to yield commercial products.

There is no question that hitching clean energy to AI today comes with risks. If and when the AI bubble pops, there will be collateral damage. Energy tech focused solely on data centers (think of components that live within the centers' walls) may be hardest hit, but the most speculative energy technologies without clear commercialization pathways may also be difficult to justify financially.

Despite all that, it's fair to say that while the AI boom may have given clean tech a lifeline, the fate of the sector doesn't depend solely on AI. Around the world, electricity demand is spiking for a variety of reasons, from economic growth in developing countries to the need for air-conditioning in areas experiencing more extreme heat. And, even as it has largely fallen off the list of priorities in Washington, the emissions that cause climate change remain a concern in most parts of the world.

Perhaps most importantly, the attack on Iran and the subsequent on-and-off-again closure of the Strait of Hormuz have made clean energy, produced locally, more valued than ever before. Back in Utah, the appeal is easy to understand. Fervo's power plants don't depend on shipments of fuel from halfway around the world. "There's just a lot about what's going on globally right now," says Latimer, "that's driving demand for what geothermal can provide—an energy resource where the fuel is right beneath the power plant."

Clean energy helps lock in costs, avoiding volatile markets. Another country can't simply decide to cut off the supply, as with fossil fuels moved around the world by ship and pipeline. Even if the U.S. and Iran declared an end to the conflict tomorrow, leaders across businesses and governments expect volatility to remain. Clean energy will keep the lights on.

'Companies are beginning to recognize their future depends on investing in people and nature.'
Santiago Gowland
CEO, Rainforest Alliance

'Climate action needs to improve people's lives… Public trust depends on results.'
Laurence Tubiana
CEO, European Climate Foundation

'We need to treat nature as critical infrastructure.'
Kim Wilson
Director of sustainability, McLaren Racing

'Climate change won't be solved by a single silver bullet.'
Juliet Rothenberg
Product director of resilience and energy AI, Google

'The most important action is to modernize clean-energy planning and permitting.'
KR Sridhar
CEO, Bloom Energy

Radiating Change

TITANS



Erin Augustine
Vice president, global sustainability, Oatly

Yang Bo
CEO, Hoymiles



Christiane Dolva Törnberg
Head of innovation, H&M Foundation

Dave Carroll
President, Ford Energy



Jennifer DuBuisson
Senior director, sustainability, Levi Strauss & Co.

Santiago Gowland
CEO, Rainforest Alliance



Badar Khan
CEO, EVGo

Mateo Jaramillo
CEO, Form Energy



Tim Latimer
CEO, Fervo Energy

Suman Mishra
CEO, Mahindra Last Mile Mobility Ltd.



Edward Norton
Chief strategy officer, STAX Engineering

Bob Mumgaard
CEO, Commonwealth Fusion Systems



Mary Powell
CEO, Sunrun

Juliet Rothenberg
Product director of resilience & energy AI, Google



RJ Scaringe
CEO, Rivian Automotive

Mario Ruiz-Tagle
CEO, Iberdrola España



KR Sridhar
CEO, Bloom Energy

Laurence Tubiana
CEO, European Climate Foundation



Zhang Lei
Chairman, Envision

Kim Wilson
Director of sustainability, McLaren Racing

DEFENDERS



Sam Baraso
Program manager, Portland, Ore., Clean Energy Community Benefits Fund

Jillian Blanchard
SVP, climate & environmental justice, Lawyers for Good Government



Gator Halpern
Co-founder, Coral Vita

Ani Dasgupta
President & CEO, World Resources Institute



Adrienne Heinz
Psychologist and co-founder, The After Collective

Melissa Kenney
Research director, University of Minnesota



Sierra Lindsey Kos
Co-founder, Extreme Weather Survivors

Byron Kominek
Owner, Jack's Solar Garden



Tom Matzzie
CEO, CleanChoice Energy

Paul Mougeolle
Strategic advisor, Notre Affaire à Tous



Aparna Shrivastava
Exec. director, climate reserve, Aspen Global Change Institute

Michael Sheldrick
Co-founder, Global Citizen



Anne Stévignon
Senior legal officer, Notre Affaire à Tous

Kahsennenhawe Sky-Deer
Former Grand Chief of Kahnawà:ke



Chase Taylor
Director, environmental compliance & strategy, Pattern Energy

Sam Teicher
Co-founder, Coral Vita



Rosa Vásquez Espinoza
Chemical biologist

Wietse van der Werf
Founder, Sea Ranger Service



Wendy Wales
Activist

Kathrin Winkler
Program director, German Research Foundation

INNOV



Jit Bhattacharya
CEO, BasiGo

Barbara Buchner
CEO, Climate Policy Initiative



Mike DeGuzman
CEO, Solaric Philippines

Robert Dunn
CEO, Start Campus

Sorin Grama
CEO, Transaera Inc.



John Henry Harris
CEO, Harbinger



Laureen Meroueh
CEO, Hertha Metals

Franco Rodríguez Viau
CEO, Satellites on Fire



Joseph Scuderi
CEO, Sun-Ways

Xavier Laguarta Soler
Co-founder, Mitti Labs

From corporate executives to filmmakers, this year's leaders continue to push climate progress forward. See their stories on **ti.me/100-climate**

ATORS

Andrew Billingsley
CEO, Plaswire Ltd.

Levi Conlow
CEO, Lectric eBikes



Caroline DeWitte
Co-founder & COO, Oklo



Randy Durband
CEO, Global Sustainable Tourism Council



Freeman Hall
President, B2U Storage Solutions

Thomas Maltese
Senior manager, C40 Cities

John Mills
CEO, Watch Duty

Matt Rogers
CEO, Mill



Tenzin Seldon
Founder & managing partner, Pulse Fund

Matt Tilleard
CEO, CrossBoundary Energy



CATALYSTS

Kathy Baughman McLeod
CEO, HERA



Matthijs Bouw
Founder, ONE Architecture & Urbanism

Amy Brachio
CEO, Carbon Measures



Benedict Cumberbatch
Actor

Ellen Dorsey
Executive director, Wallace Global Fund



Elmo
Sesame Street

Brian Eno
Musician

Patricia E. Harris
CEO, Bloomberg Philanthropies





Vanessa Hauc
Anchor, Telemundo

James Hurrell
Chair, environmental science & engineering, Colorado State

Alejandro G. Iñárritu
Director, *Digger*



Kaveh Madani
Director, U.N. University Institute for Water, Environment, & Health



Grant McCargo
Executive chairman, Urban Villages

Tom McCarthy
Director, *A Statement*



Nick Oldridge
Co-founder, National Emergency Briefing

Tim Mohin
CEO, Greenhouse Gas Protocol



Simon Oldridge
Co-founder, National Emergency Briefing

Cathy Runciman
Co–executive director, EarthPercent

Wendy Schmidt
Philanthropist and investor



Russell Westbrook
Athlete

LEADERS



Ben Allen
State senator, California

Chris Bowen
COP31 president of negotiations

Mohammed Chahim
Member, European Parliament (Netherlands)



Spencer Cox
Governor, Utah



Bill Frist
Chair of the global board, The Nature Conservancy

Helen Godwin
Mayor, West of England

António Guterres
Secretary-General, United Nations



Murat Kurum
COP31 President



Fiame Naomi Mata'afa
Former Prime Minister, Samoa

Ramón Méndez Galain
President, REN21



Juan Carlos Muñoz
Professor, Universidad Católica de Chile

Matt Meyer
Governor, Delaware



Edith Ofwona Adera
Regional principal officer, African Development Bank Group

Akanat Promphan
Minister of Energy, Thailand

Ammon Reagan
Sustainability program coordinator, Berkeley, Calif.



Woochong Um
CEO, Global Energy Alliance for People and Planet



Nydia M. Velázquez
U.S. Representative, New York

Ursula von der Leyen
President, European Commission

Swarnim Waglé
Finance Minister, Nepal



Prince William
Prince of Wales



ANI DASGUPTA

PRESIDENT AND CEO, WORLD RESOURCES INSTITUTE

AS HEAD OF THE WORLD RESOURCES Institute for five years, Ani Dasgupta leads an organization that works across 50 countries on issues from climate and forests to oceans and finance.

At a time when the world is searching for secure and reliable sources of energy, the WRI's Latin America Clean Energy Coalition—launched last year with the aim of building an industrial clean-energy market across the region—officially began its work in Mexico, Colombia, and Brazil. This includes partnering with Brazil's Alagoas state industry federation to boost access to clean power for manufacturers.

Meanwhile on the African continent, WRI served earlier this year as the secretariat for the Our Ocean Conference held in Kenya, which gathered government, business, and civil society to help raise $6.4 billion in commitments toward boosting ocean conservation and sustainability initiatives.

WRI was also a key partner in helping Ethiopia release its first national strategy to electrify transport this year, which set a target for 80% of newly registered vehicles to be electric by 2030.

TIME: What is a climate solution that isn't getting the attention or funding it deserves?

Dasgupta: The ocean has enormous potential as a climate solution. Most people think about the ways the ocean is affected by climate change through warming waters, acidification, and coral bleaching. And climate change—caused by human activity—is pushing up ocean temperatures and exacerbating extreme weather events, including the super El Niño.

One of the world's greatest risks is weakening the ocean ecosystems that communities and economies depend on.

At the same time, the ocean is not just a victim of climate change, it is also one of our greatest allies. Ocean-based solutions, from offshore wind and cleaner shipping to restoring mangroves and growing low-carbon seafood, could deliver more than a third of the emissions cuts the world needs by 2050, while protecting coastal communities, creating jobs, and building stronger ocean economies. And yet, ocean sustainability gets less than 1% of development aid and philanthropic funding.

Countries don't need to have a coastline to be impacted by the ocean. The ocean supports food security, providing the main source of protein for billions of people worldwide. Approximately 80% of the world's trade (by volume) is carried by the ocean, so it is vitally important to the stability of global supply chains. And sustainable ocean industries such as offshore renewables and low-carbon shipping could create 51 million new jobs by 2050.

Tapping into the ocean's vast potential to rein in climate change while growing economies is a win-win.

'The younger generation is having a growing impact.'
Wietse van de Werf
Founder and CEO, Sea Ranger Service

'We have to fortify our psychological immune systems to meet the moment.'
Adrienne Heinz
Co-founder, The After Collective

'Some of the most powerful solutions won't be shiny new inventions.'
Sam Teicher
Co-founder, Coral Vita

'Stop asking people to choose between climate action and the cost of living.'
Michael Sheldrick
Co-founder, Global Citizen

'Persistence may matter more than hope.'
Anne Stévignon
Senior legal officer, Notre Affaire à Tous

What gives you hope about the future of the planet?
The market is delivering technology faster than we expected in 2015 when the Paris Agreement was signed. Solar, wind, electric cars—every one of them is deploying faster than even optimists like me projected. The next hurdle we thought would be batteries, but battery prices [continue to drop rapidly].

In some places, clean technologies are already price competitive. Pakistan has installed more rooftop solar in the last three years than it installed from every energy source since independence. Why? Because it is the cheapest and most convenient way to get predictable power to people's homes and businesses. Around 25% of Pakistan's energy supply now comes from rooftop solar. That is what a tipping point looks like—the economics shift and the low-carbon transition becomes inevitable.

We have the solutions for water, for energy, for electric vehicles, for restoring land—we are not waiting on invention. What is missing is the path to exponential scaling. That is a question of orchestration and finance.

Right now, we waste renewable energy equal to Norway's entire annual energy use because there is no transmission to carry it anywhere, and one-third of the food we produce is wasted. These are solvable problems with existing technologies, and addressing them will improve people's lives and our economies. —KYLA MANDEL



FRANCO RODRÍGUEZ VIAU

CEO & CO-FOUNDER, SATELLITES ON FIRE

AS HOT AND DRY CONDITIONS increase, the wildfire season around the world is getting longer, burning more than twice as much tree cover today as two decades ago, according to University of Maryland researchers. Data published in *Nature* in 2025 predicts that wildfire smoke, the fastest-growing source of fine-particle pollution, will contribute to an estimated 2 million deaths annually over the next three decades. Wildfire-detection technologies have yet to keep up with the rapid spread of wildfires, but Satellites on Fire comes close.

After family friends lost their homes in wildfires in Argentina, 16-year-olds Franco Rodríguez Viau, Joaquín Chamo, and Ulises López Pacholczak in 2020 launched an AI-powered early-warning system that detects wildfires before they spread. Using weather forecasts, drones, satellite data, and camera feeds, the software, they say, can detect fire within the first three minutes—an average of 35 minutes faster than NASA can—use AI to predict where the fire will spread next, and automatically alert firefighters via WhatsApp.

Six years later, the software boasts about 70,000 users, and in 2025, the platform was used in 21 countries and helped authorities respond to more than 2,000 wildfires. By keeping track of areas that generate the most alerts, Satellites on Fire also serves as a vital database so

'Nature-based solutions strengthen over time as plants and ecosystems mature.'
Melissa Kenney
Research director, University of Minnesota

'We should be modernizing the electricity grids we already have.'
Robert Dunn
CEO, Start Campus

'Every month a clean project waits for a permit, a gas plant keeps running.'
Andrew Billingsley
CEO, Plaswire Ltd.

'Stop debating carbon markets and start using them.'
Xavier Laguarta Soler
Co-founder, Mitti Labs

DASGUPTA: LAUREN ZELIN; RODRÍGUEZ VIAU: COURTESY OF SATELLITES ON FIRE

first responders can predict the next hot spots.

In July this year, as devastating wildfires were tearing across Spain, insurance company Allianz Seguros announced it was deploying the technology to insured customers. The deal followed news in April that the startup had raised $2.7 million, which will help it expand in the U.S., where it works with the nonprofit wildfire tracker Watch Duty. Satellites on Fire was also a finalist for this year's coveted Earthshot Prize, with the prize's founder Prince William calling the app "absolutely brilliant."

—OLIVIA B. WAXMAN

TIME: What is the single most important action the public, a specific company, or government needs to take in the next year to advance the climate agenda?

Rodríguez Viau: Governments that manage large forests should fund prevention, and fund the proof of what prevention returns. Most wildfire money is spent after a fire has spread, when stopping it takes hundreds of firefighters, aircraft, and weeks of work. In its first minutes, the same fire can often be put out by one truck. Prevention works the same way. Fuel management, prescribed burns, and firebreaks stop disasters before they start.

What nobody funds is the measurement. How much forest stayed standing. How much carbon and habitat survived. How many dollars of damage and suppression were avoided. Without those numbers, prevention stays a conservation argument and loses every budget fight to something urgent. With them, economists defend it too, and what one country proves, another can copy.

Do you think AI will help or worsen the climate crisis?

AI speeds up whatever you point it at, and that's really all it does. It has no direction of its own. I'm optimistic about what it does for science. We need discoveries that don't exist yet, in materials, in energy, in understanding how ecosystems actually behave, and AI is cutting the time those take. That's already happening, and I see it in our own work. Where I'm less confident is what gets prioritized. Nothing guarantees the speed-up lands on those problems rather than on building more data centers and clearing more land to do it. The technology won't decide that. The governments will, through what they choose to prioritize and what they regulate, and right now they are moving a lot slower than the models are.

What gives you hope about the future of the planet?

I've been doing this for six years, and my honest answer has nothing to do with technology. It's how the work feels. Something happens when what you do all day is bigger than you are, and I hadn't felt it before this.

People assume it's a sacrifice, but it's the most fulfilling thing I've ever done. That's the part I think is contagious. Almost everyone I know who has felt it has rearranged their life to keep feeling it, and that's very hard to undo once it happens. Get enough people there and the world changes what it spends its hours on. I'd bet on that before I'd bet on any single invention.

'Net zero is no longer a trade-off of climate vs. business.'
Jit Bhattacharya
Co-founder and CEO, BasiGo

'Prescribed fire . . . is one of the few tools to help make our landscapes safer.'
John Mills
Co-founder and CEO, Watch Duty

'No one has all the answers. It takes people who are willing to learn from each other.'
Caroline DeWitte
Co-founder and COO, Oklo

KATHY BAUGHMAN McLEOD

CEO, HERA

NO ONE IS IMMUNE TO THE impact of extreme heat—but not everyone is affected in the same way. A number of physiological factors mean that women are often among the most vulnerable to extreme temperatures. It's an issue top of mind for Kathy Baughman McLeod.

In 2023, Baughman McLeod founded HERA (Heat Resilience Action) to protect the health and income of women on the front lines of extreme heat in over 130 countries. This April, HERA launched its Heat Science Hotline, powered by a board of experts working across six continents, to better connect frontline communities and decisionmakers with evidence-based, localized guidance on extreme heat—consulting on everything from effective interventions to funding and policy challenges.

And perhaps most impactful, the organization in June launched HERA Materna—a first-of-its-kind parametric insurance program meant to ensure working pregnant women receive support in the extreme heat before they face severe harm. The program is expected to serve 30,000 women in India next year, before expanding to Southeast Asia and West and East Africa.

'We need to get the market conditions right so companies are rewarded through this transition.'
Amy Brachio
CEO, Carbon Measures

BAUGHMAN MCLEOD: TINA JANE KROHN



Baughman McLeod has a long track record of focusing on extreme heat. In 2020, she called for heat waves to be named and categorized—similar to hurricanes—to help the public better understand their severity. The Spanish city of Seville announced that it would adopt the practice the following year. McLeod has also been instrumental in helping several other cities including Los Angeles develop heat action plans.

And, as founding and former director of the Arsht-Rock Resilience Center's Extreme Heat Resilience Alliance, she helped spearhead the creation and appointment of chief heat officers in cities around the world.

TIME: What is a climate solution that isn't getting the attention or funding it deserves?

Baughman McLeod: Invest in the weather-data infrastructure that makes climate protection possible. We cannot deliver fit-for-purpose early warnings—or financial protection triggered by weather—without reliable observations close to where people live and work. Africa has historically had only about 10% of the surface weather stations needed to meet World Meteorological Organization requirements, and new WMO research suggests that closing these observation gaps could reduce weather-forecast errors in Africa by more than 30%.

Yet today, a market woman standing on black asphalt in the blazing sun may have an insurance policy which has a trigger determined by a weather station 50 km away. Are we really measuring the heat she experienced? No. We need to bring weather observation, data, and early-warning infrastructure closer to the people facing the greatest climate risks, and invest in maintaining it. This will have economic benefits across the landscape.

The people most exposed to climate change should not be the people least visible in the data.

What gives you hope about the future of the planet?

One of the strongest predictors of whether someone survives a disaster is whether someone knows their neighbor. That is why I think of community as infrastructure. I see it everywhere: neighbors knocking on doors to check on seniors during a heat wave; families sharing food and power when the grid fails; people opening their homes to strangers after a flood; communities building their own solutions when formal systems can't reach everyone. None of this is resilience in the abstract.

Communities should not have to carry the weight of climate change on their own, and they deserve and need more government and institutional support than they are getting. But their ingenuity, solidarity, and sheer determination give me enormous hope that we can meet the climate challenges already on our doorstep.

—SIMMONE SHAH

'Shady areas will be precious for you and your community in a hotter, dried future.'
Byron Kominek
Owner, Jack's Solar Garden

'AI can help a great deal with climate adaptation if we use it well.'
Matthijs Bouw
Founder, ONE Architecture and Urbanism

'Reducing methane emissions deserves more attention.'
James Hurrell
Chair, environmental science and engineering, Colorado State

'We cannot build a sustainable future without an informed society.'
Vanessa Hauc
Journalist, Telemundo Network

'We must recognize water's potential as a strategic investment.'
Kaveh Madani
Director, U.N. University Institute for Water, Environment, and Health

FIAME NAOMI MATA'AFA

FORMER PRIME MINISTER OF SAMOA



BY THE END OF THE CENTURY, scientists estimate, sea levels will rise by at least half a meter (1.6 ft.), and as much as 2 m (6.5 ft.)—the height at which most small island nations sit today. Every inch of rising water sharpens not only their peril but also a genuinely existential question: If a nation disappears under the waves, what happens to its sovereignty, national identity, and the rights of the 65 million people living in these vulnerable places?

This September, the United Nations helped answer that question. In a landmark resolution approved unanimously by the U.N. General Assembly, the sovereignty of island nations will be upheld in the face of rising sea levels. Meaning, even if an island nation's landmass physically disappears because of climate change, the country will continue to exist as a political actor and retain control over its maritime borders.

Behind this decision is the Alliance of Small Island States, a coalition of 39 low-lying coastal and small-island developing nations that advocates for climate action. Under Fiame Naomi Mata'afa's leadership as chair, the coalition in 2024 spearheaded a Declaration of Sea Level Rise and Statehood. "Since 1989, we've been sounding the alarm on the climate crisis and sea-level rise while facing its devastating impacts," she said then. "Through it all, we've stayed firm—our states, maritime zones, and rights remain intact under international law, no matter the rising seas: we are here to stay." The declaration served as a blueprint for this year's U.N. resolution—which comes after last year's ruling by the International Court of Justice that found "once a State is established, the disappearance of one of its constituent elements would not necessarily entail the loss of its statehood."

Having been Prime Minister of Samoa from 2021 to 2025, Mata'afa—the first woman to hold the office—understands what these nations are facing. Samoa, comprising two islands that sit in the South West Pacific, has already experienced 31 cm (12 in.) of sea-level rise over the past 30 years. If global temperatures rise by 3°C, the country—where 70% of its population and infrastructure sits along the coast—is expected to see sea levels rise by 82 cm (32 in.). In August, ahead of the U.N. resolution, Mata'afa joined Conservation International as an Arnhold distinguished fellow, in which role she will continue to champion efforts to protect ocean and coastal environments and prioritize Indigenous knowledge and Pacific voices.

"Climate change challenges the physical foundations of sovereignty—security, livelihoods, well-being, and identity," she said at the 2026 State of the Pacific conference at Australian National University. "The response cannot be isolation. It must be agency exercised collectively and intelligently—through regional solidarity, strategic partnerships, and values-based engagement." —KYLA MANDEL

'When the issue becomes this immediate and personal, it moves beyond partisan lines.'
Bill Frist
Chair of the global board, The Nature Conservancy

'We need to be bold, and cannot afford to wait for the next generation of leaders.'
Helen Godwin
Mayor, West of England

'End the fragmented climate action of governments, businesses, and philanthropy.'
Woochong Um
CEO, Global Energy Alliance for People and Planet

'Renewables are no longer an idealistic answer but a pragmatic one.'
Juan Carlos Muñoz
Professor, Universidad Católica de Chile

'Land use remains an orphan in climate policy but deserves to be treated as a priority.'
Ben Allen
California state senator

MATA'AFA: LUCY CRAYMER—REUTERS

Time Off



FEAR AND TECH LOATHING IN HOLLYWOOD

BY ANDREW R. CHOW

A slew of new films center tech CEOs and the havoc they've wrought

INSIDE

CLUB KID'S UNEXPECTED TALE OF FATHER-SON BONDING

RON HOWARD SPOTLIGHTS RICHARD AVEDON

THE GREATEST BRINGS A LEGEND TO THE SMALL SCREEN

PHOTO-ILLUSTRATION BY KLAWE RZECZY FOR TIME

IN 2014, A FILM ABOUT A PRICKLY, ARROGANT inventor trying to build a "machine that can solve any problem" arrived in theaters. It explored the secretive creation of a powerful technology that enabled a group of military leaders to unilaterally determine the life and death of thousands.

From the vantage point of 2026, the story sounds unsettling, even dystopian. But *The Imitation Game* was actually a celebration of its protagonist, Alan Turing, and his pivotal role in helping the Allies decrypt German intelligence messages en route to victory in World War II. The movie was a box-office smash, won an Oscar, and exemplified a slew of Obama-era, techno-optimist movies that celebrated rugged individuals relentlessly building futuristic tech that could lead to a better society.

How times have changed. This fall, a new crop of movies arrives that essentially serves as a rejection of that thesis and a damning referendum on the past decade in tech. In the eyes of these movies, tech titans have used their power to exacerbate violent extremism (Mark Zuckerberg in *The Social Reckoning*); undermine democratic norms (Elon Musk in *Musk*); mislead the public (Elizabeth Holmes in *You Can See Everything*); and play roulette with the future of humanity (Sam Altman in *Artificial*).

In some cases, the films seem to spill from depiction into outright activism. In *The Social Reckoning,* for example, the protagonists trying to hold Zuckerberg accountable contend that the only way to get powerful people to change is to "cause pain." And pain Hollywood can certainly cause: tech companies have invested hundreds of billions of dollars to make AI a pillar of society, and face a financial bloodbath should the public reject their tools.

But the damning tone of these films could also prove to be self-sabotaging, because Hollywood is mostly controlled by a handful of billionaires who are heavily invested in AI—and building AI tools that can replace artists. And they have already begun striking back. Musk threatened to sue *Musk* director Alex Gibney for defamation, and in June, Amazon's movie arm abruptly dropped *Artificial* from its slate; the company has a $50 billion investment in Altman's OpenAI. (Neon subsequently picked up the film.) Time will tell whether these films land their intended blow against Big Tech—or represent the last-ditch resistance of a creative class indebted to overlords they abhor.

THESE FILMS ARE remarkably different in their storytelling approach. Gibney's documentary *Musk* is a methodical four-hour march through the Tesla founder's corporate foibles; Aaron Sorkin's drama *The Social Reckoning* traces the growing personal disillusionment of eventual Facebook whistle-blower Frances Haugen (Mikey Madison). *You Can See Everything* unfolds as something of a psychological chess match between Theranos' Elizabeth Holmes, who is trying to rehabilitate her image right before she heads to prison, and filmmakers Nathan Fielder and Lance Oppenheim, who hope to interrogate her contradictions.

But they all converge on one central question: Why are these flawed titans the way they are? In 1941, Orson Welles' *Citizen Kane* set the template for generations of Hollywood character portraits—that the burning ambition of an antihero can be often traced back to searing moments of emotional pain. Both *The Imitation Game* and *The Social Network,* two prominent 2010s tech movies, follow this tradition by giving Turing and Zuckerberg their own Rosebuds in the form of past heartbreak. These framings rationalize their later harmful actions, as if to say that tech geniuses get hurt and then lash out just like the rest of us.



A new Hollywood archetype in Garfield's Altman, left, and Strong's Zuckerberg

This new crop of films, however, largely comes to the opposite conclusion: that these tech overlords have charted a wayward course for humanity precisely because of how differently—and callously—they think. In the aughts, Peter Thiel and other members of the so-called PayPal Mafia came to the conclusion that the path to Silicon Valley success required chasing relentless speed and scale at any cost. This new playbook dictated that founders bet everything on a company vision; sell the public on the myth, even if parts were untrue; scheme and scrap toward invention and then monopoly; then rinse and repeat on an even bigger scale.

This approach has created some of the world's biggest companies. But the movies argue it also baked failure, deception, and collateral damage into the process. And instead of trying to solve for heroic missions—like beating back the Nazis—these new tech heroes' main goal seemed to be acquiring, addicting, and





monetizing as many users as possible.

These new movies grapple with this psychological shift. As the screenwriter of *The Social Network* in 2010, Aaron Sorkin painted Zuckerberg as petulant, to be sure, but still soulful, and hell-bent on sticking it to the man. A quarter-century later, the Zuckerberg he wrote and directed Jeremy Strong to play in *Reckoning* is the man: robotic and cruel, making decisions via cold cost analysis. In Luca Guadagnino's *Artificial,* Andrew Garfield plays Sam Altman as a serial liar who will say anything if it helps further his mission. These guys aren't depicted as antiheroes, but as villains, with self-serving worldviews that may be incompatible with democracy.

Their worldviews pose even more dangers as they shift their focus from social media to AI. The film that most directly deals with current AI harms is not part of this mainstream Hollywood crop but the documentary *NAZA,* shot in Tel Aviv by two Oscar-winning Israeli directors. Under cover of darkness, anonymous Israeli officers describe how AI tools enabled mass surveillance and bombing in Gaza. The tools allowed them to think about war as a video game, and their victims not as people but as "ants" or a "factory of targets." (The IDF has rejected many of the movie's claims.)

Musk and *Artificial* carry even more apocalyptic overtones. The former ends with a visualization of Musk flying off into space on a rocket ship as the earth explodes behind him. Gibney told TIME in September that his dread levels these days are "really high." "Elon Musk is betting on whether or not AI will lead us to a moment of extraordinary abundance or basically the end of life on earth," he said. "Who makes that kind of a bet?"

WHAT WILL THE OVERWHELMING negativity of these movies achieve? Gibney hopes to offer a holistic and rigorous examination of the character of tech leaders, who are constantly pivoting out of crises and toward the Next Big Thing. Musk has moved from cars to rockets to the government to AI and back. Zuckerberg changed Facebook's name to Meta amid the backlash brought on by Haugen's whistle-blowing—and then when the metaverse fell flat, he dumped all of his company's money into AI.

Film offers viewers a more deeply engaging escape from the algorithmic hamster wheel and undeniably shapes public perception. Elizabeth Holmes says so herself in *You Can See Everything,* at least according to filmmaker Fielder: that many people who met Holmes in prison believed that *The Dropout,* a fictionalized Hulu series starring Amanda Seyfried, was a documentary about her.

The damning tone of these films could also prove to be self-sabotaging

That hostility coursing through these movies matters, because AI ambitions depend on mass adoption. To train ever more powerful AI, companies like OpenAI and Meta have borrowed hundreds of billions of dollars, which they will eventually need to repay by earning consistent and massive revenue. The public is already immensely distrustful of AI, even as they adopt it in huge numbers. If *Artificial* persuades many people to stop using ChatGPT—as Andrew Garfield has done—that could put further pressure on the industry's wager.

But much of these would-be viewers already dislike Big Tech—while many others are simply disengaged, preferring to do literally anything else with their free time than obsess over tech leaders. *The Social Reckoning* has made just $17 million, a far cry from *The Social Network*'s $225 million rake, and *Musk* has grossed $660,000 despite strong reviews. (*You Can See Everything* has fared better, but that may be more because of the fascination surrounding Fielder than Holmes.)

The tech titans themselves seem to care, though, and are responding in kind. They are increasingly withholding access from journalists or TV interviews, opting instead for friendlier settings like *The Joe Rogan Experience.* They are shaping how these films are perceived on social media: multiple platforms initially declined to run *Musk*'s trailer because of its "political content." They own the film studios, and could cut off funding for similarly critical products, relegating them to the less widely seen indie margins. And finally, they are building AI tools which could make many of the human elements of the filmmaking process obsolete—virtual actors, animation, set design, storyboarding.

Given all of these threats, perhaps it's not a surprise that these tech movies thrum with urgency and apocalyptic rhetoric. As the famous tagline for *Jaws: The Revenge* read, "This time, it's personal." So Hollywood is snapping back, casting itself as an embattled underdog in a fight for its life. The problem is that it's already sitting inside Big Tech's gaping mouth. □

OPENING PAGE SOURCE IMAGES: STRONG: SONY PICTURES ENTERTAINMENT; MUSK: RYAN COLLERD—AFP/GETTY IMAGES; GARFIELD: COURTESY NEON; HOLMES: A24; THESE PAGES: GARFIELD: COURTESY NEON; STRONG: SONY PICTURES ENTERTAINMENT



MOVIES

A party guy becomes a dad, with no sappy clichés

BY STEPHANIE ZACHAREK

Absolom and Firstman: finding common ground as father and son

NO ONE IS EVER READY FOR PARENTHOOD, regardless of how much they may want children. Maybe that's why stories of happy-go-lucky, child-free men suddenly confronted with ensuring a child's well-being—think *About a Boy,* or even the patently absurd *Three Men and a Baby*—often resonate. You can prepare for fatherhood, sure. But the unpredictability of kid behavior is always going to be the wild card.

That may be part of the allure of writer-director Jordan Firstman's debut feature *Club Kid,* which became a surprise sensation at Cannes in May. Firstman, who'd started out as a comedy writer, first gained attention for some skits he'd posted on Instagram during the pandemic. But *Club Kid* came as a surprise. There's something almost naively fresh about it, as if Firstman hadn't stopped to consider that a plot like this one—a single gay man leaves the high life behind to care for the 10-year-old son he didn't know he had—could invite some serious side-eye.

Somehow, Firstman makes the setup feel not only believable but moving. He stars as Peter, a party promoter who, with his coke-loving business partner Sophie (Cara Delevingne), pulls together events that draw New York's freakiest, most fabulous, ready-to-rage crowds. Peter himself loves to partake of the drugs that flow so freely on the scene, and he sells them, too. Though he is, with absolute certainty, gay, it turns out there was one blurry night when he had sex with a woman. Ten years later—now in his 30s, Peter is still partying like it's 2016—a woman he doesn't know with a thick North London accent, Edison (Kirby Howell-Baptiste), shows up at his doorstep with a kid she says is his. Arlo (Reggie Absolom) is around 10, and his mother, Edison's best friend, has recently died by suicide. So Edison brings Arlo to New York, passport and birth certificate in hand, and deposits him with Peter, who's none too happy about this turn of events—and still a bit stunned that he ever did the deed that could result in an actual child.

A movie featuring a child actor is only as good as the kid

ARLO HAS BEEN through a lot, but he's a bright, openhearted kid with fantastic taste in music. Cocteau Twins are one of his favorites, and he's got the cute, mid-1980s curly pompadour haircut to prove it. Peter can't help liking Arlo, and tries to clean up his act when he realizes he wants to be a dad to him. He's never really had to do grownup things, and their existential weight overwhelms him at first. Forget raising a child; he's got to grow up himself, and fast.

Club Kid takes some surprising turns on the way to its delicately shaded ending. Firstman makes a believably clueless naif in dadworld, and he knows just what to do with a throwaway sight gag: slow-dawning horror crosses Peter's face when he realizes he's unwittingly given Arlo a T-shirt printed with an NSFW motto to wear as a nightshirt. Firstman has also peopled his film with charmingly eccentric second bananas, like leggy, ultra-glamorous Saffron (Saturn Risin9), a DJ who shows Arlo the ropes at the mixing board, and Nicky (Eldar Isgandarov), an elfin freeloader and aspiring philosopher who could probably carry his own spin-off.

But a movie featuring a child actor is only as good as the kid, and Absolom is quietly wonderful as Arlo. He never overplays, even when he's retching in a bin after eating pizza. (Arlo hasn't told Peter he's allergic to dairy products.) At one point, Peter has to break up a fight between Arlo and another kid—it's clear that Arlo is hiding some deep-rooted anger. We can see it passing through him like an electrical storm—and then it's over. By the end, we see him as a real kid, not just an adorable prop in a movie that could have easily veered into sentimentality. *Club Kid* is, in the words of disco star Sylvester, mighty real. ◻

MOVIES

Avedon could capture the world in a face

RICHARD AVEDON, WHOSE CAREER BEGAN IN the early 1940s and ended with his death, following a cerebral hemorrhage, in 2004, was one of the greatest fashion photographers of his era. Even if you think you don't care about fashion, you've probably been awed by his 1955 *Dovima With Elephants,* in which the supermodel Dovima, draped in a two-tone Dior gown, stands regally between two pachyderms, her arms outstretched as if to read their magnificence with her fingertips. Compositionally, it's perfect. But it also links the inherent splendor of human creativity and beauty with the even more overwhelming grandeur of the animal kingdom. It's fashion photography as spiritual meditation.

Being a great fashion photographer would have been enough. But as Ron Howard's gracefully constructed documentary *Avedon* shows, Richard Avedon's way of looking at the human face and body informed everything he achieved in his roughly 50-year career, from capturing the quicksilver essence of public figures like Malcolm X, Ronald and Nancy Reagan, and Henry Kissinger, to catching Marilyn Monroe in a moment where, rather than playing to the camera, she seems lost in a private world where no one can follow. As Avedon's son, John, says in the film, "He exalts the individual. His work is very much about trying to discover himself in other people's faces, in other people's lives."

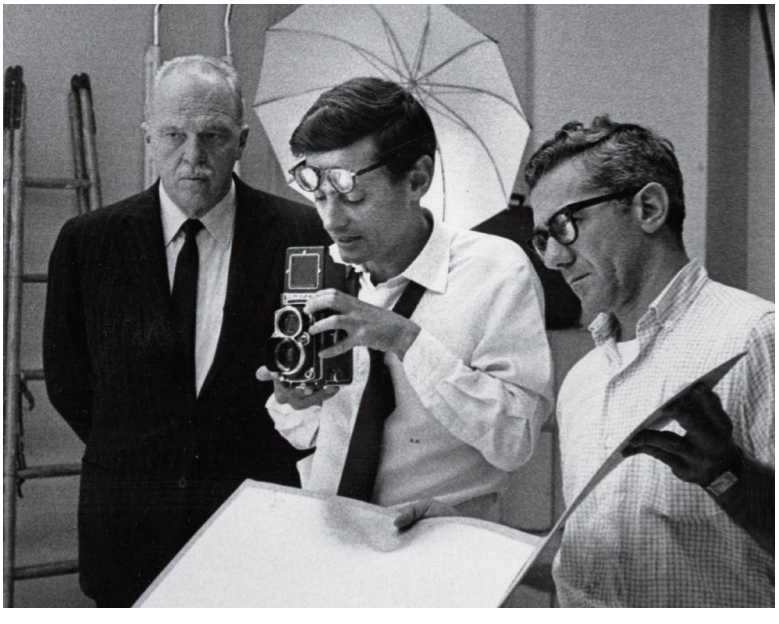
Avedon makes a fine introduction to both the man and the artist. Though he would always love the theatricality of fashion photography, he also made pictures that functioned as social protest. In 1939 African American opera singer Marian Anderson had been barred from singing in Washington's Constitution Hall by the Daughters of the American Revolution, who cited a white-performers-only policy. It was an outrage that had long troubled Avedon. In 1963 he had the chance to photograph members of the DAR at a convention, showing a group of women in dowdy gowns, smug with self-certainty; one of them, caught off-guard, actually has her back to the camera. It can't be the kind of portrait any of them were hoping for.

Through juxtaposition of images and voice-over recordings from Avedon himself, *Avedon* offers insight into the photographer's mode of working. His preference was to capture subjects in front of a plain white background. Around the time of his project *In the American West,* completed in 1984, he explained, "One cowboy against a white background represents all cowboys. Whereas if he's leaning against a fence post, he's just a cowboy."

AND WHAT ABOUT Avedon the man? He grew up in Manhattan, the son of an emotionally withholding father; he had siblings, including a younger sister, Louise, whom he adored, and who struggled for most of her life with mental illness. Even as a kid, he loved photographing Louise, who was exceedingly beautiful. When he was 9, he took a photographic negative of one of those pictures, taped it to his shoulder, and spent the day in the sun. By evening, his sister's image had been recorded on his skin.

It's a strange, touching story, especially considering that Louise would become more withdrawn over the years, and would eventually be diagnosed with schizophrenia. A photographic image can be explained, strictly speaking, by science. But it's also a place for ghosts of both people we once knew and those we never had the chance to meet. Avedon left many of those ghost pictures behind, from joyful images of the models who also became longtime friends, like Lauren Hutton and Isabella Rossellini, to striking portraits of blazing stars like Picasso and Ella Fitzgerald, as well as fading comets like the older, 1950s-era Buster Keaton. *Avedon* is a road map through his career, a lifetime of looking at faces and striving to capture the life that animates them, before it vanishes forever. —S.Z.

Avedon at work: fashion photography, and so much more



CLUB KID: A24; AVEDON: ZINN ARTHUR—COURTESY OF NETFLIX



A young Ali (Best) keeps his opponents on the ropes

TELEVISION

A biographical drama worthy of *The Greatest*

BY JUDY BERMAN

"WHAT DO YOU THINK IT IS ABOUT Cassius that makes him able to do things that other men find impossible?" Malcolm X (Michael Ealy) asks Muhammad Ali's trainer, Angelo Dundee (Giovanni Ribisi), in Prime Video's stylistically conventional yet unusually insightful *The Greatest*. "What spark inside him makes him so different from other people?"

These questions fuel the series, which finds in the relative newcomer Jaalen Best an ideal young Cassius Clay, a bold boxing phenom on a quest to become the heavyweight champion of the world—and a spiritual journey that will change both his faith and his name. There are reasons to be skeptical of this show. It counts his widow, Lonnie Ali, among its executive producers. (Michael B. Jordan, who played the Ali-esque title character in the *Creed* movies, is another.) Such projects can default to hagiography. And Ali has already been portrayed many times onscreen. But creator Ben Watkins *(Cross)* doesn't dodge the tougher aspects of his subject's life. What justifies this retelling is not only the care he and Best take in recounting what Ali achieved, but also conveying what made him capable of greatness.

The Greatest is bookended by career highlights: the 1960 Rome Olympics, where Ali won gold at 18, and his heavyweight championship in 1964. That fight, against Sonny Liston, must be his most extensively documented moment. Michael Mann opened his 2001 biopic *Ali,* starring Will Smith, with an immersive restaging of the match. Regina King's 2020 film *One Night in Miami* imagines its afterparty, a meeting of the minds between Eli Goree's Ali, Malcolm X, Jim Brown, and Sam Cooke. In ending where these predecessors begin, the series traces how the upstart Cassius Clay crafted Muhammad Ali, the legend.

Best's Ali reads as a significantly younger man than the versions in Mann's and King's movies. Instead of detracting from his astonishing self-possession, Cassius' fresh face makes those qualities seem more remarkable. Upon his return from Italy, where he enjoyed a relative reprieve from anti-Black racism, to his segregated hometown of Louisville, Ky., he is again a teenager in his parents' humble household. He has a mutually adoring bond with his mother Odessa (Dana Gourrier, excellent), a domestic servant who wants nothing fancier than to give her children a better life. His father Cash (Omari Hardwick) had dreams of becoming a great artist but settled for painting signs and drowning his disappointment in alcohol and women. Cassius' younger brother Rudy (Kai Parham) is also a boxer. But any rivalry is outweighed by Rudy's sincere wish to help a sibling he recognizes as a generational talent.

An 18-year-old rocketing to the top of a lucrative sport is sure to meet many people eager to buy stock in his future. Especially if he is Black and working-class, he'll be treated as though he owes them something. As he prepares to go pro, Cassius is swarmed by this type. "I knew you had the skill," one tells the gold medalist. "Wasn't sure you had the work ethic." The prejudice underlying this comment would be obvious even if we didn't see Cassius exhaust himself in training sessions. But he knows he deserves respect, and he refuses to work with anyone, Black or white, who tries to humble him. This can look like arrogance, but it's an accurate self-assessment. As Angelo says, "You don't teach Michelangelo how to paint."

How does a person as systemically disadvantaged as Cassius come to believe so fervently in himself? Watkins offers three compelling explanations, all implied through his behavior rather than overstated via exposition.

The Greatest builds a strong case for integrity as the key ingredient to success

One is the strength of his will—his innate ability to tune out skeptics and distractions. Another is his mother and brother's unwavering love, which counteracts the hatred he experiences. Finally, in rare instances when his poise wavers, he can fall back on the rhyming, boasting showmanship he gleans from the flamboyant pro wrestling heel Gorgeous George (WWE alum Chris Jericho, in an apt cameo).

CASSIUS' SINGULAR PERSONALITY is thrown into relief by Sonny (Amin Joseph), who is depicted as his antithesis in life as in the ring. An ex-con and abuse survivor, he has internalized every monstrous caricature of Black manhood Cassius actively resists. Even as the champ, with the love and guidance of a canny wife (Erica Tazel), he's poisoned by self-hatred. Ultimately, he behaves like the beast a racist press makes him out to be. Watkins lets us sit in discomfort, watching Cassius use the same stereotypes ("big, ugly bear") to taunt Sonny.

The Greatest rarely deviates from the bio-drama template, with its archetypal hero's journey. But it suits this story of a man figuring out who he is through a noble quest. It's when the show tries to loosen up, as in boxing montages scored to hip-hop that feel like Gatorade ads, that it rings false. It occasionally struggles to balance complex truths. On the Nation of Islam, it makes clear-eyed distinctions between Malcolm X, framed as a true mentor to Cassius, and the tactics of polarizing Nation leader Elijah Muhammad (Hill Harper). Yet in illustrating why Cassius chooses the Nation's militance over turn-the-other-cheek Christianity, hurting his mother in the process, it minimizes the Black church's centrality to the civil rights struggle.

Even so, as it distinguishes Malcolm from Elijah, Odessa from Cash, Angelo from a legion of white guys with dollar-sign eyes, and most of all Cassius from Sonny, *The Greatest* builds a strong case for integrity as the key ingredient of greatness. A hero of Ali's magnitude doesn't just embody that virtue. He demands it from the people who surround him. ☐

THE GREATEST: BROOKE PALMER—PRIME; THE GOOD DAUGHTER: PEACOCK

TELEVISION

In *The Good Daughter,* one trauma dump after another

The Good Daughter opens with the kind of formative act of violence that thrillers typically save for climactic flashbacks. Two gunmen looking to exact revenge on a small-town Georgia defense lawyer invade his home to find only his wife and two daughters. This nightmare reverberates through the girls' adult lives. Front-loading this key trauma allows the Peacock series to make it the basis of many more trauma dumps over the course of its six gloomy episodes. Search for meaning amid the misery, and you'll find it's trauma all the way down.

A couple of decades after the above tragedy, the younger sister, Charlie Quinn (Meghann Fahy), is a lawyer working with her dad Rusty (Brendan Gleeson). Brash and crude yet fond of quoting highbrow literature—and pariahs in a town that blames Rusty for multiple real or perceived miscarriages of justice—father and daughter are in rough shape. He's a sickly, aging drinker. Separated from her husband (Michael Dorman), Charlie awakens one morning with a phone belonging to last night's hookup (Jake McDorman). She brings it to the high school where he teaches and happens to be present for a fatal shooting. But something doesn't add up about the apparent culprit, Kelly (Shayna Benardo), a poor, placid girl with learning difficulties. She's the perfect client for Rusty.

A few twists later, Charlie's estranged sister Sam (Rose Byrne) is summoned home—and drawn into Kelly's case. Sam is a lawyer too. But in all other respects, she's managed her trauma by becoming the opposite of her surviving family members: a rich, uptight, black-clad urbanite.

Byrne, Gleeson, and Fahy are great actors, but there's only so much they can do for a script built on coincidence and contrivance. Worse is how *The Good Daughter,* adapted by veteran suspense author and rookie showrunner Karin Slaughter from her 2017 best seller, collects horrors, as though cataloging everything awful that could happen to a woman. Sure, it exposes one gender's brutality to another, but so do most stories in this genre. Real mysteries, like what keeps Rusty in a town and a job that destroyed his family, are shrugged off with portentous metaphors about stories—who has the power to tell them, who gets to rewrite their own. In bringing this book to TV, Slaughter might have entrusted the latter task to someone else. —*J.B.*



Byrne, left, and Fahy star in a grim sister act

CHINA WATCH
PRESENTED BY CHINA DAILY 中国日报

MNCs tap China for global scale

Investing in nation providing strategic buffer, accelerating domestic and overseas growth



Visitors view laboratory automation solutions at the ABB booth during the 26th China International Industry Fair in Shanghai on Oct. 15. PROVIDED TO CHINA DAILY

BY LI JING

Multinational companies are investing in China to develop technologies for global markets, while Chinese companies are working with foreign partners to turn their innovations into overseas manufacturing and service businesses, executives and economists said.

High-tech industries attracted 228.53 billion yuan ($34.26 billion) in foreign direct investment in the first nine months of 2026, up 33.8% year-on-year, according to the Ministry of Commerce. They accounted for 41.6% of China's total incoming FDI, up 11.9 percentage points from a year earlier.

FDI in technology commercialization services rose 76.8% year-on-year, while investment in research and development, and design services increased 59.2%, according to the ministry.

Pan Yuanyuan, a researcher at the Chinese Academy of Social Sciences' Institute of World Economics and Politics, said foreign-invested enterprises have become an important part of China's innovation system.

For Finnish elevator and escalator maker KONE, development work in China is already contributing to its overseas business.

China is KONE's largest single market and hosts its largest R&D center outside Finland. Predictive maintenance solutions for escalators developed in China have already reached overseas markets, said Joe Bao, executive vice-president of KONE and president of KONE Greater China.

German drugmaker Bayer plans to move several innovative medicines from packaging in China to manufacturing finished drug formulations locally. Its Beijing plant is Bayer's largest prescription drug packaging facility worldwide, and is undergoing digital and environmental upgrades, the company said.

"We will continue to increase investment in China and strengthen our innovation capabilities across research, production and commercialization," said Stefan Oelrich, a member of Bayer's board of management and president of its pharmaceuticals division.

Swiss engineering group ABB has invested more than $1.3 billion in China over the past decade, expanding manufacturing and research, said Dong Huijuan, global vice-president of ABB Group. Dong said about 85% of ABB's sales revenue in China comes from locally manufactured products, systems and services. Chinese teams lead or participate in developing products ranging from electrical equipment to intelligent factory solutions, she said.

Zhou Mi, a senior researcher at the Chinese Academy of International Trade and Economic Cooperation, said deeper investment in China could help foreign companies cushion external shocks from rising protectionism and geopolitical tensions.

Pan estimated current returns on FDI in China range from about 9 to 10%, based on aggregate macroeconomic data. That remains high by international standards, she said, although intensified competition has brought returns below levels seen two or three decades ago.

Investment in Chinese technology companies also give foreign partners new products for their own international operations. For the Chinese businesses, the partnerships can provide a route to customers, suppliers and factories abroad.

Stellantis acquired about 21% of electric vehicle maker Leapmotor in a deal announced in 2023 at about 1.5 billion euros ($1.68 billion). Their Amsterdam-based venture, Leapmotor International, is owned 51% by Stellantis and 49% by Leapmotor, with rights to sell and manufacture the Chinese brand's products outside China.

The arrangement combines Leapmotor's electric vehicle technology with Stellantis' established commercial network. By May, the venture had more than 850 sales and service outlets in Europe, following shipments of over 40,000 vehicles to the region in 2025, Stellantis said.

In May, they outlined proposals for production in Spain and joint purchasing that would combine China's new energy vehicle supplier base with European supply capabilities. On Oct. 16, they announced the start of production of Leapmotor B10 at Stellantis' Zaragoza plant in Spain.



An employee at a production line of an energy storage company in Heze, Shandong province, on Aug. 7. ZHOU YIWEI / CHINA NEWS SERVICE

Thangka legacy kept alive

From a small stall to an academy, artisan builds a way to pass down craft while empowering locals and boosting tourism

BY XING WEN



A visitor admires clay sculptures and *thangka* at a private museum of Regong art in Tongren, Qinghai province. PHOTOS BY XING WEN / CHINA DAILY





Far left: An artist works on a piece of *thangka* in Tongren.

Left: Mini-*thangka* paintings are the best-selling items in *thangka* artist Sangye Gyal's studio.

A decade ago, Sangye Gyal was a lone artist sitting outside the west gate of Yonghe Lama Temple in Beijing, hunched over a canvas in a 75-sq.-ft. shop stall that served as both his studio and retail space. There he painted *thangka*, sold them to passersby, and slowly, patiently, taught a curious public what these sacred scrolls were.

Today, he runs a 40,900-sq.-ft. academy in his hometown of Longwu Town in Tongren, Qinghai province, where more than 80 painters work beneath his roof.

What began in a cramped city booth has grown into a thriving hub that preserves and carries on the sacred painting tradition.

Gyal grew up in Tongren, Huangnan Tibetan autonomous prefecture, where local artisans have passed down Regong (named for a cultural region) art for generations.

This folk art, originating in the 13th century, includes *thangka* painting, clay sculpture, murals, patchwork barbola, and wood and stone carving. Its main themes include tales from Tibetan Buddhism, Tibetan historical figures, myths, legends, and epics, and it also covers secular subjects such as astronomy, geography, the humanities, and ecology. In 2009, UNESCO inscribed it on its Representative List of the Intangible Cultural Heritage of Humanity.

Gyal learned *thangka* painting from a very young age and had developed a solid command of the art by 16. As the Beijing 2008 Summer Olympics approached, a friend invited Gyal, then 22, to attend a folk art expo in Beijing.

He traveled to the capital with his works and five apprentices. During the expo, they sold only one painting, which left a bitter taste in his mouth. He then decided to settle in the metropolis to find more clients and introduce the folk art to a wider, more international audience.

In that 75-sq.-ft. shop, he gradually built a solid client network and accumulated capital.

In 2017, he returned to his hometown to launch the Sangye Thangka Academy and run a Regong art training program that teaches locals how to paint *thangka* and provides learners with food and accommodation free of charge.

Lhamo Drolma, 25, is an apprentice at the academy. Every morning, she sits down in the studio at 8 a.m., puts on her headphones, and plays soft music on shuffle as she starts painting.

"I feel an inner peace painting here every day. I want to become a true *thangka* painter one day," she says.

Gyal's academy has trained more than 300 people to date and is drawing more local artisans to join. Sangye Gyal thinks about where the art will go next.

Many of his steady clients come from Beijing and Shenzhen, Guangdong province, as well as buyers from the United Kingdom and the United States.

Beyond selling paintings, he also designs cultural and creative products and works with e-commerce livestreaming hosts to sell them.

His academy is one of more than 20 in Tongren. Together, they have directly or indirectly drawn more than 24,000 people into the art of making Regong products.

Sangde Gyal, who heads another academy in the town, is exploring how to give tourists a more immersive experience of Tibetan culture by opening a study base where visitors can try their hand at *thangka* painting and clay sculpture while enjoying coffee and traditional food.

"Tourists can stay here for a day or two and paint a simple *thangka*-style picture. That helps spark their interest and gives them a sense of achievement," he says.

Tongren city has built a full industrial chain around Regong art encompassing research and creation, training, production, sales, exhibition, collection, and import and export. Every year, it offers *thangka* painting training free-of-charge to local farmers and herders, helping them gain skills and secure stable employment that boosts their incomes.

Additional information is on file with the Department of Justice, Washington, D.C.

Billie Jean King The tennis icon and activist on reliving hardships for a new documentary, the Battle of the Sexes, and the nature of progress for women's sports

***Give Me the Ball!*, a documentary on your life, premieres on ESPN Nov. 22. You've been featured in prior films, wrote a best-selling memoir, *All In*, and were the subject of a biopic, *Battle of the Sexes*. What will viewers learn about you here that they don't already know?** A lot. Personally, I don't think most people really understand how we got the [women's tennis] tour started. I don't expect people to know. They've got their own lives. This slows things down, and they really do get a sense of what I went through trying to change things, develop things, trying to always be the first. And then the sexuality part. I had an eating disorder. I talk about that, which I think is important for people to hear. I think sometimes people are afraid to go to therapy. And I told [the filmmakers] how great it's been for me.

You also discuss your ordeal with Marilyn Barnett, with whom you had an affair while married in the 1970s. Her 1981 lawsuit publicly outed you. Was it difficult reliving that era? Very. Those very painful times. And I'm living through it again with this doc. But it's necessary. I didn't want it to be all pabulum and goody two-shoes. Nobody has that easy a life. So the way a lot of these athletes and others do [documentaries], they're acting like it's just la-di-da la-di-da, boom, boom. "The tough part is being a jock and working out hard and injuries." And I'm like, "Oh, come on." That is a lot of it, but that's not your whole life. I'm not going to bring up names, but when you see their docs I'm like, "Uh-huh, and?" I didn't want that to happen with mine.

What was at stake in the Battle of the Sexes, your iconic 1973 match against Bobby Riggs? It was about changing the hearts and minds of people. We got 90 million people to watch. The Super Bowl had 53 million that year. Women got self-confidence. Most of them came up to me and said, "I didn't believe I had a life, and after you beat him, that changed everything."

How has your friendship with Elton John helped you through various challenges?

We could talk about our feelings to each other. I couldn't talk to very many people in those days. He was one of the good ones. We knew that the world wouldn't hear everything we had to say. We could keep things private.



The WNBA played Game 6 of its finals, between the Atlanta Dream and Golden State Valkyries, at 12:30 p.m. E.T. on a Thursday, as the Atlanta Hawks, the primary tenant of State Farm Arena, had a game scheduled that evening. What did you make of that? It was great they could get an arena that allowed more people to come and watch because they were getting the crowds. That was major. Was it convenient? No. Was it harder? Yes. But it's not a perfect world. And women's sports is still very young.

***Give Me the Ball!* gives us a glimpse of your everyday life, like when you chose, among a suitcase full of glasses, which color to wear to match an outfit. Do you take that everywhere with you?** Yes. It holds 16 glasses. People go, "Oh, did you get those from Elton?" I go, "No." I looked at his stuff. He's got thousands. He goes overboard a lot. I go a little bit. But not like him. He's got a lot more money.

What role do you think you played in the ascendance of women's sports? I'm not finished. Girls are taught not to ask for what they want and need. That's one of the things I want sports to help change. Ilana [Kloss, King's wife] and I are really good at relationships. If you ever need to get to anybody, just tell us. We want to make a bigger, better impact and help generations that are going to follow. I'm still going full blast. —SEAN GREGORY

JOHN NACION—GETTY IMAGES

SKECHERS
COMFORT THAT PERFORMS

SKECHERS
WORLD CHAMPIONS CUP
Shriners Children's

OFFICIAL SHOE PARTNER

EUR
INT
USA



THE COMPETITION WILL BE TENSE.

(BUT AT LEAST THEIR FEET WILL BE COMFY)

abc ESPN

DECEMBER 3RD, 4TH, & 6TH, 2026

THURS & FRI (9:30AM–12PM EST GC | 12PM–4PM ESPN) AND SUN (9:30AM–11AM EST GC | 1PM-4PM EST ABC)

TIME The Brief

Trust what you read.

The news that matters most.

Get the day's essential stories, original reporting, expert analysis, culture, and more from TIME—delivered **free** to your inbox.

Sign Up Now*

time.com/newsletter/thebrief

