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THE ATTACK ON INTELLIGENCE

DECEPTION AND IGNORANCE IN A TROUBLING ERA

EDITOR'S NOTE

BLUEPRINT
A magazine of research, policy, Los Angeles and California

IN 1963, POLITICAL SCIENTIST RICHARD HOFSTADTER called attention to a thick strand of anti-intellectualism that was threaded through the American national fabric. Commerce and business, he argued, exerted such a profound influence in this country that they tended to overwhelm intellectual inquiry, even discrediting it. To some, intellectuals represented a snobby elite, while the real work of America was done by virile businessmen.

Moreover, these were entrenched forces, deeply at work within the republic from the beginning. Hofstadter observed that the intellects of Hamilton, Adams and Washington gave way to the "native strength of mind" of Andrew Jackson, "the primitivist hero" who scorned intellectualism in favor of brutish authority.

It hardly needs saying that those forces have outlived Jackson. They are powerfully at work today, and their gathering strength poses troubling challenges for a nation grappling with conflict and division. What happens to the capacity to grow when the foundations of knowledge itself have become the objects of dispute?

It's tempting to see this as something new — presentism is a distortion that many generations have suffered. But Hofstadter's work, *Anti-Intellectualism in American Life*, which was awarded the Pulitzer Prize, reminds us that these are not new problems, just new iterations of old ones.

What makes this conflict — between intellectualism and its foes — particularly difficult in this moment is that the solutions to so many of society's problems require scientific or intellectual guidance. The climate will not cool down merely because we wish it would, nor will babies fend off historic scourges such as polio or measles because it would be nice if they could. Science denial also distorts social policy: Should the nation resist immigrants because they bring crime and danger, or welcome them because they add vibrancy and dynamism? Before crafting a policy to address that question, it is helpful to know whether it is true that immigrants do, in fact, commit a disproportionate amount of crime. And how will we know if Americans are pleased with their nation's direction or its leadership if we refuse to consult polls because they, too, are tools of the elite and not to be trusted.

Academics and other intellectuals are not always their own best advocates in this conversation. Their commitment is to honest neutrality, not self-defense. And when they do argue for themselves and their work, their pleas can sound self-serving. But to insist that they remain silent on these questions is to concede the field; the nation suffers if those who think most deeply retreat to the sidelines.

With this issue of Blueprint, we examine debates where science and facts are under attack — not to defend what should need no defending, but rather to explore the reasons some refuse to accept the truth and the ramifications of their unwillingness to do so. As with all our work, we hope it inspires conversations. It is a fond, if increasingly desperate, dream for people of divergent views to agree at least on common facts. In this case, our hope for discussion comes with another desire — a recognition that knowledge is not grist for debate; it is the predicate for it. As Hofstadter wrote, "Intellect is neither practical nor impractical; it is extra-practical."

This is Blueprint's 10th issue. We're marking that milestone with a few changes and additions to the magazine we've been building over the past five years. We have new features. Rick Meyer's "A Lighter Look" column, which has been appearing on our web pages, debuts in print. And we have introduced "Special Report," which in this issue takes a look at Long Beach as a microcosm of communities confronting the real-life consequences of climate change. I am pleased also to say that this issue of Blueprint is our largest in terms of articles, topics and pages, and it is being delivered to an ever-growing number of readers.

Our features are evolving, but our goals are unchanged: to explore the questions confronting society and to present and explain the research that helps to better understand them. There has never been a more important time for this work.

JIM NEWTON
Editor-in-chief

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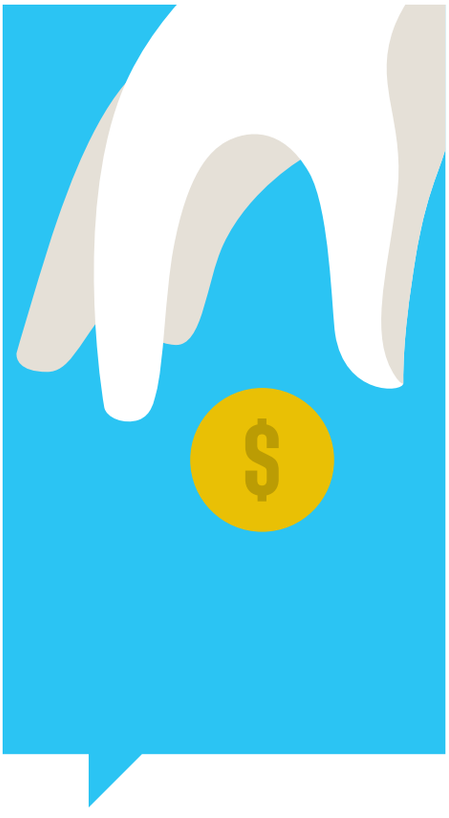

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LANDSCAPE

UNIONS BATTLE FOR SURVIVAL

Jono Shaffer stood in the parking lot. It was after midnight, dark as his chance for success.

At 2 a.m., janitors finished cleaning a nearby high-rise. About 30 of them gathered around him. Shaffer and a colleague told them about the advantages of unionizing.

Without warning, headlights from two cars stabbed through the night. The janitors' supervisors climbed out.

"What the hell's going on?" one shouted.

Shaffer's audience fled.

The memory is burned into his mind. A veteran organizer for the Service Employees International Union, he knows about setbacks. His experience illustrates an employer-tilted balance of power in America, where workers say they like labor unions but don't join them.

In the latest Gallup Poll, which has tracked public attitudes toward organized labor for many years, nearly two-thirds of Americans say they approve of unions.

But membership is in steady decline. At its peak in the 1950s, one worker in three belonged to a union. Now the figure is one in 10.

The decline is unrelated to how well labor performs its basic task: winning economic gains. For years, member paychecks have been fatter than those of nonunion workers, according to the federal Bureau of Labor Statistics.

But organizers who tout this "union difference" often find that it is not enough, particularly in the private sector, where threats are very real that an employer will fire activists or shut down and seek cheaper labor elsewhere. In the private sector, union membership is down to one worker in 16.

As they try to reverse this decline, unions are increasingly maneuvered into defensive stances that don't work. They are losing a fight with businesses that are trying to suffocate them by choking off their income — members' dues.

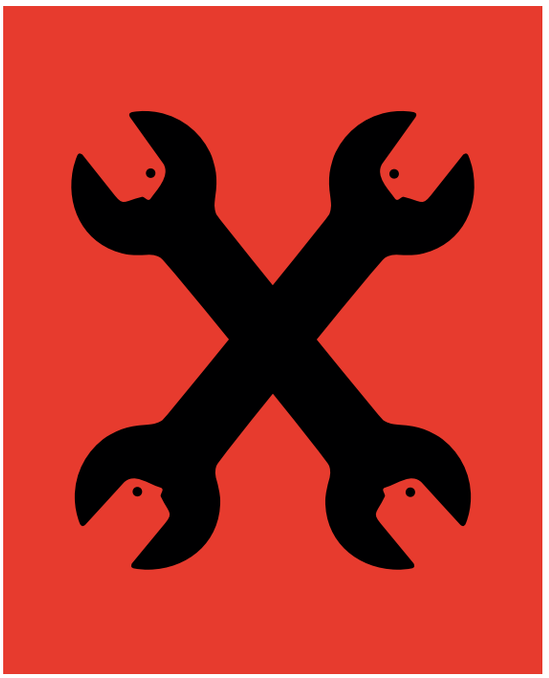
Anti-labor forces portray unions as hypocritical opponents of the most basic right of workers — the right to work. These activists define "right to work" as the right to benefit from a collectively bargained contract without having to pay union dues that make the bargaining possible.

Their argument that dues should be optional has carried the day in most state legislatures. Last year, businesses won a national victory in the Supreme Court. A conservative majority voted 5 to 4 to apply "right to work" to public employees — all federal, state and local government workers.

The impact remains to be seen, but the ruling seems likely to be a heavy blow, because it applies to nearly half of the nation's 15 million unionized workers.

Public employees have become stars in labor's fading firmament because they have less to fear. Civil service rules give them protections against employers inclined to retaliate, and it is hard to imagine a government responding to successful organizing by shutting down.

But the increasing prominence of unions in the public sector could be a pitfall. Public employees traditionally have been regarded as people willing to forfeit a shot at a bigger financial score in return for security — lower wages in return for higher benefits. But with private sector wages stagnating



and jobs with benefits becoming scarcer, public employees might be seen as a privileged class — public servants doing better than many members of the public they serve.

For anti-union advocates, this is a dream scenario, offering a fresh chance to divide and conquer. They are focused on rolling back public employee pensions at a time when pensions are disappearing in the private sector.

Meanwhile, in the private sector, fears of joining a union have grown as heavily unionized manufacturing jobs have been lost to cheaper foreign markets and many service jobs have become entrepreneurial gigs without benefits.

In mid-September, Gov. Gavin Newsom signed a bill limiting the use of independent contractors instead of employees, which Newsom said "erodes basic worker protections like the minimum wage, paid sick days and health insurance." But for unions, legal battles over exemptions are likely, and companies have contributed $90 million to an effort to put the matter on the 2020 ballot.

Orgranizer Jono Shaffer sees the gig culture as part of a broader "vertical disintegration" of American business, in which many workers who once would have been employed by an auto maker, for example, now work for a proliferating number of its subcontractors.

The traditional approach to unionizing such a workforce would require waging campaigns and winning elections at each of the subcontractors.

This was a challenge Shaffer faced with the Los Angeles janitors. The janitors didn't have one employer. They had many. The high-rise owners didn't hire them directly. They left that to subcontractors.

Ultimately, Shaffer and his colleagues used a strategy that has been a key to labor's few private sector victories in recent decades.

They capitalized on widespread public approval of labor unions, noted by the Gallup Poll, and mobilized a broader community to help apply social and political pressures that forced the ultimate employers — the building owners — to the bargaining table.

— ***Ted Rohrlich***

PHOTO BY **GABRIEL DIAMOND**

KELECHI IHEANACHO

HAIR: THE LAW AND IDENTITY

Kelechi Iheanacho does not need the California Legislature to tell her that her hair is part of her identity. It is.

The fourth-year UCLA student often wears her hair in "protective styles," such as braids, but that hasn't always been the case. "Fun fact," she said recently: "I did not know my hair was curly until I was 12, because, especially since I'm Nigerian, chemical relaxers and internalized anti-blackness, or anti-blackness in general, is huge." Her mother, to make Iheanacho's hair more manageable, but also in deference to cultural tradition, chemically relaxed it and straightened her curls.

Once she learned that she had curls, Iheanacho started a years-long process of growing out her hair and finally seeing it without any relaxer. Between 12 and 18, she let her curls get longer and longer. During this transition, she began wearing her hair in braids to protect it while she allowed her curls to become long enough to wear naturally.

For Iheanacho, learning about her hair in her teens was at times an isolating experience. "I was 12 and just teaching myself what to do with my hair, whereas my friends never went through this. I know how to do my white friends' hair and my Asian friends' hair, but they would never know how to do my hair, and I didn't even know how to do my own," she said. "That is one of the things that made me realize how much of white life you have to know, but they don't know about yours because you're even learning about yours." For her, experiencing her natural hair, while styling it protectively, helped her learn more about her own culture and identity as a black woman.

But even though her hair is an expression of Iheanacho's identity, the law did not see it that way — until recently. Last summer, the California Legislature passed a bill to ban discrimination against natural hair and protective hairstyles in the workplace and in schools. The bill, written by Sen. Holly Mitchell and signed by Gov. Gavin Newsom on July 3, expands the definition of racial characteristics protected from discrimination to include "hair texture and protective hairstyles," including "braids, locks and twists."

For Iheanacho, the legislation isn't revolutionary, but it is affirming. "I don't need a law to tell me, 'Your hair should be allowed in a workplace,' because I already knew," said Iheanacho, the UCLA undergraduate student body's Cultural Affairs Commissioner. "But what it does afford you is agency," she said. "They can say it's illegal to discriminate against me, but they're still going to look at me that way — you can't take someone to court for their implicit bias unless you can prove it. But at least if someone does get fired because of their hair, I know I can take you to court and get paid for it."

Hair is a representation and a manifestation — of personality, yes, but also of identity. The black woman who is told she cannot work in a call center unless she relaxes her hair is being told, in effect, that she cannot work while being black. The black teen who is forced to shave his dreadlocks before being allowed to compete in a wrestling match is facing not just embarrassment but discrimination.

Beyond that, black hair is complex and unique — wearing one's hair down naturally can require hours of upkeep each day. For those who don't wish to exert the energy and time required to wear their natural hair, there are two alternatives: relaxer and protective styles. Relaxer straightens hair, making it easier to manage, but also damaging and breaking it because of the extreme chemicals used. Protective styles such as braids, locks and twists, on the other hand, safely encase one's natural hair for weeks, cutting down on daily maintenance while contributing to the health of the hair. To ask black women and men in the workplace to only wear their hair shorn or relaxed is to ask them not only to physically damage their hair, but also to leave behind a piece of their identity. Federal regulations already protect afro hair in the workplace, but for some, the maintenance required isn't realistic.

At the end of fall quarter of her freshman year, Iheanacho wore her natural curls for the first time in her life. It wasn't, in her words, some "big thing," because of the support and encouragement of the Black Bruins community on campus, but she learned how time-consuming the maintenance of her natural hair is: "I do not personally have the time to be wrestling with my hair an hour before I go to bed and an hour after I get up," she said. "It's so much easier upkeep to have it in a protective style."

Now, she will be able to do so in the workplace, too. In introducing her legislation, Sen. Mitchell laid out two goals: "to educate, perhaps many of you, about the uniqueness of black hair, and the uniqueness of our texture, and to challenge some commonly held myths about what constitutes professionalism in the workplace."

For Iheanacho, that change began long before the bill became law, but now it lets her share an aspect of who she is.

— Eva Davidson

THE DEFIANT THEATER AND TEACHING OF PETER SELLARS

American theater director Peter Sellars is known for his iconoclastic staging of masterpieces. He has lent his vision to "King Lear," "Don Giovanni" and other classics. And rather than present these works in their ancient form, he has updated them to address contemporary political issues: the Iraq War, racism and drug addiction. Some audiences have been scandalized, others thrilled. It has garnered Sellars international renown, the MacArthur Genius Grant and membership in the American Academy of Arts and Sciences.

Sellars teaches, too, and his approach there is equally defiant. He conducts a UCLA class on creativity and social change, and infuses it with his singular worldview. There are no exams, everyone is promised a high grade, and students are encouraged to do the assigned reading when they have time.

Lectures take place in one of the large auditoriums on campus, where during a couple hours a week, Sellars, sporting his trademark neck beads and mohawk hairdo, expounds. He speaks quickly and evocatively, like a jazz musician or a gifted actor.

The goal, he says, is to liberate young people from worrying about their GPA and get them to focus on the course content, which boils down to one predominant theme: How do we create a better world and live meaningfully?

In an interview with Blueprint, Sellars elaborated further on his approach. UCLA students are already talented, he explained; they don't need to write another term paper or ace another exam to prove that. It is far more important, he said, to expose them to social injustice and the need for new humane structures to replace those that have failed.

"The United States is ... founded on the promise of equality," Sellars said. "When you look at mass incarceration, when you look at the vast numbers of poor, at the war on drugs, it is clear that we have strayed far away from that notion. And my class is a place where we ask: 'How can we turn things around?'"

At the same time, Sellars believes students must think about how they can act with goodness and purpose in their everyday lives, because meaningful change must start with a revolution from within. The course readings are drawn from ancient Buddhist texts, the Koran and contemporary scholars studying pressing issues in America and other hot spots around the world.

"I have the honor and privilege of teaching at UCLA," Sellars said. "I'm teaching the next elites. And I want them to be better than the current elite that has only looked out for itself and put us in a place where the planet is going to fall apart if we don't dramatically change course."

Sellars emphasizes the function of art and the need to think creatively in order to solve problems — even in a technical, administrative profession like government. To note just one example: Bureaucrats, not artists, are charged with developing innovative reforms for the welfare system that recognize the dignity of poor families. Having experience with literature, drama and poetry can ignite the moral imagination in those responsible for such programs.

This fall, Sellars' main theme is climate change and how the young generation will preserve the Earth — or, at least, humanity's place on the Earth. How will man's relationship to nature have to adjust? What will be the role of government, industry, community?

For Sellars, climate change is the test of a principle: Preserving the planet for humanity requires more than an ordinary commitment; it demands visionary approaches from disparate leaders. Corporate CEOs will need to produce new business models; engineers and scientists will be called upon for innovation; politicians will be forced to set aside allegiances and embrace legislation that sometimes offends special interests. Traditional teaching has brought the world to the brink of disaster; new methods are called for.

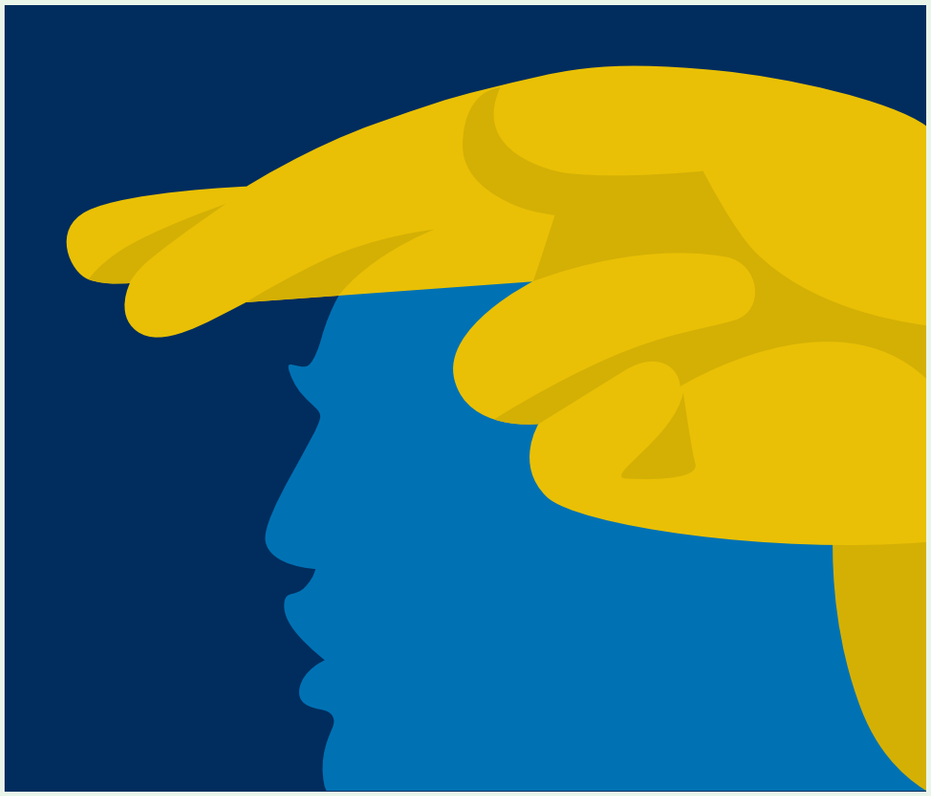
And so, the rising generation must be taught to be imaginative and envision the future. Most courses revolve around tests, and students study for them. They aspire to internships, look for letters of recommendation. Sellars urges students to train their sights toward far more ambitious goals, to see themselves as leaders tasked with pursuing what's never been done before. In terms of how different that is from mainstream thinking, he is decidedly a radical. And yet this approach also embodies an ancient tradition toward the proper role of youth.

"Your old men shall dream dreams," the Bible states. "Your young men shall see visions." And it adds: "Where there is no vision, the people perish." Sellars is in search of vision, fighting off extinction by attempting to awaken creative energies and courage. It's a tall order, an act of conscience and theater and moral commitment.

— Joshua Heath

PHOTO BY **RUTH WALZ**

PETER SELLARS



A LIGHTER LOOK

Rick Meyer's regular online column takes a lighter look at politics and public affairs around the world. This month: A conversation about presidential lies.

The president lied. Again. Make him stop! But how?

I flew straight to Washington. Someone there would know. Washington is the wellspring of total knowledge and wisdom. Ask politicians. They know everything. They are so wise that they all expect to be on monuments along the Mall. As Sen. Howard Baker used to say: "They can smell the marble."

Few people are aware, however, that Washington's true source of wisdom is a computer, imagined by the late James Reston, legendary columnist at the New York Times. He consulted it whenever he was puzzled by politics. He called it Uniquack.

I went straight to the warehouse where Uniquack is stored.

"Meyer?" Uniquack said.

"Happy to see me?"

"You're no Scotty Reston."

"Don't get personal."

"You know, you should have your own computer. Try Multiquack. She's smarter than I am."

"She?"

"Everyone knows women are smarter. She's younger, too. She doesn't have vacuum tubes. She uses chips. And she emails. You won't have to come to the city of wisdom to consult her."

I typed her URL into my laptop.

Q: Multiquack?

A: Hmmm?

Q: How can we make Donald Trump stop lying?

A: He doesn't lie. It's metaphysics.

Q: Metaphysics? Are you a philosopher? Metaphysics is about being, as opposed to non-being. Trump has plenty of being. I reckon he weighs close to 250 pounds.

A: *Reckon?* Sounds like you're a country boy.

Q: Well, I grew up knowing better than to look for a flush handle in an outhouse.

A: Right. That's metaphysics. The flush handle doesn't exist. When the president visited an American base in Japan, a White House aide asked the Navy to hide the USS John S. McCain. Somebody covered its nameplate with a tarp. Maybe the president would think the ship didn't exist.

Q: Existence does seem to confuse him. Sen. McCain died a year ago, and the president still attacks him.

A: Right!

Q: When Trump visited Britain not long ago, thousands protested. Some flew a big balloon of him as an orange baby with yellow hair, pouting and wearing a diaper. Others depicted him as a robot sitting on a golden toilet, dangling his red tie into the bowl and tweeting. Trump acted as if they weren't there. "Where are the protests?" he said. "I don't see any protests." If he ignored them, then they actually weren't there?

A: Yes.

Q: And if he said Meghan Markle was "nasty," then she is?

A: Yes.

Q: And if he called the mayor of London "a stone cold loser," then ... ?

A: Yes.

Q: At a stopover in Shannon on his way home, he told the Irish prime minister, "We have the cleanest air in the world in the United States, and it's gotten better since I'm president."

A: American air ranks 10th. Take a hint from Bill Clinton: Don't inhale.

Q: Isn't Trump simply lying?

A: It's metaphysical. As Clinton once said, "It depends upon what the meaning of the word 'is' is."

Q: If the president denies climate change, will it cease to exist?

A: To him, it never existed at all.

Q: When he says Mexican immigrants are criminals and rapists, does that make them criminals and rapists?

A: Studies show immigrants are less likely to commit crimes than natives.

Q: So it's like hanging fake Time magazines at his golf resorts with him on the cover. ... Like claiming he had a "very, very big" electoral margin. ...

A: Yes. To him, combing over his bald spot means it's not there.

Q: And like saying he has "the most transparent presidency in history."

A: Yes. To him, crossing his eyes in a mirror makes two of him.

Q: He once tweeted that his supporters might demand he serve more than two terms. In another tweet, he said the moon is part of Mars.

A: A moonbeam on the water does not mean the moon is in the lake.

Q: Is he crazy?

A: To him, Nancy Pelosi is crazy. He retweeted a doctored video showing her stumbling over her words. But he says he is "an extremely stable genius." Truth is he is not crazy. It's worse. He is metaphysically challenged. He does not know what is and what isn't.

Q: The For Sale signs on the beaches of Greenland?

A: They're not real.

Q: The bedbugs he denies at his Doral resort in Florida?

A: They are.

— Richard E. Meyer

STRIKING AT THE HEART

PHOTO BY **DAVID SPRAGUE**

Karen Bass Takes on Washington

WRITTEN BY
MOLLY SELVIN

KAREN BASS WAS TROUBLED.

"What if this is a high-risk pregnancy? And the woman needs to be hospitalized?" She pitched her questions, hard and fast, to three women staffers sitting around a coffee table in a conference room at the Rayburn House Office Building. "How do we make sure she'll be treated by an ob-gyn?"

The six-term congresswoman from deep-blue West Los Angeles was worried about the medical care pregnant women receive in federal prisons. She flipped through an outline her staff had prepared for legislation she planned to introduce in response to reports of women giving birth shackled to beds or alone in their cells, or who suffered miscarriages for lack of prenatal care.

Bass, in a cornflower blue pantsuit and dark sandals, sat on a black leather couch near the coffee table in the tiny, windowless room. She shifted her feet gingerly. She had broken a toe. It was healing, she said, but she moved carefully. Her staff pulled three blue-and-gold chairs up to the sofa. The door opened every few minutes as other assistants entered to remind Bass of upcoming appointments, or deliver messages, and then silently left.

Her mind was on pregnant women inmates, but she kept an eye on a closed-circuit television on the wall streaming debate in the House Judiciary Committee down the hall, where she had argued passionately 40 minutes earlier for subpoenaing 12 people, including President Trump's son-in-law Jared Kushner and former attorney general Jeff Sessions. Subpoenas were necessary, she said, "to get all the facts about the family separation policy" for migrants.

Trump's policy, Bass said, meets the legal definition of child abuse "in every state in this country."

When Jerrold Nadler, the Judiciary chairman, finally called for a vote, Bass stood up and hobbled on her injured toe back to the committee room and added another "aye" to the Democratic majority.

She returned to her staff in the small conference room with the black leather couch. Bass moved quickly through their outline of her proposed pregnant-inmate legislation, crossing out provisions that were vague or politically problematic.

There was a bit of levity. Should the bill set treatment standards for a common but painful consequence of breastfeeding?

A male member of her staff had joined the discussion. He blushed.

Bass ribbed him gently.

She wanted to do two things: Combine her long-standing concerns for criminal justice and women's health, and draw in Republican colleagues. She viewed Republican women in the House as natural allies for this bill. She focused on what it would take to win their support.

One aide asked: Should the bill use the term "embryo" or "fetus"?

"I don't want to go down that road," Bass said abruptly. She insisted that the legislation adopt the more generic "pregnant women" to avoid raising the issue of abortion. "Otherwise we'll lose the Republican women."

Because she hoped the bill would win allies for future legislation improving conditions for all female inmates, Bass needed a way to collect more and better data on women in U.S. prisons.

How to pay for that?

"Maybe through a grant program, preferably without taking money from an agency that will oppose us," she suggested, cracking a smile.

She leaned back on the sofa as the room cleared. "This is how the political sausage gets made."

Indeed, Bass is known as one of the best sausage makers in Congress.

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Karen Bass, 66, grew up in an African American family in the Venice-Fairfax district of West Los Angeles. She is one of four children. Her father was a mail carrier, and her mother owned a beauty salon before she decided to stay at home to raise her family.

Bass attended Cal State Dominguez Hills, earned an undergraduate degree, then trained and worked as a physician's assistant. In response to the crack cocaine explosion in the 1990s, she switched careers. She founded the nonprofit Community Coalition in South L.A. Bass served as its executive

director for 14 years. She brought together African American and Latino residents to block rebuilding a number of neighborhood liquor stores following the 1992 riots.

The coalition also worked to improve local schools and increase access to health care. Several of the youngsters who hung around the coalition offices were in the county dependency system, and they left her with an abiding interest in foster children.

Her years with the coalition also defined her personal style.

"Karen doesn't fly into a room and yell, 'I'm here!' " said Karen Earl, a friend since the 1990s. She is passionate about causes dear to her, but she likes to operate quietly, sometimes behind the scenes.

In 2004, her career took another turn when she decided to run for public office. Bass won a seat in the California Assembly. In four years, she rose to speaker and became the first African American woman to lead the lower house of any legislature in America.

Her timing was miserable.

Bass believes deeply that government can improve lives. But California was facing its worst fiscal crisis in decades.

Now making sausage meant finding ways to slash $40 billion from the state budget.

Some of the money had to come from education.

The legislature voted deep cuts in funding for the University of California and Cal State systems.

Shortly afterward, Bass visited UCLA.

The anger on campus left a deep impression.

> ***"SHE'S FORMIDABLE IN A VERY DIFFERENT WAY FROM PELOSI, BUT IN A WAY THAT PROBABLY FITS THE PARTY OF THE FUTURE."***
>
> *— Raphael Sonenshein, director of the Pat Brown Institute at Cal State L.A.*

When she tried to leave, student protesters ran toward her car. She felt it begin to rock. Then harder. The students were not going to let her go.

She sat in the car and called her office.

"Well, you know," she remembers saying, "I'm going to be a little late."

She climbed out of the car and offered to sit with protesters.

By now, Karen Earl said, Bass had learned that she could "use her office to impact her community in mighty and fantastic ways that had nothing to do with legislation."

The students gathered around her.

Calmly, she laid out the choices that the legislature had been forced to make.

"Do you think I should have cut health care to children?" she said. "Or cut foster care?"

Oh, no, they insisted.

"Well, that is what we faced."

She saw how much the students wanted to be heard on an issue that affected them directly. She offered to return with Assembly colleagues. In the meantime, she urged the protesters to keep fighting "because when the economy gets better you have to make sure you're not forgotten."

It was vintage Bass, said Raphael Sonenshein, who directs the Pat Brown Institute for Public Affairs at Cal State L.A. "She embodies the essence of political and legislative leadership: Pick a fight when you have to, but don't pick it just to prove you can. And provide ways that people can join what you're trying to accomplish."

Before the budget struggle was through, Bass suffered a deep personal loss. Her only child, Emilia, and son-in-law were killed in a car accident on the 405 freeway. Hector De La Torre, a good friend and colleague in the Assembly, said, "It really threw her."

It took her a while to regain her footing, De La Torre said.

Bass, who is divorced from Emilia's father, was surrounded by stepchildren, who remain close to her.

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In 2010, Bass was nearing her term limit in the Assembly. When Diane Watson decided to retire from Congress, Bass ran for Watson's seat. She would credit the Assembly with "coloring everything I do" and forcing her to view Congress as larger than a place to pursue the priorities of only her progressive allies.

She had no primary opponent and trounced her Republican rival with 86 percent of the vote.

Bass moved quickly into leadership roles. During her first term, she helped found the bipartisan Congressional Caucus on Foster Youth, which she still co-chairs. Last year, she was elected head of the Congressional Black Caucus. This January, she headed the Foreign Affairs subcommittee on Africa and human rights.

She is known as a fierce liberal with street credibility from her years at the Community Coalition. Partial to knit suits in bold reds and blues, which women her age are sometimes gently advised to avoid, she works across the aisle to pass legislation, while calming the fractious Democratic caucus. Bass is so good at it, she is mentioned increasingly as a possible successor to Speaker Nancy Pelosi.

Striding briskly through the Rayburn Building on a day of back-to-back meetings, she brings to mind Lewis Carroll's scurrying White Rabbit. But in pursuit of her legislative goals, Bass is slow, personal, almost stealthy, deploying genuine humility and the ability to meet people where they are.

"Karen has very deeply held beliefs, but she's not dogmatic," said De La Torre, her friend in the Assembly.

"I'm going after your heart, not so much your mind," Bass told me. "I'm not gonna sit there and fill you up with facts. I'm gonna try to grab you emotionally."

To wit, Omaha Republican Don Bacon, a Trump supporter with a 93 percent rating from the National Rifle Association and zero percent from Planned Parenthood. Bacon and Bass co-chair the foster youth caucus, which sponsors an annual Shadow Day pairing of 100 foster teenagers from across the country with their members of Congress to advocate changes in the child welfare system and learn how policy is made.

"I attended Shadow Day," Bacon said, "and expressed interest in a couple of bills with Karen, and she reached out to me." Bacon and his wife had fostered, then adopted two children, now in their 20s. Bass saw an ally.

He said she told him: "You have to make your time here count."

Bacon said some committee chairs dominate, but Bass "makes sure everyone has a voice and can talk about their priorities. Even when we disagree."

Her efforts with GOP colleagues, like Bacon, ultimately won Trump's signature on the Family First Prevention Services Act last year, a landmark bill the foster youth caucus sponsored that allows funds to be used for services on behalf of children before they fall into foster care, not just afterward.

The caucus is now pushing a bill to better protect children from sex trafficking.

PHOTO BY DAVID SPRAGUE

CONGRESSWOMAN KAREN BASS IN HER DISTRICT OFFICE, WHERE SHE SPENDS MOST WEEKENDS.

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Bass flies home to her district almost every weekend. On one visit, she invited Ohio Republican Steve Chabot to join her in Los Angeles. Chabot was unhappy with her growing calls to change the criminal justice system, which experts say disproportionately punishes people of color.

Her long game is building relationships one Republican at a time. During a hearing on gang violence, she said, she heard Chabot "saying all kinds of crazy things" about sentencing reform.

She approached him privately. "Steve, you don't know what you're talking about," she recounted telling him. "I know you're a man of faith. I know you believe in redemption, but I'm sure you've never met a gang member in your life."

She took Chabot to Homeboy Industries, run by Gregory Boyle, a Jesuit priest. It is one of the most effective gang intervention programs in the nation. Chabot sat in a circle of men. Each expressed remorse for the violent felonies that had landed them in prison. They described how they were changing their lives.

She thinks the visit changed Chabot's views.

Neither Chabot nor his staff responded to multiple email and telephone requests for comment.

On another trip to L.A., Bass hosted a town hall at a family services center in Cheviot Hills. After a brief PowerPoint recap of the first 100 days of the new Congress, she took questions. Each time she mentioned the Affordable Care Act, a man wearing a MAGA hat silently raised a hand-lettered placard that said, "LIES!" She ignored him.

Minutes later, another man, who had waited his turn to talk, railed against undocumented immigrants. He unfurled a large Trump banner.

Members of the audience jeered.

Bass shushed them.

Calmly, she asked the man to roll up the banner.

"It's important," she told me afterward, "for the crowd to see that we can be respectful but let them say their piece. We totally disempower them by just letting them talk. What they want me to do is to get angry and stop them from speaking."

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Is she interested in Pelosi's job?

That would not be unrealistic, said Fabian Nuñez, who preceded Bass as speaker of the California Assembly. "Pelosi immediately took a liking to Karen. I wouldn't be surprised if Pelosi is courting Karen to succeed her."

Bass, he pointed out, made her bones as speaker in the legislature of the largest state in the Union.

Sonenshein agrees. "She is formidable in a very different way from Pelosi, but in a way that probably fits the party in the future."

With a slow smile, Bass conceded that she is "interested in House leadership, but I'm not focused on any one particular position.

"We have a speaker right now whom I support very, very much."

In a statement issued by her office, Pelosi praised Bass' leadership of the Congressional Black Caucus and gave her high marks "as an energetic, effective coalition builder, who powerfully weaves together diverse, dynamic alliances."

Noting that she and Bass are "first woman speakers" — Bass of the California Assembly, and Pelosi of the House of Representatives — Pelosi added: "We share a special connection that I prize."

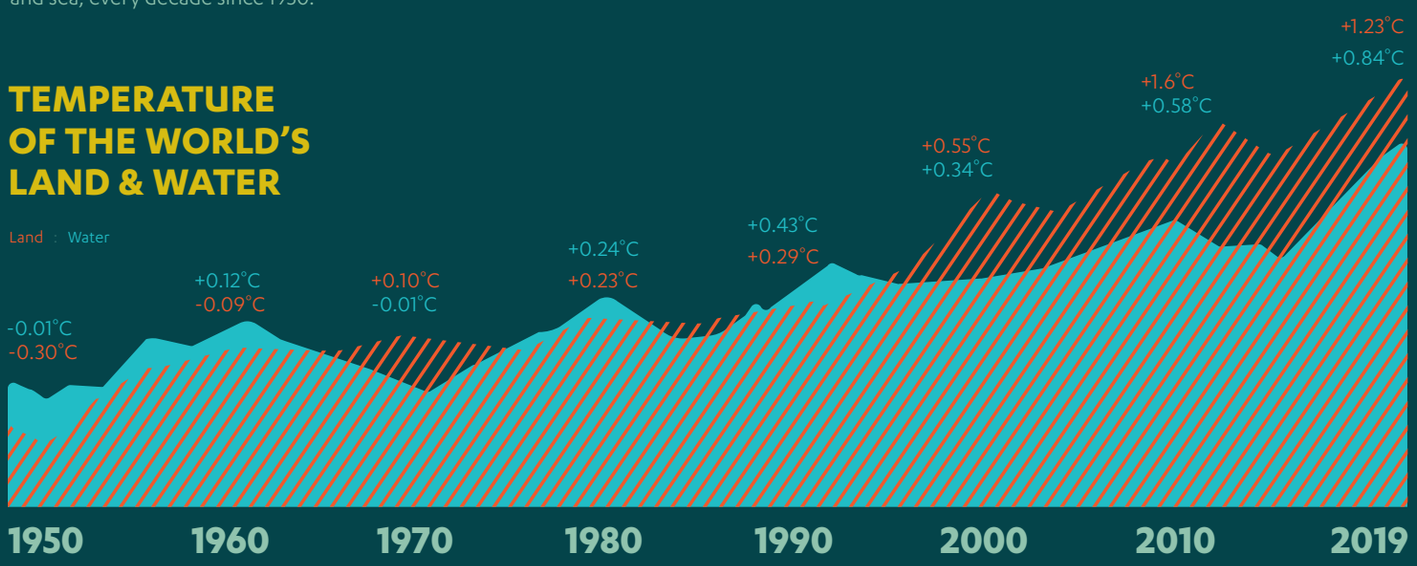
But the overriding priority, Bass said, is Trump. "During the eight years of Obama, I think we became complacent," she said. "We got punched in the face with Trump. My hope is that we have learned that we always have to be involved." ◤

MYTHS DEBUNKED:

Climate Change, Vaccines, Immigrants and Polls

CLIMATE CHANGE

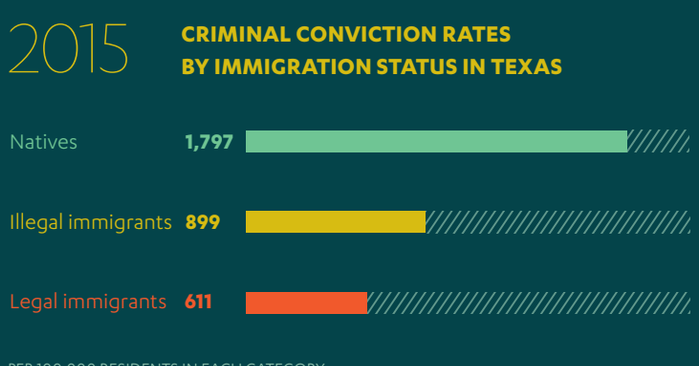
President Donald Trump, among others, questions whether the climate is undergoing a change. Below, the average temperatures of the Earth's land and sea, every decade since 1950.

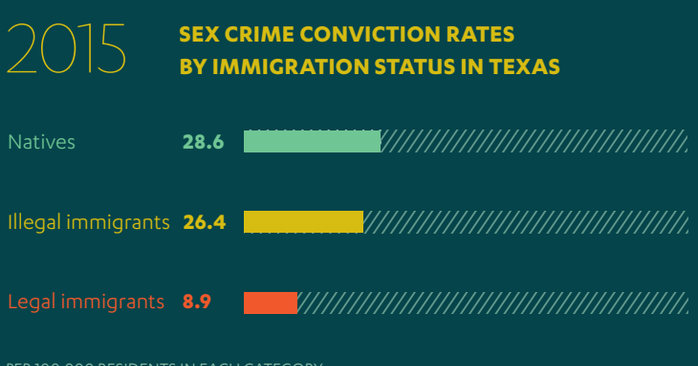


Source: Land — **bit.ly/2BEMI5e** Source: Water — **bit.ly/2PkMrg5**

IMMIGRATION

It is a canard that immigrants, legal or illegal, are disproportionately responsible for crime. A 2018 study by the libertarian Cato Institute makes the point. The study examined arrest and conviction rates in Texas and separated them into categories: native-born Americans, illegal immigrants and legal immigrants.





Source: Cato Institute, "Criminal Immigrants in Texas," Feb. 26, 2018 — **bit.ly/2UI0MTa**

VACCINES

Vaccines have helped eliminate many once-lethal plagues from much of the world. Here, a timeline of three such medical achievements, along with some setbacks.

Smallpox

1791

1791-1800
18,447 deaths from smallpox.

1798
First vaccine.

1800

1810-1820
7,858 deaths from smallpox.

1850

1853
Britain mandates smallpox vaccine for infants.

1900

1950

1980
Smallpox eradicated.

2000

2019

Measles

1860s
About 20,000 cases reported during Civil War, about 500 fatalities.

1963
Vaccine introduced.

1978
Centers for Disease Control target measles for elimination.

2000
Measles eliminated from U.S.

2015
Measles eliminated from North America.

2018-2019
Measles reappears in the United States.

Polio

1894
First U.S. polio outbreak kills 18, paralyzes 132.

1905
Scientists discover the nature of polio's contagiousness.

1916
More than 2,000 people die of polio in New York City outbreak.

1954
Polio vaccine trial in U.S. inoculates 1.3 million children.

1988
Global Polio Eradication Initiative. Since then, 2.5 billion children immunized.

Sources: Polio Global Eradication Initiative, PanAmerican Health Organization, "The History of Vaccines" by the College of Physicians of Philadelphia

Polling and the 2016 Presidential Election

Did the polls get it wrong? Not really.

Public opinion polls measure, well, public opinion, and most of the polls leading up to the 2016 presidential election showed Hillary Clinton ahead on the eve of the election. Because she lost the Electoral College, many have suggested that the polls were off — and some were, at least, misleading. But it's important to remember that Clinton did, in fact, win the popular vote. Below, a look at a number of major polls and how their conclusions compared to the results.

Poll

Bloomberg
Clinton + 3 points

Economist/YouGov
Clinton + 4 points

ABC/WashPost Tracking
Clinton + 3 points

Fox News
Clinton + 4 points

NBC/Wall Street Journal
Clinton + 5 points

CBS News
Clinton + 4 points

L.A. Times/USC Tracking
Trump + 3 points

Actual Results (POPULAR VOTE)
Clinton + 2.1 points

Actual Winner (ELECTORAL COLLEGE)
Trump

KEY:
Blue: Closest To Final Result
Orange: Furthest From Final Result

Source: RealClear Politics — bit.ly/2rYMTDi

CLIMATE CHANGE *IS* REAL

Skeptics Question While the Temperature Rises

WRITTEN BY
JEAN MERL

WHEN THE TRUMP ADMINISTRATION last year disbanded a committee of scientists advising the Environmental Protection Agency, UCLA's J.R. DeShazo and other researchers from around the United States obtained outside funding and formed an independent entity to carry on the work.

It is called the External Environmental Economics Advisory Committee. "I and other environmental economists are evaluating each of the proposed EPA rules, but we are now doing that externally, with help from the Sloan Foundation," DeShazo, chair of the Department of Public Policy and director of the Luskin School for Innovation, said in an interview.

Providing expert advice from outside a government agency, he said, "could become a common approach. It is one example of how we've responded to political changes and efforts to limit the use of science in policymaking."

Another response has been to pay more attention to how people accept and act on information, rather than on merely disseminating the information itself. That's a specialty of another UCLA researcher, Aaron Panofsky, and others who see increasing evidence that a "just the facts" approach is not enough.

"We have to be very respectful of how social identities — and we all have them — matter substantially," said Panofsky, an associate professor in public policy, sociology and the UCLA Institute for Society and Genetics. "We need to engage people by appealing to different factors in their identities."

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In the roughly three decades since "global warming" and "climate change" entered the public consciousness, debate has raged over whether the interconnected phenomena are real, whether man is responsible for them and who, if anyone, should pay to mitigate them.

In terms of science, that debate is resolved: The planet is growing warmer and human activities, especially the use of fossil fuels, are a primary cause of climate change, which threatens life on Earth. But even as the scientific consensus has solidified, the issue of climate change — like many other issues confronting Americans these days — has become highly politicized.

Despite the widely felt effects of climate change — the melting polar ice caps, heavier rains and record winter snowstorms, hotter summers, more virulent wildfires — Americans are deeply divided, mostly along political party lines, about the causes and effects of climate change and what, if anything, should be done about it.

A 2018 Gallup poll, for example, found that 69% of Republicans think the seriousness of global warming is exaggerated, while only 4% of Democrats hold that view; 34% of Republicans believe the effects of global warming already have begun, contrasted with 82% of Democrats. And while 89% of Democrats believe the phenomenon is caused by human activities, just 35% of Republicans think so. Among those who cling to climate denial is, of course, President Donald Trump, who has called it a "hoax" and rolled back efforts by President Barack Obama and others to increase energy efficiency and reduce greenhouse gas emissions.

Not surprisingly, climate change has become a key issue in the upcoming presidential election; its politicalization, along with dissident scientists offering contrarian views, presents special challenges for mainstream scientists.

In their 2010 book *Merchants of Doubt*, science historians Naomi Oreskes and Erik M. Conway describe how a band of conservative high-level scientists with strong industry and political connections embarked on a campaign to muddy scientific evidence, starting in the 1950s, to battle mounting research showing the health dangers of cigarette smoking. (Note: Writer Bill McKibben has documented the role of the fossil fuel industry in covering up its awareness of climate change and distorting the issue. He discusses that history in this issue of Blueprint.) Oreskes and Conway demonstrate how the tobacco industry and its backers created just enough doubt to slow down tighter regulation on tobacco and give cover to politicians sympathetic to the industry.

The scientists then used their techniques to defend the Reagan-era "Star Wars" missile defense system, and to discredit mainstream science behind the threat to the ozone layer and the discovery of acid rain. In the mid-1980s, Oreskes and Conway say, these conservative scientists formed the George C. Marshall Institute to bolster conservative views on national defense. Many of these same scientists have been involved in efforts to advance politically conservative views on climate change and other current issues, the authors say.

Oreskes, then a professor of history and science studies at UC San Diego and now at Harvard, and Conway, a historian for JPL at Caltech, criticize the media for its traditional adherence to balance in reporting and giving equal weight to arguments on opposing sides of a question, even in settled scientific matters.

"This divergence between the state of science and how it was presented in the major media helped make it easy for our government to do nothing about global warming," Oreskes and Conway write. Their book became the basis for a documentary film of the same name in 2014.

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Increasingly, researchers at UCLA and elsewhere are studying how people respond to information and how messaging can affect their acceptance and behavior.

"We have to think about how to make our findings salient," DeShazo said. "We have to frame them in a way that's compelling."

DeShazo joined with researchers Bronwyn Lewis Friscia, then a doctoral candidate at UCLA, and Tamara Sheldon at the University of South Carolina for an online study of how people of differing political views respond to product messaging. For the study, originally part of Friscia's doctoral dissertation and soon to be published in a separate paper, the researchers tested respondents' reactions to three different messages on packages of energy-efficient light bulbs, which were priced higher than ordinary light bulbs.

The 1,802 adults who completed the survey were asked about their political beliefs and values, then about how they responded to one of three randomly selected light bulb messages: One emphasized saving; it said the light bulbs would save money because they would last longer. Another emphasized that the bulbs would reduce America's dependence on foreign energy. The third touted the bulbs as "great for the environment" because they would reduce the greenhouse gas emissions responsible for climate change.

Those who said they were very conservative politically and received the "great for the environment" bulbs chose fewer of them, while the bulbs marketed for their ability to help the country achieve "energy independence" appealed to both conservatives and liberals.

"Overall," the authors wrote, "the study found these pro-social messages could have a large and often positive effect on consumers' willingness to pay extra for energy-efficient light bulbs."

Moreover, the researchers saw in the results "the promise of micro-targeting partisan consumers with pro-social messages that are tailored to their own political ideology as the most effective way of increasing their willingness to pay for energy-efficient technology."

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In his office at UCLA's Life Sciences building, Panofsky has been studying the sociology of science and knowledge, with a special focus on genetics.

In 2017, he presented results of a study with Joan Donovan, now at Harvard's Kennedy School of Government, which looked at how white nationalists responded when DNA testing revealed they were not as purely "white" as they had thought.

The researchers reviewed more than 3,000 posts on Stormfront, a leading website for those who believe people with white (European, non-Jewish) genes are superior to those of other or mixed races. Panofsky and Donovan focused on posts concerning Stormfront members whose genetic testing had recently revealed that their backgrounds included ancestors from other races or ethnic groups.

Those who had received evidence that they had some non-white or non-European ancestry "expend considerable energy to repair identities by rejecting or reinterpreting genetic ancestry testing results," the researchers found. The subjects attacked the tests as inaccurate, a conspiracy among non-whites who control the testing companies to sow doubt and confusion among whites. Or they insisted that the analysts had made statistical errors. In other words, they rejected evidence in favor of belief.

"Hello, got my DNA results and I learned today I am 61% European," began a poster calling himself RogerOne. "I am very proud of my white race and my European roots. I know many of you are 'whiter' than me, I don't care, our goal is the same. I would do anything possible to protect our white race, our European race and our white families."

Responders were not forgiving. One suggested that RogerOne kill himself because "YOU are not White."

Another member, apparently picking up on RogerOne's wish to at least be an ally if he couldn't be truly white, had this to say: "If you do care about the White race, don't breed with any White women. Therefore not polluting our gene pool."

Then there were those who turned against science.

"EVERY single American's results that I have seen ALWAYS have this 0.1% of non-white garbage," said one, adding, "[results from 23andme are 'rigged'] for the very reason and cause of trying to spread multiculturalism and make whites think that they are racially mixed...23andme has been called out for it's [sic] new method of determining ancestry, this whole 0.1% or 0.2% african or native american (or whatever nonwhite it may be) garbage is 100% falsified and inaccurate."

Panofsky and Donovan said their study "reframes white nationalism as containing within it a citizen science movement and a racist public sphere.

"White nationalists on Stormfront actively, creatively and critically engage genetic, statistical, historical and anthropological knowledge about human diversity, picking and choosing elements to generate their arguments about racial boundaries and hierarchies.

"While some argue that genetics and biology are tainted and should be ignored, far more are interested in engaging and manipulating their materials."

The implications for other issues, including climate change, are real. They suggest that committed believers may resist challenges to their ideas and identities. Rather than adjust their realities to the truth, they may simply reject the truth and retreat to preconceptions. If so, this suggests a special challenge for scientists — not only in pursuing the truth but communicating it in ways that people will consider rather than simply reject.

As DeShazo said: "The politicalization and distrust of science has forced academics to think more carefully about how political views affect people's interpretation of information and their decision-making.

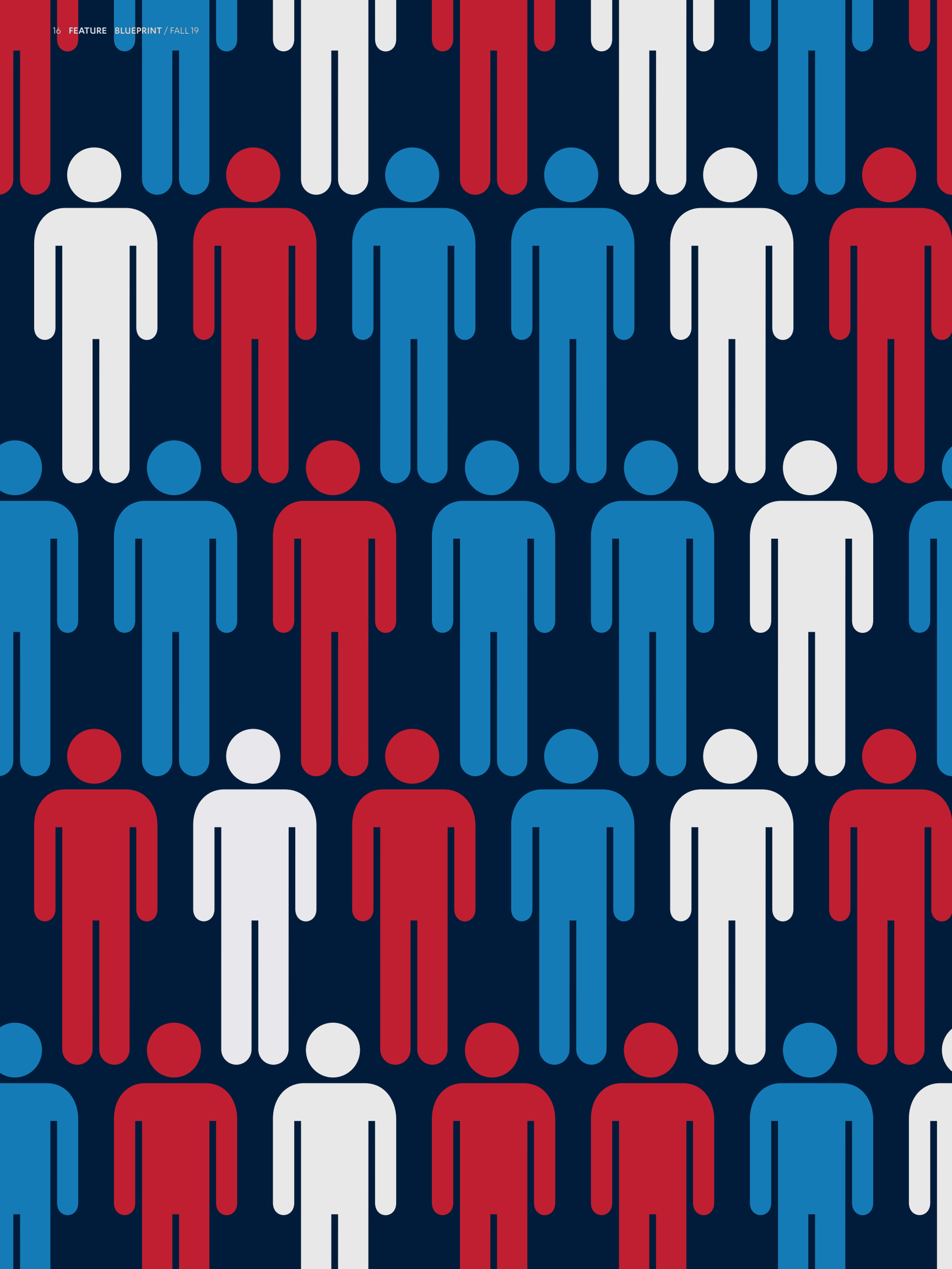
"Acceptance of the science [of climate change] is growing," DeShazo added, "but whether we are willing to spend more resources to impact it really depends on our political point of view. The willingness to spend resources, or the willingness to make decisions that could impact business or the economy, really depends on whether you are a Democrat or a Republican.

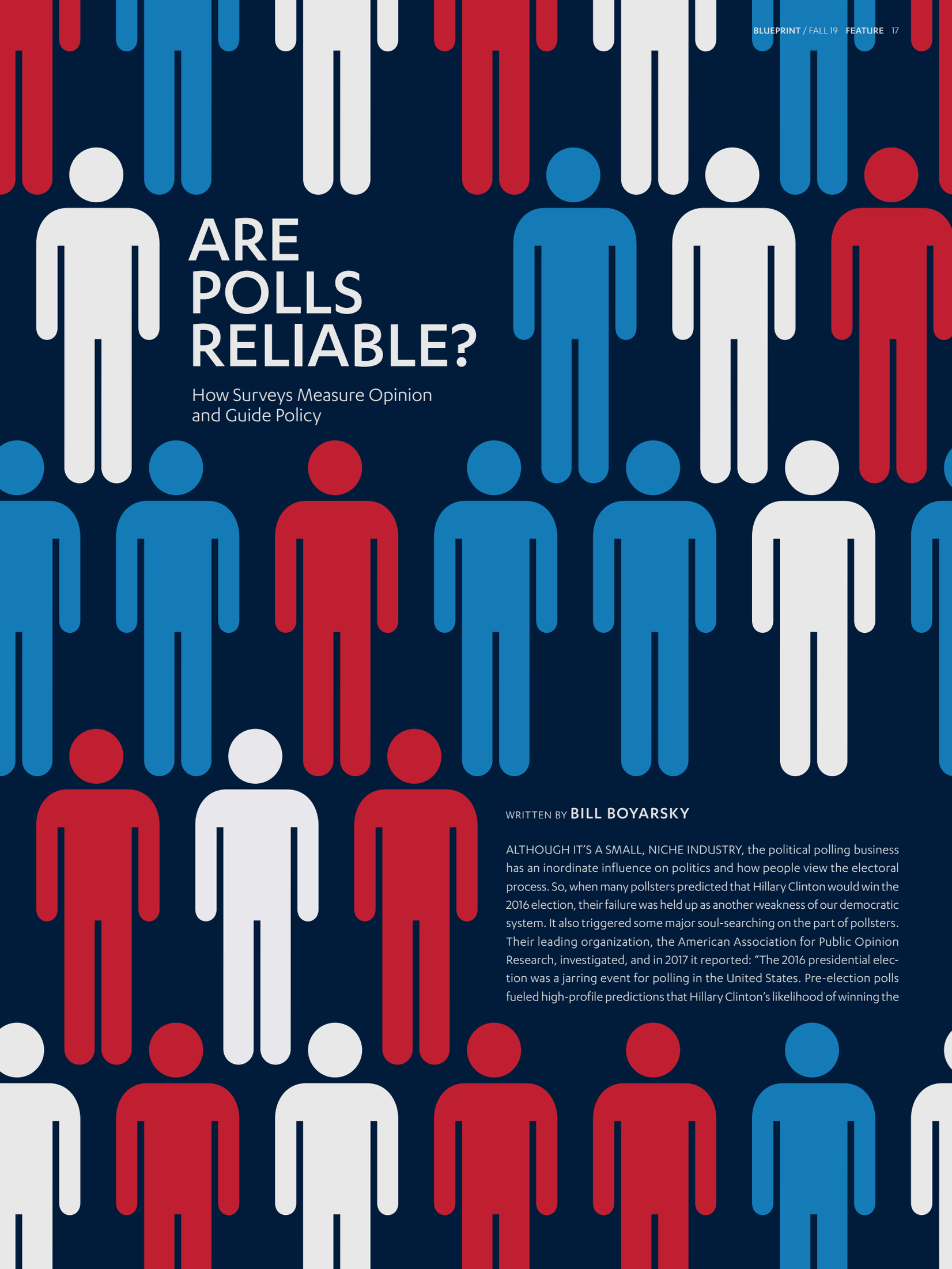
"It didn't used to be that way."

"THE POLITICALIZATION AND DISTRUST OF SCIENCE HAS FORCED ACADEMICS TO THINK MORE CAREFULLY ABOUT HOW POLITICAL VIEWS AFFECT PEOPLE'S INTERPRETATION OF INFORMATION AND THEIR DECISION-MAKING."

— UCLA Professor J.R. DeShazo

PHOTO BY **WILLIAM BOSEN**





ARE POLLS RELIABLE?

How Surveys Measure Opinion and Guide Policy

WRITTEN BY **BILL BOYARSKY**

ALTHOUGH IT'S A SMALL, NICHE INDUSTRY, the political polling business has an inordinate influence on politics and how people view the electoral process. So, when many pollsters predicted that Hillary Clinton would win the 2016 election, their failure was held up as another weakness of our democratic system. It also triggered some major soul-searching on the part of pollsters. Their leading organization, the American Association for Public Opinion Research, investigated, and in 2017 it reported: "The 2016 presidential election was a jarring event for polling in the United States. Pre-election polls fueled high-profile predictions that Hillary Clinton's likelihood of winning the

> "TRUMP HAS LAID THE FOUNDATION OF MISTRUST OF THE MEDIA, AND I THINK PEOPLE PERCEIVE POLLING AS PART OF THE MEDIA."
>
> — *Political analyst Sherry Bebitch Jeffe*

presidency was about 90 percent, with estimates ranging from 71 to over 99 percent. When Donald Trump was declared the winner of the presidency in the early hours of November 9, it came as a shock even to his own pollsters. There was [and continues to be] widespread consensus that the polls failed."

I talked to a lot of academics and poll takers to find out why so many surveys were wrong. By examining the reliability of data used by the polls, I found some answers. "We are in a data collection revolution right now," UCLA political scientist Professor Matt Barreto told me when we talked in his office in Bunche Hall.

"There is no such thing as an authoritative poll. None. No one poll should ever be taken as authoritative," said Bill Schneider, professor at the Schar School of Policy and Government at George Mason University.

Others shared the skepticism and blamed the mass media for hyping inaccurate results. Retired USC public policy professor and media pundit Sherry Bebitch Jeffe said, "Trump has laid the foundation of mistrust of the media, and I think people perceive polling as part of the media. And it doesn't help if the media often get it wrong."

It's an important matter. Polls have become intertwined with the electoral process. Fluctuations are hyped by the mass media. Political surveys are reported constantly on 24-hour cable news. They flash through myriad online sources and are quoted regularly by prestige newspapers. The numbers guide campaign strategies and shape the public policies of candidates. That can be seen in the way Democratic presidential candidates have changed their health care proposals in response to polling. With the credibility of elections facing increased skepticism, the question of whether erroneous polls destroy faith in democracy is of great significance.

Not everyone agrees that all polls were wrong in 2016, or that their performance was a threat to democracy. "No, I think that's ridiculous," said UCLA political scientist Lynn Vavreck. "Hillary Clinton won the popular vote. The polls showed she was going to win the popular vote. They were closer in 2016 than they were in 2012 in the actual popular vote election outcome, which is what most of these polls are measuring. ... Polling is not broken. That should not be the takeaway [from your story]. Polls were better in 2016 than they were in 2012."

Indeed, one subtlety of the 2016 polling has escaped some notice. Most polls predicted that Hillary Clinton would win because a slim majority of Americans favored her on the eve of the election. That proved correct, as Clinton received about 3 million more votes than Donald Trump. American presidential elections, however, are not won by commanding the popular vote, and Trump defeated Clinton in the Electoral College. Failing to anticipate that outcome was not a failure of polling the popular vote.

Still, Vavreck said, the polling process needs improvement. "Whatever mistakes they made in 2016, they are going to go forward and make sure they don't make them again."

I got a variety of views as I called on political scientists who have devoted their careers to the study of the political process and the elections that shape it.

When I had trouble finding Bunche Hall, home of the UCLA political science department, a student told me it was a tall building with odd windows that made it look like a waffle. They did.

I went up to the third floor and spoke with Barreto, a nationally known expert on Latino politics, and Vavreck, co-author of *Identity Crisis: The 2016 Presidential Campaign and the Battle for the Meaning of America*. Her fellow authors are John Sides, professor of political science at George Washington University, and Michael Tesler, associate professor of political science at UC Irvine.

I also interviewed Jill Darling, survey director of the USC Dornsife College's Center for Economic and Social Research, which collaborates on the Los Angeles Times poll. At Jeffe's home, I sat at the dining room table and talked to her and Schneider. Both have been my friends for many years. And finally, I drove to Loyola Marymount University to hear the views of political science Professor Fernando J. Guerra, founding director of LMU's Center for the Study of Los Angeles. His poll focuses on the Los Angeles area. It shows how surveys can impact local politics.

I was struck by several facts. First, those surveyed are selected from lists obtained from commercial or other sources that may or may not be accurate in describing them as voters or potential voters. Some are telephoned by pollsters, others are reached online. Second, less than 10 percent of them answer. That's far fewer than a decade or more ago.

Third, sharp cutbacks at news media organizations have reduced the number of journalists assigned to polling, as I know from my own experience. Buying a survey is much cheaper than hiring reporters and editors. Yet competitive pressure to be first has impelled the news media to blast out polls, often purchased from unreliable sources, without examining whether they are statistically sound. For example, every survey contains a statistical margin of error, usually two or three percentage points or more. If a poll shows that Candidate A is only two points ahead, that may not be meaningful or even correct, a fact that should be explained to readers and viewers.

"The media, including print and TV, were front and center," Barreto said, "and the media has liked this, because it helps them recap the race, understand the race, maybe even predict the race."

But techniques are changing so rapidly that most of the public and much of the press doesn't understand what's happening.

Thirty years ago, when I started working with pollsters as a Los Angeles Times political reporter, surveys were a simple matter. Phone numbers were selected randomly. A poll taker would call and ask you to take part in an election survey. Most likely, you'd be pleased by the attention. It was a big deal. The media and the pollsters associated with it were widely respected. Usually there was someone at home to pick up the phone. Now, nobody might be home. If someone is, he or she may not want to answer questions about how they plan to vote. Worse yet, the person may dislike the media.

Today, said Lynn Vavreck, "I think polling is really moving away from random sampling, because nobody has a landline anymore. People don't want to get called on their cellphones. It's hard to reach people."

For example, a national poll by Quinnipiac University in Connecticut

> "NO ONE POLL SHOULD EVER BE TAKEN AS AUTHORITATIVE."
>
> *— Political analyst and George Mason University Professor Bill Schneider*

selects a sample of about 1,000 women and men who are 18 or older. The USC poll has a sample of 8,000. This is a small percentage of the electorate, but it is designed to be a sample of the voting population. "It's like a blood test," said USC's Jill Darling. A tiny sample of blood represents all of the blood in the body.

Quinnipiac and USC obtain their names of potential respondents from a variety of sources, including voter rolls, the U.S. Postal Service and a growing number of data-collecting firms. Quinnipiac uses a company called Dynata. It creates panels of people who are willing to participate in surveys for businesses, including polls. Dynata's website says: "We actively recruit consumers, business professionals and hard-to-reach individuals as members of our research panels, and we build trusted ongoing relationships."

Phone numbers are randomly selected by a computer, with listed and unlisted numbers, including cellphones. Questioning is done over a four- to seven-day period, from 6 p.m. to 9 p.m., by a mix of students and non-students trained for the job. Interviews are in Spanish and English. "If there is a no answer, we will call back that number. We will call every number where there is a no answer at least four times," the Quinnipiac website said.

The L.A. Times poll is conducted online. It sends tablet devices to those on its survey list who do not have computers, and it pays people a small amount to participate.

Some respondents are recruited more informally, from people volunteering in what is known as an opt-in panel. "Opt-in panels are what most [survey] panels come from because they are super cheap," Barreto said. "It's where they just put an ad on Facebook, and it says, 'Click here and get paid for your thoughts.' Or, 'Win a free iPhone,' and all you have to do is take one survey a week."

Once a panel is selected, it is manipulated to match the Census with representative samples. Suppose a panel of 1,000 shows that Latinos comprise 30 percent of Los Angeles County's population, when it is actually 48 percent. The panel results are then mathematically weighted or adjusted to match the Census.

It is in this process that mistakes are made. "It's complex," said Barreto. "You have to be a social scientist and a methodologist today."

Two errors illustrated the failures of polling in the 2016 election.

One was made by state polling organizations, some in the media and at universities, others privately owned. Generally, national polls got the final results right, showing Clinton would beat Trump in the popular vote, which she did. But most organizations polling the states failed to catch a key factor: Older white men with high school educations or less supported Trump in the Midwestern battleground states, where polls showed that Clinton was favored — but Trump won narrowly. Many analysts felt this was the pollsters' biggest mistake of 2016.

"Education was strongly correlated with the presidential vote in key states: That is, voters with higher education levels were more likely to vote for Clinton," said the American Association for Public Opinion Research. "Yet some pollsters — especially state-level pollsters — did not adjust for education in their weighting, even though college graduates were over-represented in their surveys. This led to an underestimation of support for Trump." In other words, there were not enough older non-college-educated white men in the survey — and, pollsters said, some of them did not want to answer survey questions.

Another polling error was in sampling Latino voters.

Loyola Marymount's Fernando Guerra, an expert in polling Latinos, told me his curiosity was piqued by some surveys in the 2004 presidential election that showed George Bush was more popular among Latinos than in other polls.

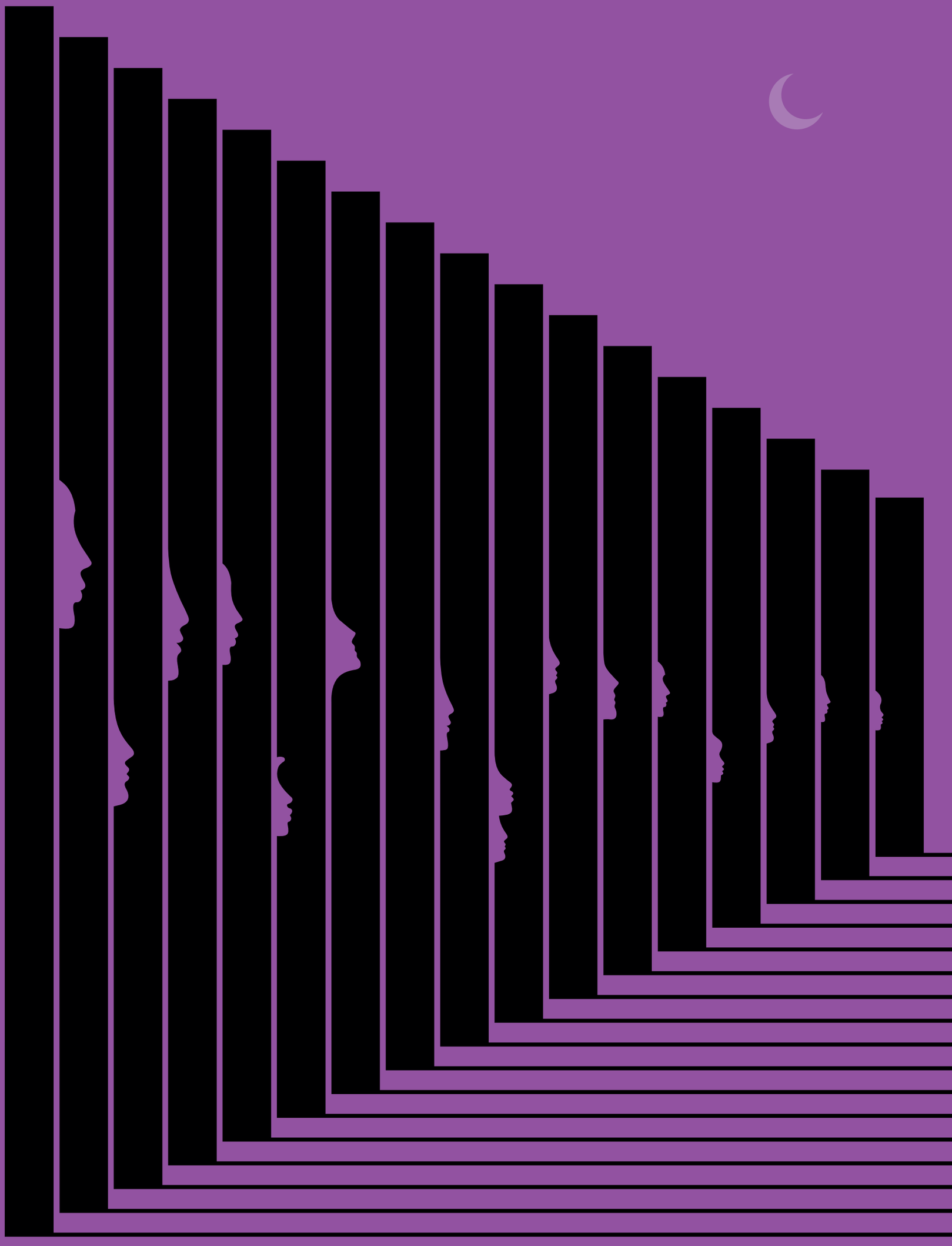
Guerra didn't believe the polls with higher figures. "A good proportion of Latinos were Latinos who lived in middle-income or non-Latino districts," he said. The surveys had underestimated the number in working-class and poorer areas. In other words, too much San Gabriel Valley, not enough East Los Angeles.

In subsequent elections, he sent LMU students to polling places throughout the city to interview people after they voted in Latino, Anglo, African American and Asian American areas — and got what he considered a more accurate sample.

Nobody I talked to had great faith that polling would be better in 2020 than it was in 2016. By the end of my exploration, all I knew was that, with all the media attention, polls would continue to be a dominating force in political life.

A force for good or bad? Or just another institution met with skepticism? Pollsters at the American Association for Public Opinion Research had asked: "Did the polls fail? And if so, why?"

Those questions are still open and leave many years of work ahead for the current generation of political scientists and their successors.



MIGRANT MYTHS

Immigrant Bashing Is Popular — and Wrong

WRITTEN BY
RICHARD E. MEYER

THE POLICE OFFICER TOLD AMADA ARMENTA to get out of her car. She sat on the curb.

Armenta, an assistant professor at UCLA, was in Mississippi on her way home from research in Tennessee. The officer had followed her for six blocks until she pulled into a gas station, then followed her again when she left. As she headed for a highway on-ramp, he flashed his lights and cranked his siren.

"Will you consent to a search of your vehicle?"

Armenta knew that the officer needed either her agreement or "probable cause," a legal term meaning "reasonable grounds," to conduct a search. She refused permission. He summoned another officer, then a K-9 unit. A crowd watched. "It was quite the scene," she says in her book, *Protect, Serve, and Deport*. "Three police cars with flashing lights, three officers conferring with one another. A German shepherd, my gray economy car, and me, still sitting on the curb."

At her passenger door, the dog sniffed and pawed but soon lost interest. Its handler led it around the car a second time. Then he pulled on its leash and spoke excitedly. The dog jumped up and down, barked and lunged. The officers told her that the dog had "indicated," giving them probable cause to search. "I watched as the officers opened each car door and rifled through my possessions.

"One officer looked through the glove compartment, under the seats and mats, and ran his fingers in the creases of the car's seats. Another officer squatted as he inspected the back seat and poked through a small pile of trash. Another had his head buried in the trunk, where he rummaged through items I had haphazardly thrown in before I left: sociology books, Taco Bell wrappers, clothes, food and a bottle of coconut rum. Even though I knew there was nothing in my car that could get me in trouble, it was humiliating and intrusive.

"After 10 minutes, they gave up. They seemed disappointed. I was free to go, but they had wasted almost two hours of my time. As I stood up and headed toward my car, the policeman called out a question.

"'Ma'am, if you had nothing in your car,' he said, slowly, 'why were you so nervous?'

"'I'm by myself. I'm far from home. This is Mississippi, and you're the police.'"

Professor Armenta, a Latina born and raised in the United States, does not intend to imply that she had gotten even a small taste of what it is like

> ***"MORE IMMIGRATION EQUALS LESS CRIME."***
>
> *— Charis Kubrin and Graham Ousey, political scientists*

to be an immigrant, or a hint of the fear that confronts the undocumented. But she got a taste of what it is like to be distrusted. "The officer's intrusion marked me as someone who was out of place, or 'suspicious,'" she says in her book. "Of course, with the privileges of a formal education, unaccented English, citizenship and a valid driver's license, my encounter with the police was a minor, albeit unpleasant, inconvenience. ... [But] a system of laws, institutional policies and bureaucratic practices ensures that these types of police encounters unfold differently for residents who do not have the benefit of legal presence."

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Protect, Serve, and Deport was published in 2017. Suspicion of immigrants has grown even more pronounced today. The reason: Fact deniers say immigration causes crime. The truth: Immigration decreases crime. But deniers are winning the day. A landmark study last year by the RAND Corporation, a global policy think tank, reported: "In national political and civil discourse, disagreement over facts appears to be greater than ever." Aptly, RAND called its study "Truth Decay." Some deniers, Rand says, are "spinning facts to the point of fiction."

Those who have been fooled include a large number of ordinary people. A 2016 poll by the Pew Research Center found that 27 percent of Americans say undocumented immigrants are likely to commit serious crimes. Among Republicans, the number climbs to 42 percent. Unsurprisingly, some are members of nativist organizations. But, more significantly, the fact deniers include the president of the United States. Donald Trump has called undocumented Mexican immigrants "rapists," "criminals" and "bad hombres."

In his nomination acceptance speech to the 2016 Republican National Convention, he said: "They are being released by the tens of thousands into our communities with no regard for the impact on public safety. ... We are going to build a great border wall to stop illegal immigration, to stop the gangs and the violence, and to stop the drugs from pouring in."

Since taking office two and a half years ago, President Trump has toughened federal immigration enforcement, made it easier to take undocumented immigrants into custody and declared that his wall, along the border with Mexico, is necessary, based on his perception that unauthorized immigrants are a substantial and dangerous source of crime in the United States.

That perception is wrong.

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Here are the facts:

"Decades of research conclude that immigrants are less likely to commit crimes than the native-born," Professor Armenta writes. A member of the urban planning faculty at UCLA's Luskin School of Public Affairs, Armenta specializes in connections between the immigrant enforcement system and the criminal justice system. Scholars, she writes, have found that immigrants "decrease crime because crime rates tend to fall in places with expanding immigrant populations, including those who are undocumented."

Twenty years of data support that finding. Charis Kubrin, professor of criminology, law and society at UC Irvine, and Graham Ousey, a sociologist at the College of William and Mary, who specializes in immigration and crime, say their examination of the data shows that "cities and neighborhoods with greater concentrations of immigrants have lower rates of crime and violence.

"In other words," they write, "more immigration equals less crime."

This includes unauthorized immigration. An analysis this year by the Marshall Project, a nonprofit news organization covering criminal justice, compared crime rates from the FBI with estimates of undocumented population by the Pew Research Center. It showed that "growth in illegal immigration does not lead to higher local crime rates."

The analysis found that both violent and property crime decreased in immigrant areas, consistent with a decline in crime across the United States. It also found that "crime went down at similar rates regardless of whether the undocumented population rose or fell." Actually, "Areas with more unauthorized migration appeared to have larger drops in crime, although the difference was small."

Indeed, the libertarian Cato Institute, associated with Charles and David Koch, says that both "legal and illegal immigrants were less likely to be incarcerated than native-born Americans in 2017, just as they were in 2014 and 2016."

Michael T. Light, associate professor of sociology and Chicano/Latino studies at the University of Wisconsin-Madison, and Ty Miller, assistant professor of sociology at Winthrop University in South Carolina, whose specialties include immigration, analyzed statistics to control for economic and demographic factors. They found:

"Increases in the undocumented immigrant population within states are associated with significant decreases in the prevalence of violence."

Professor Armenta offers two additional facts:

President Trump cites Mara Salvatrucha, the vicious gang known as MS-13, as evidence that immigrants bring crime to the United States. Democrats, he has tweeted, "don't care about crime and want illegal immigrants, no matter how bad they may be, to pour into and infest our country, like MS-13."

But Mara Salvatrucha "is not an immigration problem," Armenta said in an interview. "MS-13 originated in Los Angeles, and then it got exported through deportation to Central America. It's not about immigration. It's about gangs. Anytime that immigrants are associated with heinous and violent crimes, it becomes construed as an immigration problem. It's wrong to act as if this is about immigration."

Her second fact is about those who consider undocumented immigrants to be criminals simply because they are here without authorization. In fact, she writes, "Unlawful presence in the United States is a civil violation, not a criminal offense."

What drives truth decay?

RAND cites four possible causes:

1. **Cognitive bias.**
   "The ways in which human beings process information and make decisions cause people to look for opinions and analysis that confirm preexisting beliefs, more heavily weight personal experience over data and facts, and rely on mental shortcuts and the opinions of others in the same social networks."

   European researchers Hugo Mercier and Dan Sperber call this "myside bias."

2. **Changes in the information system.**
   RAND says they are:
   a) "The rise of social media, which drastically increases the volume and speed of information flow, as well as the relative volume of opinion over fact."
   b) "The transformation of the media market facing traditional newspapers and broadcasting companies, including the shift to a 24-hour news cycle, the increasing partisanship of some news sources, and the intensification of profit motives."
   c) "Wide dissemination of disinformation and misleading or biased information."

3. **Competing demands on the educational system that limit its ability to keep pace with changes in the information system.**
   "As the information system has become increasingly complex," RAND says, "competing demands and fiscal constraints on the educational system have reduced the emphasis on civic education, media literacy and critical thinking. Students need exactly this type of knowledge to effectively evaluate information sources, identify biases and separate fact from falsehood." One result: "Distrust in institutions (that supply information), while evident in previous eras, is more severe today."

4. **Political, sociodemographic and economic polarization.**
   "Polarization contributes both to increasing disagreement regarding facts and analytical interpretations of facts and data and to the blurring of the line between opinion and fact by creating opposing sides, each with its own narrative, worldview and facts. The groups on each side become insular in their thinking and communication, creating a closed environment in which false information proliferates.

   "Data suggest that political, social and demographic polarization are not only severe and worsening … but also overlapping and reinforcing one another."

Professor Armenta adds a fifth cause:

5. **Fear, usually of the future.**
   "People have an idea of what the nation is supposed to be, and their ideas about it are based on their families, their upbringing," she said. "It's usually looking toward the past; they imagine some America that used to be in a particular way. And then they use something that has changed, like the fact that there's more immigration, as a stand-in for the cause of all the other ways that life is harder today. So the fact that we don't have robust social safety nets, that people can't rely on working for a firm for their whole lives, that the firm can fire them and not offer them pensions, then immigrants become the stand-in as a scapegoat for all sorts of misfortunes that are a result of deindustrialization or devaluation of workers, etc."

PHOTO BY LES DUNSEITH

PHOTO BY DLES DUNSEITH TUPUNGATO

ABOVE: UCLA PROFESSORS AMADA ARMENTA AND CARLOS SANTOS. RIGHT: AN LAPD POLICE CAR ON THE STREETS OF VENICE.

She does not discount racism.

"I think racism is and always has been connected to nativism," Armenta said. Even the Irish "weren't considered white in the same way that Western Europeans were considered white."

Not that fact deniers are likely to think of themselves as racist.

"No one wants to think that they're individually racist, so they're unwilling to call out ways that, say, political rhetoric or social structures are examples of racism."

Professor Margaret Peters sat at her desk and choked back anger.

Fact deniers, she said, are dangerous — to immigrants and to academic research, as well. But she has learned to calibrate her response.

"Do I feel anger? Yes.

"Do I get angry? I try not to."

Peters, an associate professor of political science at UCLA, has spent 15 years studying immigration at the Ph.D. level and beyond. Immigration, she said, simply does not increase crime. "It's very frustrating to have John Doe from off the street saying, 'I saw this thing on Fox News, and clearly you're wrong.'

"The worst thing you can do is to say, 'You're stupid,' or 'YOU are just wrong.' Instead, try to be nice. 'Well, Fox News isn't always the most credible source.'

"If you put somebody on the defensive, they are never going to see your side."

Meanwhile, fact deniers cause suspicions that create jeopardy. (Did the German shepherd actually "indicate" at Professor Armenta's car, or did it react to its handler's deliberate excitement and tugging on its leash?)

Fact deniers, Peters said, also undermine the credibility of academic research and of researchers themselves. This, in turn, reduces the financial support necessary to conduct studies.

All of which makes it easy to be angry. But because confronting deniers with anger only causes them to dig in, Peters said, it is better to focus on the small number who are not true believers.

And fight bad facts with good facts.

HERD IMMUNITY

Fear vs. Science

STEP BY STEP, California state Sen. Richard Pan, a pediatrician, is trying to make it harder to avoid vaccinating children. It has won him accolades from fellow doctors — and made him a target of threats, confrontations and physical violence by some of those who disagree with his stance.

In August, an anti-vaccination activist, Austin Bennett, livestreamed a clash on a sidewalk near the Capitol in which he shoved Pan from behind, saying afterward in the video, "If he got what he deserved, he would be hanged for treason for assaulting children, for misrepresenting the truth." But it was Bennett whom police cited, with misdemeanor battery, then released, Sgt. Vance Chandler said in an email.

In a statement to reporters, Pan said anti-vaxxers "have attempted to dehumanize me and other public health advocates on social media while making death threats. When rallying here at the Capitol, they displayed posters and wore shirts with my face splattered with blood." Pan said the video "may even now be inciting a future assailant who seeks to up the ante with a weapon."

Four years ago, Pan won passage of legislation outlawing personal-belief exemptions to vaccination requirements. Since then, he says, different exemptions — for medical reasons — have more than tripled. Earlier this year, Pan introduced a bill that would crack down on falsified exemptions. It was signed into law by Gov. Gavin Newsom in early September. "It is my hope," Pan said, "that parents whose vulnerable children could die from vaccine-preventable diseases will be reassured that we are protecting communities that have been left vulnerable because a few unscrupulous doctors are undermining community immunity by selling inappropriate medical exemptions."

WRITTEN BY
LISA FUNG

> ***"PEOPLE BELIEVE WHAT THEY WANT TO BELIEVE, IN SPITE OF WHAT THE TRUTH IS, WHAT THE SCIENTIFIC EVIDENCE IS."***
>
> *— Pediatrician and UCLA Professor James D. Cherry*

A fellow pediatrician, Dr. James D. Cherry, a distinguished research professor at the David Geffen School of Medicine at UCLA and UCLA's Mattel Children's Hospital, has taken note of the profiteering. As early as 1990, in a paper for the *Journal of the American Medical Association*, Cherry wrote that there was no evidence that vaccinations against pertussis, or whooping cough, cause permanent neurological illness. "I pointed out," Cherry said in an interview, "that there were people who were making money out of [opposing pertussis vaccinations] — people who sell vitamins and supplements were making money, saying, 'If you take my supplement, you'll be OK.'

"I think the really discouraging thing is the doctors who will cheat for money."

Over the years, Dr. Cherry has heard many voices challenge the use of vaccines to prevent childhood diseases. He is not surprised by a growing debate over immunization against measles. For Cherry, it comes down to a simple, scientifically proven fact: Vaccines save lives.

"If you get measles in the U.S.," he said, "you have a 1 in 500 chance of dying. You have a 1 in 1,000 chance of getting encephalitis. You have, depending on the age you get it, a risk of getting SSPE, subacute sclerosing panencephalitis, a horrible neurologic disease, which is always fatal."

Cherry has published hundreds of papers, given talks around the world and consulted with numerous health agencies on pertussis, measles and other diseases. "In this country," he said, "measles has been eradicated because there's no sustained transmission when it gets reintroduced."

But that could change.

After the year 2000, when measles was declared eradicated in the United States, vaccination rates began to drop, but "herd immunity" kept the disease in check. Herd immunity means that if 95% of the population is vaccinated, pockets can be infected but the measles won't spread to the broader population. However, Cherry said, "If [the vaccination rate] drops much below that, then it could reestablish circulation."

According to the Centers for Disease Control and Prevention, 1,251 individual cases of measles have been confirmed in 31 states through October 3. That marks the largest outbreak of measles in two decades. Most of these cases, the CDC reported, were among people who were not vaccinated.

The measles vaccine was introduced in 1963, a year after President John F. Kennedy signed into law the Vaccination Assistance Act (Section 317 of the Public Health Service Act), which directed the CDC to create the first nationwide immunization programs to "achieve as quickly as possible the protection of the population, especially of all preschool children."

Today, all 50 states and the District of Columbia require children entering kindergarten to be vaccinated against polio, diphtheria, tetanus, pertussis, measles and rubella. California also requires immunization against chickenpox, hepatitis B and mumps.

Since 2015, following a measles outbreak that began at Disneyland and infected 136 people, California has allowed exemptions from these shots only if a doctor provides a medical reason for the exemption, tightening rules that once permitted exemptions for religious or philosophical beliefs.

Cherry recalls speaking to parents at a preschool in 2015. About 10% of its students were not up to date on their vaccines, he said. But not all of their parents were opposed to immunizations. "There were working parents who should have been getting vaccinations for their children, but they were busy. There was no measles around, so it wasn't a big deal."

Nonetheless, he said, with satisfaction, "Almost immediately after I gave that talk, they went and got the vaccinations."

Deliberate opposition to measles immunization traces back to misinformation in a discredited study published in 1998 in *The Lancet*, a medical journal, in which Andrew Wakefield, a British doctor, claimed to have found a link between measles vaccine and autism. Those findings were later determined to have been based on falsified and manipulated data, according to the U.K.'s General Medical Council, and subsequent research found no connection. *The Lancet* rescinded the paper in 2010.

Autism Speaks, a nonprofit organization dedicated to supporting autistic children and their families, says without hesitation: "Scientists have conducted extensive research over the last two decades to determine whether there is any link between childhood vaccinations and autism. The result of this research is clear: Vaccines do not cause autism."

Still, a relatively small but vocal group continues to raise concerns that immunizations are related to neurological problems in children. None of the claims have been proven scientifically. The opponents of vaccinations include Robert F. Kennedy Jr., a son of Sen. Robert Kennedy and a nephew of John F. Kennedy. A longtime environmental activist, Robert F. Kennedy Jr. founded Children's Health Defense, known for its anti-vaccine activism. He and his organization have promoted claims of vaccination health hazards that have been repeatedly debunked by science.

Immunization opponents also include actress Jenny McCarthy, whose son was diagnosed with autism in 2005. She claimed there was a connection between his autism and vaccines. Her book, *Louder Than Words: A Mother's Journey in Healing Autism*, spent four weeks on *The New York Times* bestseller list in 2007. She also wrote the foreword to Wakefield's 2011 book, *Callous Disregard: Autism and Vaccines — the Truth Behind a Tragedy.*

Although Wakefield's claims have been disproved, they are resurfacing on the Internet. "People believe what they want to believe, in spite of what the truth is, what the scientific evidence is," Dr. Cherry said. "Particularly now with social media. It's made things much worse."

Growth in social media comes at a time when there has been a decline in funding and support for trusted experts, says Sarah Roberts, an assistant professor of information studies at UCLA.

There also has been a decline in support for information intermediaries, Roberts said in an interview, "people like librarians and others who separate the wheat from the chaff when it comes to what is a trustworthy and viable information source and what is a dubious and questionable source."

Information seekers, she said, need to evaluate whether they are seeking information to draw a conclusion — or whether they are drawing a conclusion and seeking information to support it.

"If we've already decided that vaccines are bad," Roberts said, "what is the likelihood that we're going to seek out information to the contrary? What we are probably going to do is seek out like-minded people to bolster our belief."

Scientists are not always the best disseminators of scientific information, Roberts said, because they are not trained to do it. "It's very important that academics become better stewards of the information that they have, and that they actively engage with the public, whether it's doing interviews or writing op-eds or providing a well-researched but accessible article in mainstream publications."

This is especially crucial now, she said, when there is a maligning of experts — "a phenomenon we see at the highest echelons of power in the United States" — and "bad information is put up against good information as if it is equivalent. It's simply not."

Dr. Cherry finds the situation frightening.

"There are ideologies that are bigger than truth," he said. "It's scary because people believe a sound bite rather than all this." He pointed to stacks of research papers on his desk and volumes of medical journals on his shelves.

But becoming frustrated or angry, he said, is not helpful.

"I think you just have to keep putting out new data. The right information will always be there." ◤

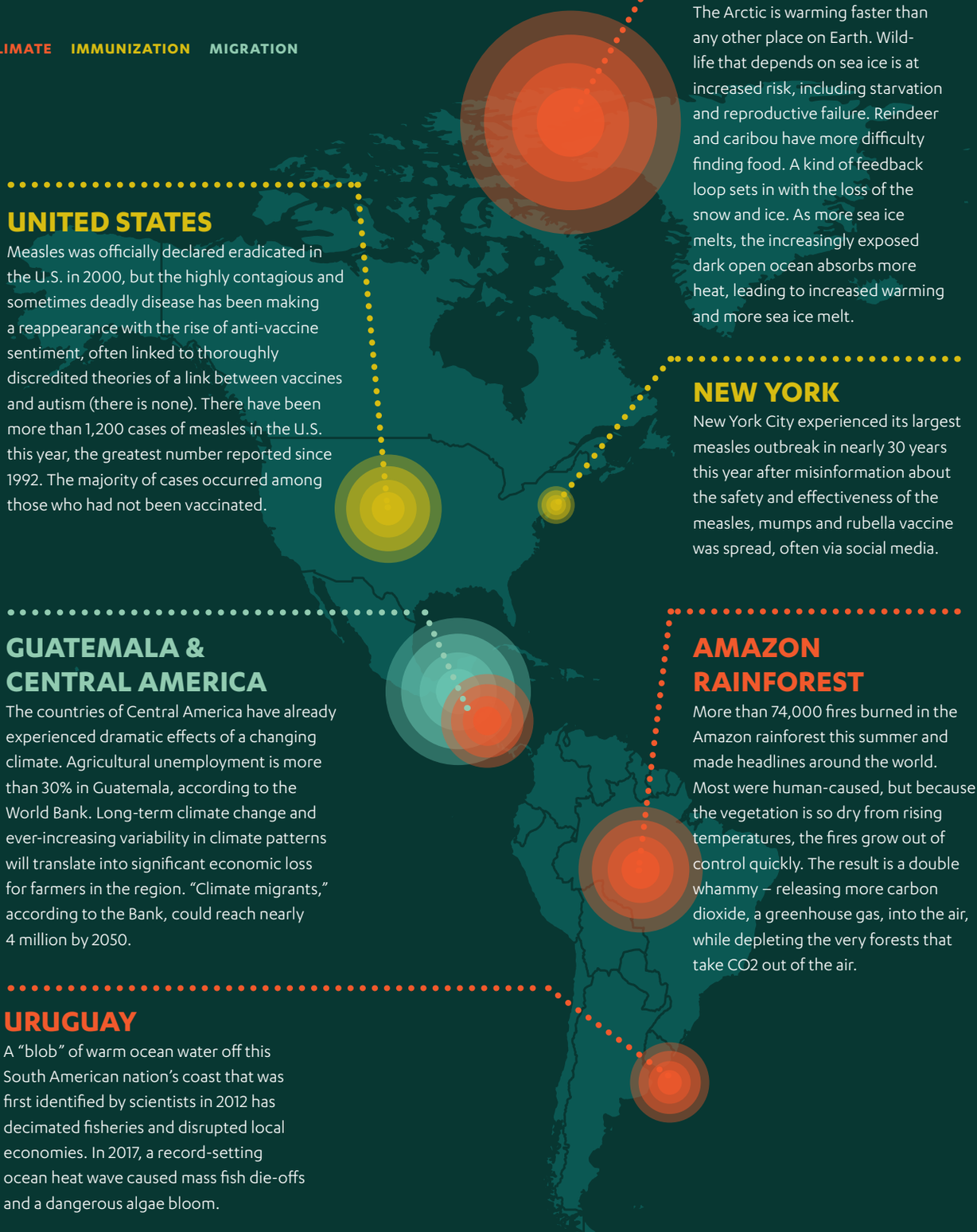
"THERE ARE IDEOLOGIES THAT ARE BIGGER THAN TRUTH."

— Dr. James D. Cherry

A WORLD OF TROUBLE

Some question the efficacy and safety of vaccines. Some challenge the science of climate change. Some see immigrants as criminals who are being exported by their native countries rather than as people fleeing trouble or seeking opportunity. Those refusals to heed science have consequences. Here, a look around the world at some of its current hot spots.

COLOR CODES : **CLIMATE** **IMMUNIZATION** **MIGRATION**



ARCTIC

The Arctic is warming faster than any other place on Earth. Wildlife that depends on sea ice is at increased risk, including starvation and reproductive failure. Reindeer and caribou have more difficulty finding food. A kind of feedback loop sets in with the loss of the snow and ice. As more sea ice melts, the increasingly exposed dark open ocean absorbs more heat, leading to increased warming and more sea ice melt.

UNITED STATES

Measles was officially declared eradicated in the U.S. in 2000, but the highly contagious and sometimes deadly disease has been making a reappearance with the rise of anti-vaccine sentiment, often linked to thoroughly discredited theories of a link between vaccines and autism (there is none). There have been more than 1,200 cases of measles in the U.S. this year, the greatest number reported since 1992. The majority of cases occurred among those who had not been vaccinated.

NEW YORK

New York City experienced its largest measles outbreak in nearly 30 years this year after misinformation about the safety and effectiveness of the measles, mumps and rubella vaccine was spread, often via social media.

GUATEMALA & CENTRAL AMERICA

The countries of Central America have already experienced dramatic effects of a changing climate. Agricultural unemployment is more than 30% in Guatemala, according to the World Bank. Long-term climate change and ever-increasing variability in climate patterns will translate into significant economic loss for farmers in the region. "Climate migrants," according to the Bank, could reach nearly 4 million by 2050.

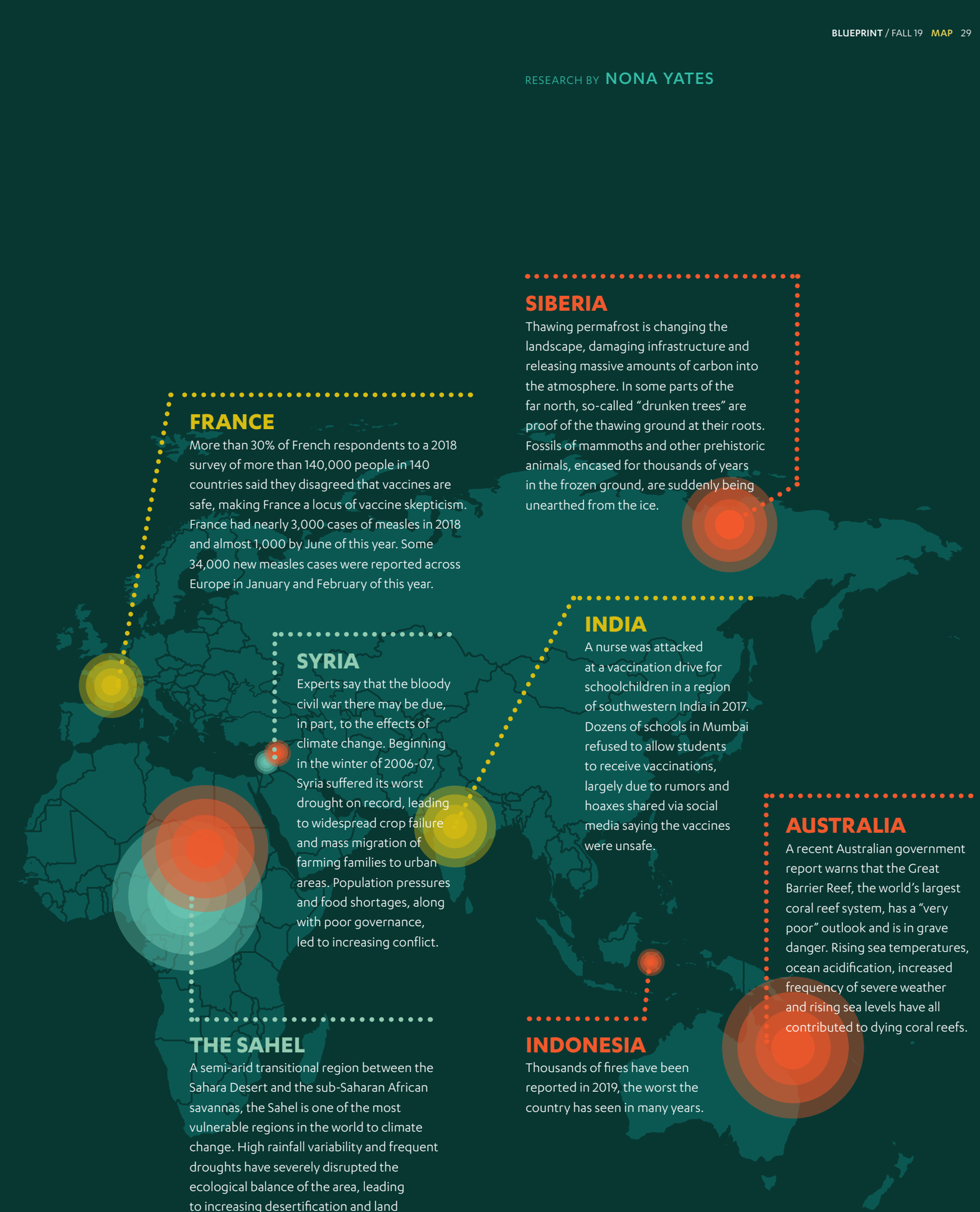
AMAZON RAINFOREST

More than 74,000 fires burned in the Amazon rainforest this summer and made headlines around the world. Most were human-caused, but because the vegetation is so dry from rising temperatures, the fires grow out of control quickly. The result is a double whammy – releasing more carbon dioxide, a greenhouse gas, into the air, while depleting the very forests that take CO2 out of the air.

URUGUAY

A "blob" of warm ocean water off this South American nation's coast that was first identified by scientists in 2012 has decimated fisheries and disrupted local economies. In 2017, a record-setting ocean heat wave caused mass fish die-offs and a dangerous algae bloom.

RESEARCH BY **NONA YATES**



SIBERIA

Thawing permafrost is changing the landscape, damaging infrastructure and releasing massive amounts of carbon into the atmosphere. In some parts of the far north, so-called "drunken trees" are proof of the thawing ground at their roots. Fossils of mammoths and other prehistoric animals, encased for thousands of years in the frozen ground, are suddenly being unearthed from the ice.

FRANCE

More than 30% of French respondents to a 2018 survey of more than 140,000 people in 140 countries said they disagreed that vaccines are safe, making France a locus of vaccine skepticism. France had nearly 3,000 cases of measles in 2018 and almost 1,000 by June of this year. Some 34,000 new measles cases were reported across Europe in January and February of this year.

SYRIA

Experts say that the bloody civil war there may be due, in part, to the effects of climate change. Beginning in the winter of 2006-07, Syria suffered its worst drought on record, leading to widespread crop failure and mass migration of farming families to urban areas. Population pressures and food shortages, along with poor governance, led to increasing conflict.

INDIA

A nurse was attacked at a vaccination drive for schoolchildren in a region of southwestern India in 2017. Dozens of schools in Mumbai refused to allow students to receive vaccinations, largely due to rumors and hoaxes shared via social media saying the vaccines were unsafe.

AUSTRALIA

A recent Australian government report warns that the Great Barrier Reef, the world's largest coral reef system, has a "very poor" outlook and is in grave danger. Rising sea temperatures, ocean acidification, increased frequency of severe weather and rising sea levels have all contributed to dying coral reefs.

THE SAHEL

A semi-arid transitional region between the Sahara Desert and the sub-Saharan African savannas, the Sahel is one of the most vulnerable regions in the world to climate change. High rainfall variability and frequent droughts have severely disrupted the ecological balance of the area, leading to increasing desertification and land degradation. Nearly 5 million people were displaced in 2018 alone.

INDONESIA

Thousands of fires have been reported in 2019, the worst the country has seen in many years.

Sources: New York Times, NPR, Great Barrier Reef Foundation, Al-Jazeera, The Policy Forum, Washington Post, Centers for Disease Control, UN Environmental Program, WHO, Vox.com, BBC, PRI, National Geographic

BLUEPRINT
SPECIAL REPORT
A Closer Look

HOW ONE CITY FACES A WARMING WORLD — LONG BEACH

WRITTEN BY
JEFFREY L. RABIN

FOR SOME, CLIMATE CHANGE IS A MATTER OF POLITICS, a debate over how seriously to regard the issue, how to exploit it for advantage, how to protect the economy while fully recognizing the gravity of the problem. For others, climate change is an intellectual, or even spiritual, challenge, a reckoning with humanity's presence on the Earth and its implications for the very chemistry of the atmosphere.

For city planners, however, climate change is a discrete set of specific imperatives. It is about increased heat stroke and more frequent fires. It is about the priorities of hospitals, the difficulties of drought, the effects of sea-level rise, even the dearth of shade. It has moved beyond discussion and debate; action is what is required. And it is happening now.

That's the case in community after community, in the United States and across the world. Each area faces different tests — snowfall accumulation may be the focus of a rural Canadian outpost, while blinding heat may plague an African city. Caribbean islands brace for wind and storm surge that accompany increasingly strong hurricanes; Central Valley farmers pray for rain or Sierra snowpack.

California cities and towns are squarely at the center of those challenges, because this state is both a leader in responding to climate change and particularly vulnerable to its impacts.

RIGHT: THE LONG BEACH SHORE, BOLSTERED BY A SAND BERM AGAINST HIGH TIDES AND RISING SEAS.

PHOTO COURTESY OF LONG BEACH DEVELOPMENT SERVICES, PLANNING BUREAU

LONG BEACH

The state's forests already are suffering, droughts are a recurring plague and, of course, California's coastline — anchor of its fishing industry, draw for tourists, central to the state's sense of itself — is being radically altered by the rising sea.

To gauge the enormity of the task confronting California's local governments, Blueprint concentrated on just one: Long Beach.

Long Beach is a city of 480,000 residents, the fourth-largest coastal city in California. It is home to half of the nation's largest port complex, which it shares with Los Angeles, and it is both dependent on the oil industry and susceptible to that industry's impact, globally and close to home.

This Special Report considers Long Beach as a microcosm of the world's response to climate change, a close look at how one city is attempting to identify and respond to events that are reshaping life on Earth.

WALKING ALONG THE wooden boardwalk on a narrow peninsula at the eastern end of Long Beach, you can hear the ocean but you can't see it. A 10-foot to 12-foot high wall of sand completely blocks the view of the beach. The man-made mound built by the city forms the last line of defense between the ocean and a mile-long strip of multimillion-dollar homes. That line is cracking.

Jerry Schubel, president and CEO of the Long Beach Aquarium of the Pacific, sees trouble ahead for low-lying coastal areas like the peninsula, a three-block-wide sand bar that separates Alamitos Bay from the Pacific Ocean. Schubel, who has a Ph.D. in oceanography, is a highly respected expert in the effects of sea-level rise on coastal areas and the marine environment.

Speaking at a climate change event sponsored by the City of Long Beach last January, Schubel was blunt about what the future holds. "Sea level is rising. It is rising at an accelerated pace," he said. "It will continue to rise throughout the remainder of this century and well beyond, no matter what we do."

Schubel told the audience that it's important to distinguish between temporary flooding and permanent inundation of low-lying coastal communities. "Temporary flooding is happening now," he said. "Permanent inundation is something we can look forward to in a few decades because of sea-level rise."

A draft Climate Action and Adaptation Plan prepared by the City of Long Beach assumes that sea level will rise by 11 inches in the next 10 years. More alarming are the projections for midcentury and beyond. The city's climate action plan assumes that sea level will rise two feet by 2050 and as much as 6½ feet by 2100.

Schubel, who serves on a scientific panel that advises California's Ocean Protection Council, believes those estimates are too low. Based on the latest data, he expects that sea level in Southern California will be 7 feet to 10 feet higher by 2100.

Long Beach architect Jeff Jeannette appeared on the same panel with Schubel. He offered a variety of options for coastal homeowners to consider, including elevating houses and installing storm vents that allow ocean water to flow beneath a structure.

Jeanette acknowledged that those steps, which can be very costly, are only a temporary solution to sea-level rise. "Water will win. We can't fight it," he said. "It's coming. We're going to get flooded. We need to act as soon as we possibly can to mitigate some of these conditions that are on our horizon."

Long Beach is considering proposals to restore the natural dunes on the peninsula rather than trucking huge amounts of sand from one end of the city's shoreline to the other. Other

mitigation measures include elevating houses, streets, sewer lines, storm drains and other critical infrastructure. Even all of that may not be enough.

Under a worst-case scenario, the combined effects of an astronomical high tide, a major coastal storm and sea-level rise could flood as much as 9 million square feet of residential and commercial property on the peninsula, in Naples and Belmont Shore. That would cause serious damage to much of the Long Beach shoreline, homes and businesses. There is, of course, another option.

"Over the next few decades, you need to be thinking about moving," Schubel said. "Over the next 20 years, think about who your least favorite relative is and then try to sell them your house."

CLIMATE CHANGE will not spare anyone. It will affect the very rich, those who own the homes that may be flooded or whose yachts may be displaced by rising seas and disrupted marinas. But climate change also will upend life at the Port of Long Beach; those who suffer as a result will be longshoremen and truck drivers, the men and women who load and unload goods. And as temperatures rise, those most stricken by the effects of extreme weather will be the city's poor and middle class.

As the city's draft climate plan concludes: "Though climate change will impact the entire City of Long Beach, some communities within Long Beach already experience disproportionate environmental health burdens today."

Extreme heat events, days over 95 degrees, hit hard in communities that mostly go without air conditioning. The number of those events is growing by the year, with 11 to 16 annual extreme days anticipated by midcentury and 37 a year by 2100. Approximately 275,000 people live in areas of Long Beach that are considered "highly vulnerable" to those heat waves.

Moreover, extremely hot days cause power outages, increase demand for water (at a time when droughts are becoming more common and more severe) and even soften asphalt, a problem in communities with lots of truck traffic, including traffic generated by the port. Long Beach is adding cooling centers for residents to take refuge from the heat, installing water fountains and trying to educate residents on power and water consumption.

Some of those plans are still being developed, but the city will have to spend hundreds of millions of dollars trying to adapt.

LONG BEACH IS NOT ONLY responding to climate change; it is also grappling with its contribution to the problem. That's because Long Beach is an oil town.

For decades, crude oil has been pumped 24 hours a day, seven days a week from wells on four cleverly disguised, man-made oil islands built on state tidelands just offshore from downtown.

The city has received more than $450 million from the sale of tidelands oil since drilling began in the 1960s, a drop in the barrel compared to the state of California, which has made more than $4.25 billion from the sale of oil pumped out of the Long Beach tidelands.

From the sand berm on the peninsula, you can clearly see Long Beach's ties to the fossil fuel economy. There are the four tidelands oil islands. On the horizon, a flotilla of oil tankers waits to unload carbon-rich cargo at the Port of Long Beach.

In fact, crude oil is the largest single import that passes through the port into pipelines that feed nearby refineries. Last year alone, 25.8 million metric tons of crude oil was unloaded from tankers docked at the Port of Long Beach.

That oil is pumped into large pipelines that feed the Los Angeles area refineries that produce gasoline, diesel fuel, jet fuel and bunker fuel. Petroleum coke, what's left over after crude oil is refined, is the largest single export from the Port of Long Beach. And burning petroleum coke produces more greenhouse gas emissions than coal.

In 2018, 4.1 million metric tons of petroleum coke was exported from Long Beach to 15 foreign countries. More than half of it went to Japan and 22 percent went to China. In 2015, the oil and natural gas pumped from the city's oil fields produced 8.3 million metric tons of greenhouse gas emissions.

LONG BEACH'S relationship to oil makes it especially difficult for the city to wean itself from dependence even as it attempts to curb greenhouse gases. Long Beach depends on tidelands oil money to maintain its beaches, waterfront parks, shoreline bicycle and pedestrian paths, and to construct beachfront facilities, including a $80 million Olympic-sized swimming pool.

Oil money is even paying for the mitigation of a crisis driven by burning oil. Tideland oil revenues have been used to rebuild sections of the crumbling seawall on Naples Island. During a particularly high tide last summer, water leaked through cracks in the seawall in front of mega-million-dollar homes. More city investment, some of it drawn from oil revenue, will be needed to protect those houses.

How does Long Beach justify contributing to climate change even as it fights to protect itself from its effects? "In the long term," the city's climate plan notes, "to maximize carbon emission reductions, the City must explore ways to decrease and eventually phase out local oil and gas extraction."

In the meantime, Long Beach will build seawalls and cooling centers. It will plant shade trees and bolster sand dunes. Some residents will conclude that it's not worth the risk. Some of those who can afford to, the richest, will leave. Others will swelter. Some, especially the poorest, will die.

"OVER THE NEXT FEW DECADES, YOU NEED TO BE THINKING ABOUT MOVING."

— Jerry Schubel, president and CEO of the Long Beach Aquarium of the Pacific

SOUNDING THE ALARM

PHOTO BY **BRETT SIMISON**

SOUNDING THE ALARM

SOUNDING THE ALARM

Bill McKibben Has Spent Three Decades Warning of Climate Change. It's Time to Take Heed

INTERVIEW BY
JIM NEWTON

BILL MCKIBBEN WAS A YOUNG CONTRIBUTOR for The New Yorker in 1989, when he published *The End of Nature*. The planet, he warned, was warming, as human activity infected every aspect of natural life, altering the very chemistry of the atmosphere. The response to McKibben's book was mixed: admiration for the work, uncertainty about its implications. It is hard to contemplate the end of things.

Thirty years later, the end of nature has arrived. Climate change and its effects — sea-level rise, wildfire, drought, violent storms, famine, desperate migration — are the defining issues of our time. What once were warnings from McKibben now are, as he says, "bulletins from the front lines." They are documented with trademark care and precision in his latest work, *Falter: Has the Human Game Begun to Play Itself Out?*

In a recent interview, McKibben and Blueprint editor-in-chief Jim Newton discussed McKibben's work and the continuing war on science waged by the fossil fuel industry. One note: Blueprint interviews usually take place in person. This one was conducted via Skype; it required no plane travel and was better for the environment.

Blueprint: I wonder if we could start by asking you to talk a bit about* Falter *and* The End of Nature *and what has happened in the 30 years between these two books. Is it cause for hope or despair, or some combination of the two?

Bill McKibben: Sure. That's a good question. It's very much on my mind.

When I wrote *The End of Nature* 30 years ago, it was in the nature of a warning: "Here are the things that science tells us will happen if we do not quickly change our ways." And we didn't quickly change our ways. A good part of this book *Falter* is an effort to say: "OK, these are no longer warnings. These are bulletins from the front lines as to what is happening now. And here are some more warnings about what will happen next."

The middle part of the book is an effort to understand why we hadn't changed our ways, what forces were responsible for that. The immediate answer to that was the duplicitous work of the fossil fuel industry. And the larger answer to that question was the rise of a kind of libertarian, markets-solve-all-problems, laissez-faire ideology. It allowed villains like the fossil fuel industry to do what they were doing. ...

[In analyzing the reasons for why we failed to take action] the rise of the laissez-faire, libertarian, market *über alles* idea is a major part of that.

And then I try to talk about what we still might do to extract ourselves from at least some of the trouble that we're now in and talk about the building of movements around the world, which we're happily seeing, and the remarkable technology, particularly the solar panel, which at least possibly offers some way out.

BP: I took particular note of something you wrote early in* Falter*. You said, "A writer doesn't owe a reader hope, the only obligation is honesty." But you're also an activist. How do you balance that question of hope and honesty, and do you feel optimistic, pessimistic?

BM: I've thought about it a fair amount and decided I've given up worrying about how to define that. There are plenty of reasons to be pessimistic. The science is very dire. There are also some reasons to be hopeful, in that people are finally gathering in movements of the size and scale to make a difference.

But I don't worry about which of those is winning. I just try to get up in the morning and do what I can to change the odds a little bit. I think all we're doing is changing the odds without knowing what the outcome of the wager will be. But the stakes are so enormously high that even changing the odds a little is the most useful work that one can be doing right now.

BP: Do you have a sense, as you look around the world and travel around the world, of where the United States is in that quest to change the odds? Is this country a leader or a laggard?

BM: Well, for the most part it's a laggard and always has been. That's because the fossil fuel industry is most politically powerful here. As a result, we've always lagged behind — at Kyoto, at Copenhagen, at every juncture. There were some signs that we were beginning to catch up a little as we got to the Paris accords and took a reasonable role in the proceedings. But then, of course, the advent of the Trump administration has, at the very least, been a major pothole in the road to getting something done.

BP: I'm struck by the way you deal with Trump in* Falter*, in that he's simultaneously sort of a blip in this larger story of the fossil fuel industry and, of course, climate change itself, and at the same time he's this terribly destructive or at least distracting force.

BM: He came in at precisely the wrong moment, just as we were beginning to acquire a bit of momentum. I think he represents the last gasp of that way of thinking. When he goes, climate denialism will go with him. But, it must be said: These were four years we could not afford to have wasted, and if it turns into eight years, it will be an even more depressing disaster.

BP: There's a part of me that wonders whether even he believes what he says on climate change.

BM: I doubt it. In the recent past, he's taken the opposite position. I think he says and believes what he thinks is convenient and opportune for him at the moment. We've probably never had a character in American political life who thought more about themselves and so little about the country and the world.

BP: Are there other parts of the world in which climate denialism is a force with which to contend?

BM: A little bit. You see some of it in Canada and some of it in Australia and a little bit in England. I think that has a lot to do with the fact that these are all English-speaking nations, and I think it actually has a lot to do with the fact that Rupert Murdoch is powerful in all of them. He's probably been the single most destructive force in terms of spreading misinformation about climate change. ...

BP: You note in* Falter *that there was a moment where it seemed like Murdoch might go the other way...

BM: Yes, he had a brief flirtation with the idea in the Al Gore, *Inconvenient Truth* era, but it seems to have been a passing fancy that quickly faded.

BP: You mention Al Gore and his film, "An Inconvenient Truth." How has the question of climate change become ideologically divisive? Why, on a base level, should this issue — protecting the environment, preserving things as they are — be divisive?

BM: It became ideologically divisive because the fossil fuel industry decided to fight as hard as it could to keep us from doing anything about it, and the vehicle that they chose was the Republican Party, which they more or less purchased, the Koch brothers being the biggest purchasers and the biggest oil-and-gas barons. That's what happened. The history is pretty clear, but it is nonetheless astonishing.

BP: And why is it that the oil and gas industry is so relatively powerful in the United States versus, say, Germany or France or Britain?

BM: It's powerful in all those places, but the Europeans tend each to have one big oil company, Total in France, BP in Britain, Shell in the low countries, whereas in the U.S. it's always been a dominant industry since the days of John D. Rockefeller. [It's] the thing our prosperity was most built upon, the thing that we're more addicted to than anyplace in the world. So, it was particularly powerful here.

"THE NEXT FOUR OR FIVE YEARS ARE ... PROBABLY THE LAST REALLY GOOD CHANCE WE ARE GOING TO GET, NOT AT STOPPING GLOBAL WARMING — TOO LATE FOR THAT — BUT STOPPING IT SHORT OF THE PLACE WHERE IT CUTS OFF CIVILIZATION AT THE KNEES. IT'S VERY URGENT RIGHT NOW."

BP: And there was a crucible moment for that industry, as you write about. There was a moment, now documented, that Exxon recognized the existence and implications of climate change and could have acted differently but chose not to.

BM: Yes, absolutely. Had Exxon merely said, the same day that Jim Hansen made his announcements to Congress in 1988 [Hansen, a NASA scientist and head of the Goddard Institute for Space Studies, testified before the Senate Committee on Energy and Natural Resources on June 23, 1988, that "the greenhouse effect has been detected and it is changing our climate now." That testimony marks a seminal moment in the recognition of climate change], that our scientists are finding the same thing, then we would doubtless have gone to work on it as a society. Instead, they started investing, with their peers, billions of dollars in this architecture of deceit and denial and disinformation.

People say: Why didn't Exxon just become a solar panel company?

BP: Right. That could have been a business plan for them, right?

BM: The answer is: A) these companies think in the short term, and B) in the short term, there was so much more money to be made in the oil industry. In the last 25 years, Exxon has produced the five most profitable years of any company in any industry in any country in the history of money.

The fundamental problem is, if you're Exxon, for 100 years you've prospered by charging people, making them write you a check every month, for a delivery of oil. For Exxon, the idea that the sun simply comes up each morning and delivers power for free to your rooftop is as horrible a business plan as you could come up with.

BP: In both of these books, you discuss the ozone layer, and in many respects that's a success story, of humanity rallying around an issue that no single country or jurisdiction could solve, and yet there's been progress. Nuclear weapons have spread — and we could argue over whether that's been a success or not — but at least they haven't been used again in anger since Japan. Should those experiences give us cause for hope?

BM: They should give us measured cause for hope. They demonstrate that we're capable of rising to the occasion.

The reason that it's only a measured cause for hope, though, is that no one was ever going to get rich blowing up nuclear weapons. They could make money making them, and surely the defense-industrial complex has done that. But you didn't really need to blow them up.

And nobody made that much money off fluorocarbons. The same companies that were making them quickly discovered substitutes that produced as much cash. And that's why it was relatively easy to deal with them.

So [those examples are] good signs of human beings rising to the occasion, but they're not like fossil fuels.

BP: You present almost a unified theory of these problems that stretches from Citizens United all the way to climate change. I wonder if that's liberating, in that it presents a coherent and comprehensive view, or whether it's daunting to face the enormity of this crisis and its causes and implications.

BM: It allows one to try to figure out where to intervene effectively.

BP: And where is that?

BM: It is this set of insights that allowed us to start going after the fossil fuel industry infrastructure with the Keystone pipeline and allowed people to start this vast fossil fuel divestment movement, which has begun to take its toll. Understanding what you're up against is the first requisite for doing something about it.

BP: How do you crystallize the urgency of this moment? How much do the next four, five, 10 years matter in terms of confronting climate change?

BM: The scientists have given us fairly straightforward deadlines. If we haven't made fundamental transformation by 2030, then we can't have any hope of meeting the targets we set in Paris. And, of course, if we were going to be making fundamental transformations by 2030, our political systems would have to be gearing up right now. So the next four or five years are, I think, probably the last really good chance we're going to get, not at stopping global warming — too late for that — but stopping it short of the place where it cuts off civilization at the knees.

It's very urgent right now.

BP: What can or should everyday people do about that?

BM: The most important thing individuals can do is not be so much of an individual. It's very important, very good to be thinking about your own, everyday life. My house is covered with solar panels. I drove one of the first electric Fords in the state of Vermont. But I don't try to fool myself that this is how we're going to stop climate change. You can't make the math square one Prius at a time anymore.

So we need people to be a little less individual and join together in those movements large enough to change the basic economic and political ground rules, changes with enough leverage that they might actually have some effect on the concentration of carbon in the atmosphere.

BP: Are there models, either in the United States or around the world, of jurisdictions — states, cities, provinces, countries — that, in your view, have squarely addressed this issue and are models for others to follow?

BM: Yes, there are some that have started to, anyway. There's a scattering of countries that for one reason or another have access to very good renewable resources and have done remarkable things to exploit them — Norway, Costa Rica, some others.

And there are jurisdictions — California and New York, for instance — that have put really far-seeing plans into effect and are beginning to see big shifts. Germany, in much the same way. And those have tended to drive the development and the reduction in cost of renewable energy. You're seeing the largest-scale implementations of that now in China and India, where people are employing these technologies at rates we hadn't imagined.

BP: Is there room for others to simply emulate that course?

BM: Well, look at the things that California has done. I think California will be pretty close to a sustainable place at some point. Not in time, I'm afraid, to save its beaches and forests and so on — [California] is very vulnerable to climate change — but it's certainly showing us what can be done.

BP: Let's move for a moment to the genetic engineering aspect of your work. It's hard, I suspect, for many people to imagine saying "no" or drastically curbing a technology that obviously has the prospect of doing so much good. It's hard to say to a person: We're not going to cure your dementia or your Parkinson's because of the long-term implications. ...

BM: As I point out in the book, that's not what one needs to say. The only thing one needs to say is that we will draw the line at the germline, at heritable genetic modification. I don't know anyone who's against somatic genetic modification. If people are suffering from problems, then this is a normal and natural extension of medicine. What isn't normal and natural is to decide you're going to design your children.

BP: There's already been some leakage around that line. Is it containable at this point?

BM: The Chinese last autumn produced the first two designer babies. And it seemed to have given at least a little pause to some of the genetic science establishment in the rest of the world. [In the aftermath of that announcement], there have been pretty broad calls for a moratorium on this kind of work.

BP: And if there is a moratorium, could it hold? I mean, to return to the example of nuclear weapons: There has long been a determination to contain them, and it has sort of held, in the sense that they haven't been used again, but they've also spread from country to country. Is it possible to keep the genie [of heritable genetic modification] in the bottle?

BM: I don't know. I think it's possible. For this to become an industry, which would be the great fear, society would have to cooperate. No one's going to do it without insurance and all the other leverage points in a regulated society. That's why the tech barons hate regulation. They're Randians, too.

BP: Near the end of* The End of Nature, *you write about your neighbor, whom you call Jim Franklin, who's skeptical about the causes of acid rain. He thinks it might be the result of too many trees. That was a long time ago, but ... does he still believe that?

BM: I don't know. I think that in general, we've lost as these questions have become more and more ideological and partisan and polarized. But I also think they're at the point now where almost no one really disbelieves what's happening, especially people who live in rural areas and are much more exposed to the operation of the planet than people who live in the suburbs.

Watching the warming of the Earth, most people at some level have cottoned to what's going on, even if it's politically difficult for them to say it, even to themselves. ◤

CLOSING NOTE:
STEP 1 — THE TRUTH

THE EARTH IS ROUND; IT ORBITS THE SUN. If one sets sail for the horizon, one's ship does not fall over the edge. Living things evolve through natural selection, a process that applies to humans as well as other species. Smoking tobacco causes cancer. The world is warming, and human production of greenhouse gases is responsible. Vaccines have thwarted the spread of some of humanity's most ravaging diseases; they do not cause autism. Immigrants to the United States commit fewer crimes than people who were born here. Polls do not always predict outcomes, but they are useful measures of the public's choices and ideas at any given moment.

These are facts. They were not always known, but they are now, and they are no longer in dispute by serious, thinking people. Which is not quite the same as saying that everyone agrees about them. Significant chunks of Americans doubt the existence and implications of climate change. Smaller but determined groups resist vaccines. Some people smoke cigarettes. A few may still wonder whether man has evolved.

That there are doubters testifies not to any failings of science but rather to vagaries of communication and the distortions of commerce and politics. Some science, after all, is complicated; it can be hard to understand and easy to misrepresent. And the debate is one-sided. Most scientists believe, rightly, that their work should stand on its merits, so when it is attacked, they are sometimes frozen, unsure whether to defend it or stay silent.

Most alarming is the willingness of special interests to exploit those vulnerabilities. As Bill McKibben bracingly notes in this issue, fossil fuel interests have known for decades about climate change, but they've lied to protect their business model. Anti-immigrant groups need only look up the data to know that immigrants are more likely to obey the law than native-born Americans, but those groups start from the position that they don't like immigrants; they don't want data that undermines their views. And so they lie.

Fear, unsurprisingly, plays a role, too. Vaccine skeptics, who combine odd elements of the Hollywood left and the religious right, are afraid for their children and respond to alarmist studies. Even when those studies prove to be false, the fear lingers.

But the work featured in this issue also points to another fact: Science is not the problem. The job of scientists is to answer questions, and they are doing so. The job of policymakers is to take those answers and translate them into programs that help society — that slow the rising seas, that protect children from disease, that shape our policy on immigration. It is policymakers who are failing. Not all of them, of course, and not all the time. But too many and too often.

Our current predicament is made more difficult by Washington. The president has set a vulgar and dangerous example, too often siding with the voices of idiocy, delusion, deception and conspiracy. Climate change is not a "hoax," and he knows it. But Trump, too, will pass.

For society to make the most out of science, scientists must probe, and policymakers must act. That relationship is half-broken. It needs to be altogether fixed.

— Jim Newton

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DO YOU HAVE SOMETHING TO SAY?

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