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COVER: Saeed Khan/ AFP via Getty Images

Red skies and ravaged forests: the aftermath of 2020 bushfires in Australia's Snowy Valley



Embers fly toward a photographer shooting the 2018 Camp Fire—the deadliest wildfire in the state's history—in Paradise, California

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FROM THE **CURATOR**

We Need a Strategy to Bridge the **Chasm Between the Now and the Next**

The perilous state of the Chicago Tribune is a story that is happening across the country and a reminder of the need for creativity and urgent civic investment

BY ANN MARIE LIPINSKI

n October 2010, I was having dinner with Paul Salopek, sorting through the news industry's vanishing support for foreign reporting, his work. "I have an idea," he said, and on the back of our receipt he drew a crude map of a 21,000-mile reporting walk across the globe.

It was preposterous and inspiring, one journalist's effort to sustain a vital form of storytelling by slowing the breathless news cycle to the pace of a walk. After two years of planning, he set out from Ethiopia. Nineteen million footsteps and hundreds of stories later, he is in Myanmar and still walking.

Finding our restaurant receipt recently was a reminder of both the fragility and inevitability of journalism. Salopek's newspaper, the Chicago Tribune, had shuttered its foreign bureaus, a storied service more than a century old, and from that sprung reinvention in the form of the Out of Eden Walk. But while Salopek is one of the most accomplished journalists of his generation—working for the Tribune he won Pulitzer Prizes for both explanatory and international reporting—he had no illusions of replacing the journalism that a dozen bureau correspondents and their editors had once offered Chicago's readers. How could he?

A similar question looms for Salopek's former Tribune colleagues, the city of Chicago, and virtually all local news outlets, though now in existential form. A central challenge for the industry is whether innovation, new platforms, and alternative ownership structures can progress fast enough to make up for the loss of legacy journalism. The story playing out in the nation's third largest city is about to provide a dramatic response.

Alden Global Capital, a New York hedge fund with a reputation for more

newsroom strip-mining than investing, acquired a third of Tribune Publishing Company shares and is poised for majority control. A new round of newsroom buyouts has already begun and there is nothing in Alden's ownership record to suggest they would stray from a playbook Nieman Lab contributor Ken Doctor has described as "unapologetically cutthroat." That formula, imposed recently at the Denver Post, features hedge fund gluttony in three familiar acts: slash newsroom staff, disinvest in digital, hike costs for dwindling subscribers. Absent initiatives to grow the industry, Alden specializes in milking its decline. Targeted cuts that eliminated sections, merged suburban bureaus, stripped copy desks, outsourced Washington coverage, or collapsed foreign bureaus have all been exacted. What comes next is marrow.

Alden has been publicly silent on its plans, so as a twisted thought experiment, let a journalist try to imagine a defense. Chicago was once home to 11 daily newspapers and this is but a final chapter in managing print's decline. The Tribune itself historically benefitted from the failing health of its competitors, acquiring their subscribers and advertisers. Now, new digital platforms threaten it. As a senior executive for one of the platforms once told me and some colleagues, "It's

The small reporting staffs of startups cannot vet replicate even the Tribune's shrunken capacities

not our job to fix your business model." In recent years, a new crop of journalism startups has begun changing the reporting landscape in Chicago. ProPublica, perhaps the nation's most decorated nonprofit investigative news organization, opened its first regional newsroom in Chicago, ProPublica Illinois. City Bureau, a collaborative covering Chicago's south and west sides; Borderless, a magazine reporting on immigration; Block Club, a neighborhood news site founded by former DNAinfo editors; and TRiiBE, a digital platform to "reshape the narrative of Black Chicago," have all contributed to both diversifying and filling some gaps left in the news reports of the city's traditional media. La Raza, the Polish Daily News, and the Korea Times are among the newspapers serving Chicago's large ethnic communities. And the Tribune and its tabloid competitor, the Chicago Sun-Times, combine to make Chicago one on a single-digit list of U.S. cities with two daily papers.

But that paragraph you just read is deceptive. The small reporting staffs of all of those startups combined cannot yet replicate even the shrunken capacities of the Tribune, which in some cases has amplified nonprofit newsroom stories by serving as a reporting and publishing partner. In a remarkable concession, a host for a leading Chicago radio station recently described the dependency that area radio and television news programs have long had on the Tribune.

"If you lose the Tribune, electronic media loses too," said John Williams, a talk show host for WGN-AM (once a Tribune Company property whose call letters stood for World's Greatest Newspaper). "Radio and TV stations read the paper every day, 24 hours a day now, to see what the Tribune is saying. So all of the news gathering—the amateurs, the commentators, and those of us who are your competition—are all kind of feeding off of" the paper, he said. Williams added: "We all need a viable and aggressive Chicago Tribune."

Williams said this during an interview with Mary Schmich and Eric Zorn, veteran Tribune columnists who have been part of an unusual newsroom campaign to sound an alarm about Alden and cast for a benevolent buyer, no longer willing to leave the business to the business side.

In December, under the headline "A letter to the next owner of the Chicago Tribune: We need you," the Pulitzer



Former foreign correspondent Paul Salopek in Turkey, years after he sketched his idea for a 21,000-mile walk across the globe



Prize-winning Schmich published an open appeal in her own newspaper for someone to rescue the Tribune from current management. "You understand that buying a newspaper is more than a financial investment," she wrote. "It's an investment in community and democracy."

The following month, senior investigative reporters David Jackson and Gary Marx wrote an op-ed for The New York Times also appealing for civic investment. "Unless Alden reverses course—perhaps in repentance for the avaricious destruction it has wrought in Denver and elsewhere—we need a civicminded local owner or group of owners. So do our Tribune Publishing colleagues."

How likely is it that Alden repents?

Not very. During the radio interview, even Schmich conceded, "I think there is some wish that they can be shamed but there is no indication that they can be."

Both the Tribune and Times columns generated significant social media attention, but it was a December commentary in Crain's Chicago Business, the city's leading business journal, that underscored the immediate promise and peril for local journalism. The piece, coauthored by officers from five leading Chicago foundations, began with a striking rebuke of the business community for underinvesting in journalism and closed with a call for a pooled fund supporting local media. Unfortunately for the Tribune, they didn't mean old media.

"While the major news outlets are finding their way in this new environment," the commentary curiously concluded, "dozens of smaller independent outlets are striving to serve Chicago's diverse populations. But they need philanthropic intervention to thrive."

Those outlets do need support. But what Chicago and so many local news markets also need is a strategy to bridge the chasm between the now and the next.

When I was editor of the Tribune, another newspaper editor in our company confided that he had quietly approached a university president in his circulation area to ask whether the school would consider acquiring the paper. His pitch: the arrangement could provide tremendous educational opportunities for university students, protect an important civic asset benefitting both the university and the community, and place journalism assets in the hands of a respected nonprofit. The complications were many and it never happened. But it was an ambitious idea to wholly reimagine the structure of local journalism, the kind we need more of, one that built something new on the foundation of the community's most experienced news provider.

That paper remains in the Tribune portfolio, now vulnerable to Alden's appetites.

LIVE@ LIPPMANN

Talking race in America and diversity in journalism with "Takeaway" host Tanzina Vega

The WNYC journalist says newsrooms have to get better at who is sitting at the table

anzina Vega grew up in public housing less than a mile from public radio station WNYC, home to "The Takeaway," the nationally-syndicated weekday show she has hosted since 2018. "We were not listening to NPR. We did not consume that media," she said during a visit to the Nieman Foundation in November. "There are lots of folks that don't consume public media because it's very foreign to them. It doesn't talk to them. There's always been that gap between who's listening and who could be listening."

That's something Vega has worked to address throughout her journalism career. She has often focused on race, inequality, criminal justice, and the media. Vega in 2013 was the first — and only — New York Times reporter on the national race and ethnicity beat, a beat she pitched to the paper's then-executive editor Jill Abramson. Two years later, the position was eliminated, eliciting an uproar from journalists and readers alike. She soon jumped to CNN.

At "The Takeaway," Vega has worked to give the show a unique identity. "About a year or two ago, Christiane Amanpour was quoted as saying she believes in being truthful, not neutral. I immediately was like, 'I like that. That's where I want to go with the show," said Vega. By providing longer segments, Vega has shifted the show's focus away from headlines to analysis and context.

During her visit to Lippmann House, Vega discussed promoting newsroom diversity, the Times's decision to eliminate the race and ethnicity beat, and more. Edited excerpts:

On covering race

Tanzina Vega: When I started the [national race and ethnicity] beat at The New York

Times in 2013, the intent was not to do that as a separate beat forever. In fact, I wanted it to be incorporated into the regular report.

That's one of the reasons why we chose to make it part of the national desk coverage, so that it would be something I could take anywhere. You could do stories on healthcare, you could do stories on housing, etc.

Ultimately, what I wanted to see was more comprehensive coverage at the paper as a whole. But because there was such a lack of coverage about these communities and these intersections, I just said, "We need to start somewhere."

Fast-forward to the 2016 election and the broader media narratives around race really centered just on communities of color. We don't talk about race when we talk about white Americans. Identity politics and race are strictly topics that are reserved for black and brown reporters to cover about black and brown communities. I think that's a mistake. We saw that writ large in the 2016 election.

We all need to look at race as something that is germane to the founding of this country. That's where it gets really uncomfortable. Talking about how we got here, and looking at data, looking at numbers.

If you're uncomfortable with conversations around slavery or around the broader topics of race, then I have much data to show you that prove the point of inequality and disparate impact without having to mention those uncomfortable things. You can approach covering race from a number of different angles, but I don't think it should be one person, one beat, one topic per se.

The beat was killed with no plans to move forward. Readers were very upset about the

fact that it was killed and that there was no plan to move it forward. Even the public editor, who was Margaret Sullivan at the time, wrote a column about, why do this? Why do this in the midst of Ferguson, in the midst of Eric Garner, and everything else that we're seeing? In the midst of Black Lives Matter, how could you make this decision? The Times no longer has a public editor. Read into that what you will. They created a newsletter about race relations in the United States.

On prioritizing newsroom diversity

There are many pitfalls, but one of them is going forward with the approach of "Hi, you're a woman, you're an older person, you're whatever — black, brown. I need to diversify my newsroom. Come on in."

That's awkward. We know you need to diversify your newsroom. It's abundantly clear that almost all newsrooms need diversity. You don't want to make someone feel like they're there to just check off a box.

The reason why I say that is because often these diversity initiatives are born out of reaction. They're not born from the ground up. They're not born with the mission of the news organization in mind, or at least not front of mind.

I think what that does is it undermines the person who's coming in. It undermines their contributions, their experience, the reason why they're there. You're not going to hire somebody because they're incapable of the job and they just happened to check a box.

Newsrooms have to get better at who is sitting at the table, particularly for big projects. One of the pitfalls when it comes to hiring somebody just because of who they are is then you don't give them the institutional support. You're just "OK, whew, we got a woman. Whew. Move on."

Then the woman is sitting there, or the person of color is sitting there like, "What now?" It's not organic. You need to incorporate that person into critical projects.

One of the things I always look for is, who's on your investigative team? Who is at your White House press corps? Who is the person that you're allowing to go out? At the very top, we want to have prestige jobs that are filled [by diverse leaders] and represent what the country looks like.

On why diversity among the editing staff matters

There is a significant need for [diverse] editors which are, unfortunately, positions that are being devalued more and more. When I say editors, I don't just mean topline editors but also copy editors, people that look



"Takeaway" host Tanzina Vega, right, in conversation with 2020 Nieman Fellow Ana Campoy at the Nieman Foundation in 2019

at those words and say, "Which ones are we going to use here? What's the best descriptor for this? What's the best verb to use here?"

The editing ranks often tend to reflect the rest of the newsroom. In fact, they're even less diverse. I don't just mean in print media. I think in all media, in radio, in television — who your senior editors are, who the bookers are, who the executive producers are — matters. Who are the people who are picking up the phone to find guests and putting together scripts and all of that? There's a need for more voices in these jobs as a whole, or else what ends up happening [is there's no one to challenge the mainstream narrative].

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There's a need for more voices in editing jobs as a whole, or else there's no one to challenge the mainstream narrative

On a better alternative to mentorships

You don't have the capacity to mentor everyone. It's impossible. You just can't. You have a job to do. That's why having more organic relationships and more organic placements at newsrooms where you're working on teams together requires less of a formal mentorship.

Today, whatever you're working on, you can take a more junior staffer and have them be part of the conversation. It's not that you want to say, "OK, here, you're going to go out and win a Pulitzer tomorrow." It's that you're sitting in a room where decisions are being made. You're working alongside veteran journalists who've done this for a while. You're understanding how decisions or editorial choices are made. Why are we using that photo? Why are we choosing to process the data this way? What decisions went into making the headline what it was?

And giving somebody, a contributor, a line in that piece, giving them a little piece of a larger project, ultimately provides experience and access to some of the power players in the room.

On promoting from within and hiring from outside

If you're hiring, ask for more time, ask for more resumes, ask what the recruiting process has been like. Getting transparency into a recruitment process is fairly hard if you're not in HR, for example; there are lots of layers to what happens in that process.

I try to do my own guerrilla recruiting, if you will. I'm out there DMing people and reaching out to organizations.

What could be done more effectively? We can use these conventions that happen every year way more effectively than they're currently being used. All the news outlets go and set up their table at the National Association of Black Journalists, for example. That's great, but how serious are we about what we bring back from those from those conventions? I don't know.

It's one of the more challenging aspects of the job because you do have a need to fill a position and you have to fill it with the right person. Oftentimes, those two things don't connect, which is why I go back to developing people who are in the company.

Using AI to Demonstrate How History can Be Rewritten

To offer a cautionary tale, **Francesca Panetta**, NF '19, of MIT's Center for Advanced Virtuality collaborated on a deepfake video

he 50th anniversary of the Apollo 11 mission to the moon was coming up. During a brainstorming session at Lippmann House, journalists and artists were throwing around ideas for potential collaborations that brought together the arts, journalism, and tech to innovate in storytelling.

Bill Safire's "In Event of Moon Disaster" came up. It was a contingency speech that was written for Richard Nixon, the sitting president at the time, in case of "mishaps" on the Apollo 11 mission. The speech is a beautiful eulogy acknowledging the astronauts' bravery and accomplishments in pursuit of knowledge.

We had also been discussing developments in artificial intelligence that day, specifically deepfakes. We thought we'd bring the two together to create an alternative history where the moon landing had gone terribly wrong. The project would be a film and a physical art installation taking you back to 1969 to watch the moon landing broadcast on TV interrupted by a news broadcast with Nixon delivering the "Moon Disaster" speech.

The piece was commissioned by Mozilla as part of their Creative Media Awards, and fellow artist Halsey Burgund and I set out to make this Nixon deepfake. Usually we painstakingly construct our projects ourselves, but this time we farmed out work to Canny AI, an Israeli company that does video dialogue replacement, and Respeecher, a Ukrainian startup specializing in synthetic voice production.

We used video of a Nixon speech about Vietnam with the mouth motion changed and some of Nixon's audio replaced.

For the Nixon voice, we needed to





produce a large set of training data for the AI to use to generate the contingency speech. Respeecher told us we'd need to find an actor willing to listen to thousands of tiny clips of Nixon and repeat each one with the same intonation and timing. The actor did this until we had two to three hours of recordings.

We also recorded 20 full takes of the contingency speech in audio and video to be used both for Canny to map the mouth movements and to act as the basis for the delivery of the synthetic version of the speech to be produced by Respeecher.

Making the deepfake was a roller coaster and it took three months in total. (The video won the International Documentary Film Festival Amsterdam's 2019 special jury award for creative technology in digital storytelling.)

Lots of people have asked us why our project isn't misinformation itself. Aren't we just adding to the many conspiracy theories about the moon landing? Our answer is emphatically no. Information presented as not true in an educational context is not misinformation.

An installation at the International Documentary Film Festival Amsterdam featured the deepfake video Francesca Panetta (left) and her team created to reimagine the Apollo 11 moon landing

Experiencing a powerful use of new technologies in a transparent way has the potential to be memorable and make people more wary about what they see.

If someone who experiences our deepfake later recalls the believability of our piece and as a result uses more caution interpreting a video in their Facebook feed, we will have been successful. ■

A New News Site in Turkey Goes Beyond the Typical Western Narrative

Editor-in-chief **Cansu Çamlibel**, NF '16, on why she returned home

he pain of a journalist whose work is thrown into a deep dark hole by government gatekeepers deployed in a newsroom is like no other pain on earth. You hit the road as a young reporter taking an oath to stay loyal to universal principles of journalism, only to find yourself 20 years later being kept out of the

OPPOSITE TOP: FRANCESCA PANETTA BOTTOM: CHRIS BOEBEL CAROLYN COLE/LOS ANGELES TIMES

Covering All Sides of Washington's **Cascade Curtain**

For the LA Times, Richard Read, NF '97, goes to extremes

During a roundup at the Diamond M Ranch, I dodged a 1,000-pound Hereford and nearly landed on a cow pie.

Such hazards on assignment in eastern Washington contrast with urban perils that I encounter on the west side of the Cascade Range, where I moved a year ago to become Seattle bureau chief for the resurgent Los Angeles Times. Perils in the booming tech hub include delivery guys on electric skateboards and cyclists commuting to Amazon, which employs 50,000 in the city.

I feel lucky, 40 years into my career, to work for a newspaper — let alone a dynamic, expanding one — in a varied corner of the world. I had reported for many years at The Oregonian and later helped launch an investigative team for a San Francisco startup, but at the Times, my territory - Washington, Oregon, Idaho, Montana, Alaska, and Hawaii — is bigger than Mexico.

In my first year, I've gravitated toward stories at extremes on both sides of what some call the Cascade Curtain that divides east and west, red and blue, rural and urban.



Cattle rancher Bill McIrvin of Diamond M Ranch. Richard Read interviewed McIrvinvillified by animal advocates for the killing of gray wolves-for a Los Angeles Times story

On the west side of the Cascades, I've reported on: the re-election of Seattle's socialist city councilor, its soaring home prices and homelessness, the 7,000 dogs registered to accompany Amazon employees to work, and Washington's attorney general, who has sued the Trump administration more than 50 times. On the east side: anti-government activist Ammon Bundy and a far-right Washington-state lawmaker allied with him, a mayor who maintains that police should have shot Rodney King, and ranchers who see the reintroduction of gray wolves as a plot to end their federal grazing privileges.

At the Diamond M near the Canadian border, rancher Bill McIrvin surprised me by granting an interview. He's vilified by animal advocates, since 26 of the 31 wolves eradicated since 2012 by Washington's wildlife agency for preying on cattle were killed after attacks on his cows, which he refuses to protect with range riders.

"Seattle doesn't ask us what to do with their homeless, and I don't think we should have to ask Seattle what to do with our wolves," McIrvin said.

But the problem is that the stateprotected wolves aren't McIrvin's, any more than the public land where he grazes his cattle belongs to him. Like it or not, east and west are intertwined. I expect to continue crossing the mountains for stories, watching where I step.

gate for refusing to participate in the dissemination of fake news.

That's why I resigned last year from my job as the Washington, D.C. correspondent of Turkey's Hürriyet, once the paper that set the nation's political agenda. By the beginning of 2020, Turkey ranked as the number two country after China for jailing journalists. Approximately 12,000 journalists have faced prosecution between 2003 and 2018, according to a joint report of independent associations in the country.

Against the advice of loved ones who feared that working as a journalist in Turkey would get me in trouble, I decided to return to my country. Back in Turkey, I soon realized how undercovered it has been in the Western world. There was no scarcity of Turkey stories, but they very seldom went beyond the common narrative: "Journalists are jailed and civil society is oppressed under the reign of

an authoritarian Islamist leader." While certainly true, this narrative falls short of chronicling a multicultural society of 80 million people sitting at the far end of Europe with one foot in the Middle East.

I started talking to businesspeople who had in the past shown interest in investing in media. The chilling political atmosphere made most of them afraid even to run ads in independent media outlets that publish stories about the wrongdoings of President Erdoğan's government.

I was about to lose hope for finding money to launch an independent digital platform when my path crossed with the management team of GazeteDuvar, an independent online newspaper established in 2016. They assured me that their investors gave them complete editorial control over their Turkishlanguage site. They wanted me to put together a team to create an Englishlanguage sister site to GazeteDuvar.

We worked with IT people day and night to launch the site. When you are operating in a country like Turkey, keeping your website safeguarded against hacking is the most important part of technical preparations. In the meantime, I put together a small newsroom. We launched Duvar English on October 21, 2019 with the intention of bringing news to Turkey-watchers throughout the world. The site covers national news as well as diplomacy, politics, economics, human rights, culture, and the media. In only 2.5 months we reached 12,500 followers on Twitter. Between the launch date and January, we have had 126,343 new users. The whole world will be able to witness whether Duvar English can survive despite financial hardship and political pressure. No matter what happens tomorrow, I know it is better to try and fail than to never try at all.





ushfires in Australia. Disintegrating ice in Greenland and Antarctica. Devastating hurricanes in the Caribbean. Record-breaking temperatures around the world — again. Hardly a day goes by when climate change and its consequences aren't at the top of the news.

And yet, climate change remains one of the most challenging stories for media to cover well. The sheer magnitude of the problem and its unrelenting slow burn of destruction make it difficult to

engage readers in a personal way. Stories either stultify in a barrage of statistics, or overwhelm with gloom and doom that leaves readers paralyzed.

As the following stories show, however, journalists — from the United Kingdom to Bangladesh, from Morocco to Texas — continue to find new creativity to make climate change accessible, urgent, and engrossing. Not surprisingly in our digital age, much of it is visual, multimedia, and interactive, employing a multiplicity of tools to immerse readers in the enormity of the issue while at the same time personalizing it to each reader, viewer, or user.

In Morocco and Malaysia, a media studio uses virtual reality to transport audiences into the lives of vulnerable people on the bleeding edge of climate disaster. In Washington, D.C., a newsletter producer goes social in her fight against fossil fuel advertising. In Texas, two New York Times journalists find new ways to make visible the unseen causes of climate change. In Bolivia, a photographer shoots one tree that brings alive the enormity of South American wildfires. In Bangladesh, a local reporter showcases the resilience of women in a daily struggle against sea-level rise. And in London, a multimedia team personalizes climate change impacts down to the choices we make for breakfast.

Each of these journalists in their own way has fought to communicate one of the most important messages a journalist can convey: pay attention.

VIRTUAL REALITY

man lifts a bucket from a well, hand over hand, his face wrapped in cloth. "The well is empty," he finally sighs. The word "oasis" may conjure images of verdant palms in the midst of the desert, but for the 2 million people who live in oases in Morocco, increasing desertification is drying up trees and causing crops to fail, threatening their very existence. Lithuanian filmmaker Viktorija Mickute immerses viewers in their plight in her film, "The Disappearing Oasis." "I wanted to show people who feel very detached from climate change how this is actually affecting people now," says Mickute. "The desert is powerful in a way that is difficult for humans to fight."

Rather than playing out the issues onscreen, however, Mickute brings viewers directly into the dis-



appearing oasis using virtual reality. She and three colleagues with AJ Contrast, a division of Al Jazeera, filmed inhabitants using 360-degree cameras, making the consequences of climate change vivid and intimate for viewers. "People say climate change is a faraway issue that does not affect them," Mickute says. "This medium helps bring the story to these people and say, this is actually happening, you cannot wish it away."

Even with the enhanced capabilities of the technology, Mickute makes sure in her films to focus on storytelling, finding a guide who can take viewers through the location. For "Oasis," that guide is Halim Sbai, a local cultural organizer who shows off his village and points out places where water and trees once flourished, in areas that are now just dirt and sand. She recut the film several times to work in the science in ways that would be meaningful but subtle, not overshadowing the lived experience of the people on the



ground. She was also careful not to just highlight the bleakness of the situation, but focus on ways that inhabitants had learned to cope. In Sbai's case, he had created a traditional music school and festival, which includes workshops and tree-planting to help reforest the land.

"Oasis" isn't the only story Mickute's studio has filmed on climate-related issues; another VR film, "The Curse of Palm Oil," examines the mass deforestation of palm-oil plantations in Malaysia, which both exacerbates climate change and poisons local water sources. Both films have been recut to appear on all of Al Jazeera's channels, including television and social media apps, as well as being available in VR for Oculus and at film festivals. Mickute has been especially gratified at film festivals when many of the questions are about what viewers can do to help. "I would hope that it makes people think about how they impact other people's Chaimae Radouani, who is featured in the VR film "The **Disappearing Oasis**" walks in the desert surrounding the M'hamid El Ghizlane oasis in Morocco

lives," Mickute says, "that they are more connected to these people and these locations than they think."

EMAIL NEWSLETTER

s Emily Atkin scrolled through her Twitter feed last year, she kept seeing advertisements from ExxonMobil and other fossil fuel companies. Instead of advertising their oil and gas production, however, they were touting their supposed green bona fides with products such as algae biofuels. "I see more ads about Exxon's algae biofuels than I actually see algae biofuels in the world," Atkin says. "These companies are taking one thing they do that's environmentally friendly and mining the crap out of it."

As the author of HEATED, a four-times-a-week newsletter she founded last September to shine a spotlight on climate issues, Atkin considered the ads to be manipulative at best. After all, Twitter had just banned political advertisements from its site. Weren't these ads designed to sway politics around energy and climate policy? "The ads they put out are in the service of making them more money by burning more fossil fuels," says Atkin. "They do that in part by manipulating people into thinking that's not what they are doing." She began investigating the issue, talking to experts who found fossil fuel ads were often misleading, and increased in frequency during climate debates or lawsuits, as a clear attempt to influence public opinion.

The coverage is emblematic of the kind of reporting Atkin features in her newsletter, which she calls "accountability journalism." "I try and keep in mind my job is to speak truth to power, and focus on climate change as a story about power and money rather than a story about science and the environment," she says. "[MSNBC journalist | Chris Hayes famously said climate change is a ratings killer, but what grabs people more than money and power?" That's a different approach from the more traditional reporting she did on climate for the likes of Think Progress and The New Republic, which focused on science and strived to maintain a neutral tone. "If you are reporting on something that is objectively alarming, shouldn't you sound alarmed?" she asks.

Her approach has clearly struck a chord, as Atkin has about 2,000 subscribers paying \$75 a year and 20,000 readers who have a free subscription. It's also been effective. A week after her fossil fuel ad story, presidential candidate Elizabeth Warren tweeted it out, tagging Twitter CEO Jack Dorsey, and a week later, Twitter changed its policy. Now climate activists as well as fossil fuel companies can buy political ads on Twitter. Atkin has since started an Instagram page, @fossilfuelads, which crowdsources examples of misleading fossil fuel ads from

Beyond Twitter, she hopes to open a conversation among media companies such as The New York Times and National Public Radio about allowing fossil fuel ads, which she thinks undercut fact-based reporting. In January, The Guardian became the first major global news organization to stop accepting advertising from oil and gas companies. "Is it ethical to run something in the pages of the most highly respected newspaper in the country

ODRIGO GARRIDO/REUTERS

that actively misleads people?" Atkin asks. "I think The New York Times should have an honest discussion about it and grapple with the facts and implications of what they are doing."

INFRARED PHOTOGRAPHY

ne of the biggest energy stories of the past decade has been the rise of natural gas. "It's been positioned as something that can help us in our fight against climate change, because it is much cleaner than coal," says New York Times climate reporter Hiroko Tabuchi. "Switching to natural gas was supposed to bring down emissions." In the course of her reporting, however, Tabuchi came across reports about leaks in gas plants of methane, a greenhouse gas with more than 25 times the global warming potential of carbon dioxide.

What's more, the Trump administration has been considering new rules cutting back the regulation of methane emissions, which could exacerbate the problem. As Tabuchi considered how to best report the story, she ran into a problem: methane is invisible to the naked eye, making it difficult for readers to visualize. "I could have done a conventional story and gotten the numbers, but you can see readers' eyes glaze over," she says. "It wouldn't have made any impact."

Instead, she partnered with Times cinematography director Jonah M. Kessel, who proposed a unique way of picturing the issue: using infrared photography so readers could see the massive gas leaks with their own eyes. The result was an interactive online story in which innocuous pictures of oil and gas infrastructure transform into roiling cauldrons dramatically leaking bright yellow methane gas from pipes, tanks, and even whole buildings.

The images weren't easy to obtain; in order to find leaks, Tabuchi and Kessel chartered an expensive atmospheric research plane to fly over Texas oil fields in search of high methane readings. Once they pinned down coordinates, they drove through a maze of oil refineries in search of spots from which they could photograph. The camera equipment itself was bulky, requiring a special lens that had to be cooled down to -200 degrees C. in order to capture the images. That, in turn, required a massive camera battery that took 10 minutes to cool the camera to the right temperature, as Tabuchi and Kessel contended with heavy truck traffic barreling down highways and plant workers and security suspicious of their project.

In the Times's photos, innocuous pictures of oil and gas infrastructure transform into roiling cauldrons dramatically leaking bright yellow methane gas

Instead of shaky "night vision"-type infrared images, they were able to create stunning high-resolution images that readers themselves are able to manipulate to see



more than what can be seen with the naked eye. "We're constantly evolving in how we use video," Kessel says. "Five years ago, we would have made a linear video, now we are always asking, 'What is the best way to tell the story?"

The story was so visually striking, it caught the attention of U.S. senators, who used it in exhibits on the floor of the Senate during debate about methane regulations. Whatever lawmakers decide, at least they will be able to see what they are discussing. "Right now there is an attack on science and an attack on truth in some ways," says Kessel. "Having the information be so clear makes it harder to refute."

AERIAL PHOTOGRAPHY

s fires raged through South American forests last summer, an image went viral on the internet: an aerial view of a devastated landscape, with hundreds of burned, leafless trees. Among them, a single tree bloomed with bright yellow flowers. The photographer, Eduardo Franco Berton, spied the



lone Tajibo tree flowering in the midst of the Chiquitano dry forest as he flew in an airplane 300 meters above the forest canopy; he only had time to take three quick shots as the plane wheeled away to give way to a supertanker dropping water on the blazing forest below.

When he saw the photo back on the ground, however, Berton knew it was the perfect image to illustrate the massive extent of the destruction. "It was very impactful to see how precious that tree was kept because the whole area had been devastated," Berton says.

An independent journalist with the Bolivia-based Red Ambiental de Informacion (Environmental Information Network), Berton started taking wildlife photos 11 years ago; at the same time, he began writing articles focusing on environmental issues affecting his native Bolivia and surrounding countries. Chief among them is deforestation, which has destroyed about 865,000 acres a year since 2011 in Bolivia for agribusiness.

"When you dive into the scientific papers, you find that the deforestation is changing the local climate, increasing the dry season in the Chiquitano," Berton says. A biochemist shows different types of algae for the manufacturing of algae biofuels, similar to ones touted by ExxonMobil in Twitter ads. Emily Atkin's coverage in her newsletter of misleading fossil fuel ads prompted Twitter to change its policy regarding such ads

At the same time, the local rise in temperature has increased the propensity for fires, which in turn causes a vicious cycle of more deforestation. Despite the evidence, however, Berton says local politicians generally support more deforestation, and are apt to turn the blame for climate change elsewhere. "You always listen to politicians saying climate change is an issue caused by first-world countries and corporations, but never take responsibility for what we are doing in our own country," he says.

When the fires began raging this summer — eventually burning nine million acres in Bolivia — Berton realized that he had a chance to report on the magnitude of the problem; however, the biggest fires were occurring far from roads, making taking photos unfeasible, even using drones. He worked with a nature photographer who had outfitted a plane with a special window for taking photos directly down onto the canopy, and was willing to offer time at half-price.

Affected by the devastation, Berton initially shared the photo of the lone tree on his Facebook page with a depressing message. "I wrote something like, 'When a tree dies, you probably don't care, but when millions of trees die, I'm sure you will suffer' or something like that," he says. As thousands of people began sharing and commenting on the photo - some making it their background picture on social media — they were more apt to see the single tree as a symbol of hope or resistance. He sold the image to news organizations, but also allowed environmental organizations to use it free of charge. "I think it caused a big impression among people," he says, "because nature will always find a way to recover."

DAILY NEWSPAPER

s a child growing up on the coast of southwestern Bangladesh, Banani Mallick remembers going to the market with her father and seeing saplings of papayas, coconuts, and other fruits and vegetables for sale for local farmers to grow. Now a reporter with Dhaka-based The Daily Observer, Mallick gradually saw those saplings disappear, as salinity from rising sea levels due to climate change turned the land barren, forcing locals to buy those crops elsewhere. "It has become a big challenge especially to the people who live in the coastal area," Mallick says. "I witness their every struggle against such an unfavorable situation."

Even as those farmers have struggled, however, Mallick observed local women adapting to the difficulties, drawing upon knowledge passed down for generations to start growing those crops again. Mallick wrote about this phenomenon in an article for the Observer, providing a first-hand look at how those most affected by climate change are learning how to fight back against it. Some women, for example, have built up tall circular beds using cement rings, filling them with salt-free soil along with ashes, cow dung, and leaves, that allows them to both grow crops for themselves and improve their livelihood by selling them to others.

For Mallick, the story not only shed light on the real-time effects of climate change on a vulnerable population, but it also highlighted the often-ignored role of



women in Bangladeshi society. "The women farmers' contribution from my community was completely unpublished," she says. "Such success has made these women farmers financially solvent and empowered."

Mallick's story on female farmers provided a first-hand look at how those most affected by climate change are learning how to fight back against it

Mallick received aid in telling the story from Earth Journalism Network, a Washington, D.C.-based non-profit that has worked with journalists in developing countries for more than 15 years to help them report on environmental issues. In addition to a grant allowing her to pay for travel, documents, and other expenses, Mallick received mentoring by managing editor Sara Schonhardt, who helped her structure and report the piece for maximum impact. "Our idea is to create a sustainable model by helping to bolster the information and resources journalists get," Schonhardt says, allowing them to produce "high-quality coverage looking at local communities and

voices that are traditionally underrepresented in kinds of stories."

Articles EJN funds often address efforts by locals to adapt to climate challenges, striking a balance between presenting the severe damage climate change causes and the ingenious ways communities have adapted to its effects. "We don't want stories to be fluff pieces or gloss over the problem, but we also don't want them to be sob stories," she says. "The way communities are showing agency and taking the initiative often gets overlooked."

Mallick echoes that notion in her story, showing in a close and intimate way how marginalized communities are wrestling with a global phenomenon. "We, the coastal people, witness the worst impact of climate change, and see its bad impact on health, economy, and biodiversity," says Mallick. "But amidst this crisis, I profoundly feel that it is important to raise a hope in the mind of the people that, despite all these odds, we humans have an incredible ability to cope."

PERSONAL CALCULATOR

ating oranges a couple of times a week for a year produces as much greenhouse gas as driving a car 6 miles. Eating avocados the same amount, however, creates more than six times as much — equivalent to driving 39 miles. Neither food choice is remotely comparable, however, to eating beef with



with the same frequency, which produces annual emissions equivalent to driving 1,542 miles, or taking a flight from London to southern Spain.

"Food production is a big source of greenhouse gas emissions, but there is a lot of confusion about the impact of different food choices," says Helen Briggs, a science journalist and broadcaster with BBC News. The network helps bridge that gap with an interactive food calculator, which allows users to plug in the frequency with which they eat different food items and determine how much they are contributing to their individual annual greenhouse gas emissions. "This tool is designed to take published scientific data," says Briggs, "and present it in a way that is accessible, meaningful, and useful."

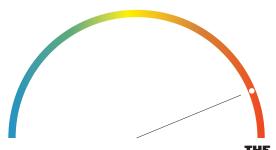
The idea for the piece came from a University of Oxford study published in Science, which showed that food production was a significant if overlooked contributor to climate change — accounting for a quarter of all greenhouse gas emissions. Not all food, however, contributes equally. Particularly egregious are meat and dairy products, consumed in abundance by Western societies, which have an outsized influence on climate emissions. Briggs co-wrote the story along with data journalists Nassos Stylianou and Clara Guibourg. Rather than just reporting on the study's findings, they wanted to make the story more urgent for readers by

The New York Times used an infrared camera to show an invisible methane emissions leak at the DCP Pegasus gas processing plant in western Texas

showing how diet influences their own personal environmental footprint.

"The aim was to reach a wide audience using a simple, engaging tool, which can be used time and time again in stories," Briggs says. In order to do that, they roped in a team of journalists, designers, and developers to create an interface that is fun and attractive — complete with bright cartoon images of different foodstuffs — but nevertheless packs a calorie-dense meal of sobering information. In a broadcast feature on the tool, most users expressed surprise and incredulity at different impacts of different food choices. "People were amazed that the type of food you eat can make such a difference to your carbon footprint," Briggs says.

In addition to showing the amount of carbon created in producing a food, the calculator provides graphs and facts in a Q&A format to help readers make sense of how their diet compares to other choices they might make. The story succeeds in showing — rather than telling — readers just how much they can personally make a dent in climate change emissions just by changing to a more plant-based diet. "We hope it's a good way to get scientific data out there, which will inform people about the environmental implications of the choices they make over what to eat and drink," Briggs says. ■



CLIMATE CRISIS

"CLIMATE MUST BE PART OF EVERY STORY"

A former EPA director's advice on climate journalism that's "relevant, personal, and actionable"

BY GINA MCCARTHY

ven when news was breaking about the impeachment inquiry into President Trump, climate change was generating 18 million interactions on social media—more than guns, immigration, and the economy. So, what made the last two weeks of September unique? Kids. Axios reported it was the most coverage on climate by far in 2019. It showed that when covering climate change, stories about young people demanding action resonated more than politicians and the latest scientific study.

Here's why: scientists have been climate's spokespeople for decades and they don't know how to communicate in language that people can un-



derstand. They're not all Bill Nye the Science Guy. And coverage of a politician's "belief" in climate change doesn't tell the story. Climate change isn't a belief system, it's science. But for 40 years, the fossil fuel industry paid good money to fund confusion, cast doubt on the science, skew the facts, and control the narrative. This unholy campaign has created a conservative vs. liberal divide and effectively has shifted attention away from the core climate issue that matters most—our kids' safety, health, and future. This climate crusade must give way in the face of our climate crisis.

It's time to tell the facts in ways that people can understand and make climate change relevant, personal, and actionable. We can't wait any longer; it's time to step up our act. While the Covering Climate Now initiative has been an incredible force to spark more coverage of the climate crisis, a weeklong special just doesn't cut it. Climate is part of our everyday life and must be part of every story.

As a media outsider, I am not trying to be critical. I was a longtime government employee; I can hardly cast the first stone when it comes to communication of any kind. I just want to remind you what a crucial role you play in helping all of us face facts, make them personal and digestible so we can see that change is needed and there is a way forward. Then maybe, just maybe, we will muster the personal and collective courage to act. So,



A mother in Bayamón, Puerto Rico holds her twomonth-old son, who was diagnosed with microcephaly linked to the mosquitoborne Zika virus, in 2016

here are my suggestions on how to frame the issue, inspire action, and still get clicks:

FOCUS ON PEOPLE AND TELL STORIES

Rather than continuing to hit us over the head with mountains of scientific data, let's claim success. Most people get that climate change is real and it's really, really bad. But they see it as a problem for the planet, and not something they can do anything about. Well in the words of Cool Hand Luke, "What we've got here is failure to communicate." If no one individual can do anything, how can we collectively succeed?

Let's stop talking "planet" and start talking "people." Let's put a face on climate change and climate action. Let's stop talking faraway places and future decades and start talking about here and now. Climate change is already impacting the health of our kids—not to mention what inaction might mean to their future. Show the faces of people at risk. Health matters.

And there are actions we can take—steps forward we can all embrace in our homes and our communities to improve our families' health and safety today, without sacrifice or recriminations. These actions will get us on a road toward a more stable and livable planet. Tell the story of people taking action and others may wonder why they are sitting on the sidelines.

A recent study out of Columbia University confirms

it: people don't need to "believe" in or understand the enormous scale of climate change to act on it. They just need to understand how a project will strengthen their community and they will be all over it.

TALK ABOUT SOLUTIONS AND BUILD HOPE

Scaring people isn't fun, fair, or as it turns out, productive. Americans get overwhelmed by too much negative information. Scary climate scenarios cause apathy. People stick their heads in the sand, especially when they feel like it's too big to fix. So, when writing about climate impacts, it's best to cut that lengthy list of challenges down to a few bite-sized pieces and quickly pivot to solutions. We have climate change solutions that not only help fix the planet, they deliver enormous public health benefits. For example, clean energy and energy efficiency don't just save the planet, they save lives by cleaning our airpreventing asthma and heart attacks, reducing cancer risk while saving money and growing jobs. And people of color and poor communities often benefit the most from these solutions. So why not do what you can to hold decision-makers accountable for all they can do?

FOCUS ON HEALTH AND GIVE HEALTHCARE PROVIDERS A VOICE

A 2018 study showed that Independents and Democrats are more likely to click on climate articles with a health frame than other frames, such as environmental, economic, and moral. When you talk about the spread of Zika, Dengue fever, West Nile virus, Lyme disease, EEE, and other threats from climate-related emerging infectious diseases, people pay attention. Climate change is the most significant public health threat of our time and perhaps the biggest opportunity we have to invest in public health. So it's not hard to find content that is relevant to any particular audience: risks for pregnant women, heat risks for the elderly, asthma in young children, and mental health issues in the aftermath of storms, etc. The center I used to direct, the Center for Climate, Health, and the Global Environment at the Harvard T.H. Chan School of Public Health, has information about the different ways people's health is impacted by climate change, especially for children, and ways that anyone, anywhere can become part of the solution.

Health professionals and public health organizations are much more trusted figures to talk about climate than elected officials. People interact with doctors and nurses intimately and rely on them for the monumental responsibility of protecting their health. They are less partisan and can transform climate change from an issue dominated by politics to one that matters to every person's health here and now.

Information is power—use it to tell the climate change story in ways that cut through science jargon and make this challenge real, personal, and actionable. Use information that can stop people from burying their heads in the sand or waiting for politicians to act as if doing nothing is OK because whatever they do won't save the planet. Millions of our children took to the streets a few months back to tell us just the opposite. It's high time we listened. Information can make that happen.



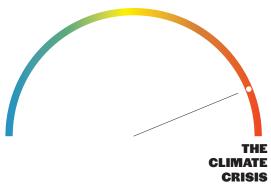
THE EVERYDAY IMPACT OF THE CLIMATE CRISIS

Using new forms of storytelling to make climate coverage stick

BY JAMES PAINTER AND SHANNON OSAKA







hese are heady times for anyone scrutinizing climate change coverage. Take the volume of coverage, for example, which seems to be on a sharp upward trend. More than 300 media outlets were reported to have joined the recent global initiative, Covering Climate Now, to increase coverage in the run-up to the United Nations Climate Action Summit that took place in September.

Prompted by The Nation and Columbia Journalism Review, the initiative suggested that major news organizations should break the "cli-

mate silence" to cover the "defining story of our time." But "more" does not mean "better" if it leads to more inaccurate reporting of climate science on Fox News or in the Daily Mail.

One prominent academic warned that the Covering Climate Now initiative could become an "echo chamber for climate change activism." The pros and cons of advocacy journalism have also been examined, including The Guardian's Keep it in the Ground Campaign.

The Guardian is one of several outlets who have changed their house style to use "climate emergency" over "climate change" and "denier" over "sceptic."

So there is plenty of debate about volume, language, and advocacy. But largely missing is more examination of the quality of climate journalism, and what it might look like. "Quality" is a slippery concept for media scholars, but some have tried to unpack it as it relates to climate journalism.

There is consensus that climate journalism should be accurate, well-sourced, and reflect complexity and uncertainty as appropriate (so no space, for example, for deniers of the basic climate science, but yes to diversity of views where the science is uncertain or on policy options).

A visually-driven piece by Norwegian public broadcaster NRK examines how the global issue of climate change is impacting local people, such as reindeer herder Nils Arvid Guttorm

But what about the huge range of audiences around the world? And the plethora of different platforms, types of reporting (issue-driven or event-driven), and varieties of media organization?

"Quality" will mean different things to different journalists and different audiences, but to start the discussion, we suggest these five criteria beyond the normal editorial standards: 1) relevance to audiences; 2) out of the environment box; 3) potential solutions; 4) multimodal reporting; and 5) from global to local.

RELEVANCE TO THE EVERYDAY LIVES. EXPERIENCES. **AND PASSIONS OF AUDIENCES**

Climate change has often been perceived to be remote in time and place, complex, and depressing-all of which scholars see as an obstacle to public engagement. But this is changing.

Advances in climate modeling have allowed scientists to link some extreme weather eventssuch as droughts, heat waves, and floods—to climate change. Reporting that the severe 2019 European heat wave was made more likely due to climate change, or that Hurricane Dorian was made more severe, has become commonplace.

This may be changing public opinion on climate change. Anthony Leiserowitz, director of the Yale Program on Climate Communication, has argued that the increase in extreme event attribution may be partly responsible for growing concern about global warming in the U.S.

But event attribution reporting is more difficult than it might seem. Climate change cannot be said to deterministically cause any extreme weather; instead, it creates the conditions in which extreme weather is more severe, or more likely to occur.

Solutions journalism, which many advocate as an essential editorial corrective, seems to be gaining more traction in the climate field

The best reporting steers clear of overly simplified statements (such as "climate change caused the European heat wave") in favor of more nuanced scientific explanations, clarifies the variables examined in relevant studies, and connects the extreme weather to human lives and experiences, such as water restrictions or heat warnings.

For example, The New York Times reported in 2015 that the warming trend had made the California drought more severe, even if lack of rain wasn't necessarily linked to climate change.

The coverage of the links between animal agriculture, climate change, and dietary choices has also proved fertile ground for audience relevance. In May 2018, The Guardian summarized on its front page a study examining the environmental impact of commercial farms in over 100 countries with the headline "Avoiding meat and dairy is 'single biggest way' to reduce your impact on Earth."

The article was liked, shared, or commented on more than a million times on Facebook. In similar fashion, the BBC designed a climate change food calculator, based on the same research, to assess an individual's carbon footprint from their diet. And The New York Times published an interactive guide on the same topic, combining explanations and solutions, the individual and the global, and a fun gaming element.

Another example is coffee. Over two billion cups of coffee are calculated to be consumed in the world every day, with 150 million U.S. citizens drinking a cup o' Joe on a daily basis. People clearly care about coffee. So no surprise when journalists choose to headline the dangers to your daily cuppa.

OUT OF THE ENVIRONMENT BOX

Editors and observers have long argued that climate change should be a story that cuts across many beats and issues, and particularly business and health. There does seem to have been an increase in new, innovative angles on the climate

Take sports for example. Recent coverage has included discussion of increased rainfall affecting cricket matches; the rugby-playing Pacific islands losing their islands; hotter temperatures at the Australian Open; Olympic host locations being chosen with climate change in mind; and mountaineers in the Himalayas having to remove the dead bodies of climbers as the ice melts.

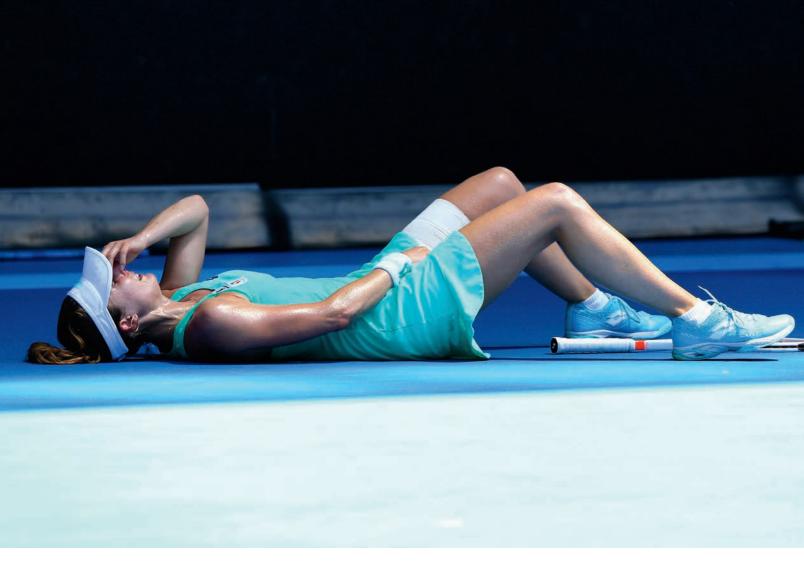
Getting climate change into weather sections seems a helpful direction, too.

POTENTIAL SOLUTIONS

Research into four leading U.S. newspapers showed that, in the past climate impacts and actions to address climate change were more likely to be discussed separately than together in the same article. And the ubiquity of doom and gloom portrayals of climate change, some argue, can be an obstacle to personal engagement and empower-

In the past, positive adaptation stories were hard to come by, representing less than 2% of all climate

But solutions journalism, which many advocate as an essential editorial corrective, seems to be gaining more traction in the climate field. For example, journalists belonging to the Earth Journalism Network are among many in the Global South who have covered successful attempts at adaptation by poor communities, including fishermen and women in India using science and technology to warn them of approaching cyclones, and female farmers in Bangladesh finding new ways to adapt to increased salinity in the soil.



MULTIMODALITY, WITH A PARTICULAR EMPHASIS ON VISUALIZATION

Several organizations are blazing a trail in this space, including Yale Climate Connections with short audio reports, Vox and Deutsche Welle with video explainers, and The New York Times with strong, photo-led coverage such as a report on ghost forests.

Carbon Brief has a strong track record on infographics, combining rich and complex science told in a comprehensible way with opportunities to engage with the facts. The science behind extreme event attribution is one example; the transformation of the U.K.'s energy supply is another. The Guardian's recent timeline on the responsibility of the 20 largest fossil fuel companies is another powerful visual representation.

FROM GLOBAL TO LOCAL

For a long time, journalists have been pressed to find a local angle to their stories. The BBC's recent infographic on translating the global 1.5 C target down to the city level is exemplary, as is the Carbon Brief chart on which it was based. And a similar interactive map on how U.S. cities will be affected was hosted by Vice.

But perhaps the prize goes to the coverage of how climate change is affecting local people throughout Norway

Tennis player Alize Cornet of France struggles with the heat during a 2018 **Australian Open** match in Melbourne put together by journalists at the state broadcaster, NRK. Called "The Hunt for Climate Changes," they tell the story of how climate change is affecting landscapes and groundwater color now, and is not something to fear in the future.

"It's an example of strong, mobile-driven, visually-based storytelling, with people, emotions, and (new) science information all embedded," says Ingerid Salvesen, a journalist and teacher at Oslo Metropolitan University. NRK's report, which has been translated into English, was unusually popular online and on social media.

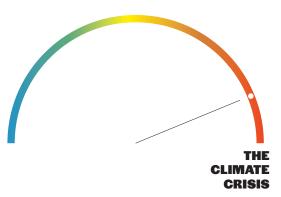
These choices and criteria are necessarily selective, subjective, and mostly in legacy English-language media. But they aim to give a flavor of how climate journalists are introducing new forms of quality reporting. Much of this is driven by the imperative of share-ability on mobile phones and social media, which puts a premium on engagement, fun, and strong infographics and other visuals.

Perhaps one element needs more attention. The report—by the United Nation's Intergovernmental Panel on Climate Change—on impacts of global warming of 1.5 degree C above pre-industrial levels speaks of the unprecedented societal change needed. So more coverage that examines the impacts of daily living would deepen the discussion of how to achieve lifestyle changes, and the role that different types of climate information may play in that transition.

REPORTING THE CLIMATE CRISIS THROUGH (REALLY) SLOW JOURNALISM

ALASKA A man in Shishmaref, Alaska breaks the ice to lay a fishing net beneath. Located on a barrier island near the Arctic Circle, the village of Shishmaref—where land is falling into the sea as permafrost melts—will likely have to relocate due to the climate crisis





e journalists pride ourselves on being good notetakers astute documentarians—but last year, out in the woods, I met an old man who puts all of us to shame.

His name is John O'Keefe. Beard, white. Sweater, green. His gray eyes, which sit behind tiny Ben Franklin-ish glasses,

light up when he talks about his favorite subject: trees.

Each fall and spring, for nearly 30 years, O'Keefe, age 74, has grabbed a clipboard from his office at the Harvard Forest research station in Central Massachusetts, and walked a loop around the forest. Have all of the buds on that black cherry tree—"PP005"—opened completely? If so, he marks "100" in that column.

A red maple's leaves are emerging and its flowers are gone, so he writes that in the comments field. What percentage of another tree's flowers are open? That goes beneath "FOPN."

The notes started as something of a side hustle. He thought, "I'm just going to start looking around and developing this record." It was a way to get outside. As a fighter pilot in the Massachusetts Air National Guard, O'Keefe had found himself thinking not about combat but about the trees he saw thousands of feet below.

At first, some researchers at Harvard Forest found this little project—these detailed tree notes—fairly uninteresting. But years later, as humans continued belching fossil fuels into the atmosphere, and as O'Keefe kept diligently making his rounds among the maples and birches, a critical and unexpected story began to take shape on the clipboards: Many trees were sprouting leaves earlier in the spring; all were dropping

leaves later in the fall. O'Keefe's notes were becoming the most detailed record of how the climate crisis was straining this particular forest. They told a story that, without his diligence across decades, would have been unknown.

Storytellers, like scientists, tend to work on Human Time. We think in daily (minute-ly?) deadlines, weekly meetings, annual performance reviews. Journalists are particularly guilty of a right-now bias. Out of necessity, we've been conditioned to think second to second, tweet to tweet. Decades, centuries, millennia—the timescales of our planet—usually don't land with urgency in our inboxes. O'Keefe and his notes? That's all Tree Time.

In light of the climate crisis, however, this blind spot could have planet-ending consequences.

We suffer from what academics have termed "generational amnesia" or "shifting baseline syndrome"—the idea that changes in the natural world happen slowly enough that we often fail to see them, and almost always fail to recognize their scope and urgency. Recent efforts by The Guardian and other news organizations (including CNN, where I'm a climate analyst and spent 10 years as a columnist, producer, and senior investigative reporter) to substitute the terms "climate emergency" and "climate crisis" for "climate change" are part of the solution. These words aim to make what actually is a multi-generational disaster—an "Armageddon in slow motion," as Eric Chivian, a psychiatrist who campaigned against nuclear war, put it—feel fast.

The word "crisis" is not enough to fix generational amnesia, though. We need fundamentally new types of climate storytelling. That's why I'm embarking on one attempt: a multi-generational documentary series called "BASELINE," with development support from the Nieman Foundation and the National Geographic Society's Explorer program. The aim is to revisit four locales—Shishmaref, Alaska; Emery County, Utah; Miami, Florida; and Majuro, Marshall Islands—on the front lines of the climate crisis every five years until 2050. Think of it as a generational time-lapse—a longitudinal film series.

I understand this documentary series may sound over-ambitious, if not completely unhinged. But an approach of this magnitude is warranted given the scope of the climate emergency.

I've been reporting on the climate crisis for more than a decade now. In Honduras, I met families left behind by the caravan, which was driven, in part, by an unprecedented drought. In Arkansas, I profiled a family that fled the Marshall Islands because it's disappearing beneath rising seas. I went back and forth to Puerto Rico for more than a year after Hurricane Maria, leading CNN's investigation into deaths the government hadn't attributed to the storm. Once I started researching generational amnesia, however, I realized these conventional ways of telling a multi-generational saga are not working, or they're certainly not enough. The same stories and arguments are repeating themselves.

Climate recently has been framed as a new story, a "story of our times," but scientists have been ringing alarm bells about the emergency for decades. In



MARSHALL ISLANDS

A girl climbs on a tombstone in Majuro, Marshall Islands. The cemetery has been partially washed away due to rising sea levels 1988, NASA scientist James Hansen testified before the U.S. Senate that the era of global warming had begun. Two years later, The Ecologist magazine published a book that said there were only "5,000 Days to Save the Planet." Something like 5,000 days after that, as George Marshall detailed in the book, "Don't Even Think About It," the Institute for Public Policy Research declared that there were "Ten Years to Save the Planet."

Now the warnings from the Intergovernmental Panel on Climate Change are even more serious. Humans already have warmed the planet 1 degree Celsius since the Industrial Revolution, largely by burning fossil fuels. Policy makers say 1.5 degrees of warming would be truly catastrophic, involving the drowning of low-lying island nations, the near end of coral reefs, stronger storms, and the like. Earth could cross that temperature threshold in 2030 without a near-total remake of the world economy.

Is there evidence we'll react differently than before? Perhaps not, in light of our ability to normalize environmental devastation.

Consider a couple examples of generational amnesia at work. Last summer, I met Loren McClenachan, a historical ecologist at Colby College and an expert on shifting baselines. When she was working on her PhD, McClenachan and an archivist at the public library in Key West, Florida, dug up a series of photos collected from one fishing dock over more than 50 years. The images, many of them black and white, show fishermen standing with the day's trophy catch. Back in the 1950s, these trophy fish were taller than humans. By the 2000s, when



McClenachan visited, they were as short as a forearm.

The fish shrunk because of overfishing and other environmental changes, including regulatory changes. But across generations, the fishermen hadn't noticed. Each decade, they were smiling just as broadly as before.

This same concept applies to climate. A study published last year by Frances Moore, an assistant professor in environmental science and policy at the University of California, Davis, for example, analyzed tweets about the weather to show that people on average consider only a 2- to 8-year period of time when deciding whether a given day feels unusually hot. That timeline is likely to shift forward as we age, raising the prospect the climate crisis always will feel just lightly abnormal to us.

You could call this a frog-in-boiling-water problem, Moore told me. Except that, in reality, frogs jump out of the pot as the water heats up. And we humans don't have another planet to jump to.

Much work is needed to fill this hole in our psychology. "BASELINE" aims to be one antidote.

The series is influenced by O'Keefe and his Tree Time, as well as filmmaker Michael Apted's "Up Series." In the early 1960s, Apted interviewed a bunch of 7-year-old kids in the U.K. for a television special called "Seven Up!" Every seven years since, he has returned to those same children—wherever they were—and released a new film about their lives. The most recent premiered in June. In it, those same "kids" are now 63 years old.

"BASELINE" takes a similar approach by visiting the four chosen locations—which all face existential threats



UTAH

John D. Sutter, pictured in Emery County, Utah, is working on a multi-generation documentary series to capture the magnitude of the climate crisis in four different communities

from the climate crisis now-and then committing to revisit these same people and places every five years until at least 2050.

One of those communities, Shishmaref, Alaska, a village on the Arctic Circle, may have to relocate because the coast is thawing and land is falling into the sea in housesized chunks.

Another is a coal region in rural Utah that's been hit by wildfires and searing drought, but where most people still don't believe that humans are causing global warming.

The calendar year will serve as the narrative backbone for the film. I'm visiting one location each season. Stitched together, these chapters will form a collective portrait of a year on Earth.

A new installment of the series will be released every five years, prodding viewers to think in fundamentally new ways about the future. My hope is to partner with local filmmakers so that the series will continue in some form beyond 2050, allowing the true scope of the crisis to come into focus.

This is a people-centered project that takes a qualitative approach to understanding the intergenerational saga of the climate crisis. But I am building a scientific advisory panel. And a handful of scientists—people who are trying to create lasting memories, like O'Keefe and his trees or McClenachan and her fish—also will be featured in the documentary series. It takes inspiration from scientists at the Harvard Forest and elsewhere who, without much recognition, dedicate their lives to collecting data that will last longer than they do. Their notes outlive them.

The first film, "BASELINE 2020," will look back in time as well as forward, using home movies and family photo albums to provide evidence of how much already has changed. An entire playground and neighborhood are missing from that village on the Arctic Circle, for example. They've fallen into the water, but they exist in the records local people have kept.

I'm not naïve enough to think that "BASELINE" will be able to fix these problems. Climate change is bigger than any one story—or even one generation. But this is an all-hands-on-deck moment. New and creative and wildly ambitious storytelling approaches are needed.

We must turn a consistent lens to this crisis. And refuse to look away. Future generations will look to us for a record of this moment.





N A HOT TROPICAL MORNING last November, Carlos Fernando Chamorro peered out the airplane window and looked down on the familiar landscape of Nicaragua's lakes and volcanoes. It had been nearly 11 months since the veteran news director had fled into exile in neighboring Costa Rica, along with eight reporters from his news organization, Confidencial. Now, all but one were returning to Nicaragua to face Daniel Ortega's enduring dictatorship and 'to reclaim the right to practice journalism in Nicaragua."

It's a daunting challenge. During Chamorro's year in exile, Nicaragua went full-blown police state. Confidencial's offices, which were raided by Ortega's Sandinista security forces in December 2018, remain occupied along with all the newsroom computers and broadcast equipment. The Sandinistas' surveillance, harassment, and physical assault of journalists have become standard occupational hazards for reporters. Statebacked paramilitaries handle the dirtier work of targeting journalists' family members and spray-painting homes with death threats.

"Nobody is safe under a military dictatorship that arms and uses its own paramilitaries," says Lucia Pineda, news director of 100% Noticias, Nicaragua's first 24-hour cable news channel. Pineda speaks from experience. The veteran journalist was jailed for nearly six months last year along with the channel's owner, Miguel Mora, after the Sandinista police raided their TV station and charged them with "conspiring to commit acts of terrorism," simply for their ongoing reporting on the anti-government protests. Pineda and Mora jointly won the Committee to Protect Journalists' 2019 International Press Freedom Award.

Nicaragua didn't invent exile journalism, but it has mainstreamed it over the past year. Since the country popped off in civic rebellion against the Ortega dictatorship in April 2018, more than 80 journalists have been forced to flee the country. (Disclosure: I was among the first journalists pushed out of Nicaragua, in April 2018. While I was reporting on the uprising for Univision, the Sandinistas accused me of being a CIA agent and coup-plotter. The U.S. Embassy received intelligence that my life was in danger and told me I should leave Nicaragua ASAP.)

"In Nicaragua all civic protest is criminalized, and so too is all journalism covering these protests," says Chamorro, whose father, Pedro Joaquín Chamorro, the legendary publisher of Nicaraguan daily La Prensa, was gunned down in the streets of Managua in 1978 for his opposition to the Somoza dictatorship.

Nicaragua is an extreme case, even by Latin American standards. But the challenges facing journalists there are not unique in this troubled region. Across the hemisphere, the combination of weak democracies, authoritarian creep, struggling economies, government retaliation against advertisers, and worsening levels of political and social violence are pinching journalists from all sides.

Journalists also face the growing existential threat of social media. For some, social media is viewed as a savior — the great equalizer in an industry controlled by wealthy elites. But for many professional journalists, social media is a monster that's threatening their livelihoods and credibility. The Trumpian battle cry of "fake news" has become so prevalent that Latin America has adopted the term in English, as if it were an unwelcomed foreign phenomenon foisted upon them.

The challenges to a free press are producing a unique blend of solutions and journalistic workarounds in different "WE USED TO RELY ON **POLITICIANS AND PEOPLE IN THE PUBLIC EYE [FOR COMMENT], BUT NOW THE CITIZENS ALSO HAVE** A VOICE" JULIO VILLARÁN.

EDITOR, LA PAGINA

countries — everything from exile journalism about Nicaragua and English-language outreach in El Salvador to a new fake news observatory in Bolivia and paywalls in Chile. A look at the immediate and long-term challenges facing four countries in Latin America - and the solutions and recalibrations journalists are making to keep the industry alive:

EL SALVADOR

HEN PRESIDENT NAYIB Bukele announced his candidacy on Facebook Live on October 2, 2018, it sent a clear message to the national press corps: This digital native wasn't going to have a politics-as-usual relationship with the news media.

Since becoming Latin America's first millennial president last June, Bukele has taken what can be described as an "OK Boomer" approach to governing by Twitter. He uses his account to sidestep the press, mock the old political guard for being out of touch, appoint and remove cabinet members, take selfies during his U.N. General Assembly address, and declare himself "the coolest president in the world." Bukele is also not afraid to weaponize his 1.2 million Twitter followers against his critics, including the press.

His supporters love it. And there are a lot of them. Bukele's approval rating has consistently danced around 90%. That level of popularity has only emboldened him. In recent months, Bukele has limited press conferences and locked out journalists who ask tough questions. Critics worry Bukele's behavior is having a corrosive effect on El Salvador's institutional democracy and the media's ability to hold the government accountable.

Covering Bukele's presidency often means chasing tweets, says Ezequiel Barrera, editor of digital newspaper Gato Encerrado. "We go to the places where [Bukele] has promised something and we interview people on the ground and look for documentation to find out if what he said is real or not," he says.

Keeping up with the president's itchy Twitter finger means being "faster" than print or TV, oftentimes pub-

PREVIOUS SPREAD A supporter of former Bolivian president Evo Morales whose ousting is a relief to independent journalistsparticipates in a demonstration in Cochabamba. Bolivia in 2019



lishing "instantaneously" while staying "constantly informed" about what's happening on social media, says Julio Villarán, editor at La Pagina, one of the country's more established digital news publications. Digital-native reporting also means turning to digital-native sources, rather than relying solely on the traditional rolodex of politicos and pundits. In some ways that's having a democratizing effect on news-gathering efforts, Villarán says. For example, on January 16 residents in several neighborhoods of San Salvador complained on social media that the water coming out of their taps had a strange odor and tasted horrible. When the national water and sewage authority, ANDA, told the press that there was no problem with water quality, dozens of residents started uploading pictures of brown water coming out of their faucets, prompting a quick government reversal and the announcement of a plan to improve the drinking water quality in the capital. "We used to rely on politicians and people in the public eye [for comment]," Villarán says, "but now the citizens also have a voice."

The challenge is to open the conversation responsibly, without giving a soapbox to the lunatic fringe, trolls, or government shills. Villarán says most trolls don't pass the basic sniff test: they have no profile photo, a new account, and mostly retweet other troll accounts. "We have to maintain our objectivity, because at the end of the day that's what we sell — objectivity and the veracity of the information we publish," Villarán says.

El Salvador is home to some of the most enduring and respected digital news outlets in the region. El Faro, founded in 1998, is Latin America's first online newspaper and is considered a leader in online innovation. Unlike other digital media outlets that rush to publish at the blur of trending hashtags, El Faro tries to slow things down with deeply investigated features, such as its recently

published interactive piece to commemorate the 1981 El Mozote massacre, in which an estimated 1,000 rural villagers — mostly women and children — were slaughtered in a scorched-earth military operation carried out by a U.S.-trained battalion of Salvadoran soldiers. The massacre, which was covered up for years, is still considered the worst in Latin America's modern history.

For many years, El Faro's bread and butter was its in-depth reporting on Central American gang violence. Covering the issue properly meant developing sources and implementing a comprehensive security plan for journalists — two things that require time and money, the traditional enemies of online journalism. "The only way to understand violence in the region is with time and resources," says El Faro editor and journalist Óscar Martínez. "The only way to put together a security network and have informants inside the gangs is with time and resources."

The problem is, nobody wants to pay for that. It's not in the interest of the government or the private business sector to bankroll reporting that exposes the country as a violent and lawless gangland. El Faro's solution was to create a specialized newsroom project called Sala Negra, then approach George Soros' Open Society Foundations for funding. "It was a declaration of principles: it was us telling a group of photographers, journalists, and documentarians that they can focus on [gang violence] exclusively until they understand it and can explain it," Martínez says.

By making violence its own independently funded vertical, it allowed El Faro to dedicate other resources to building out other aspects of its news organization.

"Our goal is for El Faro to be self-sufficient. Is that possible today? No, it's not," Martínez says. "We've needed international cooperation to operate over the years. A special antigang police member patrols the streets in Herradura, El Salvador. El Faro's Sala Negra was created as a specialized newsroom project to cover gang violence

But editorially, we have no relationship with [international donors]. They have no say over what we publish."

El Faro is currently 63% financed by international donors, but is working on diversifying its other revenue streams through digital advertising, book sales, providing content to other publications, asking for reader contributions, and organizing regional journalism workshops.

In some ways, El Faro has become a financial model for independent journalism in Central America. Its success has inspired the birth of two similar online publications in El Salvador — influential newsmagazine Revista Factum and Gato Encerrado, a publication funded by international foundations including Oxfam, Seattle International Foundation, and Germany's Heinrich Böll Foundation.

Doing journalism in a small country with a small economy makes the paid subscription model impossible. Still, El Faro says it's working towards building a "community of readers" who pledge donations, help distribute digital content, and act as "a first alert system" of constructive criticism "when we make errors." Part of that community-building effort includes new outreach to international readers — including the nearly 3 million Salvadorans living abroad — with an English-language newsletter that launched in January.

Women journalists in El Salvador face additional challenges. According to a recently published report by El Salvador's Human Rights' Ombudsman, an appalling 100% of female journalists in El Salvador say they've experienced sexual harassment while reporting on the streets, and 96% say they've experienced sexual harrasment in the newsroom.

Women journalists are also targeted differently by online haters, according to independent radio journalist Josseline Roca. "We get attacked for our image and for our relationships," Roca says. "Some of the threats we get from political fanatics backing this government say stuff like, 'She should get raped.' There's a lot of misogyny."

Women journalists are taking other proactive measures, for example, by organizing the first all-women's collective of journalists, which hopes to establish a common agenda for female journalists and act as a lobby group to promote salary parity and the promotion of more women to leadership positions at news organizations. Women journalists are also urging El Salvador's legislative assembly to pass a law to protect female reporters by requiring media companies to develop policies to address gender inequality, harassment, and sexism in the newsroom.

NICARAGUA

ETERAN TV JOURNALIST Jennifer Ortiz decided it was time to leave Nicaragua after Sandinista paramilitaries sent her WhatsApp messages threatening to sexually abuse her children. Her house was under surveillance by men in pickup trucks, and she had been tailed while reporting

So in late June 2018, Ortiz and her husband, fellow

journalist Erick Muñoz, packed up their three kids and headed south to Costa Rica. Shortly after finding a place to stay in San José, Ortiz revealed a little secret: she and Muñoz were the mysterious journalists behind the upstart media project Nicaragua Investiga (Nicaragua Investigates).

Ortiz and Muñoz had started the digital media site a

month earlier as a form of "clandestine journalism" — an effort, she says, to continue reporting on Nicaragua's crisis without taking all the heat of byline journalism. "We couldn't stop reporting," she says. "It's what we know how to do."

But anonymity nearly backfired. "At first people thought it was a fake news site because we didn't say who was behind it. Only once we were in Costa Rica did we feel free enough to identify ourselves publicly."

"SOCIAL MEDIA HAS **BECOME THE IDEAL INSTRUMENT TO REACH** THE PEOPLE. IT'S A **WAY OF TELLING THE NICARAGUAN PUBLIC** THAT WE HAVEN'T **SURRENDERED**"

LUIS GALEANO, 100% NOTICIAS

That's when Nicaragua Investiga became an exile journalism project. A year-and-a-half later, Nicaragua Investiga has become a household name, with 130,000 followers on Facebook and nearly 100,000 subscribers on YouTube. The viral video content allows Ortiz to monetize the site and pay two freelance journalists who work in clandestine circumstances in Nicaragua.

YouTube has become a refuge for many of Nicaragua's exiled journalists. Those who have developed a personal brand over the years are now leveraging that into an online subscription base, such as "Actualidid con Dino Andino," hosted by a popular former TV journalist who started his own digital news program in exile with 13,500 subscribers.

Luis Galeano, who fled to Miami in December 2018 after the Sandinistas raided 100% Noticias, was able to take his TV news program, "Café con Voz," and move it to social media rather seamlessly. Galeano had always maintained a social media presence, but when Facebook and YouTube became the only viable platforms for his show, his audience followed him over. His Facebook page jumped from 14,000 followers to 150,000; his Twitter followers went from 4,500 to 50,000; and his YouTube channel jumped from 3,400 subscribers to nearly 27,000, allowing him to earn some money. He says digital monetization is a fraction of what he was earning from TV ad revenue back in Nicaragua, but insists it's "enough to pay the power bill, internet, and part of the rent."

"I have a new respect for the power of social media," says Galeano, acknowledging that having been on TV gives him a huge monetization advantage compared to print colleagues. "It's where the civic protest in Nicaragua started, and today, thanks to the news vacuum on cable TV, social media has become the ideal instrument to



reach the people. It's a way of telling the Nicaraguan public that we haven't surrendered. That we're still here and putting up a fight from outside the country."

Exiled journalist Uriel Velásquez, former reporter for the daily El Nuevo Diario, which folded earlier this year, fled to Spain in December 2018 after receiving death threats from Sandinista paramilitaries. In exile, Velásquez and four other Nicaraguan journalists living in Spain started a new digital media initiative called Despacho 505, named after Nicaragua's country code. Like many exiled journalists, Velásquez works closely with local collaborators back in Nicaragua to verify everything on the ground. He also conducts interviews on video calls and WhatsApp. Velásquez's Despacho 505 website has done some important investigative work from abroad, but even the best text websites don't generate money like video does.

"We do journalism because it's our passion and because we want to denounce the abuses of the regime and promote freedom of the press," Velásquez says. "But we don't have any financing or ads. Sustainability is one of our biggest weaknesses and challenges."

Journalists back in Nicaragua are also wondering how long the situation can endure. Many are working for no or low pay, and facing a constant threat of attack, harassment, and theft. Street reporting has become a nimble game of cat-and-mouse with Sandinista forces. Police and paramilitaries, hidden under motorcycle helmets and cloaked in impunity, routinely steal reporters' cameras or cellphones, or smash them on the street. The threat of arbitrary arrest followed by a kangaroo-court conviction always looms.

"Nobody is safe. Journalists and photographers have to protect themselves by working in groups, as a pool. If journalists go out alone to cover protests, they are putting themselves at much greater risk," says Chamorro.

BOLIVIA

FTER NEARLY 14 years of socialist rule under President Evo Morales, Bolivia was rocked last October by a series of violent protests that forced Morales to resign and flee the country. For some it was a coup; for others it was a system correction after more than a decade of authoritarian slip. Those conflicting interpretations underscore just how deeply polarized Bolivia has become, and how difficult it is for journalists to report on the news in a country where each group has its own version of the truth.

For independent journalists, Morales' ouster is a moment to put their hands on their knees and catch their breath after a decade of trench warfare. "Mission accomplished!" says veteran journalist Amalia Pando, who announced the end of her popular radio program, "Cabildeo," on December 7, a month after Morales fled the country. "The goal was to prevent Evo Morales from staying in power eternally and for Bolivia to recover its constitutional order and press freedom."

In quieter moments, Pando acknowledges that the government's long-sustained efforts to wrestle the independent media into submission had finally taken its toll. "My budget ran out completely," she says. "I couldn't resist a single month longer." The fact that she managed to outlast Morales' government by just a few weeks was a "marvelous coincidence," Pando says with a tired laugh.

Over the past decade-plus, Morales used enormous sums of state funds — nearly \$1 billion over his term — to bankroll propaganda, subsidize ideologically aligned me**Confidencial** editor Carlos **Fernando** Chamorro (center), trailed by riot police, approaches a Managua, Nicaragua police station to speak to officials after police occupied his newsroom in December 2018

dia outlets, and run attack ads. At the same time he weaponized the tax authority, prosecutors' office, and other state institutions to harass critical media and private businesses that advertised with them. The most irksome journalists were blacklisted by the government, making it hard for them to find work even after getting fired.

Now that Morales is on permanent vacation in Argentina, Bolivian journalists are trying to recalibrate. "We need to relearn how to be journalists in a normal functioning democracy," says Raul Peñaranda, director of Brújula Digital. That means redefining what it means to be an independent journalist. "For years, being an 'independent journalist' meant being in opposition to Evo Morales," Peñaranda says. "In a polarized country, everything is always defined in terms of whether you are for or against the government. In a polarized society, the media also ends up being polarized. Now that [Morales] is gone, journalists — including myself — need to move beyond that polarization and become journalists again, and not activists — a role we were pushed into by the previous government."

For many journalists, the Morales years were ones of basic survival, not media innovation. Bolivia Verifica is a notable exception. Founded in June 2019 with funding from several European embassies, Bolivia Verifica is a non-profit "fake news observatory" — the first of its kind in a country that's just starting to bridge the digital divide.

Bolivia Verifica was started, in part, as an effort to counter ex-President Morales' "digital warriors," groups of government-sanctioned cyber activists dedicated to weaponizing social media against government opponents. Morales created his battalions of online grunts shortly after losing a 2016 referendum to abolish presidential term limits. Morales later circumvented the plebiscite results by getting his judges to overturn the re-election ban in the constitutional court, but he never got over the sting of the referendum vote — a political defeat he blamed partially on social media.

"The objective of the Morales government was to spread its propaganda on social media using institutional government channels, while using these parallel political groups of digital warriors to attack opponents," says César del Castillo, editor-in-chief of Bolivia Verifica. "This was a declaration of a fake news war in Bolivia."

While Bolivia's political future looks uncertain heading into 2020, journalists agree the country and the national media is on the cusp of "a moment of big change." Says Peñaranda, "One of the biggest lessons journalists have learned from the Morales' years is that we have to be independent. Always."

CHILE

HE POLITICAL UPHEAVAL ignited by a massive student protest in October of a subway fare hike acted as a catalyst for fake news, opening a virtual firehose of viral rumors, partial truths, and outright lies on social media. The student protest gave way to broader demonstrations against socioeconomic inequality and political corruption.

"This is the first time Chile has experienced such a dramatic moment of political convulsion during the era of social media," says Paula Molina of Radio Cooperativa. "We've never seen anything like that before in terms of volume and intensity."

Fake news is nothing new to Chile, but Molina says it's harder for journalists to ignore its influence in moments of upheaval when rumors can trigger violence. That means journalists need to be everywhere at once, verifying everything. And when it comes to shoe-leather reporting, the bigger newsrooms have a clear advantage over smaller, independent digital media startups. Radio Cooperativa, Molina says, "has a big team of reporters to dispatch out into the streets. And that was our strength; we were able to go out and see what was happening with our own eyes."

While big newsrooms may have fared better in reporting on the protests, their moment of vindication could be shortlived. Over the past few years, traditional media — both public and private, print and TV — has suffered serious layoffs due to an advertising revenue crunch. According to the Reuters Institute's 2019 Digital News Report, the financial problems have forced some TV media outlets, such as Canal 13, to outsource its camera operators and long-form news production to third-party production companies, while forcing print media — including award-winning print magazines Paula and Qué Pasa — to go exclusively online.

As the internet gets increasingly crowded with blogs and news websites, some media companies are looking to distinguish themselves, such as LaBot, the country's

first news chatbot. "We looked at Chile's digital landscape and realized that journalists and media companies weren't doing anything that used new technologies to reach the public," says Francisca Skoknic, who created LaBot in 2017 with Molina and fellow journalist Andrea Insunza. "Our objective was to find new ways to reach audience."

They did so by creat-

"GOOD JOURNALISM **IS BEING SUFFOCATED** BY THE SAME **PEOPLE WHO WANT TO SUFFOCATE DEMOCRACY**"

MÓNICA GONZÁLEZ, CIPER

ing a chatbot that takes a more conversational, DM approach to delivering the news on Facebook Messenger and Telegram, using a digital-native languae that includes emojis, short texts, and GIFs. LaBot, which requires users to sign up for free, enjoyed a spike in popularity during the 2017 presidential elections, when it registered more than 10,000 subscribers. It hopes to build on that success this year, ahead of Chile's April 26 national referendum on

a new constitution, followed by a possible constitutional convention in October.

Other digital news sites are trying to find their niche in a slumping digital landscape where nine of the top 10 Chilean websites are losing audience, according to a 2017 study by Puro Periodismo. "There is a lot of noise online so we want to help people listen to what really matters," says Andrés Almeida, editor of Interferencia, Chile's first paywall-native news site. "So we're not in the game of publishing first or constantly; we publish once a day and we pick our battles in terms of coverage."

That means going deep on a handful of important stories. For example, Almeida says, Interferenica has been doing some investigative reporting on historically underreported land-conflict issues involving Mapuche indigenous communities and, in the process, "discovered that the sub-secretary of the interior owns a house in Mapuche territory, which is illegal." Another Interferencia investigation found that the president's son was tied to a tech company that received a multi-million dollar government contract.

Almeida says the key to Interferencia's editorial independence is its paid subscription base, which allows the newpaper to publish at a slower rhythm and investigate conflicts of interest that other publications wouldn't touch for fear of upsetting government or private business advertisers. "We don't have any advertising, so we're not subject to the dictatorship of clicks," Almeida says.

While several other Chilean news sites have experimented with paywalls on certain sections of the newspaper, Interferencia was the first born behind a metered paywall, which allows three articles for free, plus two more with email sign-up before requiring readers to purchase a subscription for unlimited access. Almeida claims the plan is working. But with over 1 million visitors a month and only 1,000 total subscribers after one year,

Interferencia is still trying to figure out how to improve that conversion rate. Currently, the site's overhead is subsidized by the owners' own investment, but Interferencia hopes to reach subscriber-based sustainability by year four.

Not everyone in Chile thinks paywalls are the answer. CIPER, the country's oldest and most revered investigative news site, flashes a massive yellow banner on its homepage announcing, "We don't believe in paywalls or exclusive content. We believe in access to quality information for everyone."

CIPER, which stands for the Center for Journalistic Investigation, was founded as a non-profit organization in 2007, and currently supports its website with a combination of institutional funding from the likes of The Open Society and reader donations. Mónica González, who founded CIPER and served as its director for more than a decade, says it's "still too early to know" if their reader-supported model is working, but insists "We can't restrict public access to our articles" behind a paywall, "especially in moments of crisis. It's an ethical issue."

She says CIPER is part of a shrinking brand of serious journalism in a country that is increasingly "drunk on infotainment" and a well-financed "fake news industry" that is bankrolled by a corrupt elite and supplied by "bad journalists with high salaries. Good journalism is being suffocated by the same people who want to suffocate democracy. People don't understand that good journalism is at risk. And they don't understand that without good journalism, they are going to end up deaf and blind and vulnerable to the corrupt class."

Set amidst a series of violent protests, a fire engulfs the front of the building of El Mercurio newspaper in Valparaíso, Chile in October 2019



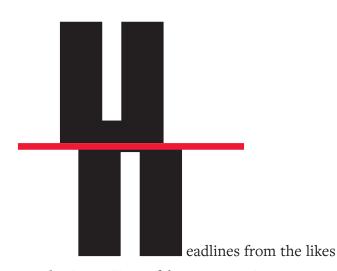
NEWSROOMS DO ABOUT

Three researchers argue the dangers of deepfakes are overblown, but they will still require journalists to give thought to how they handle unconfirmed information

DEEPFAKES?

WHAT SHOULD

BY JOHN BOWERS, TIM HWANG, AND JONATHAN ZITTRAIN



of The New York Times ("Deepfakes Are Coming. We Can No Longer Believe What We See"), The Wall Street Journal ("Deepfake Videos Are Getting Real and That's a Problem"), and The Washington Post ("Top AI researchers race to detect 'deepfake' videos: 'We are outgunned'") would have us believe that clever fakes may soon make it impossible to distinguish truth from falsehood. Deepfakes — pieces of AI-synthesized image and video content persuasively depicting things that never happened — are now a constant presence in conversations about the future of disinformation.



These concerns have been kicked into even higher gear by the swiftly approaching 2020 U.S. election. A video essay from The Atlantic admonishes us: "Ahead of 2020, Beware the Deepfake." An article from The Institute for Policy Studies asks: "Will a 'Deepfake' Swing the 2020 Election?" The numerous offerings in this genre ask us to consider a future in which voters are subject to an unrelenting stream of fabricated video content indistinguishable from reality.

The articles above — and many others like them — express grave concerns about deepfakes, largely without hazarding solutions. The threat of deepfakes to sow disinformation is real — but it is broadly overstated, and it can be mitigated by interventions centered on newsroom practices.

While deepfakes might be novel in form, there's good reason to be skeptical of their capacity to radically transform public discourse and opinion-forming. In part that's because propagandists are pragmatists, and low-barrier-to-entry mediums like text and crude photoshops might serve their purposes just as well. Many of those who might be taken in by outright conspiracy theories are not persuaded by the theories' persuasive-

Elements of facial mapping—used to manipulate images and videos to convincingly depict things that never happened—are shown on a photo of former President Barack Obama

ness so much as by motivated reasoning: They'd like to believe them to be true. When threadbare theories have currency, it's not clear that novel tools to make them appear objectively more solid would bring that many more people along.

The impact of deepfakes may be further blunted by rapidly improving detection capabilities, and by growing public awareness around the technology, courtesy of the sort of press coverage referenced above.

It's important to recognize that the most recent round of reporting reflects decades of mounting consciousness and concern. A Wall Street Journal article from 1999 titled "When Seeing and Hearing Isn't Believing" warned of the persuasive power of audio-visual "morphing" technology: "Video and photo manipulation has already raised profound questions of authenticity for the journalistic world. With audio joining the mix, it is not only journalists but also privacy advocates and the conspiracy-minded who will no doubt ponder the worrisome mischief that lurks in the not too distant future."

In the years since, decontextualized or outright fabricated content has been a staple of social media newsfeeds, breeding a degree of native skepticism and distrust that

will likely go some distance in heading off deepfake-driven sea changes in public opinion.

This is not to say that people won't be harmed by deepfakes. We're likely to see more malicious machine learning applications like DeepNude, an application which uses deepfake-style technology to synthesize pornographic images from pictures of clothed women (and only women). And those who create and spread such content should be held accountable for their harassment of their targets and the environment that it more broadly creates — a distinct problem from that of the spread of disinformation. For the latter problem, an overly strong focus on the technology tends to lead us away from thinking about how and why people believe and spread false narratives, particularly in the political domain.

This skepticism has begun to find a very visible place in the rapidly emerging dialogue around deepfakes. Last June, Joan Donovan and Britt Paris argued in Slate that low-tech "cheapfakes" can be just as damaging as deepfakes given an audience that is ready to believe, pointing to a widely circulated, primitively doctored video of Nancy Pelosi as their keystone example. In August, Claire Wardle — who leads First Draft, a nonprofit founded to fight disinformation — took to The New York Times with a video (part of which was itself deepfaked) making the case that the probable impacts of deepfakes are likely overhyped. It concludes with an entreaty to the public: "And if you don't know — 100 percent, hand-onheart — this is true, please don't share, because it's not worth the risk."

Wardle's admonition reflects an important effect that deepfakes might have on our media ecosystem, even if they're not capable of distorting public opinion to a novel magnitude. As deepfakes become an everyday part of our information ecosystem, they might hinder the ability of newsrooms to respond quickly and effectively in countering false information.

Many newsrooms — particularly those that follow Wardle's standard of 100 percent certainty — tend to take a precautionary principle. In cases where the veracity of a piece of information or content cannot be confirmed,

their tendency is not to report on it at all until such confirmation materializes. As the Code of Ethics for the Society of Professional Journalists exhorts: "Verify information before releasing it...Remember that neither speed nor format excuses inaccuracy." This already poses a challenge in dealing with text and images in a fast-moving, virality-driven news ecosystem, and technically sophisticated deepfakes may substantially raise the costs of doing conclusive forensics in the



newsroom environment. Since calling a deepfake a deepfake will, in many cases, be construed as a highly political act, newsrooms will want to take the time to get their forensics right.

This laudable principle has some uncomfortable consequences when it collides with today's media environment. In the critical first hours after their release, deepfakes may circulate through the web with comparatively little attenuation from established newsrooms and their fact-checkers. The sites that do swiftly weigh in on the veracity of a deepfake (or spread it without weighing in at all) will likely be those with less rigorous standards, promulgating half-formed assessments in the hopes of being among the first to report. In the process, they may wrest control of the narrative around the deepfake away from those best equipped to manage it responsibly.

And on the other side of the coin, this additional forensic burden will also slow the pace at which fastidious newsrooms report on content known to be definitely real or definitely fake. Allegations of various shades of deepfakery are already materializing as a tactic for sowing uncertainty around various forms of scandal-inducing evidence. One can imagine a publication releasing footage leaked to it by a White House staffer, only to have the White House accuse that publication of having passed on an excellent deepfake, kicking off a politically-charged forensic back-and-forth unlikely to result in a widely accepted consensus. Such episodes will sap the credibility of reliable newsrooms, and may lessen whistleblowers'



willingness to come forward in the first place.

These dynamics will be important regardless of whether or not deepfakes are truly revolutionary in their ability to mislead otherwise canny audiences. By making it more expensive for newsrooms to do good forensics work at the breakneck pace of the news cycle — and opening the door for those less principled — deepfakes might slip through a loophole in journalistic ethics. Even if their persuasive power doesn't far outstrip that of conventional formats for disinformation, the difficulty of quickly and conclusively debunking deepfakes (or verifying legitimate content) may bog down the traditional media institutions that many of us still appropriately rely on as counterweights against viralized disinformation.

And rely on them we do. Early visions of the digital public sphere held that the wisdom of the crowds would generally be sufficient to filter truth from fiction — that organic patterns of dissemination would naturally promote the verifiable and demote the unsubstantiated. Reality has defied this notion of a highly efficient marketplace of information and ideas, especially when that marketplace is populated with propagandists and bots hard to distinguish from everyone else. Newsrooms, fact-checkers, and the codes of journalistic ethics that ground them help us navigate this morass, leveraging their expertise and resources to provide the careful forensic work which consumers generally lack the time, skill, and inclination to undertake themselves. Jeopardizing their efficacy could be a painful blow to the health of our media ecosystem.

In a well-known deepfake video for BuzzFeed, comedianfilmmaker Jordan Peele took on the persona of Barack Obama to deliver a public service announcementone that warns against the dangers of misinformation

o, how do we navigate this tricky dilemma, one which balances the important values of journalistic ethics against the need to ensure that newsrooms can continue to fulfill their role as a critical societal counterweight to disinformation?

First, newsrooms must accelerate their ability to come to accurate conclusions about synthetic or tampered media. This will require that they expand their technical repertoire to confront emerging techniques of media manipulation. Stronger collaborations with the research community working on deepfake detection methodologies and journalists confronting this content "in the wild" would be a good first start. By giving newsrooms access to the latest tools for sussing out the veracity of content, we might place them in a better position to keep pace with the flow of disinformation. An additional option might be to create a "batphone" system, staffed by expert researchers, to which newsrooms could submit suspicious content for verification or debunking in near real time.

Second, newsrooms might, in the immediate term, favor reporting on their process rather than waiting **for a conclusive outcome.** That is, they might provide ongoing public documentation of their own journey of investigation around verifying a piece of media — the methodologies they bring to bear and the ethical challenges around rendering a decision. Just as many outlets liveblog major political and sporting events, so too might they give running accounts of their deepfake investigations in real time, providing leverage on the breaking news cycle and transparency into forensic decision-making. This might be particularly necessary in the case of high-profile, elaborate fakes where maintaining a steadfast silence would allow less scrupulous voices to fill the room — but where reaching a conclusion may take hours or days (if not weeks or months) of careful work.

Third, contextual clues around media remain a critical part of assessing veracity and the agenda of those who might seek to spread disinformation. How did a piece of content appear online? Did that content appear as part of a coordinated campaign to spread the content? When and where were the events depicted by the media purported to have taken place? Is there other media corroborating the video or image in question? In many cases, social media platforms hold the keys to this data. Greater transparency and collaborations between platforms and newsrooms could play a major role in improving the ability for journalists to investigate and verify media.

It seems unlikely that deepfakes will fundamentally and ruinously — reconfigure the public's relationship with evidence. But whether or not opinion columnists' direst predictions come to fruition, it seems almost inevitable that newsrooms operating in a world of deepfakes will be forced to shoulder a heavy new burden. Newsrooms will need to develop new partners and procedures, lest the search for proof-positive authenticity become paralytic. The fundamentally multilateral nature of this process of innovation means that they won't be able to do it alone. Propelling journalistic integrity and practice forward through the swampy terrain of deepfakes will require that researchers, platforms, and members of the public all pull an oar.

LISTEMING)) AUDIENCE AUDIFACE



N SPRING 2016, the Danish digital magazine Zetland prepared to launch its daily news operation. The effort was crowdfunded, and the team at Zetland asked their supporters what they wanted from the publication. One thing kept coming up: audio.

But Zetland hadn't raised money for an audio news operation. "We all come from a text background," says co-founder Hakon Mosbech. "We just thought text would be the ideal medium to convey what we wanted to do," which was to offer a few pieces of news and analysis each day.

After months of persistent requests from readers, Zetland "decided to do the most simple version," Mosbech says: They had their reporters read stories into a microphone. The first audio article went online in fall 2016. "The user experience was definitely really clunky," Mosbech says of the audio player embedded on the website. But people listened.

Soon, Zetland offered two audio stories a week. People listened to those, too. By 2017, Zetland reporters were narrating every story they wrote.

Now, when the magazine's 14,000 subscribers open the Zetland app, they get a sort of playlist for each day, starting with a conversational podcast and moving into narrated articles. "In a way, it's very old-fashioned the way members use us," Mosbech says, comparing it to terrestrial radio. "They open the app in the morning and they just press 'play' and listen until they finish their commutes."

Zetland's audio articles feature one voice, no outside sound, and no musical scoring — an aesthetic that's closer to audiobooks than podcasts. In an age when many podcasts offer dramatic storytelling and sophisticated audio, narrated articles may not offer the most robust listening experience, but they do offer one that's convenient for listeners and for the magazine: The audio articles serve people who are too busy to read but want to know what's on Zetland that day, and they give Zetland access to people who prefer listening without requiring the publication to invest in the equipment and training needed to make a "This American Life"-style show.

Mosbech doesn't see the audio articles as a replacement for podcasts. And he doesn't see them as a replacement for text. Rather, they complement both platforms and give the audience something they want. And Zetland has found that the listening audience is a loyal audience.

Prior to the audio experiment, departing members

said they didn't read enough stories to stay subscribed. But "when people start using us through audio, they use us more and they use us in a more stable way," Mosbech says. The average completion rate for an audio story is 90% — enviably high for anyone in a newsroom who has watched on a Chartbeat analytics dashboard as users abandon text stories a few paragraphs in. And because users hear a piece as part of a stream rather than clicking on a headline, members often listen to stories they wouldn't otherwise read. This has remade Zetland. Other publications are poised to be remade, too. The success of podcasts has shown that audio journalism, much of it delivered digitally, has a sizable audience, editorial prestige (the first audio Pulitzer will be preferred way for people to consume content," says Jim Bodor, the managing director of digital product strategy for HBR. "If audio does become, maybe not the dominant currency of the internet, but if it becomes an even more significant piece, then we have to be prepared for that."

HBR is preparing for that future by partnering with Noa (an acronym for News Over Audio), a Dublin-based app that offers curated playlists of narrated articles from a variety of publishers. HBR began working with Noa in 2019, and as of January 2020, Noa had converted 32 HBR articles to human narration. Users clicked play on those stories 32,000 times. A quarter of the listeners stayed tuned in for, on average, 90% or more of the piece. This



NARRATED ARTICLES MAY NOT OFFER THE MOST ROBUST LISTENING EXPERIENCE, BUT THEY DO **OFFER ONE THAT'S CONVENIENT FOR LISTENERS**

awarded this year), and — through podcast advertising or subscriptions to audio apps — a potential revenue stream. Narrated articles, which exist in between podcasts and text, can achieve these ends, too. The qualities that make audio engaging and valuable are present in both podcasts and narration. Harvard Business Review (HBR), The Economist, The New Yorker, and The Atlantic are among the magazines now offering an increasing number of narrated articles. Some make the narration themselves, and others turn to partnerships with news narration apps, which offer not only a share of the subscription fees the apps collect, but exposure to a new audience.

In the U.S. alone, the number of people who listen to spoken-word audio jumped by one fifth in the last five years; it's now a daily habit for 121 million people (music listening, meanwhile, has declined 5%). That's still far below the number of people who read text online each day, but publishers offering narrated articles find that listeners value depth with audio journalism, and, as they do at Zetland, often will listen for longer than they read.

These listeners have largely moved beyond the perception - once often lobbed at audiobooks - that hearing text read aloud isn't as effective a way of processing information as reading, and research offers promising support to back them up. For those not served by a publisher or an app, the technology for turning text into computerized speech is becoming more advanced and more ubiquitous; if audio isn't available for a story, a smartphone app can create it, with increasingly human-like voices.

"Audio has kind of quietly emerged ... as kind of the

is in line with other content on Noa. CEO Gareth Hickey says the average completion rate for stories in his app is 78%.

Two other apps — U.S.-based Audm and U.K.-based Curio — offer a similar service as Noa. And they operate in much the same way: They hire professional human narrators to turn text articles into audio, which they offer in a feed to paying subscribers. In exchange for giving the apps their articles, the publishers get a cut of the money and the ability to embed the audio alongside the text of the original piece (the apps' founders declined to detail the revenue-sharing agreements).

Without offering in-depth details, the apps all say growth has been steady. On average, Curio has grown in users and revenue by 30% a month since launching in 2017, says founder Govind Balakrishnan, a former senior strategy manager with the BBC. Audm co-founder Christian Brink describes the 4-year-old app's growth as consistent "since day one." All three apps have attracted VC funding in addition to subscribers.

The apps pitch themselves to users similarly, too, taking advantage of the fact that audio's increased popularity is tied to how convenient it is to listen while doing other things. HBR partnered with Noa after learning that they were missing out on these busy would-be readers. They learned that HBR users were not only saving articles to the app Pocket to read later, but were relying on Pocket's automated text-to-speech feature to listen to the pieces being read by a synthetic voice. "If you don't have the time to sit down and read a feature article in the latest issue of the magazine, we're trying to deliver you something that makes it easier to get that," says Maureen Hoch, the editor of HBR.org. "That's very valuable for our most loyal audience members."

And the proposition of finding new loyal audience members can be worth more to publishers than a share of subscription revenue. "The prerequisite to selling subscriptions is now engagement," Hickey says. Besides offering long engagement times, Noa also gives publishers exposure to a user base that's 65% aged 35 or younger. This makes for an attractive proposition. "The lead time to forming partnerships initially was many, many months," Hickey says. "In 2018, it was a couple

Any publication could start having its reporters read stories, like Zetland did, but this takes training for the reporters (which Zetland offered to its team when audio stories took off), can be expensive to do on a large scale, and it doesn't put the narration in front of new users. For publishers without Zetland's base of paying audiophile members, or without The New York Times's budget for making audio, an app partnership can be a shortcut to finding listeners.

Even publications that have been making audio for years have partnered with one or more of the narration apps, in part to find new audiences. The Economist, which is available on Noa and Curio, has made podcasts since 2006 and has offered subscribers a narrated audio edition of each issue since 2007. Like with Zetland's narration, The Economist's audio edition is a way of maintaining its subscription base. "We are a premium-priced publication and people feel guilty if they don't read many stories," says Economist deputy editor Tom Standage, who oversees audio strategy. "Our evidence suggests that the audio edition is a very effective retention tool; once you come to rely on it, you won't unsubscribe."

As popular as the audio edition is for subscribers, it remains just that — for subscribers. The app part-

nerships give The Economist a way to find new listeners (and they participate in revenue sharing, Standage says). "Partnerships like this give us an opportunity to expose new — and younger, more female, and more diverse — audiences to our brand," Standage says. "The same is true of podcasts. We make money from podcasts, but strategically their aim is to reach potential future subscribers. Any subscribers converted from the apps may find the full audio edition is the best way to get their money's worth."

Beyond the fact that users are listening, publishers can find value in what users are listening to: deeply reported, context-rich stories. "I think the distinction between podcasts and longform audio articles and e-books is blurring, and that is likely to help preserve in-depth and investigative reporting to some extent," Standage says, noting that podcasts have helped to give investigative stories new

audiences. The factors that make shows like "Serial" or the Center for Investigative Reporting's "Reveal" podcast work so well also work for narrated articles. Listening sessions aren't the same as glances at a smartphone. A story (or a playlist of stories) needs to last through a commute or workout, and it needs to engage the listener for the entire time. The format lends itself, therefore, to longer, more engaging stories. And even though narration can be produced more quickly than a podcast mix, audio is more valuable when it doesn't become out-ofdate quickly, so apps tend to feature stories that aren't likely to expire shortly after they're recorded.

When he worked at the BBC, Balakrishnan had seen in-depth reporting — one piece in particular that he recalls is a dispatch from a forward operating base in Afghanistan — languish online. "I always felt that there's so much of journalism that gets buried into the daily news agenda. And this is timeless, well-researched, topical, deep content," he says. Likewise, Christian Brink, the co-founder of Audm, says he built his app to bring longform journalism to more people. The apps often feature stories that don't typically go viral on Twitter — the entire feature well from The New Yorker, say, or a long examination of John Updike's oeuvre in the London Review of Books, all of which can be found in Audm. Even the more of-the-moment stories in the apps offer context and analysis rather than news updates. In early January, as tensions between the U.S. and Iran escalated and impeachment ground on, Curio featured analysis on Iran from The Financial Times, and Noa had a playlist of articles on Iran that offered background and context.

All of the apps, too, play the next story when one finishes, like on radio. If a listener avoids starting their commute by listening to a piece on climate change, for instance, they may very well end up hearing that story anyway, if they listen long enough. When I encountered the Updike piece in Audm's feed, I added it to my queue for listening. I'd saved it to Pocket the week before, but kept putting off reading it, as some other task inevitably got in the way. Finally, while cooking dinner one night, I put it on. At first, I needed to rewind a few times to catch phrases I missed as my mind drifted or I checked a recipe. But soon, I was engaged in the piece.

A few weeks later, as I got ready to exercise, I noticed an essay from BuzzFeed in the Audm feed that had been sitting in an open browser tab on my computer for days. I ended up jogging a few extra minutes so I could finish listening. By that point, narrated articles had become part of my routine. I saved pieces from publications I already subscribed to and I discovered a few new writers as well. I was surprised how quickly I became inured to the bare sound of a single person reading, especially given that I work mostly in audio journalism and I spend part of every day adjusting levels, trimming sound bites, and otherwise using sounds beyond narration to make audio compelling.

Naturally, text-to-audio has critics, or at least skeptics. A single-narrator reading a piece meant for print, "is not necessarily using audio to the best end," says Ma'ayan Plaut, a content strategist and podcast librarian for the podcast platform RadioPublic. The sound design that accompanies a documentary-style podcast or a radio news report is a craft that, like writing, can be appre-



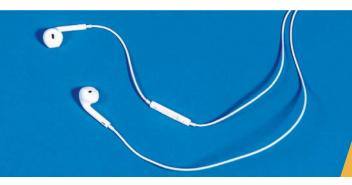
Daily American audience for spoken word audio

SOURCE: THE SPOKEN WORD AUDIO REPORT ciated on its own terms, but is also meant to help people understand a story and pay attention to it. Consider a 2018 NPR story about former coal miners with black lung, in which an affected miner struggles to keep his breath as he talks. The sound of his voice conveys information just as much as the words he says. With narration, this is lost. It seems counterintuitive, then, that this less-efficient way of storytelling has caught on as a way for busy people to consume journalism.

Further, not every story is written in a way that's conducive to narration. In a piece written for the ear, sentences tend to be shorter, concepts are explained more conversationally, and information is presented in

stories. The scans showed similar brain activity whether subjects listened or read. Deniz says this indicates people may be able to process concepts comparably whether they listen or read.

Daniel Willingham, a psychology professor at the University of Virginia who was not involved in the Berkeley study, has written on the differences and similarities between listening and reading. Reading is relatively new to humans compared with oral communication. "Evolutionary biologists would say there hasn't been enough time for the brain to evolve specialized adaptations for you to read, and so you're using parts of the brain that evolved to do other things and then apply-



AS PUBLISHERS THINK ABOUT WHERE THEIR PARTNERSHIPS TAKE THEIR STORIES, THEY'RE ALSO THINKING ABOUT HOW STORIES ARE WRITTEN

a way that acknowledges the audience can't glance at a previous paragraph if they feel lost.

Mosbech believes one reason why Zetland's audio experiment has worked so well is because the writers work to maintain a conversational style in their prose. At HBR, Hoch says stories that rely on charts aren't prime candidates to appear in Noa. And Brink says Audm tends to avoid articles that are about niche topics or that feature long excerpts of difficult-to-parse language, like quotes from ancient poetry.

But with audio, convenience can trump the downsides. Besides content, the apps can also offer a level of curation that can be difficult to get with podcasts. The mix of publishers in Audm, the algorithm-driven recommendations in Curio, and Noa's playlists based on single topics would take a lot of searching and user-level curation to replicate in a podcast app.

If users are increasingly preferring to listen to someone read rather than reading themselves, it may be good for the bottom line for apps and newsrooms, but is it good for the users? Is listening as effective as reading? Early research indicates it could be.

"The way the brain reacts is remarkably similar when you listen to something and when you read something," says Fatma Deniz, a postdoctoral researcher in neuroscience at the University of California, Berkeley. Deniz and her team recently published the results of a study in which they placed nine subjects in MRI machines and monitored their brain activity as they listened to stories from "The Moth Radio Hour" — a public radio program that features people telling autobiographical stories live on stage — and as they read transcripts of those same

ing them to the task of reading," Willingham says. "And in the case of comprehension, the process that you're using is oral language comprehension."

The key to understanding something read aloud, Willingham says, is prosody — the way words are said, the rhythm of speech, the emphasis and adjustment of tone. The sound of a voice carries tremendous meaning. Willingham cites sarcasm as an example. To say something sarcastically is easy — the speaker's voice changes slightly. To write something sarcastically, however, invites misinterpretation.

When we read, Willingham says, we interpret words and phrases as if we're hearing them. We add the vocal embellishments that a person telling a story on "The Moth" adds themselves. We even assign voices to quotes — if we know what the person sounds like (for instance, the president), we imagine the words in their voice. If we don't know their voice, we invent one. A good narrator knows to do this, either because, as with Zetland, they've written the story and know how to convey the proper tone, or, as with the apps, they're professionals who make a living interpreting text for the ear.

For example, in a narrated article on Audm, Noa, or Curio, the narrators do not say "quote" before reading a quote. Instead, they adjust the pitch of their voice. They may slow slightly if presenting a dense paragraph, or add emphasis to make certain points clearer. They will pitch their voice when they read a mid-sentence aside — like this one — and add a brief pause before and after. This quality of narration isn't yet matched by synthetic speech, which is one reason why the apps continue to hire humans to narrate stories. As voice assistants

LIZ MARTIN/THE GAZETTE VIA THE ASSOCIATED PRESS

on phones, smart speakers, connected cars, and automated call centers become more common, however, we become increasingly used to hearing computerized voices, while the technology that powers them continues to improve. If we get used to having a conversation with computers, it seems inevitable that we could get used to hearing stories from them, especially if there are financial incentives for the quality of voices to improve.

Right now, the incentives to build an app around synthetic narration of news articles aren't quite there. Play.ht founder Hammad Syed says his app grew out of a web browser extension that turned articles into automated speech. Unable to make it sustainable, Syed converted Play.ht to a service for publishers, encouraging bloggers and other writers to pay for Play.ht to create narration or podcasts of their articles. "A lot of people engage with the audio, but almost half of them,

they stopped before even completing 25%," Syed says. When Syed asked users why they stopped listening, the most common response was that the speech sounded too mechanical.

To overcome this, Play.ht publishers can now make small adjustments to their synthetic readers to more accurately mimic the prosody of human speech. It's not entirely clear whether this is enough to bring more users to Play.ht, but this is a recent advancement, and it's likely the first of many improvements that will bring computer voices closer to human voices. "While it's not for everybody right now, it's only going to continue to be better," says Josh Beckman, the founder of Narro, an app that lets its 300 users turn text articles into machine-narrated podcast episodes. Indeed, some apps, including Pocket and the recently launched news curation service Scroll, maintain their text-to-speech offerings for articles.

))) READIN

Specialized radio stations for the visually or otherwise impaired are seeking ways to stay relevant — and on the air

BY GABE BULLARD

he ever-increasing availability of podcasts, audiobooks, and narrated articles has made listening the preferred way for millions of Americans to get news and information. But people with visual impairments, learning disabilities that make reading text difficult, or physical limitations that prevent them from easily obtaining or holding printed material have long relied on audio to stay informed. Since 1969, they've been able to rely on a network of radio stations that broadcast human-read narration of everything from national magazines to local newspapers.

The stations are mostly nonprofits, staffed mostly by volunteers. They broadcast on a frequency that can only be tuned on radios that are made available to those with qualifying conditions; copyright law allows the stations to turn text into audio, but not to make it available to the general public. And they offer something different from traditional news radio audio of information that was previously only available in print, including not only the major news stories of the day, but obituaries, coupons, comics, box scores, and the latest from favorite columnists.

In the last few years, it's become easier than ever to access this kind of audio - and more - through a smartphone. And what isn't available as narration can often be read by a smartphone's text-to-speech feature. "The iPhone has revolutionized accessibility for people with vision loss just amazingly," says Lori Kessinger, outreach coordinator of the Audio Reader Network in Lawrence, Kansas.

Meanwhile, the same technological advancements that have made listening easier have devastated the primary sources of stations' local programming — newspapers. "We read the Des Moines Register every day from nine to noon, and we were having to go get supplemental material," says Maryfrances

Automated speech reaching human-level quality would present a challenge to apps, as anything could then be turned into audio without any intermediary. Currently, though, the main challenge seems to be standing out from the crowd. The narrated article landscape is like a smaller version of the streaming video world. The three listening apps offer different content, just as Netflix and Hulu offer different shows. A user could pay for all of them, or pick one based on its publishing partnerships, its curation, and other features. It's these features that the apps are using to distinguish themselves. Bodor says one reason HBR was excited to partner with Noa was the company's potential to work with Land Rover and Jaguar to get their audio into connected cars. Balikrishnan says he's thinking about location-aware content suggestions, with articles rising to the top of a user's queue based on where they are.

As publishers think about where their partnerships take their stories, they're also thinking about how these stories are written. At Zetland, Mosbech says the writing has "gotten a bit shorter, in terms of sentences and maybe also general length of articles," in response to the success of narration. And 32 articles into its partnership with Noa, HBR is considering the role audio will play in its future. Hoch wonders if audio considerations might come earlier in the editorial process, rather than at the end when pieces are sent to Noa for narration. "If we get down to what is the point of all this: We are craving information, we are craving learning, we are craving stories being told to us," Plaut says. "And the means by which it gets to us, I want to think, is more personal preference than anything else." Or, as Mosbech puts it, "You should always be able to both read and listen."

Evans, executive director of the Iowa Radio Reading Information Service for the Blind and Print Handicapped and president of the International Association of Audio Information Services (IAAIS), the group that represents stations in many states and countries. There sometimes isn't enough in the paper to fill three hours.

Rather than let new technology render them obsolete or redundant, these stations are seeking ways to stay relevant — experimenting with new sources of information, original programming, and new platforms.

At first, in their search for supplemental material, Evans's volunteers read stories from the paper's website that hadn't made it to print. Then they started reading from the Iowa Capital Dispatch, a startup nonprofit newsroom. When local news isn't available, some stations decided to make their own. Last year, for instance, the Recording Library in West Texas produced longform interviews with local candidates for public office.

But while these efforts bring unique information to listeners, it would be difficult for stations to build newsrooms. "As a tiny, tiny, and I mean tiny, nonprofit, we don't have the capability to do that," Evans says. And while original content will continue, there are reasons other than cost that reporting isn't likely to become stations' main priority. "We're not a journalistic outfit," says Ryan Osentowski, station manager at Radio Talking Book in Omaha, Nebraska. "What we are here for is to read the printed word for those who can't read for themselves. That is our mission and I don't ever see that changing."

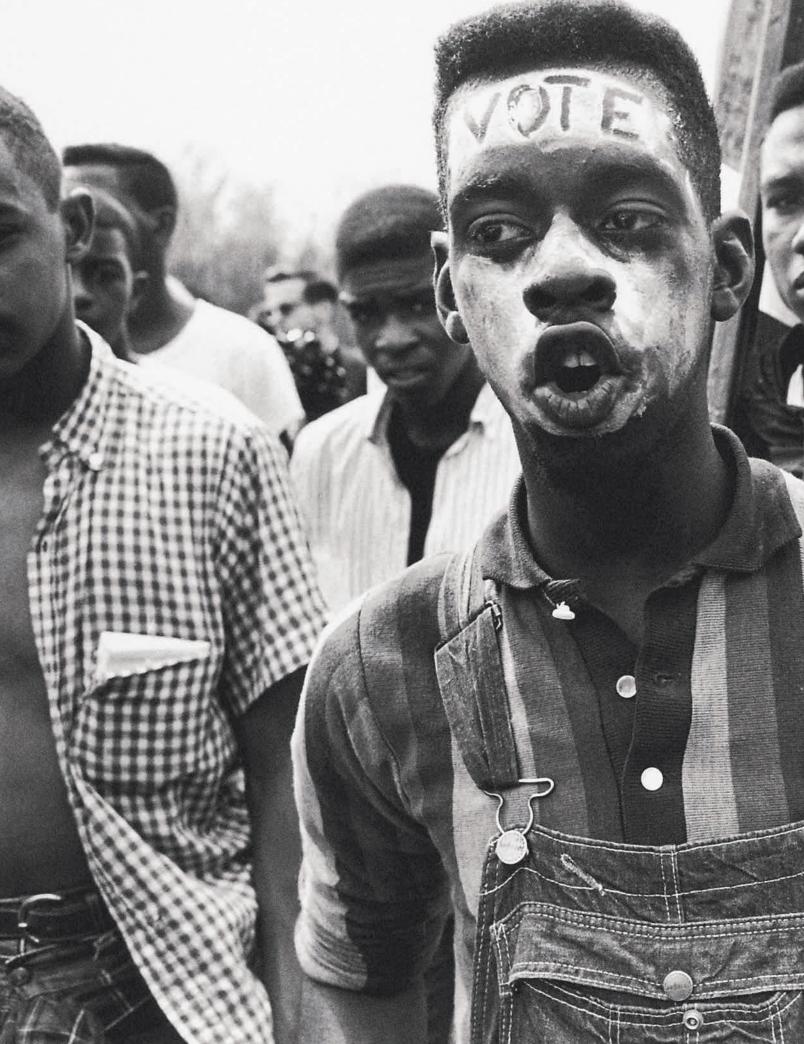
With that mission in mind, other stations are thinking about which printed words they read, and how they deliver them. For the foreseeable future, stations need to maintain their broadcast signals. Many reach areas where internet access is slow, unavailable, or prohibitively expensive for residents. A radio information service might be the only 24-hour source



of spoken content available. Even with the proliferation of spoken word audio online, Kessinger says, audiences still want obituaries, coupons, and text that isn't as easily available from news startups or screen reading software.

Stations balance these needs with the demands of listeners who grew up online and are used to getting their information whenever they want it, rather than at a certain time of day. Some stations have begun making podcasts of their original programs. Many have web streams, and a few have smart speaker skills. A streaming listener is just a few clicks from a nearly endless supply of audio produced in high-end studios by teams of reporters and editors. Why turn to a local stream of volunteers — who are, often, quite good narrators — reading the newspaper? It's the analog nature of radio: Their streams don't require subscriptions, or a search for the right app or the right story to click. Listeners just turn on the radio and hear whatever the stations are broadcasting. And often, they hear a local voice. As long as there are people with visual impairments, there will be a need for the services these stations offer, Osentowski says.

Mary McCarthy raises her hand to signal she's nearing the end of an article as Gale **Kolbet prepares** to begin the next as they read a newspaper aloud for the Iowa **Radio Reading** Information Service in a studio at the University of Iowa



To bring more context to coverage of what's happening now, journalists increasingly are looking to what happened then by RICKI MORELL A civil rights demonstrator participates in the 1965 Selma to Montgomery, Alabama march, led by the Rev. Martin Luther King, Jr.

hen Philadelphia Inquirer

reporter Jeff Gammage writes an article on the immigration beat, he often thinks about the history of the city he covers.

Philadelphia, the first U.S. capital, has always been a city of immigrants, from Germans in the 17th century to Koreans in the 20th century. Gammage would love to get more historical context into his work, but it's difficult under the pressure of daily deadlines and hourly tweets. He hopes that a new partnership between Inquirer journalists and local historians will help.

"Even when I was a young reporter covering city council meetings, I'd think, 'This didn't just spring out of thin air. A whole host of things happened to bring us to this moment," he says. "I try to think of all my stories that way: How did we get here? And what does the past have to say about the present?"

> To try to answer these kinds of questions in daily journalism, the Inquirer has teamed up with Villanova University's Albert Lepage Center for History in the Public Interest and the Lenfest Center for Cultural Partnerships at Drexel University under a grant from The Lenfest Institute for Journalism, the nonprofit group that owns the Inquirer. The pilot program focused on three areas of coverage—infrastructure, immigration, and the opioid crisis—that could benefit from a historical perspective. The collaboration will continue this year. A December 2019 meeting focused on topics suchs as the 2020 presidential election and the U.S. Census.

> "We're at a very extraordinary time in American history, where agreeing to a common set of facts has become very difficult," says Stan Wischnowski, the Inquirer's executive editor. "When you combine high-impact journalists—with great track records of being accurate, fair, and thorough—with historians trained to dig up factual information, the driving force is getting to those common sets of facts in a way that makes it very clear to our audience that they can trust what we're saying."

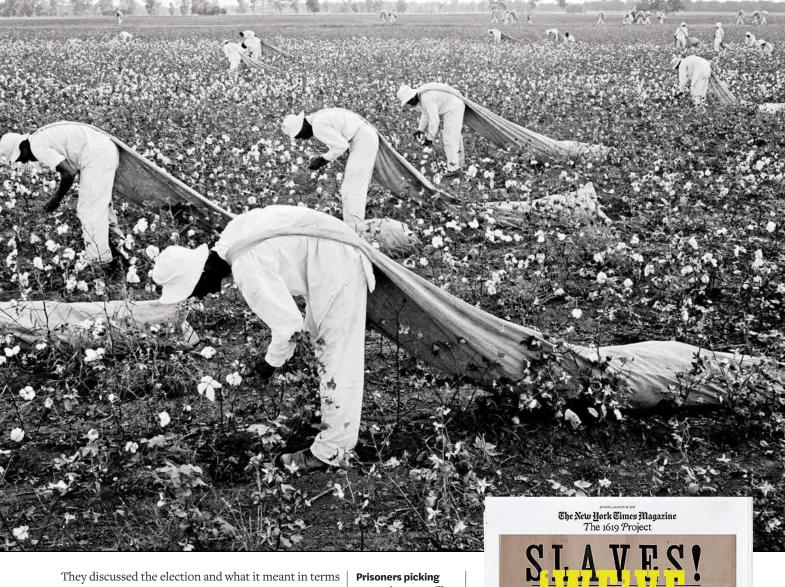
The Lepage project highlights a growing acknowledgment that journalists and historians toil in the same field, although with different goals and perspectives. Journalists write the "first rough draft of history," according to the aphorism often attributed to Washington Post publisher Philip Graham. The historian's task is to dig deeper and uncover the larger trends and consequences of historical events. But journalists also need to incorporate more history into their reporting to counteract the hype of partisan politics, amplified by social media's emphasis on the immediate and the inflammatory. Hot takes can't handle the backstory of history. Moreover, as traditional history education wanes, more academics see the value of cooperating with journalists to participate in the public sphere. A historical perspective can add clarity and context to current events.

In fact, historians who do interviews with reporters eager for context—or who write non-academic pieces for mainstream publications—may be offering the only history lessons many people receive. A 2018 report by Northeastern University history professor Benjamin M. Schmidt confirmed a worrying trend: since the 2008 economic crisis, history has seen the steepest decline in majors, despite increased college enrollment overall. Jason Steinhauer, the Lepage Center's director, says bringing history to bear on contemporary issues is part of the center's mandate and often "that happens through the press, mediated by journalists."

At a June meeting, Inquirer journalists and eight historians from local universities—including Villanova, the University of Pennsylvania, and Drexel-agreed on topics that had "resonances nationally and impact locally." The two groups sought to understand each other's professional exigencies. The scholars saw the deadline and economic pressures that journalists face, while the journalists came to appreciate the scholars' pressures to publish and teach. They also acknowledged each other's strengths: journalists respect historians' depth of knowledge, while historians benefit from journalists' ability to explain things for popular consumption. "Historians are eager to have their expertise and views inserted into the public discourse," says Steinhauer, who is a public historian with a specialty in history communication.

The journalists left with expanded source lists and a sense that their beat knowledge combined with the historians' expertise could lead to stronger coverage, something often missing in the 24/7 news cycle. "Journalists have been using historians as sources for a long time," Wischnowski says. "The challenge going forward will be: Can we maintain a cadence that serves the needs of news organizations?"

Iris Adler, the executive director for programming, podcasts, and special projects at Boston public radio station WBUR, decided to create a history-infused podcast after the election of Donald Trump. On the eve of the January 2017 inauguration, she attended a discussion on "opportunities and challenges for the new administration" at Boston's John F. Kennedy Presidential Library and Museum. Among the panelists were Ron Suskind, the Pulitzer-Prize winning journalist, and Heather Cox Richardson, a professor of history at Boston College.



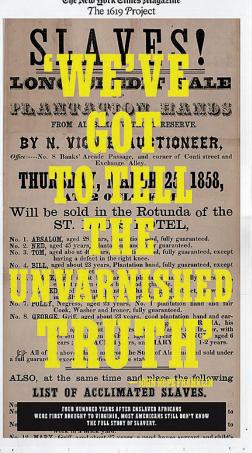
They discussed the election and what it meant in terms of American history. She liked the way Richardson took the long view, back to the 1800s, and how Suskind expounded on more recent presidential history.

Adler asked them to team up to create "Freak Out and Carry On," a 2017-18 WBUR public radio podcast. "With the luxury of the half-hour format, and not a four-minute report, we had a chance to maybe choose one or two things that happened in the week, and take a deep dive," Adler says.

In June 2017, Suskind introduced listeners to the show this way: "Welcome to the new politics and history podcast that asks, 'What is happening? And has it happened before?" Then, Richardson added: "I wanted to do this podcast because when I read news about the Trump administration's actions, it always frustrates me when it seems like journalists have no concept of what happened before—about a minute and a half ago."

In the show, Suskind went on to say that stepping back from the daily grind is more important than ever: "Right now journalists are often filing two or three times a day, and that's not going to work in terms of giving people a sense of what's really going on." Richardson added that context is particularly important because the country is at a pivotal moment: "We are watching Americans re-examine the basic principles of the American government." She cited other such moments: the American Revolution,

Prisoners picking cotton in Huntsville, Texas in 1968. The New York Times Magazine's 1619 Project—a special print section of which is seen at right—examined how slavery's legacy continues to permeate contemporary America



the Civil War, the New Deal, and the Reagan Revolution.

To understand how the Trump presidency fit into this progression, Suskind and Richardson discussed issues such as Trump's firing of FBI director James Comey and the violent white nationalist and neo-Nazi rally in Charlottesville, in which a young counter-protester was killed. An August 2017 podcast episode featured Harvard law professor Randall Kennedy, who writes about the intersection of race and the law, and the late journalist and Civil War historian Tony Horwitz. All agreed that the event was a shocking and watershed moment in American history. The white nationalists were protesting the removal of Confederate statues by marching with torches

"THE ABSENCE OF HISTORY IS THE ABSENCE OF THE ABILITY TO TELL THE WHOLE STORY"

NIKOLE HANNAH-JONES, NEW YORK TIMES MAGAZINE STAFF WRITER

through Thomas Jefferson's University of Virginia, and shouting "Jews will not replace us." Richardson suggested that the Charlottesville incident created a new kind of explicit link between neo-Nazism and the debate about Confederate monuments, while Horwitz said that it laid to rest the post-Civil War whitewash of the pro-slavery Confederacy as a "heritage" movement.

Later, reflecting on the year-long podcast, Suskind says they were trying to tell listeners, "Here's what you're seeing. Here's where it fits into the American firmament and here's how you ought to think about this." After the podcast ended, Richardson used Facebook posts and a free daily newsletter to continue to broadcast her take on breaking news. Richardson says she started the Facebook "diary" in fall 2019 on a professional page that

The work of Jill Lepore, a professor of American history at Harvard and New Yorker staff writer, often straddles the line between history and journalism



had 22,000 followers. Two months later, in November, it had more than 125,000. "In my field we're really good at research and what we study is how societies change," Richardson says. "We're good at theory ... Journalists are good at catching an audience ... It's important that we work together and combine our skill sets."

The groundbreaking New York Times The 1619 Project demonstrates the potential of collaborations between journalists and scholars. It reframed American history by making a provocative assertion: The year that the first slave ship arrived in the English colonies marks the true year of the nation's founding.

Nikole Hannah-Jones, a New York Times Magazine staff writer and the driving force behind the project, recruited a wide-ranging group of historians as she developed her idea and pitched it to editors. The project, which consisted of a special issue of the magazine and a corresponding special section of the newspaper, was published in August 2019, on the 400th anniversary of the year a ship called the White Lion arrived in Virginia carrying 20 to 30 enslaved Africans. The special issue documented the many ways that slavery's legacy has permeated contemporary American life. It contained history-infused explorations of traffic jams and health care, and even an analysis of the link between slavery and "the sugar that saturates the American diet." Along with historians and academics, Hannah-Jones recruited poets, playwrights, and novelists to illustrate how black resistance to slavery and racism spurred progress and equality for all Americans.

Hannah-Jones says she was actually looking for a low-key assignment when she pitched the idea a few days after returning from an 18-month leave to write a book, which still needed her attention. But she knew that the anniversary, which wasn't well-known, was approaching and "it seemed like a duty and an opportunity to write about it," she says.

Once her editors green-lighted the project as a special issue, she reached out to 18 scholars to brainstorm with editors. About a dozen agreed to participate. "Any work of journalism that is trying to be big and important to some degree, has to understand the history of how we got here," says Hannah-Jones, who received a MacArthur "genius" grant in 2017. "The absence of that history is the absence of the ability to tell the whole story, to give readers the full context of what's going on right now."

The special sections sold out on the day they were put online in the NYT Store, with a waiting list of 35,000 people. In addition, the paper turned the project into a school curriculum in cooperation with the Pulitzer Center. Books are also in the works. The outsized reaction was mostly positive, although some conservatives criticized it and some scholars found its approach reductionist. In December, the Times printed a letter to the editor from five prominent historians who questioned the accuracy of some of the project's central facts and requested corrections. The historians maintain that the nation's founders did not, as The 1619 Project's lead essay by Hannah-Jones states, declare independence from Britain "in order to ensure slavery would contin-



ue." They take issue with the claim that, "for the most part," black Americans have fought their freedom struggles "alone" and they called the description of Abraham Lincoln's views on racial equality "misleading" because it "ignores his conviction that the Declaration of Independence proclaimed universal equality, for blacks as well as whites." In a lengthy response, Jake Silverstein, The New York Times Magazine's editor-in-chief, declined to issue corrections and characterized the disagreement as a debate among scholars about how to see the past. He notes that the paper intends this year to host public conversations "among academics with differing perspectives on American history."

ilverstein says it's not the first time the magazine has published a special section steeped in history. In August 2018, the magazine published "Losing Earth: The Decade We Almost Stopped Climate Change," which he describes as "a work of historical investigative journalism." The narrative by Nathaniel Rich addressed the years from 1979 to 1989, when the causes and dangers of climate change became widely known. Current aerial photographs were juxtaposed with the written history to further understanding of how the world failed to act on climate change at a pivotal time.

But nothing has come close to the reception that The 1619 Project has received. "It hit a nerve because it was surprising to a lot of people, even well-educated people who think of themselves as enlightened," PBS's "Retro Report" explored how the controversial **Baby M case** involving surrogate mother Mary Beth Whitehead, pictured above with her daughter and husband, still impacts surrogacy laws today

Silverstein says. "We've heard from so many people who say, "Wow, I didn't know this.""

Elena Gooray, The Philadelphia Inquirer's opinion coverage editor, found the project useful as inspiration for an idea that arose in collaboration with the Lepage Center. She asked four scholars to answer the question: "Where does the American story begin?"

The September 15, 2019 editorial page, pegged to an upcoming Lepage Center public event on "Revisionist History," contained four 300-word answers from historians from Villanova University, Philadelphia's Museum of the American Revolution, the College of William & Mary, and Howard University. Gooray says she had never before worked on a package so steeped in history since joining the paper in November 2018: "One of my goals in this collaboration was to produce content that engages readers and gives them a bit of insight into the process of writing history."

Still, journalists must beware of the pitfalls of viewing historical events and documents through a modern-day lens. "They don't get the language of the past, so they can make a bad mistake," Richardson says. The most prominent recent example has been Naomi Wolf's book "Outrages: Sex, Censorship and the Criminalization of Love," an examination of Victorian laws surrounding same-sex relations. Houghton Mifflin Harcourt cancelled publication after it was revealed in a BBC interview that Wolf mistakenly asserted that she had found evidence of "several dozen executions" of men accused

of having sex with other men. It turns out she misunderstood the legal term "death recorded," which actually means that the men had been pardoned.

"Making sense of the present by revealing the past" is the tagline of the PBS "Retro Report," a public television series that debuted in October. The show is the latest project from retroreport.org, a nonprofit that produces short-form documentaries exploring the recent history behind current events. The nonprofit has also partnered with other news organizations such as The New York Times, Politico, and The Atlantic. The PBS show, hosted by journalist Celeste Headlee and actor-artist Masud Olufani, is styled after "60 Minutes," with three or four short pieces and a comedy kicker by New Yorker humor writer Andy Borowitz.

'HISTORIANS THINK CLOCKWISE. JOURNALISTS TEND TO THINK COUNTER-CLOCKWISE"

JILL LEPORE, NEW YORKER STAFF WRITER AND HARVARD HISTORIAN

The show has delved into such diverse topics as why texting may be able to reduce suicide rates, and how a well-known court case still shapes surrogate parenthood. The segment on rising suicide rates explored how a current program to send short, caring text messages to those at risk echoed a San Francisco psychiatrist's unusual research experiment in the late 1960s, in which researchers sent caring letters to discharged patients. The patients who received the letters had half the suicide rate of those who hadn't. The segment on surrogacy retold the controversial case of Baby M, an infant birthed by surrogate mother Mary Beth Whitehead, who then fought to keep her. It is considered the first American court ruling on the validity of a surrogacy agreement, and the piece outlined how its legacy still affects the laws around surrogacy today.

Executive producer Kyra Darnton calls the work of "Retro Report" "the second draft of history." The shortform video format, easily shared on YouTube, has the added benefit of being attractive to younger viewers who may not be aware of the context of current events. Although the shorts may feature historians, journalists typically track down participants in prominent episodes from the past to see if their perspectives have changed over time — and to correct the record when necessary.

One short delved into the myth of the "superpredator" by interviewing the then-Princeton political scientist who coined the phrase in 1995. John Dilulio, Jr. had predicted an explosion of juvenile crime committed by young people so "severely morally impoverished" they would be capable of profound violence with no remorse. This theory came back to haunt the politicians who espoused it at the time, including both Hillary and Bill Clinton and current Democratic presidential candidate Joe Biden, because it helped justify harsh policing policies and mass incarceration of young black men. But just as a panic developed, and states began passing tougher laws, juvenile crime rates started plummeting. Social scientists attributed the drop to a variety of factors including a stronger economy, better policing, and a decline in crack cocaine use. Still, it took until 2012 for a public repudiation. In the "Retro Report" piece, Dilulio, now at the University of Pennsylvania, looks straight into the camera and says "The superpredator idea was wrong. Once it was out there, though, it was there. There was no reeling it in." Darnton says the biggest "Retro Report" successes come "when someone involved in an issue says, 'This is where I was right and this is where I was wrong."

Hannah-Jones, who was a daily journalist for much of her career, including stints at The Raleigh (N.C.) News and Observer and the Portland Oregonian, says a beat reporter, whether covering a school board or a foreign war, must incorporate historical context. "Reading history — and writing two paragraphs of historical context in a daily story — is just part of being a good beat reporter, like reading a budget or taking a source to coffee," she says. Investigative reporters working on prize-winning exposés could also incorporate a historical perspective to give a more systemic look at intractable problems such as segregation. "I definitely think big investigative projects do not do enough of that," Hannah-Jones says.

nspired by the Lepage project in Philadelphia, Jennifer Hart, an associate professor who teaches African history courses at Wayne State University, is organizing a series of workshops with news organizations in Michigan. Increasingly, she says, younger scholars who are digital natives acknowledge the power of reaching a wider audience through journalists and through their own public-facing work. Hart maintains a blog called "Ghana on the Go," which she uses to expound on her area of research expertise, the history and culture of automobile use in Ghana. She also tweets and uses Instagram to showcase her work. Journalists, she adds, must also understand the importance of ensuring that historians get credit for their work when it is cited. With the workshops, Hart wants to create a space where "we could all sit down in the same room, and could talk about best practices, and inform each other how we do our work."

Jill Lepore, the Harvard American history professor who is also a staff writer at The New Yorker, straddles the line between history and journalism and sees deep differences. "Journalists often take a look at something in the present and go poking around looking for something similar in the past," she says in an email. "Historians think about structures, and about change over time ... Historians think clockwise. Journalists tend to think counter-clockwise."

Lepore adds that because the two disciplines have such different orientations, journalists should exercise caution when wading into historical analysis. Just like historians, journalists can avoid errors by sticking to basic standards of evidence and argument. Conversely, historians can learn from basic journalistic technique: "...journalists have professional rules, ethical guidelines,





The funeral of Robert Sandifer, 11, who had killed a teenage girl before being shot by fellow young gang members. "Retro Report" hosts **Celeste Headlee** and Masud Olufani, left, delved into how the incident gave rise to the myth of "superpredators"

for writing about people; historians don't... Historians tend either to ignore people or to treat them as props."

Horwitz, who died last May, managed to carve a niche as a kind of hybrid journalist-historian, "equally at home in the archive and in an interview," as Lepore put it in a remembrance in The New Yorker. He won a Pultizer Prize for national reporting when he was a Wall Street Journal staff writer, and called his later work as an author "participatory history." His final book, "Spying on the South," retraces Frederick Law Olmsted's route through the South in the 1850s during the years Olmsted wrote dispatches for The New York Times. Horwitz follows his route by taking trains, boats, and even a mule, beginning in Maryland, down the Ohio and Mississippi rivers, into Louisiana, Texas, and, briefly, Mexico. Using his journalistic skills, he introduces the reader to characters who shed light on the racial and political divide. Using a historian's perspective, he maps these present-tense scenes onto Olmsted's observations about the pre-Civil War South. "Tony liked to toggle between now and then ... not for forced parallels (always the danger) but for striking, jarring, crucial contrasts," says Lepore, a former president of Columbia University's Society of American Historians (SAH), as was Horwitz.

While Horwitz explored "history's unsettled disputes and unfinished business," according to a remembrance on the SAH website, Gammage, the Inquirer reporter who was part of a team that won a Pultizer Prize for the paper in 2012, has a more modest goal. He would simply like to have a few reliable historians as sources among his contacts, so that he can give his readers the most accurate representation of the present, informed by the past. ■

NIEMAN NOTES

1963

Nguyen Thai is the author of "Crooked Bamboo: A Memoir from Inside the Diem Regime." An insider account of South Vietnam's Ngo Dinh Diem regime, it was published by Texas Tech University Press in October.

1966

Robert Giles is the author of "When Truth Mattered: How One Newspaper's Factual Reporting Created an Enduring, Truthful Narrative of an American Tragedy." A look at coverage of the 1970 Kent State shoot-ings, the book will be published in March by Mission Point Press.

1973

Ed Williams is the recipient of the inaugural First Amendment Award from WFAE, Charlotte's NPR affiliate. Williams was a longtime editorial page editor for The Charlotte Observer.

1980

John Larsen is the author of "The Perfect Assignment: A Memoir of Journalism in the Golden Age," published by TidePool Press in January.

1988

Dale Maharidge is the co-author, with Jessica Bruder, of "Snowden's Box: Trust in the Age of Surveillance." It was published by Penguin Random House in February.

1990

John Harwood has joined CNN as a White House correspondent. Previously, he was a chief Washington correspondent and editor-at-large at CNBC.

1998

Gene Weingarten is the author of "One Day: The Extraordinary Story of an Ordinary 24 Hours in America." The book, which recounts moments from a conventionally "ordinary" day in 1986, was published by Blue Rider Press in October.

2005

Joshua Hammer is the author of a new book, "The Falcon Thief: A True Tale of Adventure, Treachery, and the Hunt for the Perfect Bird," which was published by Simon & Schuster in February.

2007

Eliza Griswold is the author of a new book of poetry, "If Men, Then," published by Farrar, Straus and Giroux in February.

2009

Margarita Martinez's behind-the-scenes documentary about the Colombian peace process, "The Negotiation," won the best documentary award at the International Festival of Cinema and Collective Memory in Morocco.

Alfredo Corchado has been named the 2020 Justice Media Trailblazer by the John Jay College of Criminal Justice and The

Crime Report. He was recognized for his work covering the Mexico-U.S. border.

2015

Henry Chu has rejoined the Los Angeles Times as a deputy news editor based in London. He previously worked for the Times from 1990 to 2015, including as a foreign correspondent and bureau chief.

2016

Cansu Camlibel is the new editor in chief of the independent online newspaper Duvar English in Istanbul, a role she assumed in October. Previously, she was a D.C. correspondent for Turkey's Hürriyet paper.

Hamish Macdonald has a new job as the host of "Q&A," a panel discussion show broadcast by ABC in Australia, a role he assumed in February. Macdonald previously hosted a current affairs program on Network 10.

2018

Emily Dreyfuss is the editorial director at Protocol, a new publication—owned by Politico founder Robert Allbritton—covering the people, politics, and power of the tech world. Most recently, Dreyfuss was a senior writer at Wired.

2019

Francesca Panetta joined the MIT Center for Advanced Virtuality as the XR creative director in fall 2019. In her role, she spearheads the creation of a variety of XR works, including virtual, artificial, and mixed reality.

The Nieman Foundation announces the 2020 Knight Visiting Nieman Fellows

The Nieman Foundation for Journalism at Harvard has selected a group of eight media innovators as the 2020 Knight Visiting Nieman Fellows. The group includes a features writer, an editor/producer, an audience development associate, the executive director of a media group, two freelance journalists, a software engineer, and an English professor. They will each spend time at Harvard University this year to develop a project designed to advance journalism.



Mercy Adhiambo, a features writer at The Standard in Kenya, will study innovative storytelling and best

practices for investigative and in-depth reporting on children in vulnerable circumstances.



Nicole Barton, an audience development associate at NPR-member station KQED in San Francisco, will research

how children ages 5 to 7 consume information and how local public media can build news products to serve and develop that audience.



Erika Dilday, executive director of The Futuro Media Group, will develop a plan to scale and sustain local

community media labs, which help marginalized audiences tell their own stories authentically and shape the

broader narrative around issues of race and class.



Wendy Lu, an editor and producer for HuffPost, will examine the state of disability reporting and representation in the

media. She will develop a curriculum of professional reporting workshops designed to educate reporters on how to cover disability issues and train newsrooms to be more inclusive of

THE MILWAUKEE JOURNAL SENTINEL

Under the influence of architecture critic Whitney Gould, NF '74

Fellow Milwaukee journalist Mary Louise Schumacher, NF '17, reflects on her friend and mentor

When Larrived at the Milwaukee Journal Sentinel in the summer of 2000. Whitney Gould and I were part of a team that covered the biggest cultural story in our community at the time, an audacious art museum being built beside Lake Michigan. I often called my mother with regular dispatches, and she cast the many vivid characters, including some in the newsroom, into a sort of fantasy film adaptation. When my mom suggested Vanessa Redgrave could play the role of Whitney, the paper's intrepid architecture writer, I knew I had faithfully captured something of Whitney's stature and elegance in those calls home.

Indeed, for years, architects, developers, and urban planners anticipated and braced themselves for the arrival of the paper on Mondays, when Whitney's column appeared prominently on the cover of the local section. She could deliver sharp critiques not only because of her expertise and wellreasoned arguments but because of the generosity and sense of fairness inherent to her journalism. Whitney, who was 76, an unapologetic devotee of modernism who lived in a colorful and impeccably



restored Victorian home on Milwaukee's East Side, died in December. She was the longtime urban landscape writer and architecture critic at the Journal Sentinel, where, after she left in 2007, I took over some of her role. As I look across Milwaukee's urban landscape today, I can see Whitney's influence everywhere, in the prominent projects she championed, like Calatrava's wing for the Milwaukee Art Museum, or Discovery World, a sleek science and technology center, the design for which was completely revamped in the wake of her initial review.

But I also see her influence in countless details that make a city more livable—the setbacks, the pocket parks, the mullions, the materials. She was as likely to dedicate her column inches to the ambitions of such neighborhood projects as she was to write about big-budget, headline-grabbing plans.

Whitney was also the kind of colleague that every newsroom needs, and especially an example for other women. She believed journalists should challenge one another to do their best work, and never seemed to abide by the power dynamics in our newsroom if she had something to say, particularly about a point of fairness. In the last year, I spent more time with Whitney than I normally did. We made an unusual foray into activism together, advocating for the preservation of a work of landscape architecture by Dan Kiley that had been threatened with demolition. I'll never forget seeing Whitney helped into her seat on the day of the hearing by our rival in that debate, an architect whom Whitney had written about flatteringly and often in the past. She had mobility issues, and he did too. In a busy and packed room, where no one was paying much attention, he struggled to his feet to help her to her chair, where she would deliver aloud a potentially reputation-altering critique of his plan to destroy the Kiley grove. In that graceful moment was a whole history about Whitney's legacy, about the kind of courage required to speak one's mind in public, even against those we respect, and an unshakable civility that was contagious.

disabled journalists, both in hiring and in overall workplace culture.



Tomer Ovadia, a software engineer at Google, will research ways platforms like Google and Facebook

can better identify and promote highquality, original reporting and improve incentives for original content in the news ecosystem.



Amy Silverman, a freelance journalist and advisory board member of the National Center on Disability and

Journalism, will create a comprehensive guide for reporters, media outlets, and journalism schools to better cover people with intellectual disabilities.

Silverman is the recipient of a 2020 ProPublica Local Reporting Network grant for a series she will produce this year with the Arizona Daily Star in Tucson.



Elizabeth Toohey, assistant professor of English at Queensborough Community College, City

University of New York, will develop an immersive journalism curriculum model for community colleges. Her work is part of a larger project to redesign college composition courses by basing them in media literacy.



Lewis Raven Wallace,

a freelance journalist and co-founder and national program director of Press On, will research historical and current

examples of movement journalism. Press On is a Southern collective for movement journalism, which focuses on liberation and racial justice issues.

Nieman created the visiting fellowship program in 2012 to invite individuals with promising journalism research proposals to take advantage of the many resources at Harvard University and the Nieman Foundation. In 2015, the John S. and James L. Knight Foundation provided a \$223,000 grant to support the Knight Visiting Nieman Fellowships. Those eligible to apply include publishers, programmers, designers, media analysts, academics, journalists, and others interested in enhancing quality, building new business models, or designing programs to improve journalism.

What Could Trauma-Informed Journalism Look Like?

Seeking ways to inform, not overwhelm, readers BY ANNE GODLASKY

hen I hear teachers, soldiers or ministers talk about what they do as a calling, I get it. Despite public belief, journalists carry a similar sense of duty and purpose, of being of service to a healthy society and a functional democracy.

I fell into journalism at age 15 because I loved reading and writing and storytelling. But I fell in love with journalism because of its ideals: truth, fairness, giving voice to the voiceless. As an introvert, I didn't recognize myself in the bulldog reporters made heroic in movies, but I wanted to belong in a newsroom somehow.

After graduating, I got a job at USA Today, updating the website overnight. This difficult shift was a beautiful opportunity. I moved to days, I moved to new teams. I observed how newsroom veterans made decisions, I scrutinized audience behaviors, I clung to the advice of mentors and practiced the craft. Later, I'd become a social media director, an editor on gender in the time of #MeToo, and part of the investigations team. Journalism fulfilled all its promises.

And yet.

It was hard in ways I hadn't expected. Of course, there were long hours, layoffs, and increasing workloads, but I was least prepared for how it would feel to handle tragic content every day.

I remember searching for photos for a Hurricane Katrina story and seeing a decomposing body on a porch. After the earthquake in Haiti, it was crushed skulls. Then there was the Virginia Tech

Can people be informed citizens without feeling vicariously traumatized?



massacre — followed by more shootings than I could've imagined.

Early in my professional life I learned to compartmentalize. I proceeded for years relatively unscathed — proud, even, of a cynicism I thought I wore well, naively believing the walls I built would stand my whole career.

All it took was 8 pounds, 2 ounces to knock them down. The birth of my first daughter changed my work. Violence felt violent again. My fears for the world and my fears for her converged in a torrent. I learned to function as a mother and a journalist, but I can't build up the walls I had before. And I don't want to.

There are so many people like me who want to be informed but can't shake what they hear, read, and see on the news. But unlike me, it's not their job to follow it, so they simply don't.

Almost seven in 10 Americans say they're worn out by the news, according to Pew Research Center. Studies suggest it's not only the ceaseless pace and volume, but the disturbing content that's to blame. A 2019 Reuters Institute report found that 41% of Americans sometimes or often avoid the news. In an earlier Reuters report, nearly half of respondents who said they avoid the news say they

do so because it negatively affects their mood. Countless articles advise limiting news exposure for better productivity, better relationships, and better mental health. Some of my loved ones who have experienced trauma say their therapists advise them to turn off the news.

Traumatic events are inherently newsworthy and journalists can't make newsmakers good, the world peaceful, or the public happy. But could we cover traumas, large and small, better? Can people remain informed citizens without feeling vicariously traumatized or experiencing compassion fatigue? I don't know the "how" yet, but the answers must be yes. If people feel they must choose between consuming news and their own well-being, they will choose the latter.

That is why I'm studying news avoidance and mental health, specifically trauma, at Harvard. While there are many reasons for news avoidance, this one particularly interests me because of the potential civic impact on already marginalized or oppressed groups. Studies show women are more likely to be upset by the news and more likely to avoid it. It's noteworthy that women and those who identify as LGBT also have higher rates of post-traumatic stress disorder than men and heterosexuals, respectively. African-Americans also have higher rates of trauma exposure, as do people from low-income backgrounds.

In fact, most Americans experience at least one trauma in their lifetimes, putting them at greater risk for depression, anxiety, substance abuse, and other issues. If trauma and the fear of re-traumatization also contributes to news avoidance, that means these already vulnerable populations are consuming less news. Studies have shown that people who consume less news are also less likely to be civically engaged. They may vote less or, if they do vote, be less informed about how candidates would impact their lives. News avoidance has a direct impact on democracy.

Trauma-informed approaches have already been adopted in schools, doctors' offices, and even yoga studios. What could trauma-informed journalism look like? We must re-examine our values and go beyond current practices to make sure our content is responsible to and resonant with those who need it most.

Anne Godlasky, a 2020 Nieman Fellow, is an editor at USA Today

MARTHA STEWART

"Millions of dollars in disaster recovery money seem to be flowing through the bureaucracy of local and federal government as well as the private sector, but not the people. Almost 90 percent of the money is going into the pockets of U.S. companies, instead of Puerto Rican. The process has been held hostage to corruption... Puerto Rico's people need each and every cent of the money. We at CPI will continue to keep track of this complex yet critical process."

Carla Minet, executive director, Centro de Periodismo Investigativo



Puerto Rico's Centro de Periodismo Investigativo (CPI, the Center for Investigative Journalism) is winner of the 2020 Louis M. Lyons Award for Conscience and Integrity in Journalism for its relentless drive in investigating the most pressing issues on the island, including the government's mismanagement of public funds; the death count after Hurricane Maria; the ongoing debt crisis; and the secret communications among the island's top political leadership in an encrypted messaging app, which when revealed by CPI, sparked protests and ultimately led to Gov. Ricardo Rosselló's resignation from office. The award was presented by the Nieman Class of 2020 in January. Above, 2020 Nieman Fellows Selymar Colón and Andras Petho are flanked by Omaya Sosa Pascual, Lourdes Álvarez (left) and Carla Minet (right).

NiemanReports

White Paper: Covering and Reducing Political Polarization and Conflict

As issues of misinformation, polarization, and disengagement remain rampant in the U.S. and abroad, how are journalists working to foster civil discourse and understanding? A white paper put together by Nieman Reports—based on seminars at the SBS Digital Forum in South Korea in fall 2019 as well as Nieman Reports and Lab articles and other research—explores how journalists are experimenting with new techniques to address these challenges and offers some solutions based on the current work of journalists in the field.

Ten Ways to Constructively Cover Gun Violence

What can journalists do to report more effectively and compassionately on gun violence? Journalists, trauma surgeons, researchers, NGO representatives, and survivors of gun violence got together to reflect on that question at the Better Gun Violence Reporting Summit in Philadelphia. Among the priorities was using a public health model to report and re-engage communities in coverage. Katherine Reed, who teaches trauma and investigative reporting at the Missouri School of Journalism, shares 10 action items for newsrooms from the summit.

NiemanLab

Predictions for Journalism 2020

A new year—and a new decade—means new predictions for journalism. Each year, Nieman Lab asks some of the smartest people in journalism and digital media what they think is coming in the next 12 months, culminating in a feature with dozens of insights for what the new year might bring for the media industry.

NiemanStoryboard

Gratitude Notes

Giving thanks doesn't have to be reserved for Thanksgiving, especially when it comes to great journalism and those who produce it. Storyboard featured a series of brief daily gratitude notes from journalists about what—or who—they are grateful for in their professional lives, reminding us that, even when deadlines loom, newsrooms shutter, and the industry is in chaos, not all is bleak.