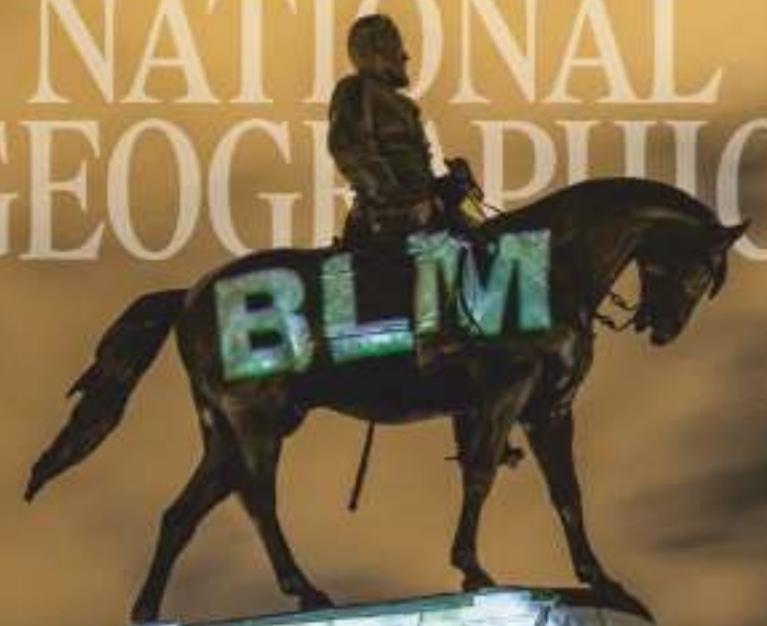




01.2021

SPECIAL ISSUE THE YEAR IN PICTURES

NATIONAL  
GEOGRAPHIC



71 Photographs From an Unforgettable Year

—ESTD 1846—

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— *Tommy Dewar*



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08.28

A DAYLONG SHOW  
OF COMMITMENT

Photograph by  
STEPHEN WILKES



Fifty-seven years to the day after Martin Luther King, Jr., delivered his "I Have a Dream" speech in front of the Lincoln Memorial, another march for civil rights and social justice drew thousands of people to the National Mall in Washington, D.C.

Organizers dubbed it the Commitment March: Get Your Knee Off Our Necks, a reference to George Floyd's May 25 killing. To capture this scene, Stephen Wilkes photographed from a single fixed camera position on an elevated crane, making images at intervals throughout a 16-hour period. He then edited the best moments and blended them seamlessly into one image.



# THE YEAR IN PICTURES

A S P E C I A L I S S U E

FIVE OF OUR PHOTOGRAPHERS REFLECT ON 2020 **P. 7**

ESSAY: IN A YEAR OF STRIKING IMAGES,  
WHY WE COULD NOT LOOK AWAY **P. 28**

▼ PAGE

# 49

THE YEAR THAT  
TESTED US

How much can any of us withstand? Deaths by coronavirus, until morgues are packed. Calls for racial equality, answered with backlash. The Earth scoured by locusts, hurricanes, fires. How much? And then how much more?

▼ PAGE

# 79

THE YEAR THAT  
ISOLATED US

A funeral with no mourners. A family visiting through a window. A virtual happy hour. Around the world, billions of people simultaneously experienced loneliness, separated from companions and solace.

▼ PAGE

# 101

THE YEAR THAT  
EMPOWERED US

The phrase "I can't breathe" took on multiple meanings, from hospital wards treating gasping COVID-19 patients to street protests where deaths in police hands triggered long-stifled cries for justice.

▼ PAGE

# 121

THE YEAR THAT  
HOPE ENDURED

Extraordinary developments occur even during terrible times. Scientists make discoveries, conservationists score victories, social movements spark change. And love, in all its forms, finds a way.

NATIONAL GEOGRAPHIC



VOLUME 239 NUMBER 1

FROM THE  
EDITOR

A year we

BY SUSAN GOLDBERG PHOTOGRAPHY BY



MANY SUPERLATIVES can be applied to 2020, most of them negative. "Worst year ever," I've heard people say—a subjective judgment we each would make differently. But it was unquestionably a harrowing year, marked by COVID-19's tragic death toll, the hurtful racial strife, and the divisive political environment.

In this special issue, "The Year in Pictures," we've documented 2020 through the work of some of the world's most gifted photographers. In our 133 years, *National Geographic* has never singled out one year for a retrospective like this. But if ever a year demanded that, 2020 does.

In some respects, making this issue was not hard. We added more than 1.7 million images to the National Geographic archive last year—likely fewer than usual because the pandemic complicated travel assignments, but still a wealth of material. The challenge was narrowing that to fewer than a hundred images for our print platform—images that most powerfully capture this astonishing year.

As we chose photos, the themes of 2020 began to emerge. The year tested us in more ways than we can list, from the still grim count of the pandemic to the events around the globe: hurricanes, locusts. It isolated us from each other. Schools and offices closed, we worked behind masks, socially distanced from our own families. Yet the year also empowered us, as the killing of a man named George Floyd at the hands of police sparked a global movement for social justice.

When you look through the images of 2020, you can find hope. You can care to see it—if not for the year itself, then for a brighter future. Look at the glowing horizon in a photograph of a couple getting married in Italy, the bride wearing a white lace mask.

We won't miss 2020. We'll remember it. And together, we greet 2021.

Thank you for reading *National Geographic*. □



## ON THE COVER

In 1890 this statue of Gen. Robert E. Lee was placed on Monument Avenue in Richmond, Virginia. The first Confederate monument there, it was the last one standing in late 2020 as its fate was argued in court. Kris Graves's photos show the statue covered in graffiti and lit with projections (from left: Frederick Douglass, George Floyd, Harriet Tubman). It's a powerful symbol of the racial reckoning under way.

We consider our cover image one of 2020's best photos—and we made a change to it that I want to acknowledge. Through our standard image toning processes, we de-emphasized 10 instances of the f-word that were visible in the photograph. It's an extremely rare step for us to take, but it honors our policy not to print that word in stories or display it in photographs.

We believe that prominently sharing the photo is more important than de-emphasizing a certain swear word; the toning does not diminish its message or impact. Meanwhile, the statue's graffiti continued to change after photographer and artist Graves (below) captured it last June, on his first assignment for National Geographic. In a year we gladly put behind us, Graves made an image that will endure. —sg



PHOTO: KRIS GRAVES (PORTRAIT)

## For adults with type 2 diabetes (T2D), along with diet and exercise, once-daily RYBELSUS® can help lower blood sugar Wake Up to the Possibilities of Reaching Your A1C Goal

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In a 6-month study of people with an average starting A1C of 8%, the majority of people taking RYBELSUS® reached an A1C of less than 7%<sup>a</sup>:

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- Nearly 8 out of 10 people on 14 mg of RYBELSUS®
- About 3 out of 10 people on a sugar pill

### RYBELSUS® may help you lose some weight

While not for weight loss, in the same 6-month study, people with an average starting weight of 195 pounds lost up to 8 pounds<sup>b</sup>:

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While many people in medical studies lost weight, some did gain weight.

### RYBELSUS® does not increase the risk of major cardiovascular (CV) events such as heart attack, stroke, or death<sup>b</sup>

<sup>a</sup>In a 6-month study looking at A1C with 703 adults with T2D comparing 7 mg RYBELSUS® and 14 mg RYBELSUS® with a sugar pill when both were added to diet and exercise.

<sup>b</sup>In a cardiovascular safety study, 3183 adults with T2D and a high risk of CV events were treated with either 14 mg RYBELSUS® or a sugar pill in addition to their usual diabetes and CV medications.

If eligible, you may pay as little as \$10 for a 30-day prescription<sup>c</sup>

### What is Rybelsus®?

Rybelsus® (semaglutide) tablets 7 mg or 14 mg is a prescription medicine for adults with type 2 diabetes that along with diet and exercise may improve blood sugar (glucose).

- Rybelsus® is not recommended as the first choice of medicine for treating diabetes
- It is not known if Rybelsus® can be used in people who have had pancreatitis
- Rybelsus® is not for use in people with type 1 diabetes and people with diabetic ketoacidosis
- It is not known if Rybelsus® is safe and effective for use in children under 18 years of age

### Important Safety Information

What is the most important information I should know about Rybelsus®? Rybelsus® may cause serious side effects, including:

- Possible thyroid tumors, including cancer. Tell your healthcare provider if you get a lump or swelling in your neck, hoarseness, trouble swallowing, or shortness of breath. These may be symptoms of thyroid cancer. In studies with rodents, Rybelsus® and medicines that work like Rybelsus® caused thyroid tumors, including thyroid cancer. It is not known if Rybelsus® will cause thyroid tumors or a type of thyroid cancer called medullary thyroid carcinoma (MTC) in people.
- Do not use Rybelsus® if:

- you or any of your family have ever had MTC, or if you have an endocrine system condition called Multiple Endocrine Neoplasia syndrome type 2 (MEN 2)
- you are allergic to semaglutide or any of the ingredients in Rybelsus®

Before using Rybelsus®, tell your healthcare provider if you have any other medical conditions, including if you:

- have or have had problems with your pancreas or kidneys
- have a history of vision problems related to your diabetes
- are pregnant or plan to become pregnant. It is not known if Rybelsus® will harm your unborn baby. You should stop using Rybelsus® 2 months before you plan to become pregnant. Talk to your healthcare provider about the best way to control your blood sugar if you plan to become pregnant or while you are pregnant
- are breastfeeding or plan to breastfeed. Breastfeeding is not recommended during treatment with Rybelsus®

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements. Rybelsus® may affect the way some medicines work and some medicines may affect the way Rybelsus® works.

What are the possible side effects of Rybelsus®? Rybelsus® may cause serious side effects, including:

- inflammation of your pancreas (pancreatitis). Stop using Rybelsus® and call your healthcare provider right away if you have severe pain in your stomach area (abdomen) that will not go away, with or without vomiting. You may feel the pain from your abdomen to your back
- changes in vision. Tell your healthcare provider if you have changes in vision during treatment with Rybelsus®
- low blood sugar (hypoglycemia). Your risk for getting low blood sugar may be higher if you use Rybelsus® with another medicine that can

cause low blood sugar, such as a sulfonylurea or insulin. Signs and symptoms of low blood sugar may include: dizziness or lightheadedness, blurred vision, anxiety, irritability or mood changes, sweating, slurred speech, hunger, confusion or drowsiness, shakiness, weakness, headache, fast heartbeat, and feeling jittery

• kidney problems (kidney failure). In people who have kidney problems, diarrhea, nausea, and vomiting may cause a loss of fluids (dehydration), which may cause kidney problems to get worse. It is important for you to drink fluids to help reduce your chance of dehydration

• serious allergic reactions. Stop using Rybelsus® and get medical help right away, if you have any symptoms of a serious allergic reaction including itching, rash, or difficulty breathing

The most common side effects of Rybelsus® may include nausea, stomach (abdominal) pain, diarrhea, decreased appetite, vomiting, and constipation. Nausea, vomiting, and diarrhea are most common when you first start Rybelsus®.

Please see Brief Summary of Prescribing Information on adjacent page.

<sup>a</sup>Commercially insured patients only. Offer valid for up to six 30-day fills. Eligibility and other restrictions apply.

<sup>b</sup>Message and data rates may apply. Check with your mobile service provider. Message frequency will be based on your selections. Text HELP to 44535 for help. Text STOP to 44535 to quit. See Terms and Conditions of Use at RYBELSUS.com.

See cost and savings info at RYBELSUS.com, and ask your healthcare provider about RYBELSUS® today.



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**RYBELSUS®**  
semaglutide tablets 7 mg | 14 mg

## Brief Summary of information about RYBELSUS® (semaglutide) tablets



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- Visit [www.novo-pi.com/rybelsus.pdf](http://www.novo-pi.com/rybelsus.pdf) to obtain the FDA-approved product labeling
- Call 1-833-GLP-PILL

Read this Medication Guide before you start using RYBELSUS® and each time you get a refill. There may be new information. This information does not take the place of talking to your healthcare provider about your medical condition or your treatment.

### What is the most important information I should know about RYBELSUS®?

#### RYBELSUS® may cause serious side effects, including:

- **Possible thyroid tumors, including cancer.** Tell your healthcare provider if you get a lump or swelling in your neck, hoarseness, trouble swallowing, or shortness of breath. These may be symptoms of thyroid cancer. In studies with rodents, RYBELSUS® and medicines that work like RYBELSUS® caused thyroid tumors, including thyroid cancer. It is not known if RYBELSUS® will cause thyroid tumors or a type of thyroid cancer called medullary thyroid carcinoma (MTC) in people.
- Do not use RYBELSUS® if you or any of your family have ever had a type of thyroid cancer called medullary thyroid carcinoma (MTC), or if you have an endocrine system condition called Multiple Endocrine Neoplasia syndrome type 2 (MEN 2).

### What is RYBELSUS®?

RYBELSUS® is a prescription medicine used along with diet and exercise to improve blood sugar (glucose) in adults with type 2 diabetes.

- RYBELSUS® is not recommended as the first choice of medicine for treating diabetes.
- It is not known if RYBELSUS® can be used in people who have had pancreatitis.
- RYBELSUS® is not for use in patients with type 1 diabetes and people with diabetic ketoacidosis.

It is not known if RYBELSUS® is safe and effective for use in children under 18 years of age.

### Do not use RYBELSUS® if:

- you or any of your family have ever had a type of thyroid cancer called medullary thyroid carcinoma (MTC) or if you have an endocrine system condition called Multiple Endocrine Neoplasia syndrome type 2 (MEN 2).
- you are allergic to semaglutide or any of the ingredients in RYBELSUS®.

### Before using RYBELSUS®, tell your healthcare provider if you have any other medical conditions, including if you:

- have or have had problems with your pancreas or kidneys.
- have a history of vision problems related to your diabetes.
- are pregnant or plan to become pregnant. It is not known if RYBELSUS® will harm your unborn baby. You should stop using RYBELSUS® 2 months before you plan to become pregnant. Talk to your healthcare provider about the best way to control your blood sugar if you plan to become pregnant or while you are pregnant.
- are breastfeeding or plan to breastfeed. Breastfeeding is not recommended during treatment with RYBELSUS®.

**Tell your healthcare provider about all the medicines you take,** including prescription and over-the-counter medicines, vitamins, and herbal supplements. RYBELSUS® may affect the way some medicines work and some medicines may affect the way RYBELSUS® works.

**Before using RYBELSUS®, talk to your healthcare provider about low blood sugar and how to manage it.** Tell your healthcare provider if you are taking other medicines to treat diabetes, including insulin or sulfonylureas.

Know the medicines you take. Keep a list of them to show your healthcare provider and pharmacist when you get a new medicine.

### How should I take RYBELSUS®?

- Take RYBELSUS® exactly as your healthcare provider tells you to.
- Take RYBELSUS® by mouth on an empty stomach when you first wake up.
- Take RYBELSUS® with a sip of water (no more than 4 ounces).
- Do not split, crush or chew. Swallow RYBELSUS® whole.
- After 30 minutes, you can eat, drink, or take other oral medications. RYBELSUS® works best if you eat 30 to 60 minutes after taking RYBELSUS®.
- If you miss a dose of RYBELSUS®, skip the missed dose and go back to your regular schedule.
- Talk to your healthcare provider about how to prevent, recognize and manage low blood sugar (hypoglycemia), high blood sugar (hyperglycemia), and problems you have because of your diabetes.

### What are the possible side effects of RYBELSUS®?

#### RYBELSUS® may cause serious side effects, including:

- See "What is the most important information I should know about RYBELSUS®?"
- **inflammation of your pancreas (pancreatitis).** Stop using RYBELSUS® and call your healthcare provider right away if you have severe pain in your stomach area (abdomen) that will not go away, with or without vomiting. You may feel the pain from your abdomen to your back.
- **changes in vision.** Tell your healthcare provider if you have changes in vision during treatment with RYBELSUS®.
- **low blood sugar (hypoglycemia).** Your risk for getting low blood sugar may be higher if you use RYBELSUS® with another medicine that can cause low blood sugar, such as a sulfonylurea or insulin. **Signs and symptoms of low blood sugar may include:**

• dizziness or light-headedness	• blurred vision
• anxiety, irritability, or mood changes	• sweating
• slurred speech	• hunger
• shakiness	• weakness
• fast heartbeat	• feeling jittery
- **kidney problems (kidney failure).** In people who have kidney problems, diarrhea, nausea, and vomiting may cause a loss of fluids (dehydration) which may cause kidney problems to get worse. It is important for you to drink fluids to help reduce your chance of dehydration.
- **serious allergic reactions.** Stop using RYBELSUS® and get medical help right away, if you have any symptoms of a serious allergic reaction including itching, rash, or difficulty breathing.

**The most common side effects of RYBELSUS® may include** nausea, stomach (abdominal) pain, diarrhea, decreased appetite, vomiting and constipation. Nausea, vomiting and diarrhea are most common when you first start RYBELSUS®.

Talk to your healthcare provider about any side effect that bothers you or does not go away. These are not all the possible side effects of RYBELSUS®. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

### How should I store RYBELSUS®?

- Store RYBELSUS® at room temperature between 68°F and 77°F (20°C to 25°C).
- Store in a dry place away from moisture.
- Store tablet in the original pack.
- Keep the tablet in the pack until you are ready to take it.
- **Keep RYBELSUS® and all medicines out of the reach of children.**

Revised: 01/2020

Manufactured by: Novo Nordisk A/S, DK-2880 Bagsvaerd, Denmark

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US20RYB00618 2/2020



## YEAR IN PICTURES

National Geographic photographers seem possessed of an inner GPS. Fueled by restless curiosity, they roam the planet in search of fresh perspectives to capture and new stories to tell.

In 2020 this inner GPS took **RUDDY ROYE** to the front lines of America's racial reckoning and set **DAVID GUTTENFELDER** on the trail of the COVID-19 pandemic. Despite the year's losses and chaos, **ANAND VARMA** captured rare natural marvels, **HANNAH REYES MORALES** recorded soothing scenes of peace, and **DIANA MARKOSIAN** witnessed triumphs of the human will.

On the following pages, the five answer this question:

WHAT WAS IT LIKE TO BE A

# PHOTOGRAPHER

IN 2020?



**'OUR JOB IS  
TO BE PART OF THIS  
STRUGGLE IN A  
VERY POSITIVE WAY.'**

## RUDDY ROYE

Ruddy Roye traces his passion for social justice to his native Jamaica, his love of the arts to his mother, and his love of stories to his father. Now Roye's a father, telling his sons what he learns as a documentary photographer and a National Geographic storytelling fellow.



National Geographic  
photographer since  
**2016**

**MY SONS ARE 15 AND 12.** We don't do it every day, but frequently we sit down and talk about events. We talked about George Floyd, because I was in Houston to photograph the funeral after George died May 25 with a policeman's knee on his neck.

I started out by saying to them that when I was allowed to go into the church and photograph George, I did not photograph him for 12 minutes.

Like, people were behind me going, Dude, let's go. You know, the line of people waiting.

But for me it was important to tell George's body thanks. Thanks for his life. Thanks for the opportunities that we're all going to get because of his death. Thanks for what is going to shift the narrative, what's going to be changed because of his death. And it was important to do that.

I wanted them to understand that moment—that you're not going to get Angela Davis on the front of *Vanity Fair*, or Breonna Taylor does not go on the front of a magazine, just because. We're getting all of this influx of interest in racial justice, and this attention is coming because of all these names, all these hashtags. And so it was important for me to let them understand what that death means for us.

That it's not just, he's dead and gone, and here is another dead, hashtagged person. That his death is

going to allow us new life, a new voice, a new push, and that our job is to be a part of this struggle and a part of this fight in a very positive way.

My sons, they can't go anywhere; they understand what that is. I do not allow them to ride around the block in Cleveland. They cannot go take their bikes and go outside without me or their mom watching them. That's their reality.

I keep telling my boys that they have to be about loving—loving who they are and loving their culture. My sons have the distinction of having a mom who is





half Chinese. And so they do adopt parts of the Chinese culture. And I am Jamaican, so they do adopt a lot of the Jamaican culture. And they are Americans, so they live in an American culture.

I've always tried to give them this very holistic way of being in the world. But as they're doing that, they have to start loving and appreciating their culture and not believe that what's outside of theirs is better than theirs. We have to get to the space where we truly love our culture enough to be able to live in it. —AS TOLD TO PETER GWIN

"We've had enough," said Nicole Harney, at a June 1 New York City protest with her son, Justin Withers. Wearing T-shirts honoring George Floyd, they paused by a mural of Malcolm X and Harriet Tubman. Harney said she broke down watching the video of Floyd calling for his mother as he died. After that, she said, "I could not stay on Twitter or any other platform. I had to come march outside."

# EMBRACING A HISTORY WITH PHOTOGRAPHS

Carl Lewis was among donors to the Smithsonian's National Museum of African American History and Culture who Roye photographed. The Olympic track star gave the museum nine of his 10 medals; he had the first interred with his father, William, who died in 1987.



**R**Ruddy Roye's first assignment for *National Geographic* was to photograph people who donated artifacts to the

National Museum of African American History and Culture, which opened in Washington, D.C., in 2016. "For me it was a huge deal," Roye says, "because I was photographing people who have lived with Nat Turner's Bible, they have lived with their ancestor's free paper, they have lived with the clothes and belongings

of James Baldwin. And finally, these items were going to be put in a space where they could be shared."

Roye recalls the assignment as "really tough" because many artifacts came with painful stories, and the items' faithful guardians were now aged and infirm.

"I felt honored and humbled by them," Roye says. "Meeting Elaine Thompson, a person who had preserved her ancestor's free paper—and then knowing that she died a few months after I

had photographed her. There's nothing in my life that can rise to that moment."

For years, Roye says, he vowed "that I would never go to anybody else's museum until I had one. So finally I get to embrace a history that I thought was lacking. It was beautiful to me."

Roye feels a duty to tell these stories as well as photographs can. He relates that to "a saying my mom always said: 'If not you, who?' So I embraced the responsibility with a lot of grace and gratitude." —PG

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A swaddled child sleeps in Ulaanbaatar, Mongolia.

**'IT WAS SUCH A REVELATION, SEEING THIS PANDEMIC PLAY OUT ON GLOBAL AND GRANULAR SCALES.'**

**HANNAH REYES MORALES**

National Geographic Explorer Hannah Reyes Morales uses photography to explore themes of resilience in life and tenderness amid adversity. In 2019 she received the Visionary Award from the Tim Hetherington Trust, named for the late British photojournalist.



*National Geographic*  
photographer since  
**2017**

**OVER THE PAST FEW YEARS** I've been working on "Living Lullabies," my project on how caregivers create safer spaces for their children through night-time song and story.

My reporting partner, Rupert Compston, and I went to the Turkish-Syrian border; for refugee and migrant families there, lullabies were a piece of home that they could take with them, almost as portable sanctuaries. We went to Liberia, where we spoke with young mothers who'd had their babies as teenagers, and saw how they were singing hope in their lullabies. Then we visited Mongolia, one of the coldest places in the world. To heat their homes, nomadic families would burn coal, which of course pollutes the air. We met a mother who sang lullabies with healing words when her children were sickened by the air.

Those were the places we had gone to, and we had a plan for the rest of the story. But we had to shift to address this experience that we're all going through, the pandemic. I got to see what making safe spaces looks like in real time, with parents helping their children navigate swiftly changing environments.

In the United States I visited families whose children had hearing loss. Lullabies aren't just about the song; it's about feeling your mom's face close to you, feeling her gentle rocking. One mom whose son has a cochlear implant said she sings to him every night because she doesn't know whether he'll be able to hear her anymore the next day.

We think of lullabies as songs just for children, but they're also for the caregiver. In the context of the pandemic, we looked at how health-care and other essential workers were still using bedtime rituals and lullabies, but in ways that safely isolated them from their kids. One of the health-care workers told me it was very different from what she had always thought protection looked like. Before, it was about being physically present—but now to

protect her children, she had to be physically separate, singing and telling stories to them only through mobile phone and video calls.

It was such a revelation to me, seeing this pandemic play out on a global scale and then seeing it on the granular scale in different bed spaces. I'm proud that we were able to continue a project that was very, very close to my heart and not let the pandemic derail it. —AS TOLD TO PATRICIA EDMONDS



A LOOK BACK

## The Storms Some Women Can't Escape

Hannah Reyes Morales feels strongly about how media depict "women who are survivors." In part that's because she is a survivor of childhood sexual assault. And she's committed to using photography to document the realities of women survivors' lives, which, she says, often are "much more complex than they're made out to be."

In the project "Shelter from the Storm," Morales partnered with writer Aurora Almendral to tell the stories of Filipinas

who left rural provinces to become sex workers in Angeles City, a Philippine red-light district. Many of the women support families in villages that, as climate change worsens, may increasingly be devastated by typhoons.

Typhoon Haiyan, one of the strongest tropical cyclones on record, hit the Philippines in 2013. It displaced some four million people, creating what one government official called a "feast for human traffickers" who drew desperate women to work in bars, where some became sex workers.

Among those Morales photographed were

three sisters who sent earnings home so their mother could afford cancer treatment and rebuild the home that Haiyan destroyed.

Pursuing sensitive subjects has convinced Morales of this: "If you stay with the story long enough, you'll see how people find ways to navigate difficult situations. So we shouldn't come in saying, 'This is their story.' We should always be taking our cues from them." —PE

**Morales photographed women in the sex trade—sometimes in ways that shielded their identity—in Angeles City, a red-light district in the Philippines.**

**'I FELT SO GRATEFUL THAT I COULD BE OUT IN THE WORLD. I HAD A SENSE OF PURPOSE.'**

## DAVID GUTTENFELDER

David Guttenfelder grew up on a tiny farm outside a tiny town in Iowa. Since then he's traveled far, covering the Rwandan genocide, the Iraq war, and other major news events. He helped open the first Western news bureau in North Korea for the Associated Press.



National Geographic  
photographer since  
**2011**

**WHEN THE PANDEMIC HIT,** I told my editors I'd go wherever they needed me—Italy, China, New York, any of the hot spots. Their response was, essentially, Easy, tiger. It's not going to work like that anymore. Nobody was going anywhere. So I had to figure out what to do to contribute responsibly to a story that has affected everybody in the world. I soon realized it meant working in my own backyard, which for me means the Midwest. I started driving all over, sleeping some nights in my truck. I was looking for what the virus meant to people in "flyover country," a part of the country that is often ignored.

I had to change the way I work. How do you photograph people from a distance? How do you enter people's intimate spaces responsibly?

I began using a drone. I would call out to people and say, Hey, do you mind if I use my coronavirus social-distance flying camera to take your picture? Being Midwesterners, the response was usually, Do what you got to do. The drone, which I flew relatively low to the ground, allowed me to take pictures from a distance. But it also amplified the dystopian, surreal mood that we're all grappling with now.

After I took photos, I'd leave a note with my contact information on the person's car, on the front step or in the mailbox. I'd say, contact me if you want to tell me more about what's going on in your life, and I'll

send you a picture. I was moved by the responses I received, long emails from people who wanted to have their story told or just needed someone to talk to. I saw two people chatting in a front yard, one sitting on the steps, the other in a chair six feet away. It looked like a mundane thing, but then I received emails from them. One worked in an ICU; they'd been close friends their whole lives, and now they were both really struggling.

Everybody's got an important story to tell. To meet people and photograph them, I decided for myself that I was an essential worker. I felt so grateful that I





had photography, because I could be out in the world, I could see things for myself. I had a sense of purpose.

Then George Floyd was killed 10 minutes from my house in Minneapolis. I felt duty bound as a photojournalist and a member of this community to document the protests. In the past I'd had the privilege of traveling to other parts of the world to photograph other people's struggles—and then the privilege of returning home. Now I think that maybe the best thing we can do is work and be a part of our own communities. —AS TOLD TO RACHEL HARTIGAN

While David Guttenfelder was driving through Lake Mills, Iowa, he saw someone dressed as the Easter Bunny riding in the back of a car. He followed the car. The driver, Ona VanHeiden, was the head of a local Girl Scouts group. Since the annual Easter egg hunt had been canceled, she persuaded her son Treize to don a bunny costume and hand out Girl Scout cookies.

DAVID GUTTENFELDER

A LOOK BACK

# A PRECARIOUS VIEW AT THE GRAVESIDE

Palestinians visit Yasser Arafat's grave the day after he was buried at his compound in the West Bank city of Ramallah.



When Yasser Arafat, the longtime leader of the Palestinians, died in France on November 11, 2004, his death was mysterious and his followers' grief was overpowering. The Associated Press sent maybe a dozen photographers to cover his burial on the West Bank the next day. "I was one of the roving guys," says David Guttenfelder.

Most of the other photographers had staked out positions on the rooftops surrounding Arafat's walled compound, which was being swarmed by tens of thousands of people. When the helicopter carrying Arafat's coffin appeared over the horizon, "the mourners started pouring over the walls," says Guttenfelder. "And I just did the same."

"I jumped over the wall, and my feet were lifted off the ground," he says. "I was just swept through." He used his shoulders "like a rudder" to maneuver through the mass of chanting, crying, screaming people.

The coffin was handed through the crowd. Guttenfelder worked his way through the swarm to the kind of vantage point he thought his AP editors expected, near the edge of the grave. Struggling

to lift his arms against the press of the crowd, Guttenfelder managed to photograph the moment.

Then the crowd surged, and Guttenfelder was hit from behind. He felt himself falling.

"I landed on my back," he says. "I was looking up as they were shoveling dirt into the grave. I was literally inside his grave looking out."

People quickly pulled up Guttenfelder, who was unhurt, though dismayed to have fallen into the scene he was covering. At the grave's edge, he felt he was back where he was meant to be. As a photographer, he says, "your job is to photograph all of that energy, all of that chaos, all of that emotion and make people feel like they're right there in the thick of it with you." —PG

## PERSONAL HISTORY

### A Side Gig With His Grandfather Led to Photography

When I was a kid, I spent a lot of time with my grandparents who lived in the neighboring town. My grandfather was an insurance auditor who drove around the state, checking out people's fire escapes and whatever. He had to take photographs of

emergency exits and smoke detectors. He gave me a camera, an old positive-negative Polaroid Land Camera that looked like an accordion, and that became my job. That's what I thought photography was.

He also gave me a couple of big boxes of the film, which I brought home with me. I started taking pictures—different kinds of pictures.

At one point I was photographing a lot of farm foreclosures, and I

remember walking into this farmhouse. The people had left behind family photos and old, beat-up furniture. There was a hole in the roof where the rain had come in. It seemed beautiful and melancholy to me. Then I opened a door to a room with a ripped feather mattress on an old four-post bed. The window was open, and feathers floated and swirled around the room. I still have that photo.

—AS TOLD TO PETER GWIN

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**'WE HELPED STUDENTS  
HEAL FROM THE  
ABRUPT WAY THEIR  
YEAR ENDED.'**

## DIANA MARKOSIAN

Photographer and filmmaker Diana Markosian tells stories as a documentarian, a conceptual artist—or both at once. She has worked around the globe and been published in the *New Yorker* and the *New York Times*, as well as *National Geographic*.



*National Geographic*  
photographer since

**2014**

A LOT OF MY WORK as a photographer has been about revisiting and reconstructing the past. Getting a second chance. Last year I got to graduate from high school.

I wanted to spend part of 2020 profiling one school in America affected by the pandemic. So many stories I was reading in the spring felt hopeless. "The Lost Year" was the headline of 2020. I was searching for a school that hadn't given up.

That's when I read an article about Principal Mike Lewandowski, who was planning a socially distanced parade for the senior class of St. Francis High, a small school on the outskirts of Milwaukee. He had such energy. He wasn't going to be defined by the pandemic. I realized later that both of us were determined not to let 2020 be the year that broke us.

I had never finished high school after dropping out when my mother got divorced from my stepfather and moved from California to Oregon. I emigrated from Russia as a child, never felt like I belonged in Santa Barbara, and just couldn't start over again. After the first day of class my junior year, I left school and told myself I would never go back. My mother was disappointed in me. "I brought you to the United States of America, not so you could fail," she told me.

The cinematographer on the St. Francis High project was Andy Catarisano—who, coincidentally,





had left high school the same year I had. Together we embedded in this Wisconsin school and had a chance to relive something we'd both missed out on. Principal Lewandowski was really taken by it. He couldn't believe we hadn't finished high school. We had a running joke that doing this project should count as our thesis to finally graduate.

And then, the day of graduation, the principal gave Andy and me caps, gowns, and little folders designed to hold a diploma.

At the staging grounds in the school parking lot, graduating seniors in red and white robes posed with Lewandowski. Then the long procession of cars plastered with pictures, balloons, and streamers made its way through town.

A month later, Andy and I got our high school diplomas in the mail. It felt surreal, like a movie we were both in.

Through this project, I got to know the students at St. Francis better than I'd known my own classmates. They were a little confused about how Andy and I managed to finish school in 10 days, while it took them four years. Principal Mike said that we helped them heal from the abrupt way their senior year ended. But I think it went both ways: They helped us heal too.

My mom was more proud of this diploma than when I got a master's degree. She said, I can't believe you persuaded someone to give you a high school diploma. I said, It's not just someone, Mom—it's the high school principal. Only in America can you arrive at a random school, explain your story, and get a second chance.

The negative feelings I had toward high school have diminished. I've been allowed to reclaim something I lost. This project gave me that second chance, as photography so uniquely can. —AS TOLD TO NINA STROCHLIC

**The morning of their high school graduation, 18-year-old twins Anaste (at right) and Zakiria Berry get ready at home. Their senior year at St. Francis High ended abruptly on March 13. That morning, they'd overslept and skipped their classes. Weeks later, they realized it had been their final day of high school.**

# A FAMILY'S SECRET, A NEW LIFE IN AMERICA

The image of Diana Markosian's father, Arsen, was cut out of this portrait taken with her mother, Svetlana, and her brother, David, before Diana was born.



"Memory is a wonderful thing until you have to confront it," says Diana Markosian. She recalled her childhood as fragments of memories spent in Russia, Armenia, and the United States. Only later did she understand the sacrifice behind them.

Markosian was seven the night that her mother, Svetlana, awakened her and her brother in their Moscow home and told them, "We're going on a trip."

Some 20 years later, Markosian learned that

Svetlana had left Russia without telling Diana's father, from whom she was separated; and that to start a new life with her children, Svetlana found a man through classified ads and moved the family to the United States. Markosian's mother showed her dozens of letters from men who had written to her in Moscow. She had picked the one from Santa Barbara, which also happened to be the title of a TV show that mother and daughter loved.

Struggling to accept the origin of her U.S. life, Markosian spent years

reconstructing the journey. She traveled back to her childhood homes, had actors portray her relatives, and made the film *Santa Barbara*, released in late 2020 (also as a book).

The project helped Markosian understand Svetlana's perspective and fill the gaps in her childhood memories.

"I think we both healed while making" the film, Markosian says. "I started seeing her as a person, and the judgment and anger that I had disappeared. Through this project, I learned to love my mom." —NS

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In a home lab Varma has been raising moon jellyfish (*Aurelia aurita*).

## 'IN QUARANTINE AT HOME, I FOCUSED ON ONE SPECIES'—WITH UNEXPECTED RESULTS.

# ANAND VARMA

An aspiring biologist in college, Anand Varma got a field assistant job with a National Geographic photographer—and found his calling. Now he specializes in high-definition images of tiny and elusive creatures, made with tools and techniques he has developed.



National Geographic  
photographer since  
**2011**

I SPENT EARLY 2020 in a UC Riverside lab filming hummingbirds, trying to come up with new techniques for capturing their movements and behavior. The pandemic ended that; in mid-March we had to leave the university, and the whole state locked down.

Normally I live with four other housemates; that grew to eight. It was sort of an impromptu commune and a wonderful time. We all really bonded, and I got to reconnect with folks I hadn't spent much time with when I was on the road eight or nine months a year.

I have a fellowship from National Geographic and the Rita Allen Foundation to study jellyfish. Initially it was to be a global project: flying to Japan, visiting aquariums, filming and photographing in the ocean. But even before COVID-19, I had been preparing to do more work at home, in a detached garage I use as a lab. I had set up a tank with guidance from Steve Spina of the New England Aquarium, and he FedExed me jellyfish. So in quarantine I focused on this one species of moon jelly (above), trying to coax all of their secrets out of them in front of the camera.

By midsummer, the tank was getting a little dirty, so I cleaned it—and the polyps in the tank, the early life stage, began to transform. I walked in one day and saw a little brown structure standing out against all these white polyps! This metamorphosis is the basis of my whole jellyfish project, showing how their bodies change shape in response to age and stress. Over time I learned to trigger the process: I pop a jar of polyps in the fridge for two weeks, and after that,

they will transform into baby jellies. Now I can re-create experiments I've read about in research papers, describing how jellyfish are able to *reverse* their age back to polyps by reorganizing the tissue in their bodies. I don't have a lot of confidence that I can pull this off, but that's what I'm trying to capture in images.

In quarantine, when I didn't have the access to tools or the bandwidth to work on photography, I poured my energy into cooking and gardening. Our household went through at least 200 pounds

of flour baking bread; it was a little out of control. And I'd start every day with a book and a cup of tea in the garden, where it's like you blend into the landscape. I had birds landing on me, and a raccoon walked over my feet.

This has always been the lesson of the garden: If you actually succeed in controlling it to the degree you want to in the beginning, the result is boring, ugly, and clearly contrived. It's like that in photography. —AS TOLD TO PATRICIA EDMONDS



#### A LOOK BACK

## Passing a Trial by Fire (Ants)

"Would you like a job? I need a photo of fire ants, clumping together to form a raft in a puddle of water." Susan Welchman, a formidable and exacting photo editor, was offering a 2011 assignment to Anand Varma, who until then had only assisted veteran *National Geographic* photographers. With what they'd taught him, Varma felt ready to tackle the assignment. He told Welchman yes.

When a fire ant colony gets flooded, the ants hook their feet to other ants' bodies to create

a buoyant mass, taking turns above and below the waterline. That's the view Welchman wanted.

At a Georgia Tech lab, Varma scooped ants into shallow water in a glass tank, watched the ants clump, and took scores of photos. Welchman rejected them as no better than amateur shots she'd seen. "I screwed it up," Varma recalls thinking; he imagined waiting 10 years "for everybody there to forget who I was" before *Geographic* would hire him again.

Go back, Welchman told Varma. Try again.

His shots through the side of the tank flopped because water "forms this little lip, the

meniscus, against the glass, and it creates this out-of-focus band," Varma says now. How to fix it?

A lab technician showed Varma a glass coating that would prevent the meniscus from forming. Now Varma's photographs had "a very crisp edge" at the waterline. Welchman liked that but told him, "You need more ants." He put in more ants.

The assignment was for two days; Varma went back for a third. That's when he captured the remarkable scene above and earned high praise from Welchman: "This is what makes a photograph worthy of *National Geographic*." —PE

# A YEAR ON THE EDGE



ESSAY BY SIDDHARTHA MITTER

## A DEADLY VIRUS. LIVES IN LOCKDOWN. PASSIONATE CALLS FOR JUSTICE. THE IMAGES OF 2020 CAPTURED THE HUMANITY OF A TURBULENT TIME.



**H**E SIGHT IS CHARMING and, in all but one respect, familiar.

A young couple in their wedding finery—his sharp suit, her elegant veil—are in church, completing their marriage formalities. She stands close at his shoulder as he writes in the register. The priest looks on, his elbow on the counter, avuncular and affectionate. An ornate metal crucifix in the foreground and a wooden one on the wall behind the couple sanctify the scene. But there is something else. Bride and groom are wearing cloth face masks that match their formal attire. The priest, too, wears a mask, and a plastic visor with an attached transparent face shield.

One year ago this photograph—made by Davide Bertuccio in the town of Barzanò, Italy—would have required interpreting. As 2020 ends, however, what it depicts is instantly clear. The scene is an entry in a new rubric, the COVID wedding. It exemplifies the awkward adjustments that people have been learning, to simply keep going in pandemic times.

No single image can encapsulate the disruption of a year in which a highly contagious respiratory illness galloped across the planet, shut borders,

06.23

THROUGH IT ALL,  
THERE WAS LOVE  
BARZANÒ, ITALY

Photograph by  
**DAVIDE BERTUCCIO**  
MAGNUM PHOTOS

After Italy's shutdown was lifted, Marta Colzani and Alessio Cavallaro donned masks to be married at the Church of San Vito, an hour's drive north of Milan. Only the family exchanged hugs at the reception.



05.21

BRINGING DIGNITY  
TO THE DEAD  
QUEENS, NY

Photograph by  
**PETER VAN AGTMAEL**  
MAGNUM PHOTOS

Francisco James, resident funeral director at Leo F. Kearns Funeral Home, checks some of the bodies held in a refrigerated container. In an eight-week surge of COVID-19 deaths in New York last spring, the funeral home served 350 families; typically it handles about 75 deaths during a two-month period.



“

NOBODY REALLY THINKS OF US ON THE FRONT LINES. YOU HEAR ABOUT FIREFIGHTERS, DOCTORS, BUT YOU NEVER SEE ‘THANK YOU, FUNERAL DIRECTORS.’ WE’RE THE LAST OF THE FIRST RESPONDERS.”  
—FRANCISCO JAMES

**IN 2020  
THE NEED  
FOR IMAGES  
SHARPENED.  
LOCKDOWNS,  
SOCIAL DISTANC-  
ING, AND FEAR  
OF INFECTION  
COMBINED  
TO TRANSFORM  
THE TERMS  
OF SOCIAL  
INTERACTION.**

shrank economies, and upended daily life. But in these newlyweds—obeying new sanitary protocols as they celebrate their union in Lombardy, a region that the virus hit hard—we recognize the urge, and the need, to find the normal in abnormal times.

It was a relentless year. It felt as if eras were ending. Beyond the human toll—the deaths, the lingering effects on survivors, the stress on hospitals and caregivers—the economic fallout was acute. In wealthy countries, joblessness climbed. In poorer countries, existing deprivations worsened. Border closures, the near cessation of travel, and supply chains in disarray seemed to end the notion that globalization was reversible. In the United States the virus flourished, aided by a dysfunctional response. It was fueled by deep social and economic divisions and intense political acrimony. The end seemed at hand for the “American century” as the world’s preeminent power drifted from its alliances and commitments. The world could not take its eyes off the United States. Amid the pandemic, yet another egregious police killing of a Black American, George Floyd, in Minneapolis, Minnesota, forced a tipping point. Led by the Black Lives Matter movement, protests swelled through the summer, often meeting a harsh response from police, and sometimes from self-appointed militias and vigilantes.

U.S. history seemed at stake as never before. Connecting past to present, protesters also trained their ire on statues and memorials that celebrate America’s history of violence in figures such as Christopher Columbus and, most of all, symbols of the Confederacy.

Many monuments came down. Others became gathering points, improvised

laboratories of civic imagination—notably the statue of Confederate general Robert E. Lee in Richmond, Virginia, as seen in Kris Graves’s photo (page 46).

Every event seemed to intensify the national madness: devastating wildfires on the West Coast, the death of Supreme Court Justice Ruth Bader Ginsburg, the coronavirus infection of the president. The planet watched the calamity, mesmerized. For many it felt at once alarming and exhausting, a kind of collective out-of-body experience.

As daily coronavirus infection rates reached new highs in November, the U.S. election bred contested results and institutional calamity. The most dire fears of a disrupted election did not materialize, but the narrow vote margins and lengthy counts in several states frustrated an impatient public. The results reflected a country deeply divided and prey to social antagonism and conspiracy theories.

How did photography capture such a year? The first task was to compile the record. The advent of digital culture has confirmed photojournalism as the most immediate, impactful tool for documenting our times. The industry already was growing, as more accessible tools to make and show photographs invited fresh talent from new perspectives. It was building in insight, as women, LGBTQ, Black, and Indigenous photographers and their allies forced reflection on history, trauma, and dignity. And it was exploding within reach, thanks to smartphones, fast internet connections, and digital platforms—particularly Instagram—that swelled the torrent of images at wide disposal, tending toward saturation. In this respect, photojournalism was ready.

But the task was more complicated than just documenting. In 2020 the need for images sharpened as the physical horizon narrowed. The lockdowns, social-distancing rules, and fear of infection combined to transform, in ways still taking form, the terms of social interaction. Much of life moved to the screen, with everything from business meetings to art shows morphing into digital formats. In a time of sudden isolation, image streams that already were overwhelming and addictive became lifelines. “Doomscrolling,” the habit of endlessly perusing media feeds to see the latest horrors, was morbid, perhaps, but essential for some to stay informed and connected.

To make and share images under these circumstances called for more than professional competence. It called for care. Self-care, first of all, by the photographers compelled to chronicle historic events even as journalists, like everyone else, were restricted in movement—and who risked contagion when they did move about. It called for ethical care for the photographers' subjects. It called for the understanding—arguably long overdue—that no one is safe, everyone is anxious, and yet, like the newlyweds of Barzanò, we are all trying to find a way forward.

**IKE ALL EDITED** portfolios of photographs that *National Geographic* published in 2020, this selection has certain emphases and skews. It represents an effort, guided by the magazine's tradition and sensibility, to provide some context for the year.

The dominant themes, appropriately, are the pandemic and the protest movement. In a way these infiltrate all the work shown here, as the combination of these events has so much influenced the way American readers in particular have experienced the year. The view expands to science, climate, wildlife, and nature, in keeping with this magazine's long-standing concerns. The images are a reminder that work in these fields did not cease in 2020—and neither did our responsibility to contend with the fundamental forces shaping our environment. Polar ice did not take the year off from melting because of the pandemic, though some pressures on the natural environment were lessened as more people stayed indoors. And in an atmosphere of intense human anxiety, perspective from the natural world has never been more salutary.

How do we live at once in long history and the condensed present? By throwing up emergency conditions, 2020 brought forward this fundamental paradox. It was a year that forced adaptation in the face of existential uncertainty. But we were not without resources. Language, for example, adjusted. Words such as "confinement," with its evocations of a Victorian-era sanatorium, or "quarantine," with its roots in medieval Venice, emerged from the historical murk and regained currency. New phrases sprouted: "social distancing," "essential workers," "Zooming"—a new

lexicon for our efforts to carry on.

In these images the pull is toward humanity observed in the process of muddling through, finding a way. Many of the year's most powerful photographs captured the fundamental human work of caring, convalescing, coping, worrying, waiting, responding, resisting, mourning. Simple work. Essential work. In a raw year the signal images did not have to be complicated. Some of the most memorable are not so much layered with information as seething with emotion.

**I**N THE BED rests a stiffened body, sealed head to toe in plastic wrapping, clearly deemed unsafe for contact. The photograph (page 80) by Joshua Irwandi was made in Indonesia, but nothing in the scene reveals this. The hospital room suggests that no effort or resource was spared to save the patient. The eye moves from the body to the window. Open curtains expose a purple-blue night sky, hinting at a darkened world beyond. Reflected in the window is the fluorescent bar of the room's light fixture.

It's a photograph of death—a victim, probably of the coronavirus, fell ill and died in the hospital. But there's more: the sarcophagus-like allusions to ancient practices of treating the dead, the witching hour that engulfs the city, the window that beckons the soul. The hospital room signals modernity and its continuous quest for solutions. But that quest has hit a limit here, and the scene that results pushes us out of the contemporary into ancestral time.

This sense of a limit reached, a point of impossibility, recurs in the images of eerily vacated spaces. Rafał Milach's photo (page 76) of the reading room in the Jagiellonian University library in Kraków, Poland, is a geometric composition viewed from its mezzanine level as a field of desks, each with two chairs pulled up. Missing humans are suggested as ghosts by each desk's tilted reading lamps. The absence of patrons pulls us out of the present, first by decades, in the building's solemn mid-20th-century European architecture, then further back, via the large print reproduction that controls the space between the stacks and the skylight, to what must be medieval Kraków, dense and presumably bustling, in the middle





06.05

**IN SOLIDARITY  
AGAINST RACISM  
NAIROBI, KENYA**

Photograph by  
**NICHOLE SOBECKI**



A mural of George Floyd next to the Swahili word *haki*, which means “justice,” was painted beside a marketplace in Nairobi’s Kibera community by artist Allan Mwangi. As demonstrations continued across the United States, Kenyans

demanded justice for their own victims of police killings—and expressed solidarity with protest movements around the globe. From encouraging people to wear masks and wash their hands to organizing food drives, Kibera’s residents also united to fight COVID-19.

COUNT  
EVERY  
VOTE

EVERY  
VOTE  
COUNTS



COUNT  
EVERY  
VOTE

COUNTS

11.04

A DEMAND TO  
COUNT THE VOTES  
LANSING, MI

Photograph by  
**DAVID GUTTENFELDER**



Kristan Small holds a folded flag in honor of her father, Korean War veteran Gordon Small, who died on May 8 after contracting COVID-19. She joined others gathered at the Michigan State Capitol to call for a complete counting of all presidential election ballots. Citing President Donald Trump's push to stop the counting of some mail-in ballots, she said, "I'm here because we have a president who has claimed to have absolute authority but hasn't read the Constitution."

“

WE KNOW THAT  
DEMOCRACY  
IS FRAGILE.  
IT MUST BE  
TENDED. MY  
FATHER VOTED IN  
EVERY ELECTION.  
THEY'D DAMN  
WELL BETTER  
COUNT MY VOTE.”  
—KRISTAN SMALL





09.19

## TRIBUTE TO A PIONEER LANSING, MI

Photograph by  
**ANDREA BRUCE**



A memorial in Michigan was one of many nationwide honoring Supreme Court Justice Ruth Bader Ginsburg, who died at 87 on September 18. Ginsburg was a feminist trailblazer long before she was nominated to the high court in 1993 by then President Bill Clinton. She successfully

worked on behalf of gender equality in a distinguished legal career. Her death led to a contentious pre-election scramble in the U.S. Senate over filling Ginsburg's seat. Conservative judge Amy Coney Barrett was confirmed on October 26 as Ginsburg's replacement.



distance behind the protagonists in the landscape.

When it might not be safe to breathe around other people, the structure and arrangements of society come into question. Eventually an answer will arrive because it must. But first everything had to stop. Around the world there was a moment when humans sheltered in isolation as much as they could, as shared spaces, public and private, shut down.

In Yogyakarta, Indonesia, a new airport opened one month before COVID-19 stopped aviation. In Muhammad Fadli's photo (page 96) of the road approaching the facility, streetlights cast a bleary glow over a deserted landscape of grass patches, asphalt, and concrete. Newly planted saplings in the foreground are the sole sign of life. They're still propped and guided by posts, fragile, as if hostages to human hubris and overbuilding.

There's action, by contrast, in Emin Özmen's image (page 56) of a worker in head-to-toe protective gear cleaning a street in Istanbul, Turkey. Disinfection was a visible response to the crisis, though as the contagion dynamics were better understood, such steps were decried as "hygiene theater." Jun Michael Park's photograph (page 130) of activities at a walk-up testing clinic in Seoul, however, brims with competence. We experience the scene from the health workers' point of view. Equipped and protected, they administer the swabs through a tube arrangement that runs from the glassed-in booth. This vignette of South Korea's swift health response is a symbolic indictment of other countries' travails.

It might have been tempting to portray 2020 as an arriving dystopia. New York City, where this essay was written, felt haunted in late March and April: a great metropolitan silence, cloaking the careful movements of those deemed essential, who traveled with maximum economy of words and gestures—all scored by the endless wail of ambulance sirens. Variants of this shock had been felt already at high intensity in Wuhan, China; Bergamo, Italy; and other places.

At that moment one could emphasize the morbid strangeness, the sadness and trauma in hospitals, the throb of machinery. Two portraits (pages 86 and 132) by Nanna Heitmann, made in a Moscow hospital, present as well as any the simplification of human relations into two archetypal roles, patient and caregiver. Cédric Gerbehaye's black-and-white image (page 84) of two nurses in Mons, Belgium, taking a break conveys the

**IT MIGHT HAVE BEEN TEMPTING TO PORTRAY 2020 AS AN ARRIVING DYSTOPIA. NEW YORK CITY FELT HAUNTED IN MARCH AND APRIL: SILENCE, CLOAKING THE MOVEMENTS OF THOSE DEEMED ESSENTIAL.**

daunting scale of their task: They seem small, crouched on a curb against a wall—yet their affectionate stance reveals the solidarity that links them.

We have references for the photography of medical crises. Nichole Sobecki, who has an image (page 108) in this portfolio of a musician in Nairobi, Kenya, performing the coronavirus awareness song he composed, was on assignment for *National Geographic* in the Democratic Republic of the Congo in 2019, photographing an outbreak of Ebola. The West African Ebola epidemic of 2014–16 primed viewers for the spacesuit-like apparel and tent hospitals. (It's worth considering whether COVID-19 patients in rich countries, and white patients especially, were offered more dignity in their portrayals than Liberian Ebola sufferers.)

The genre goes back, in fact, at least as far as the influenza pandemic of 1918 and a fascinating set of period photographs that, filtered by generations of archivists, tend to recur in most presentations. Their scope is relatively narrow: field hospitals, medical staff, social hygiene. They trigger echoes and offer some pointed lessons—for example, a trolley in San Francisco, the conductor on its step, preparing to verify that boarding passengers are wearing masks, as required. But such photographs are far from a panoramic account of the flu's ramifications.

Today's flood of images and their mass circulation, by contrast, present the opportunity of archival abundance and tell many stories. The virus, as we know, did not go away in 2020. It settled in and merged into each country or city's ongoing social history.

**P**OICE IN LOUISVILLE, Kentucky, killed Breonna Taylor on March 13, 2020. Information about the case emerged gradually over the next two months. Police in Minneapolis killed George Floyd on May 25, 2020. In late May, protests erupted in both cities and soon across the country, sparked by the extreme brutality of these two deaths of unarmed Black Americans—one shot in her home during a botched raid and left for a crucial time without medical attention, the other suffocated under a policeman's knee—atop the macabre parade of similar incidents in recent years.

In that sense the deaths were grimly familiar, as were the protests complete with confrontations with militarized police and National Guard troops and varying degrees of property destruction. But a distinctive change appeared in the images. It marked them of this moment—the masks signaled the stress and risk of protesting amid a pandemic. It marked the moment as transforming, no more so than when the protests mobilized around monuments that celebrated racists from the past, giving rise to a wave of topplings—some conducted by protesters, others decided by local authorities—unlike anything in Americans' memory.

By June the hub of U.S. visual culture was arguably Richmond, Virginia, where the monuments were the grandest and came down fast, by decision of the mayor, after protesters began by pulling down a statue of Confederate president Jefferson Davis. The exception was a huge equestrian statue of Robert E. Lee that came under the purview of the state rather than the city government, and whose removal, promised by the governor, became tangled in legal challenges. Instead, community members “recontextualized” the statue and its circular plaza by graffiti, protests, performances, photographic projections by local artists, and even a vegetable garden. Activists planted signs informally renaming the plaza in honor of Marcus-David Peters, a Richmond man who died at the hands of police in 2018. It was the most vibrant American civic space of 2020: grassroots and unauthorized action attesting to great historical shifts under way. Kris Graves's photograph of the statue seems to acknowledge that today's combat is between Goliath and not one, but myriad Davids, gathered in their diversity.

The image reflects an evening projection by Richmond artists Alex Criqui and Dustin Klein. Over the pedestal appears the face of George Floyd, whose strong, solemn traits evoke sculptural traditions of their own. The Confederate general is grandly silhouetted against orange-gray cloud, but across the horse's flank appear the letters "BLM," for Black Lives Matter. The multicolored slogans are now in the penumbra, in the image's lower part. Here is a kind of exorcism, conjuring demons present and past. Yet the projection is ephemeral, as is the civic reclamation of this place. The future of the statue—and by implication, the old order—is unknown. The situation is provisional, making the moment all the more poignant.

How are we to live in provisional times? The year 2020 was about canceled plans and unsatisfactory adaptations, from masks to Zoom calls to families facing impossible decisions among improvised models as a new school year began. Domestic photographs, of household life in times of distancing, conveyed the changed circumstances.

In Jackie Molloy's photograph (page 134) of a New York City mother and her home-born baby is a hint this choice might become more common. Many photographers turned inward, documenting life in a limited perimeter. Alessandra Sanguinetti's image (page 140), made near her home in California of her daughter's socially distanced, outdoor visit with a friend, or Ian Teh's self-portrait (page 136) with his wife as they recline on a couch by the window and look out at Kuala Lumpur, Malaysia, are examples of the resulting, wistful subgenre. Slowing down, it turned out, had merits as well. In an unhealthy year, rest was essential for resilience and resistance.

**H**E PROBLEM, at its root, was trust. The reality of asymptomatic spread, with its implication that anyone you met might be carrying the disease, and so might you, brought home a collapse of social confidence.

Trust in government seemed to be demolished by the mediocrity, corruption, and authoritarian tendencies of politicians. For many, trust in business and the wisdom of the marketplace was overrun too, exposed by abysmal inequalities. Demagogues stirred

racism, xenophobia, and the rejection of science. Partisan cable channels and the relentless algorithms of social media fortified cocoons of self-reinforcing prejudice. Conspiracy theories spread. By the time it became clear that an easy step toward defeating the pandemic was to wear face masks, many societies confronted a lethal shortage.

The collapse of social trust was too total a phenomenon for photography—or journalism, or art—to somehow repair. But it was deeply relevant to the work. It raised the stakes.

The effort to reconsider the ethics of photography, to face the past and ongoing harms of the racist, colonial, and anthropological gaze, must continue, but it's not enough. Attention to dignity and agency, to damage from emotional bombardment and recirculation of images of trauma must continue. But they're not enough.

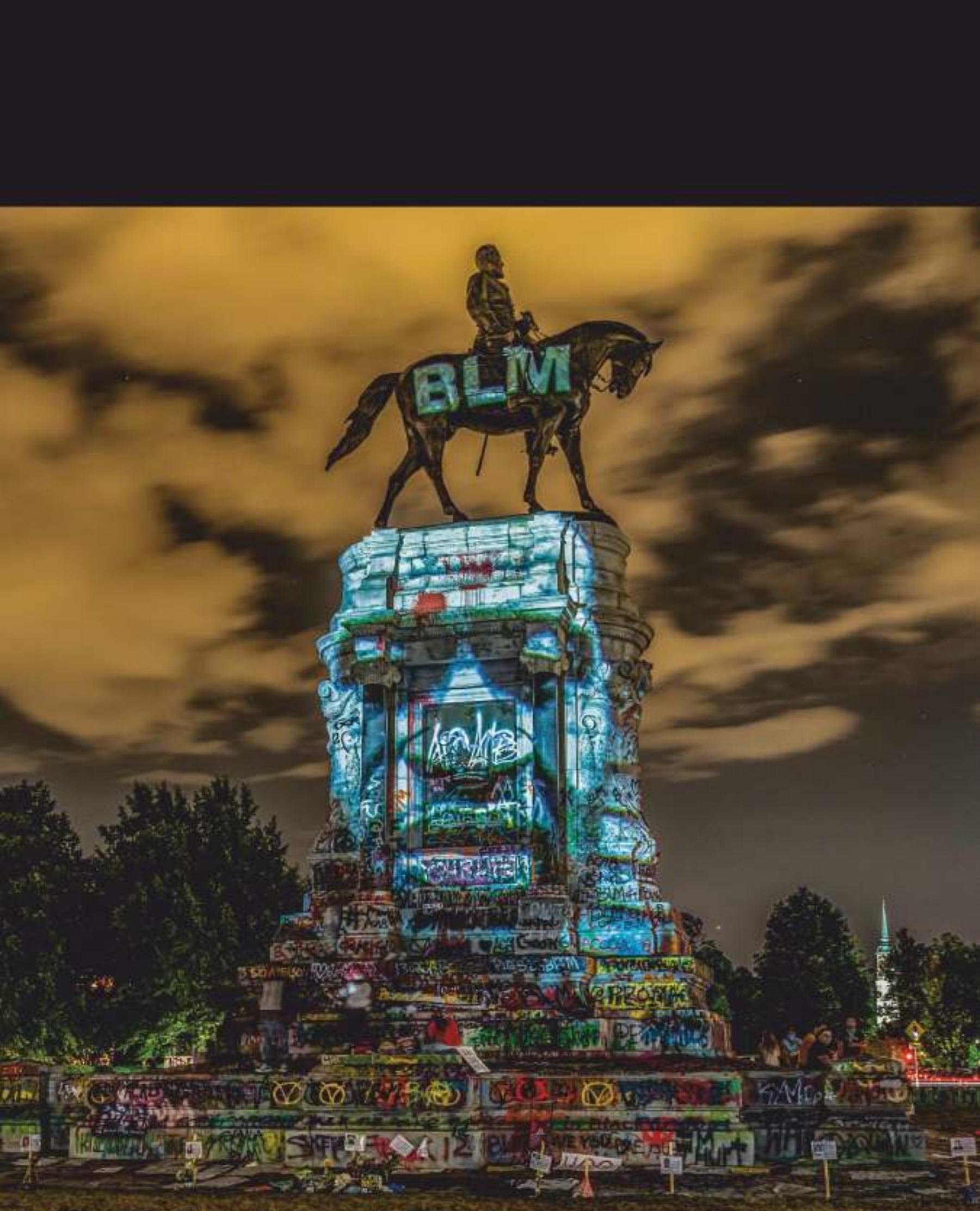
In a time when trust is damaged, the question is how images can contribute to care and mutuality, to stitching a more equitable society. The possibility is there, percolating. One might be inspired by the mobilization of photographers and artists of Beirut, Lebanon, after 2,750 tons of ammonium nitrate left for years at the port exploded on August 4, causing massive destruction. They photographed and shared images, but also took charge of the narrative, giving shape to the story before the traveling press arrived. They joined efforts to clear rubble and locate survivors; launched fund drives for the most vulnerable, such as migrant workers; and used social media to forge connections with outside supporters and hold to account the government's crisis response.

"It is very difficult for me to take pictures in this nightmare," Beirut photographer Myriam Boulos wrote on Instagram. "But I feel like we have to document, document, and document." Looking at 2020 was complicated: ethically, logically, emotionally. But we had to look. Out of that imperative to document, as Boulos noted. And because looking, interpreting, and trying to form understandings are things that humans do.

Perhaps we will find that 2020 has helped us to see. □

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**Siddhartha Mitter** specializes in culture journalism and often writes about how art and artists contribute to social change. This is his first feature article for *National Geographic*.



06.18

A BACKLASH AGAINST  
SYSTEMIC RACISM  
RICHMOND, VA

Photograph by  
**KRIS GRAVES**



The statue of Robert E. Lee is transformed into a Black Lives Matter monument with a projection of George Floyd's portrait. "It's time for the healing to start," tweeted Levar Stoney, Richmond's mayor. "For public safety, for our history, for our future—the monuments to the Lost Cause are coming down." Lawsuits attempted to block removal of the statue.

09.08

TARGETING SYMBOLS  
OF OPPRESSION  
TUSKEGEE, AL

Photograph by  
**KRIS GRAVES**



A monument to the Confederacy stands at the heart of Tuskegee, the site of the historically Black university where Booker T. Washington was president and the Tuskegee Airmen trained. After the statue was vandalized, officials of the majority Black city covered it with a tarp while they figured out how to remove it.



## YEAR IN PICTURES

▼ U.S.

"WE HAVEN'T EVEN BEGUN TO SEE THE END OF IT YET."

—U.S.  
INFECTIOUS  
DISEASE EXPERT  
**ANTHONY  
FAUCI** IN JULY.  
MANY  
HEALTH-CARE  
WORKERS  
FACED A  
LACK OF  
ADEQUATE  
PROTECTIVE  
GEAR FOR  
MONTHS.

P. 54

▼ INDIA

**FOOD  
SHORTAGES**

The number  
of people  
facing food  
insecurity  
grew each  
month.

P. 60

**MORE  
THAN  
1 MILLION  
DEAD**

That grim global milestone was reached in late September as COVID-19 deaths continued to rise. In Italy the army was brought in to transport coffins out of a hard-hit town when cases surged.

P. 66

▲ ITALY

PART 1 OF 4

**VIRUS, PROTESTS,  
AND CLIMATE  
CHANGE RESHAPED  
OUR WORLD**

▼ MINNESOTA

**8 MINUTES,  
46 SECONDS**

THE INITIAL CALCULATION OF HOW LONG **GEORGE FLOYD** WAS PINNED BENEATH POLICE OFFICERS BECAME A POTENT SYMBOL IN **GLOBAL PROTESTS** AGAINST **SYSTEMIC RACISM**. (PROSECUTORS LATER REVISED THAT TIME TO 7:46.) WHAT MATTERED MOST FOR MANY WAS THAT IT WAS **TIME FOR CHANGE**.

P. 50

**LOCUSTS  
ATTACKED  
EAST AFRICA  
AND  
BEYOND**

Swarms can hold 70 billion locusts and destroy 300 million pounds of crops a day.

P. 74

▲ KENYA



**MILLION ACRES**  
had burned in California by late October. Record-breaking fires also ravaged Oregon and Washington.

P. 70

▲ CALIFORNIA

THE YEAR THAT

**TESTED US**

NATIONAL GEOGRAPHIC



JANUARY 2021 • PAGE 49

05.29

**IN ANGER AND PAIN,  
PEOPLE TAKE  
TO THE STREETS**  
MINNEAPOLIS, MN

Photograph by  
**DAVID GUTTENFELDER**



The killing of George Floyd by city police officers ignited protests across the United States and around the world against police brutality. David Guttenfelder covered the

demonstrations close to his home in Minneapolis. "There's not one protester, not one attitude—it's all driven by grief," he says. "Grief over this man but also grief of a lifetime of this pain." Four days after Floyd was killed, protesters set fire to the precinct building where the officers were stationed. The police fired rubber bullets and tear gas at the crowd. Amid the anger and chaos, Guttenfelder heard someone shouting: "We're hurting. We're hurting." The following day, a protester received first aid after being struck near the eye during another clash.





BY CYNTHIA GORNEY

WORLD IN

# CHAOS

**MERRIAM-WEBSTER**, the dictionary company, keeps track of words people look up most frequently online—not necessarily because the inquirers don't know what the words mean, but because a formal definition sometimes helps sharpen our understanding of events. In 2020 “apocalypse” surged early. So did “calamity,” “pestilence,” “panic,” “hunker down,” and “surreal.”

This was in the winter and early spring, when the daily effort to grasp what was happening around us seemed already beyond our imagination. In the summer, after the killing of George Floyd, “racism” lookups spiked. “Fascism.” “Empathy.” “Defund.” In September: “mental health.” The western United States was on fire by then, the southeastern states so rain-battered that the National Hurricane Center exhausted its usual storm names list and started in on Greek letters. Winds blew toxic wildfire smoke across thousands of miles. One morning thick smoke turned the sky deep orange around San Francisco Bay; it stayed that way all day, like a biblical plague of darkness.

Swarms of locusts? We had those too, ravaging swaths of Africa and Asia. As this issue was being finalized, the global pandemic was nowhere near contained in the U.S. and many other parts of the world; for those of us who have survived, there were weeks—months—when the entire year felt like some demented experiment in emotional carrying capacity. We know humans can be terrified, heroic, bewildered, grateful, vicious, mournful, selfless, hopeful, cynical, furious, and resolute. It took 2020 to make some of us understand the extent to which each of us can be so many of those things at once. □

01.25

THE ANXIETY  
OF BLACK MOTHERS  
LITTLE ROCK, AR

Photograph by  
JON HENRY



In his project “Stranger Fruit,” Jon Henry poses Black mothers with their living sons in the form of a pietà, in which a grieving Mary holds the dead body of Christ. The work is his response to police violence against the Black community and to memories of his mother’s incessant worrying as he was growing up. Henry asked his subjects to reflect on these scenes. “I feel sad—sad that mothers actually have to go through this,” one woman said. “My son was able to get up and put back on his clothes. Others, not so much.” This family is in front of Little Rock Central High School in Arkansas, scene of a confrontation over school integration in 1957.

“

IT'S DIFFICULT  
TO KEEP LIVING  
THESE OVER  
AND OVER AGAIN,  
SORT OF LIKE  
A PERVERSE  
‘GROUNDHOG DAY’  
WHERE THESE  
MURDERS JUST  
KEEP ON  
HAPPENING.”  
—JON HENRY



04.23

**EXTREME MEASURES  
AND SHORT SUPPLIES**  
BOGALUSA, LA

**Photograph by**

**MAX AGUILERA-  
HELLWEG**



The pandemic caught many health-care systems short of emergency supplies, a situation exacerbated by uneven government responses to the crisis. Physician Gerald Foret dons a protective mask before seeing COVID-19 patients at Our Lady of the Angels Hospital in Bogalusa. The hospital was running low on N95 masks, so Foret used a spare respirator that was on hand. The full-face mask offered nearly complete protection from airborne particles when he entered the negative pressure unit where coronavirus patients were treated.



“

**WITHOUT THE  
MASK, ENTERING  
THE ROOM COULD  
BE FATAL.”**  
—MAX AGUILERA-  
HELLWEG



04.14

**ON THE FRONT LINES  
IN A GLOBAL CRISIS**  
ISTANBUL, TURKEY

**Photograph by**  
**EMİN ÖZMEN**  
MAGNUM PHOTOS



A city employee disinfects a street in Beyoğlu, a tourist district empty of tourists. When communities shut down across the world, many people could retreat to their homes. Others, newly deemed essential, had to keep working. Like many countries, Turkey sent out armies of workers in protective gear to spray the streets, hoping to contain the virus and, perhaps, reassure its citizens that action was being taken. The World Health Organization later warned that this method was ineffective at halting the spread of the coronavirus and that the disinfectants could potentially harm people's health.

“

**THE CITY MARKS  
ALL THOSE WHO  
PASS THROUGH  
IT, WHO VISIT IT,  
WHO LIVE THERE.  
ISTANBUL CASTS  
A SPELL. SINCE  
COVID-19, ALL  
THIS HAS ALMOST  
DISAPPEARED.”**

—EMİN ÖZMEN





05.02

**ATTEMPTING TO  
IDENTIFY THE SICK**  
TIERRA DEL FUEGO,  
ARGENTINA

**Photograph by**  
**LUJÁN AGUSTI**



Governments have struggled to halt the spread of coronavirus in their communities. In Ushuaia, the capital of Tierra del Fuego, one of the hardest hit regions in Argentina, the local government tried installing thermal scanners at the entrances of the two biggest supermarkets. As the only shops open during lockdown, the stores drew people from across town; officials thought the cameras would help identify those with a fever. A doctor and a city official monitored each device and sent home customers with elevated temperatures. But the scanners weren't effective at identifying the sick: They only measure skin temperature, which fluctuates with the external environment.

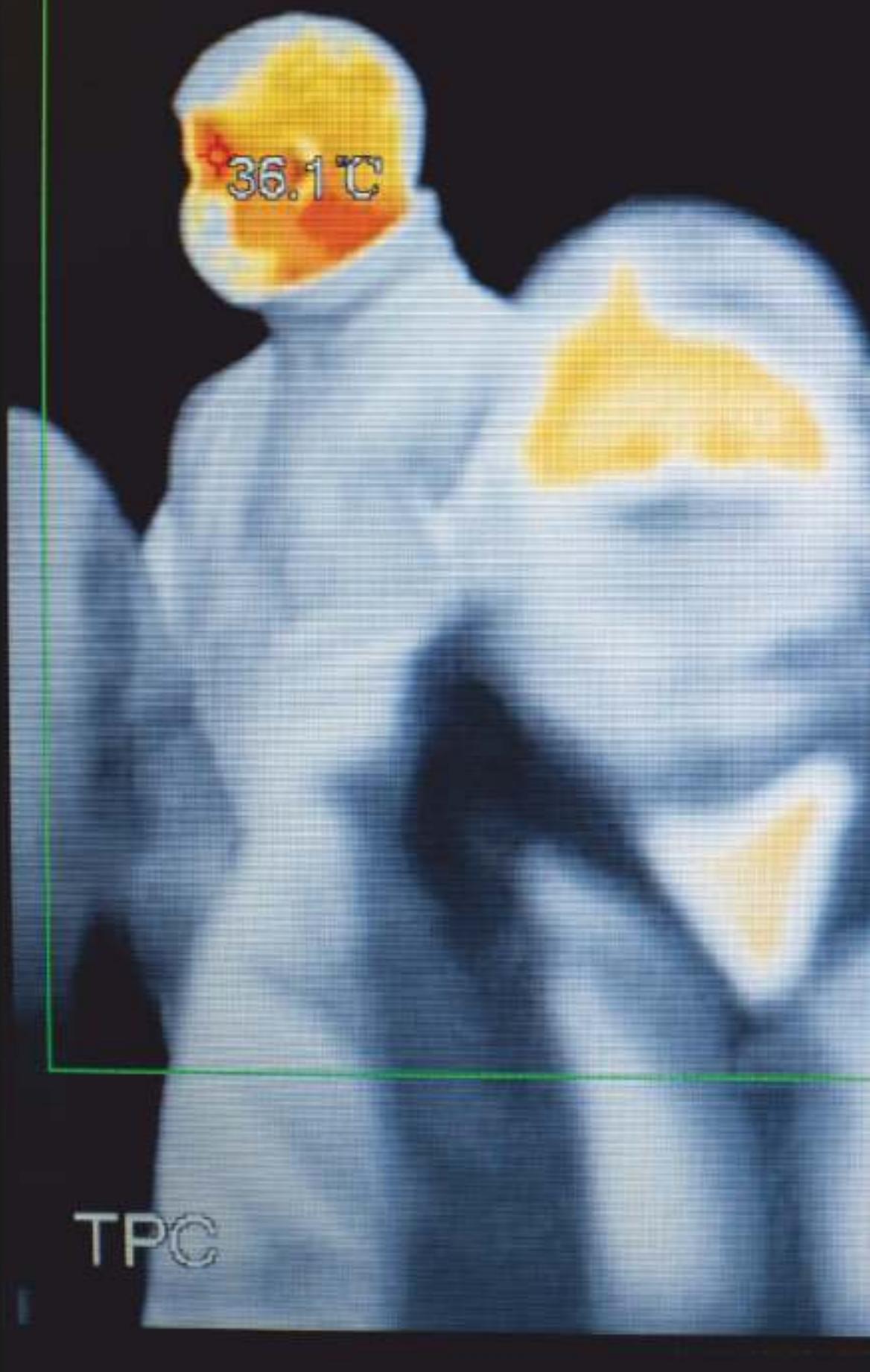
“

**EVEN WITH  
THE BEST  
INTENTIONS,  
THE THERMAL  
CAMERAS HAD  
A TOUGH TIME  
IDENTIFYING  
ACCURATE BODY  
TEMPERATURES.”**

—LUJÁN AGUSTI

zone alarm

Avg:23.5 Min:15.8 Max:35.9 °C



2020-05-02 20:52:15 Sab.

36.1 °C

15.7 °C

N/A

15.7 °C

zone-alarm



05.06

**DESPERATION AMONG  
THE MOST VULNERABLE  
LUCKNOW, INDIA**

**Photograph by  
SAUMYA KHANDELWAL**



Financially, the pandemic landed hardest on low-income people. In India an estimated 139 million people are internal migrants, having moved from their rural homes to cities to work for daily wages. When the country went into lockdown, millions lost their jobs. Afraid of food shortages, many tried to return home. Public transportation was shut down, so they walked or biked or caught a ride on a truck, like this one near Lucknow. Eventually the government arranged for trains and buses to transport migrant workers. The International Labour Organization said the pandemic will push 400 million of India's informal workers deeper into poverty.

“

**IN THE CITIES  
THEY TREAT US  
LIKE STRAY DOGS.  
WHY WOULD  
THEY TREAT US  
ANY BETTER  
NOW?”**

**—KRISHNA MOHAN,  
TEXTILE WORKER**





06.15

**LOSING LOVED ONES,  
UNABLE TO MOURN  
DETROIT, MI**

**Photograph by  
WAYNE LAWRENCE**



In April, Elaine Fields lost her husband, Eddie, and her mother-in-law, Leona Fields, to complications from COVID-19. Two months after Eddie's death, she stood by his grave in Detroit and cried. The inability to gather family members for a funeral weighed on Elaine, who also hadn't been allowed to be with her husband of 45 years when he died. "Our mourning has been stunted," she said.

06.10

**NOT JUST A STATISTIC  
DETROIT, MI**

**Photograph by  
WAYNE LAWRENCE**



**“IT'S HARD  
BECAUSE WE  
HAVEN'T BEEN  
ABLE TO MOURN.  
WE WEREN'T  
ABLE TO BE WITH  
HIM OR HAVE  
A FUNERAL.”**

—ELAINE FIELDS,  
WHOSE HUSBAND  
DIED OF COVID-19  
COMPLICATIONS

"She was more than a number—she was a person," Biba Adams said of her mother, Elaine Head, who died of COVID-19 complications at age 70. Standing outside her home in Detroit with her daughter, Maria Williams, and granddaughter, Gia, Adams grieves for the family she lost in the pandemic, including her grandmother and aunt.







06.05

A MOTHER AND SON  
FUNERAL  
LONDON, ENGLAND

Photograph by  
LYNSEY ADDARIO

Relatives and friends gather for the double funeral of 104-year-old Alexteen Alvira Roberts and her son, Brandis Metcalf Roberts, 79. Brandis died from COVID-19 complications in a nursing home. Alexteen, who came to the U.K. from Jamaica in 1955, died of natural causes. In England and Wales, Black people have been roughly four times as likely as whites to die from the virus, according to the Office for National Statistics. The high death rate reflects centuries of inequalities that minority groups have faced.



“

DOCUMENTING  
A CRISIS  
FIRST-HAND—  
WITNESSING  
SUCCESS AND  
SHORTCOMINGS—  
IS ESSENTIAL  
TO INFORM  
POLICY AND  
HOLD LEADERS  
ACCOUNTABLE.”  
—LYNSEY ADDARIO,  
ON PHOTOGRAPH-  
ING THE U.K.’S  
OUTBREAK





04.17

A FINAL BLESSING  
NOVARA, ITALY

Photograph by  
**ALEX MAJOLI**  
MAGNUM PHOTOS



A priest in the north-western Italian city of Novara blesses coffins arriving from Bergamo, one of the early centers of Italy's outbreak. Morgues and crematoria were at capacity there, so the Italian Army was dispatched to move bodies elsewhere in the region to prepare them for cremation or burial. For some families, weeks went by before they found out where their deceased relatives had been taken. Funeral home employees became frontline workers, struggling to cope with the mental and physical toll of a virus that devastated their communities.

“

**THIS HAS BEEN  
WORSE THAN  
A WAR. AT LEAST  
DURING A WAR,  
PEOPLE ARE ABLE  
TO RETURN THE  
REMAINS OF  
THE DEAD FOR  
A FUNERAL.”**

—ROBERTA  
MAGONI,  
A FUNERAL HOME  
ADMINISTRATOR  
IN BERGAMO  
PROVINCE

08.12

**EXPLOSION FUELS  
CALLS FOR CHANGE**  
BEIRUT, LEBANON

**Photograph by**  
**RENA EFFENDI**



In August an explosion of stored ammonium nitrate in Beirut's port tore across historic neighborhoods, leveled buildings, killed some 200 people, and injured 6,500. Ariana Sursock, 18, was in her family's home, the 1870 Sursock Palace, with her 98-year-old grandmother, who later died from injuries caused by flying glass and debris. The explosion, linked to a lack of government oversight of safety protocols, led to protests and calls for political change. "I'm not going to start the restoration before we know where we are going [as a country]," said Roderick Sursock, Ariana's father.

“

**I THOUGHT, THIS  
IS THE END—  
THERE'S NO WAY  
I'M GOING TO  
SURVIVE THIS.”**

—ARIANA SURSOCK,  
RECALLING THE  
EXPLOSION THAT  
RIPPED THROUGH  
HER HOME IN  
BEIRUT







09.10

## AN APOCALYPTIC FIRE SEASON

LAKE OROVILLE, CA

Photograph by  
**STUART PALLEY**



California's North Complex fire scorched more than 200,000 acres in just 24 hours this past September. The conflagration

started as two separate fires in August during a powerful lightning storm that swept across Northern and central California. Weeks later, the fires, stoked by vicious winds, merged and exploded in size.

The North Complex fire quickly destroyed much of the town of Berry Creek and killed 15 people—a grim reminder of the catastrophe that struck Paradise, California, just 40 miles to the northwest, in 2018.

Cal Fire, a statewide firefighting and emergency services agency, says that fires

in California and the West have grown larger, hotter, faster, and more dangerous, particularly in the past several years. There are a few reasons for this: A century of overzealous fire suppression ignored the role of natural fires in maintaining forest health. In addition, a population boom during the past half century has seen homes and towns proliferate on the edge of wild areas. Years of drought left dead trees to fuel the fires, and climate change gave California its hottest August ever recorded.





An aerial photograph showing a vast expanse of broken ice floes. The ice is white and light blue, with many dark, irregular shapes scattered across it, likely representing seals or seal pup colonies. The overall pattern is one of a dense, fragmented sea ice field.

02.29

ON THIN ICE  
NEAR MADELEINE  
ISLANDS, QUÉBEC

Photograph by  
**JENNIFER HAYES**

Blood stains the ice where harp seals give birth in the Gulf of St. Lawrence. Pups need solid ice to survive, but a warming world and shortage of stable ice in recent years have led to a rise in pup deaths. The situation could eventually prompt this population of harp seals to leave the gulf in search of increasingly elusive ice nurseries.

“

LIFE BORN TO  
ICE IS DIFFICULT,  
AND NATURAL  
MORTALITY  
IS HIGH. ADD  
A SEASON OF  
INCREASED  
TEMPERATURES  
AND DECREASING  
ICE AND YOU  
HAVE A DEADLY  
COMBINATION  
FOR THE PUPS.”

—JENNIFER  
HAYES, ON THE  
HARP SEALS SHE  
PHOTOGRAPHS

03.05

**IN EAST AFRICA,  
A STORM OF INSECTS**

BARSALINGA, KENYA

**Photograph by  
DAVID CHANCELLOR**



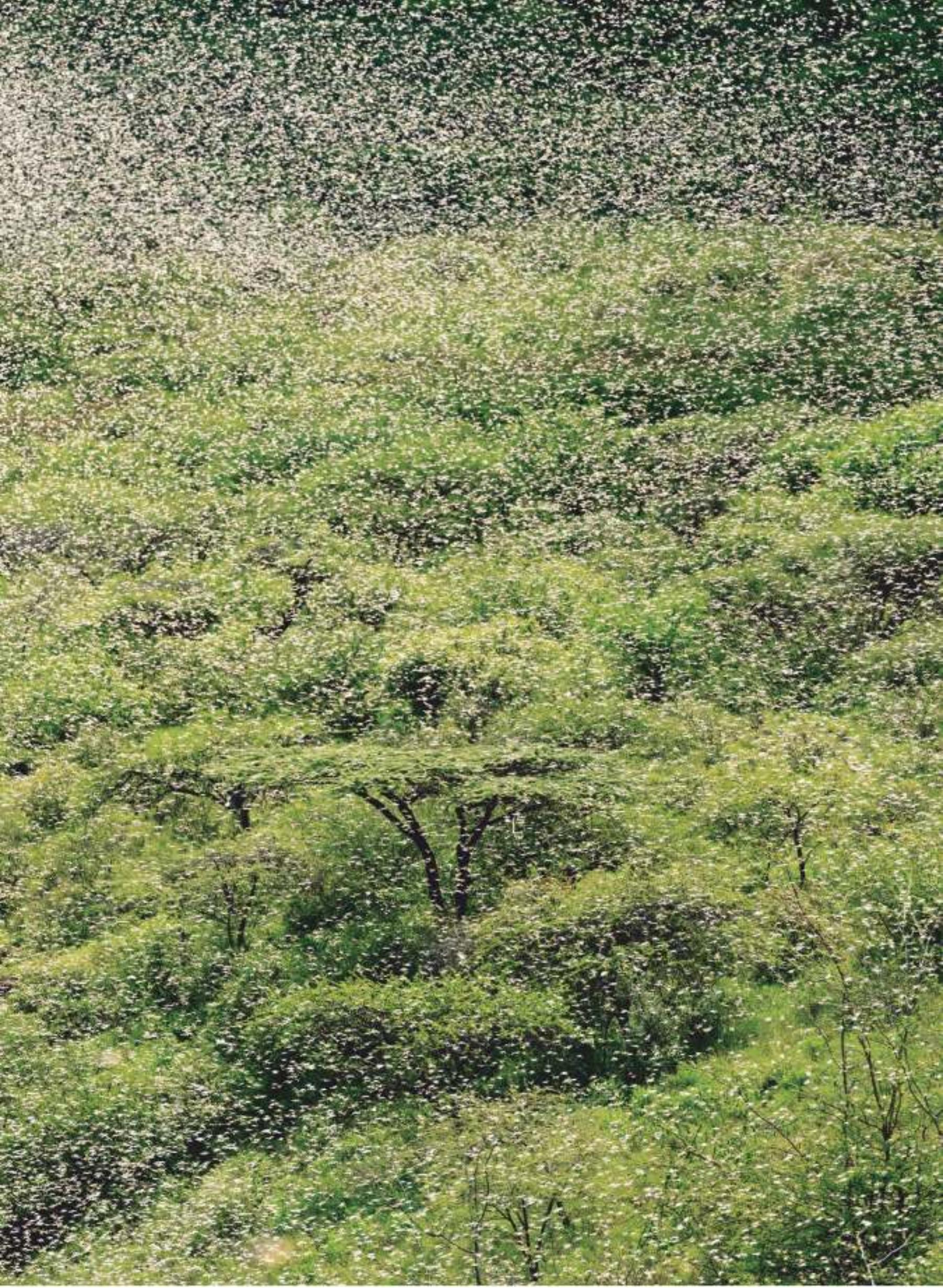
In a year of plagues, East Africa got an extra one: desert locusts. The swarms, which began moving into the region in late 2019, became a terrifying threat to Africa's farmers. In January, Kenya had its worst locust outbreak in 70 years. The insects flourish when arid areas get heavy rain and blooms of vegetation, triggering a population boom. Winds from the Arabian Peninsula push the swarms into the Horn of Africa, leading to hunger for millions of people. A single swarm can swell to 70 billion locusts and destroy more than 300 million pounds of crops a day. Even a smaller swarm of 40 million can eat as much in a day as 35,000 people.

“

**WE FEAR FOR OUR  
FUTURE, BECAUSE  
THESE KINDS OF  
SWARMS WILL  
MEAN WE DON'T  
HAVE ANYTHING  
TO FEED OUR  
ANIMALS ... IT'S  
AS TERRIFYING  
AS COVID-19.”**

—ALBERT  
LEMASULANI,  
LOCUST-CONTROL  
VOLUNTEER







03.10

**THE EMPTY SCHOOL**  
KRAKÓW, POLAND

**Photograph by**  
**RAFAŁ MILACH**  
MAGNUM PHOTOS

Jagiellonian University, founded in 1364, has survived religious upheaval, annexations, and world wars, in addition to the deportation of 155 academics to a German concentration camp in 1939. On March 10 the school suspended lectures and closed many campus operations, emptying one of the world's oldest and most resilient learning institutions. The main reading hall, shown here, turned desolate. Schools around the globe made similar accommodations. From preschools to law schools, educational leaders are grappling with how to reopen safely. For those at Jagiellonian, the 2020-21 school year is a blend of online and in-person learning.



**I'M AFRAID TO  
GET TOO USED  
TO IT. IF THE  
WORLD SPEEDS  
UP EVER AGAIN,  
THE SOUND SHIFT  
MAY BE HARSH."**  
—PHOTOGRAPHER  
RAFAŁ MILACH ON  
THE NEWFOUND  
QUIET



## YEAR IN PICTURES

An estimated

**7,000**

health workers worldwide had died of COVID-19 by September, said Amnesty International. Doctors, nurses, and other staff in

Belgium and many other countries worked exhausting shifts in overwhelmed hospitals.

P. 84

▲ BELGIUM

**WFH**

What began as a temporary shift to "working from home" became the new normal for millions.

P. 87

▲ U.S.

**1.6 BILLION**  
students were sent home as schools shut down.

**ONE-THIRD** of those students were unable to access remote learning.

**24 MILLION** students are projected to drop out of school.

**MILLIONS OF YOUTHS** are at risk of being pushed into child labor as poverty grows.

P. 78

**70TH** anniversary celebrations of WWII's end were delayed or canceled.

P. 86

**PART 2 O F 4**

**LOCKED DOWN, STRESSED OUT: OUR SOCIALLY DISTANT WORLD**

▲ INDONESIA

▼ RUSSIA

### TRAVEL GRINDS TO A HALT

The United Nations' World Tourism Organization reported a 98 percent drop in global tourist numbers in May compared with the same month in 2019. By May 2020 the world economy had lost \$320 billion—and countless jobs in tourism-dependent countries such as Indonesia—as 300 million would-be travelers stayed home.

P. 96

▼ CHINA

### REMOTE DINING

Workers at an auto plant in Wuhan demonstrate a unique way to dine together, but at a safe distance, over their lunch break.

P. 88

▼ JORDAN

### TRAPPED INSIDE

Several round-the-clock curfews shuttering activity were enforced by military and police personnel.

P. 92

**04.18**

### A COVID-19 VICTIM BECOMES A MODERN MUMMY INDONESIA

Photograph by  
**JOSHUA IRWANDI**

The body of a suspected coronavirus victim, wrapped in plastic, awaits a body bag in an Indonesian

hospital. The multiple layers were part of a hospital protocol to help suppress the spread of the virus. As is the case with most victims, family members were not allowed to say goodbye.

The uproar over this photo, first published in July by *National Geographic*, thrust photographer Joshua Irwandi into the spotlight. Celebrities and government officials in Indonesia had denied that COVID-19 was an issue in the country, which had lifted many social restrictions. This

## THE YEAR THAT

# ISOLATED US

NATIONAL GEOGRAPHIC



JANUARY 2021 • PAGE 79



picture said otherwise. "It has galvanized and renewed discussions of COVID-19 in Indonesia just as the country was then preparing for a 'new normal,'" said Irwandi. It laid bare a reality in a country where more than 200 health professionals have now died of COVID-19. "It was our wake-up call," said Irwandi. "It illustrated the statistics that we seemingly grew numb towards." For Irwandi, the photograph and its aftermath were reminders of the power of a single image.

BY NINA STROCHLIC

## TOGETHER,



**SOME ISOLATIONS ARE INTENTIONAL**—think astronauts, mountain climbers, monks—but for most of us, social interaction is a life-giving electric charge. The year 2020 pulled that plug. In March the world tiptoed into isolation: Gatherings were banned, schools and offices closed. Stay-at-home orders cast an eerie silence over the world. Any setting that fostered interaction was imbued with fear.

The era of coronavirus challenged our definitions of isolation. Was it being separated from our friends and family? Stuck outside our country, or kept from our work and education?

As Brazil became a focal point of the pandemic, residents of the Copan apartment building, in São Paulo, shut themselves inside, afraid of how easily the virus could engulf Latin America's largest residential structure. Even in the midst of 1,160 homes filled with artists, architects, and designers, life grew quiet and lonely.

Staying home was a privilege. Essential jobs and sheer necessity forced many to choose between their health and their responsibilities. In Bergamo, Italy, one of COVID-19's early epicenters, funeral director Antonio Ricciardi so feared infecting his family that he slept on the sofa bed in his office for two months. "I was afraid of dying," he recalls. "I have never experienced this fear before."

Death, too, became a solitary event. The funeral for Marie Thérèse Wassmer, 89, was held outside the small city of Mulhouse, a flash point of the outbreak in France. She hadn't been tested for the virus, but was buried like a victim. Under lockdown, neither her friends nor her family attended the funeral. As a priest and four undertakers laid her to rest in a sealed coffin, the undertakers prayed over her, as though they were family. □

07.04

A KING IS LOST  
TO THE VIRUS  
NEW ORLEANS, LA

Photograph by  
**MAX  
AGUILERA-HELLWEG**



The crown from Larry Hammond's 2007 reign as Mardi Gras Zulu king rests on a chair at his New Orleans home. The Zulu Social Aid and Pleasure Club crowns a king each year in a tradition that stretches back officially to 1916. Hammond died on March 31 of complications from COVID-19. He was a Vietnam veteran and retired U.S. Postal Service worker. Long before Hammond was king of the carnival, famous New Orleans residents such as Louis Armstrong held the title. The virus hit the 800-member social club particularly hard, killing at least eight members and sickening dozens more.



**JUSTICE**





05.01

**NURSES PUSHED  
TO EXHAUSTION**  
MONS, BELGIUM

**Photograph by**  
**CÉDRIC GERBEHAYE**

Taking a brief break during ceaseless frontline work treating patients with the coronavirus, nurses Caroline Quinet (at left) and Yasmina Cheroual rest outside CHU Ambroise Paré hospital. The pair, who had known each other for only a few months, pulled long shifts in the intensive care unit. Like many medical facilities around the world, Belgian hospitals initially were overwhelmed by a rush of patients with the virulent, ever changing new disease. These nurses, pulled from their standard duties, were thrown into full-time COVID-19 work—reinforcement troops for a long, exhausting battle.

“

**NEVER WOULD I HAVE IMAGINED EXPERIENCING SOMETHING OF SUCH MAGNITUDE IN MY CAREER.”**  
—YASMINA CHEROUAL



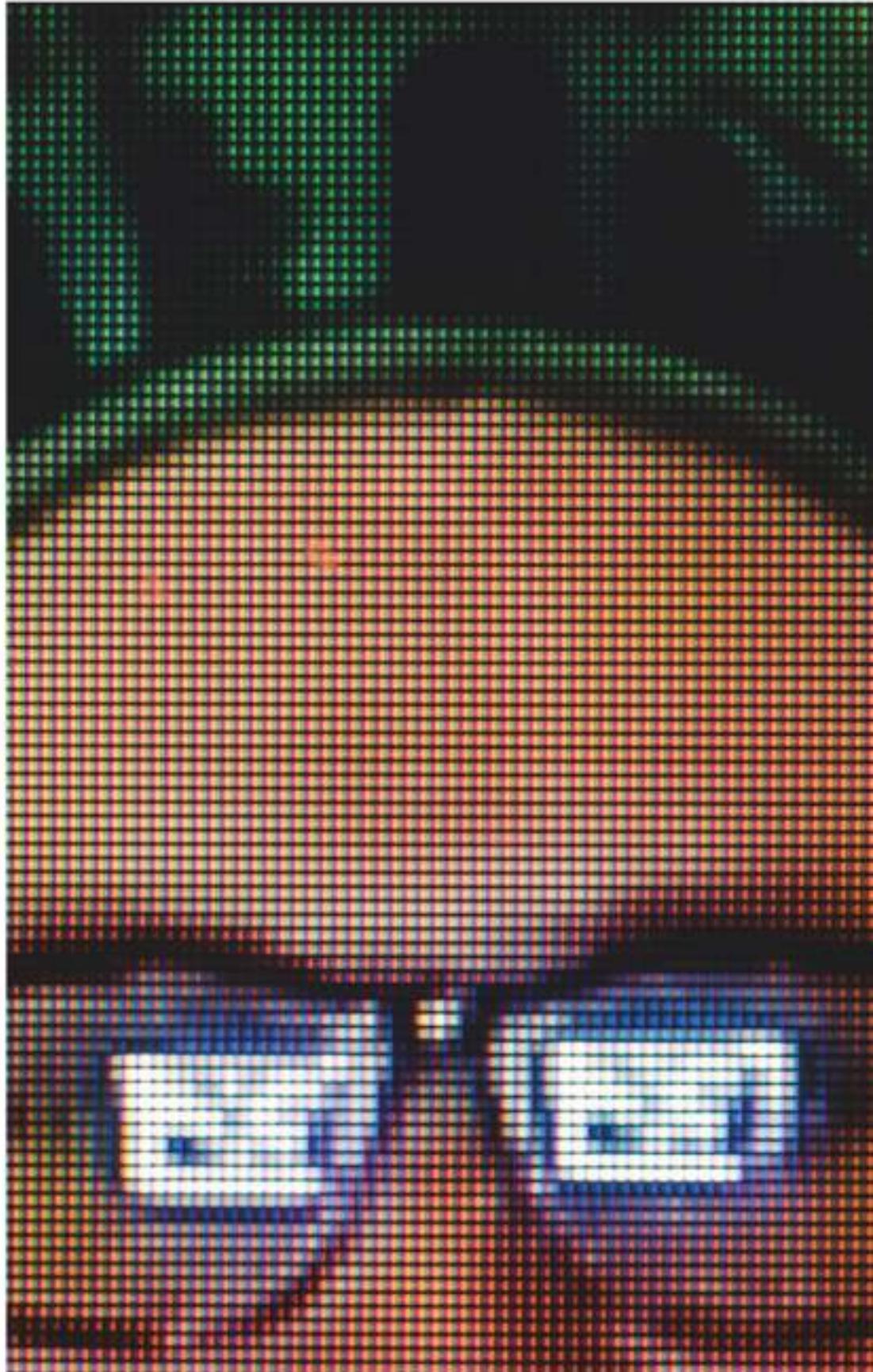
05.09

**THE LITTLE GESTURES**  
MOSCOW, RUSSIA

**Photograph by**  
**NANNA HEITMANN**



"It was shocking inside the hospitals," said photographer Nanna Heitmann, who documented Moscow under lockdown. At Hospital Number 52, medical staff like this nurse handed out flowers to World War II veterans and other elderly patients to commemorate Victory Day in May. One doctor brought a guitar and serenaded the residents with old Soviet war songs.



04.03

**OUR NEW WORLD:**  
**CONNECTING BY VIDEO**  
BOULDER, CO

**Photograph by**  
**BENJAMIN RASMUSSEN**



A birthday Zoom call is reflected in Brendan Davis's glasses, under a foam crown he donned for the celebration. As happy hours, holidays, and work meetings became virtual, "Zoom fatigue" entered our lexicon. Health experts warned that our brains were ill equipped to handle long, emotional, and social-cue-filled interactions online.





03.23

A 'NEW NORMAL'  
LUNCHTIME  
WUHAN, CHINA

Photograph by

STR/AFP VIA GETTY  
IMAGES



Auto factory workers eat a socially distanced lunch under new restrictions to halt the spread of COVID-19. The virus likely first emerged

in November 2019 in Wuhan, a hub of steel and auto manufacturing. A strict curfew was put in place in January 2020. More than two months later, after a drop in daily infections, residents were allowed to slowly restart their lives, though not without careful precautions: Workers, like these employees of Dongfeng Honda, were required to wear masks, undergo temperature checks, and maintain safe distances. "We still need to remind ourselves that as Wuhan is unblocked, we can be pleased, but we must not relax," *People's Daily*, a state-run paper, warned.

03.19

A TRIP TO NOWHERE  
PARIS, FRANCE

Photograph by  
**WILLIAM DANIELS**



With many flights canceled, the train from the city center to Charles de Gaulle Airport is nearly empty. When stay-at-home orders were issued in mid-March, Paris became one of the first iconic cities to shut down in the face of the coronavirus. William Daniels observed that he had never seen his city so quiet. "One day when I was shooting at the main entrance of Les Halles, one of the biggest commercial malls in Europe, I heard birds singing," he said. "I'd never realized there were birds at Les Halles of all places. It gave me hope."

“

**AS I'VE ROAMED PARIS, I'VE NOTICED THAT THE AIR IS MUCH FRESHER—THERE'S LESS POLLUTION.**  
—WILLIAM DANIELS,  
PHOTOGRAPHER







05.21

ALONE AND SO FAR  
FROM HOME  
AMMAN, JORDAN

Photograph by  
**MOISES SAMAN**

Fatima Mohammad, 37, a Sudanese refugee, stands near her sleeping three-year-old son, Sami. Jordan hosts the second highest number of refugees per capita in the world, after Lebanon. More than 100,000 displaced people live in camps, while 542,700 live in cities and towns. These urban refugees have been hardest hit by the lockdown. Non-Syrian refugees in Jordan aren't allowed work permits and receive no financial support from Jordan's government. As a result, refugees from countries such as Sudan, Yemen, and Somalia struggle to eke out a living. The day after this photo was taken, a three-day lockdown was announced to stem the spread of COVID-19, barring non-essential workers from leaving their homes.



04.25

ART WITHOUT  
ITS AUDIENCE  
MILAN, ITALY

Photograph by  
**PAOLO WOODS AND  
GABRIELE GALIMBERTI**



The figures in Antonio Canova's 19th-century *The Three Graces* cling to each other in an empty rotunda of Milan's Gallerie d'Italia last spring, when Italy's museums were closed to the public. European museums are reopening slowly, with social distancing rules, temperature checks of visitors, and restrictions on attendees. For small, privately owned attractions, ticket revenue loss poses an existential threat. Up to a tenth of the world's museums now say they may be forced to permanently close, according to the International Council of Museums.

“

**THE PANDEMIC IS FAR FROM OVER. MUSEUMS ARE LOSING A LOT OF MONEY, AND THEY WILL KEEP DOING SO EVEN AFTER THEIR REOPENING.”**  
—JULIA PAGEL,  
NETWORK OF EUROPEAN MUSEUM ORGANISATIONS







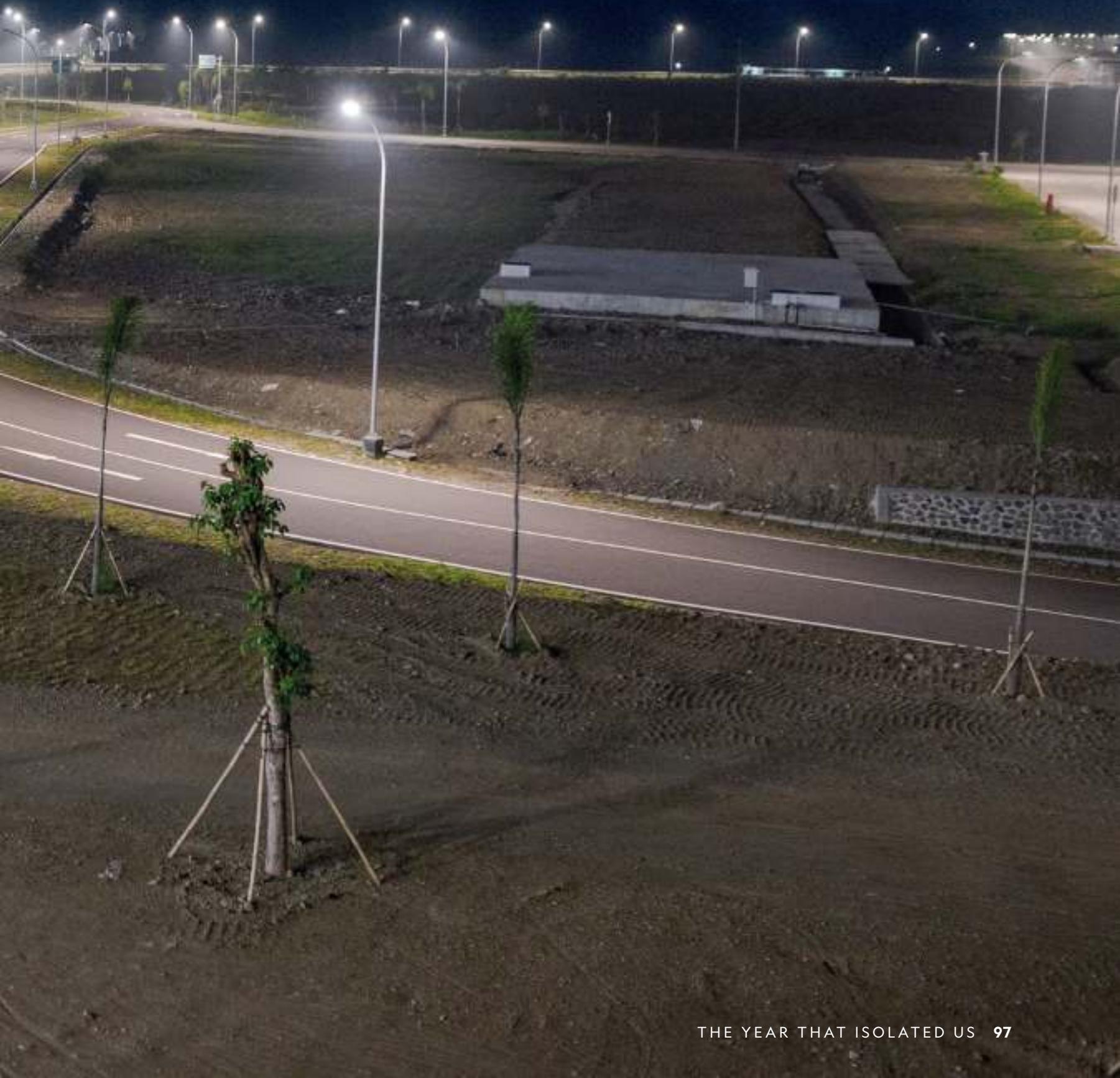
04.26

**EMPTY SKIES,  
EMPTY ROADS**  
YOGYAKARTA,  
INDONESIA

**Photograph by**  
**MUHAMMAD FADLI**

▼  
One day after a temporary freeze on commercial flights and sea travel, nothing stirred at Yogyakarta International Airport. The new facility in Central Java was built to handle 20 million travelers a year. But less than a month after it formally opened in

April, the government announced strict travel restrictions. Travel was halted into and out of Indonesia as COVID-19 spread around the world. The skies were, briefly, vacant. The airport reopened in August with the president's promise it would be the nation's busiest, once a COVID-19 vaccine was developed.





05.31

DEMANDING  
JUSTICE ...  
NEW YORK, NY

Photograph by  
**RUDDY ROYE**

◀  
The protests after George Floyd's death while in police custody in Minneapolis sparked a global conversation about race, policing, and social justice. Here, a man who goes by the name Royal G stands above a phalanx of police officers at a protest in Brooklyn. "I have a five-year-old daughter... whatever I do today might help her one day," he said.



06.06

... FOR 'WE THE  
PEOPLE'  
WASHINGTON, DC

Photograph by  
**NATE PALMER**

►  
Maria Modlin, 55, from Washington, D.C., was one of thousands of protesters who converged on the White House on the ninth day of protests following the death of George Floyd. "I am so happy to be... part of this great movement. It's we the people. Not them the people. Now it's our turn."

## YEAR IN PICTURES

"WITH THE KILLING OF GEORGE FLOYD, A SWITCH WENT OFF. IT LIT EVERYBODY UP."

ONE PROTESTER SUMMED UP THE EMOTIONS OF MILLIONS.

P. 105

▲ WASHINGTON, D.C.

MILLENNIALS AND YOUNGER GENERATIONS MAKE UP

50.7%  
OF THE POPULATION.

Born after 1981, these young people are fighting for change.

P. 106

▲ U.S.

▼ DELAWARE

# WOMEN

In the United States, 2020 marked the 100th anniversary of women getting the right to vote. It also marked the election of Kamala Harris, the first woman to win the vice presidency.

P. 117

▼ NEW ZEALAND

### APART BUT CONNECTED

Social media's influence grew as we socially distanced. In New Zealand Maori women had long been using it to mobilize support for the return of ancestral land and other causes.

P. 110

PART 3 OF 4

## A PANDEMIC COULDN'T MASK THE CALLS FOR CHANGE

## THE YEAR THAT

# EMPOWERED US

NATIONAL GEOGRAPHIC



JANUARY 2021 • PAGE 101

▼ U.S.

"IT'S MY DUTY TO MAKE SURE EVERYONE KNOWS WHAT'S HAPPENING AND ARE DOING WHAT THEY CAN TO TRY AND STAY SAFE. WE HAVE TO BE OUR OWN SOLUTION."

P. 108

▲ KENYA

Blacks in the U.S. are 3 times more likely to be killed by police than whites.

As many as

26

million people in the U.S. protested in June alone.

Crowd size estimates ranged from 15 million to 26 million.

140

protests took place across the country every day, on average, from late May through June.

P. 103



# WHAT IS AVAXHOME?

# AVAXHOME -

the biggest Internet portal,  
providing you various content:  
brand new books, trending movies,  
fresh magazines, hot games,  
recent software, latest music releases.

Unlimited satisfaction one low price

Cheap constant access to piping hot media

Protect your downloadings from Big brother

Safer, than torrent-trackers

18 years of seamless operation and our users' satisfaction

All languages

Brand new content

One site



AvaxHome - Your End Place

We have everything for all of your needs. Just open <https://avxlive.icu>



08.28

A MARCH COMMITTED  
TO CHANGE  
WASHINGTON, DC

Photograph by  
**JOSHUA RASHAAD  
MCFADDEN**



Tamaj Bulloch raises his small fist as Alena Battle of Charlotte,

North Carolina, holds her son during the "Get Your Knee Off Our Necks" Commitment March on Washington in August. Held on the 57th anniversary of the March on Washington for Jobs and Freedom, the event drew thousands who risked the threat of COVID-19 to demand criminal justice reform and an end to police brutality. Speakers included the son and granddaughter of Martin Luther King, Jr., and relatives of those killed by police.

BY RACHEL JONES

# DEMANDING

# JUSTICE

**CALL IT THE YEAR** the world boxed 12 rounds with fear, was left gasping and battered, but won by a decision—the decision to use crisis as fuel.

It was the year the phrase “I can’t breathe” had multiple meanings, from overflowing hospital wards around the globe to deadly interactions on city streets. It morphed from an anguished plea to a battle cry as we squared our shoulders and we rose up.

A dam of anger and grief broke open as the life was squeezed out of a man named George Floyd, sparking a global revolution.

We battled the fear of being too close. Or too disconnected. Some raged at long-standing inequality. Months of confinement ignited the need for escape, not just for recreation but for proclamation.

High school seniors lifted their diplomas and lofted their caps from their front lawns as family and friends drove past, determined to claim public credit for their achievements.

From capital cities to the smallest towns, we reclaimed our voices. We came together in a show of strength in the name of justice. People gathered, most wearing masks as armor against an airborne enemy.

The year yielded profound body blows through the deaths of beloved American icons like Supreme Court Justice Ruth Bader Ginsburg and Congressman John Lewis, who both embodied the country’s fight for equality. We vowed to carry on their work.

The ballot box became a measure of the nation’s appetite for change. In 2020 we fought bare-knuckled for the power to inhale justice and exhale fear.

08.28

STANDING UP FOR  
FUTURE GENERATIONS  
WASHINGTON, DC

Photograph by  
STEPHANIE MEI-LING



Alem Bekele (left), her sister Herani Bekele (center), and Bayza Anteneh, young professionals from the Washington, D.C., area, stand in front of the Lincoln Memorial during the march on the National Mall in August. “We’re out here because we’re tired of injustice, and we’re here to make a difference for future generations,” said Alem Bekele, echoing the concerns of many protesters. Each of them was involved in D.C. protests last summer. “With the killing of George Floyd, a switch went off. I would log off work early and go to a protest,” Anteneh said. “It lit everybody up.”





05.30

**CELEBRATION  
AS PROTEST**  
MINNEAPOLIS, MN

**Photograph by**  
**DAVID GUTTENFELDER**



Datelle Straub (center) and friends Avery Lewis (left) and Titan Harness-Reed, graduates of Patrick Henry High School in Minneapolis, protested in their graduation caps and gowns following the killing of George Floyd. "Because of COVID we couldn't walk the stage, so we decided to put our robes on to show that there is Black excellence in our community," Straub said. When he saw police approaching, Straub lifted his diploma. "As we were walking, cops jumped out of a van and aimed their guns at me and my friends and put a red dot on our chests. It's just frustrating that they are OK with killing the future."



**WE DECIDED  
TO PUT ON OUR  
ROBES TO SHOW  
THAT THERE  
IS BLACK EXCEL-  
LENCE IN OUR  
COMMUNITY.  
WE WALKED THE  
STREETS AS  
OUR STAGE AND  
PROTESTED."**

**—DATELLE STRAUB,  
HIGH SCHOOL  
GRADUATE**







04.01

**'WE HAVE TO BE  
OUR OWN SOLUTION'  
NAIROBI, KENYA**

**Photograph by**  
**NICHOLE SOBECKI**

▼  
Musician Daniel Owino Okoth, known as Futwax, sings his song "Have You Sanitized?" with his

four-year-old son and apprentice keyboardist, Julian Austin. From his home in Nairobi's Kibera neighborhood, Futwax wrote and recorded the song to encourage safe health practices during the coronavirus pandemic. "I'm a community leader and icon here, and people listen to my music across Kenya," he said. "So it's my duty to make sure that everyone knows what's happening and are doing what they can to try and stay safe. We have to be our own solution." Futwax, who walked

through town with a megaphone promoting safety, noted that social distancing is not an option for Kibera's residents. "We share toilets. We share entrances and exits of houses. We share where we iron our clothes after washing. We don't have supermarkets; we share kiosks. We saw people who were taken away by ambulance, people from the slums who were put into government isolation centers, you know? So I decided to take responsibility in my own hands."



02.03

**RECLAIMING  
THEIR POWER**  
WAITANGI,  
NEW ZEALAND

**Photograph by**  
**ANDREA BRUCE**



Bronwyn Clifford, 16, stands with other Maori women on New Zealand's Waitangi Day, which is observed each February to commemorate the Treaty of Waitangi, signed by some 500 Indigenous leaders and the British in 1840. Today Maori youth use social media to mobilize support for the return of ancestral land confiscated during the colonial era and to build momentum for the political partnership between Maori and Europeans envisaged by the treaty.

“

**I STAND HERE  
IN THIS HOUSE  
TO HONOUR YOUR  
NAME, TO GIVE  
VOICE TO THE  
VOICELESS, WHO,  
FOR WHATEVER  
THEIR CIRCUM-  
STANCES, CANNOT  
SPEAK FOR  
THEMSELVES.”**

—KIRITAPU ALLAN,  
MEMBER OF  
NEW ZEALAND  
PARLIAMENT





11.02

## RALLYING IN SUPPORT OF THE PRESIDENT AVOCA, PA

Photograph by  
**NATALIE KEYSSAR**

▼  
The day before the U.S. election, supporters of Donald Trump wait for

the president at the Wilkes-Barre/Scranton International Airport in northeastern Pennsylvania. The rally took place not far from the childhood home of Joe Biden, who defeated Trump in the election. “The atmosphere was one of anticipation. It was one of the last rallies and the stakes were really high. People were scanning the sky for his arrival in Air Force One,” photographer Natalie Keyssar said.





**10.31**

**HONORING HERITAGE  
AT THE POLLS  
ORLANDO, FL**

**Photograph by  
CHRISTOPHER  
GREGORY-RIVERA**



Barbara Liz Cepeda, 44, of Kissimmee, Florida, leads bomba dancers at an early polling place, entertaining voters as they wait in line. Born in Puerto Rico, Cepeda has lived in Florida for 17 years. The eighth-generation bomba dancer started a dance school to honor her mother, Tata Cepeda, and continue a family legacy. Bomba is an Afro-Puerto Rican dance form developed in that U.S. territory by enslaved people who were brought there from West Africa.







03.12

**THE POWER OF VOTING**  
WASHINGTON, DC

**Photograph by**  
**CELESTE SLOMAN**

◀  
Before Howard University student Winter BreeAnne from Riverside, California, was eligible to vote, she developed a program to help young people understand that voting matters. "That's how we elect the people who represent us," she said. "If we aren't voicing our opinion that way, when we have the ability and not everybody is afforded that right, we are relinquishing a lot of political power."

11.07

**INSPIRATION, NOW**  
WILMINGTON, DE

**Photograph by**  
**JIM WATSON, AFP/  
GETTY IMAGES**

▶  
"Our country has sent you a clear message: Dream with ambition," Kamala Harris said, as she and Joe Biden gave victory speeches. Dressed in white to honor women suffragists, she became the first woman, first Black person, and first Asian American to win the vice presidency. "Every little girl watching tonight sees that this is a country of possibilities."





05.30

A MILESTONE LAUNCH  
FOR U.S. ASTRONAUTS  
KENNEDY SPACE  
CENTER, FL

Photograph by  
MICHAEL SEELEY



The SpaceX Crew Dragon lifts off for the International Space Station (ISS), launching a new era of space-flight in which “more space is going to be available to more people,” said NASA administrator Jim Bridenstine. Strapped inside were Robert Behnken and

Douglas Hurley, the first astronauts to launch from U.S. soil since the last space shuttle in 2011—and the first to fly on a SpaceX mission, part of a new commercial space program. “We’ve longed to be a part of a test mission,” said Behnken. “It’s something we maybe dreamed about.”

COMPOSITE OF TWO IMAGES

07.21

... AND A HISTORIC  
WALK IN SPACE  
INTERNATIONAL  
SPACE STATION

Photograph by  
**DOUGLAS HURLEY**

Some seven weeks into his stint aboard the ISS, Behnken (at left) and Chris Cassidy exited the station to conduct a space walk to install a toolbox for a Canadian Space Agency robot and perform other maintenance tasks. The five-and-a-half-hour

exercise marked the 10th space walk for the veteran astronauts and the 300th by Americans. Hurley, Behnken’s partner on the Crew Dragon, snapped their photo from inside the ISS. Twelve days later, Behnken and Hurley ended their mission with a splashdown in the Gulf of Mexico.

## YEAR IN PICTURES

▼ KENYA

### AGAINST THE ODDS

Their journey is a perilous one, but every year some 1.4 million wildebeests migrate around the Serengeti ecosystem to chase seasonal rains.

P. 126

500  
GLOBAL  
NOISE  
POLLUTION  
DROPPED BY  
HALF

Air pollution and water quality improved in cities around the world.

▼ MICHIGAN  
**STRONGER FAITH**

A quarter of Americans say the pandemic strengthened their faith. One grieving family's symbolic and tender farewell seemed to transcend today's troubled times.

P. 144

ESSENTIAL  
WORKERS  
—  
SHELTER  
IN PLACE  
—  
SOCIAL  
DISTANCE  
—  
SELF-  
ISOLATION

COVID-19 continued to define our days. But we did our best to look to the positive and rejoice in quiet moments.

P. 136

▼ CHILE  
“AN UNEXPECTED JOY IS THAT I HAVE BEEN SPENDING 24/7 WITH MY BABY, AND THAT IS PRICELESS.”

SCHOOLS SHUT DOWN, CHALLENGING PARENTS AROUND THE GLOBE—BUT ALSO CREATING OPPORTUNITIES TO BOND.

P. 138

▲ MALAYSIA  
@

The internet made remote work and distance learning possible but couldn't give us what we craved: the human touch.

P. 140

▲ CALIFORNIA  
**LOVE IN THE TIME OF LOCKDOWN**

An innovative mother and daughter—separated by plastic, masks, and gloves—found a safe way to show their love for each other after months apart.

P. 142

▲ NEW YORK

PART 4 OF 4

**AMID TRAGEDY,  
WE FOUND NEW  
WAYS TO LIVE,  
THINK, AND HEAL**

THE YEAR THAT

**HOPE ENDURED**

NATIONAL GEOGRAPHIC



JANUARY 2021 • PAGE 121



09.23

**DISCOVERING VIRUSES  
THAT DO US GOOD**  
PALO ALTO, CA

**Photograph by  
CRAIG CUTLER**

Not all viruses lead to global pandemics. Some have evolved to our benefit. An ancient virus called HERV-K may protect human embryos from other viruses, according to Joanna Wysocka, a professor of both chemical and systems biology and of developmental biology at Stanford University. When an embryo reaches the eight-cell stage (as projected at left), HERV-K is activated and may nudge the cells to build proteins that shield them from infection. It turns off when the embryo implants in the uterus. Ancient viruses make up nearly 8 percent of human DNA, with HERV-K joining an ancestor's genome more than 30 million years ago. Scientists like Wysocka are continuing to untangle how viruses have become a part of us.



BY RACHEL HARTIGAN

## RENEWING

# HOPE

**"SING A SONG,** full of the hope that the present has brought us." James Weldon Johnson wrote those words for "Lift Every Voice and Sing," known as the Black national anthem, toward the end of the 19th century in Florida—a state that then had one of the highest rates of lynchings and where most Black men could not vote. Yet he found reasons to hope. We can too—and we have.

We found hope in the doctors and nurses who worked beyond endurance to save lives. We found hope in learning new ways to connect with loved ones. We found hope in the extraordinary developments—the scientific discoveries, the conservation victories, the social awakening—that occurred amid the pandemic and natural disasters. And we've found hope in the change that this year of calamity might bring.

"There will be a renewal of optimism in a better world that we know is possible," Sylvia Earle, the legendary oceanographer, said in August shortly before her 85th birthday. "That we can, through our individual and collective actions, turn to a new era of respect for the natural systems that keep us alive, and for one another."

We're already seeing positive change. "Just like in wartime, we've moved quickly and tried new things," Microsoft co-founder Bill Gates said in an interview with Editor in Chief Susan Goldberg, citing six promising COVID-19 vaccines in the works.

As wrenching as the turmoil has been, it's forcing people across all walks of life "to assess whether we are where we need to be," Black Lives Matter co-founder Alicia Garza said over the summer, "and what we need to do to get to where we're trying to go." There's still hope that we'll get there. □



“

**IT'S HEARTENING  
TO SEE ...  
A NATURAL  
SYSTEM THAT'S  
RECOVERING.”**  
—BIOLOGIST  
ZACH WHITENER



05.28

**A DAM IS REMOVED,  
AND A RIVER REVIVES**  
WESTBROOK, ME

**Photograph by**  
**BRIAN SKERRY**



Alewives—a kind of river herring about 10 inches long—crowd Mill

Brook on their way to spawn in Highland Lake, near Portland, Maine. Alewives are anadromous fish—they live in the ocean but migrate to freshwater to reproduce. Yet for more than 250 years, alewives and other migratory fish found their passage to the lake blocked by a dam on the Presumpscot River. In 2002 the dam was removed. Hoping to restore the migratory life cycle to the river system, biologists stocked Highland Lake with the fish. The alewives made their

way from lake to brook to river to ocean and back again. The run of alewives has increased every year since and now numbers more than 60,000 fish. Their resurgence benefits other creatures as well: Seals and whales, eagles and ospreys, mink and skunks all feast on alewives. People enjoy them too. Six miles of Mill Brook are now protected with streamside trails, which in late spring are filled with visitors eager to catch a glimpse of the resilient alewives.

09.18

## WILDLIFE PERSEVERES MARA RIVER, KENYA

Photograph by  
**CHARLIE HAMILTON  
JAMES**



Every year more than a million wildebeests rumble north across the Serengeti in a migration that is one of the world's great spectacles. In 2020 it was no different. Herds followed seasonal rain from northern Tanzania to Kenya's Masai Mara.

During one summer sunset several thousand wildebeests gathered at the edge of the Mara River and spilled down its banks. Crocodiles awaited them in the water and hyenas on the other side of the river. Fresh green grass did too, and so they pushed forward, as they always do.





06.11

**PROTECTING A  
WONDER OF NATURE**  
EMPIRE, MI

**Photograph by**  
**KEITH LADZINSKI**



As the sun sets, a curtain of rain descends from storm clouds near Sleeping Bear Dunes National Lakeshore on the northeastern shore of Lake Michigan. Far to the south, the city of Chicago has begun one of the world's largest civil engineering

projects, a massive tunnel and reservoir system to prevent raw sewage from discharging into the lake. The five Great Lakes contain more than a fifth of all the surface freshwater on Earth, and their shores, shaped by glaciers, have hosted humans for thousands of years.





04.14

**SLOWING THE SPREAD**  
SEOUL, SOUTH KOREA

**Photograph by**  
**JUN MICHAEL PARK**



At the H Plus Yangji Hospital in Seoul, a walk-in testing clinic is set up like a row of phone booths to prevent contact between patients and medical staff. Nose and mouth swabs take less than three minutes, and test results can be returned in four to six hours. Experience with previous disease outbreaks prepared South Korea for the COVID-19 pandemic. The country already had a legal framework for contact tracing, and most residents stayed home and wore masks in public. The government worked with the private sector to swiftly ramp up testing. There are hundreds of testing sites throughout the country.



# SAFETY BOOTH

# 전진료부스



COVID-19  
H\*YANG

05.09

**COVID-19 TREATMENTS  
ARE GETTING BETTER**  
MOSCOW, RUSSIA

**Photograph by**  
**NANNA HEITMANN**



One of the most helpful therapies for COVID-19 is one of the simplest: turning patients, such as this intensive care patient in Moscow, onto their stomachs, which improves the lungs' ability to get oxygen into the blood. Nearly a year into the pandemic, doctors are getting a handle on which medications and techniques best treat the disease. They've learned that the antiviral remdesivir shortens recovery time, while the steroid dexamethasone cuts the risk of death by a third in patients requiring ventilation.

“

**THIS IS NOT  
A MAGIC CURE,  
BUT ... IT'S  
ACTUALLY  
BEEN FAIRLY  
REMARKABLE  
HOW MANY  
PEOPLE RESPOND  
TO PRONE  
POSITIONING,  
AND OFTEN  
PRETTY RAPIDLY.”**

—KEVIN MCGURK,  
A CHIEF EMER-  
GENCY RESIDENT  
AT COOK COUNTY  
HEALTH IN CHICAGO









04.29

**THERE IS NEW LIFE**  
NEW YORK, NY

**Photograph by**  
**JACKIE MOLLOY**



At the height of the pandemic in New York City, Kimberly Bonsignore learned that the hospital where she planned to give birth wasn't allowing family members inside. She chose to have her baby at home, with her husband and toddler—and midwife Cara Muhlhahn and doula Angelique Clarke to help. Clarke set up a birthing pool in the family's living room and texted Muhlhahn when Bonsignore's water broke. In less than two hours, Suzette was born. The baby was unresponsive at first, but when Muhlhahn performed CPR, the newborn let out a wail. Moments later, they all heard the nightly sound of New Yorkers clapping to show their appreciation for first responders.

"

**EVERY DAY WE  
TALK ABOUT IT.  
WE LOOK AT HER,  
AND SHE'S SUCH  
A BEAUTIFUL,  
HEALTHY GIRL.  
IT'S SO CRAZY."**  
—KIMBERLY  
BONSIGNORE

# 03.30

## IN LOCKDOWN, A CHANCE TO GET CLOSE KUALA LUMPUR, MALAYSIA

Photograph by  
**IAN TEH**



Photographer Ian Teh spends much of his working life on the road. The pandemic allowed him to stay home with his wife, Chloe Lim, in Kuala Lumpur. "My partner and I are lucky that both our families are safe," he says. "The pandemic has been an opportunity for us to connect with our loved ones, virtually." One day he took a self-portrait: "We are sitting by our favorite spot in our apartment, looking out to the nearby houses and greenery. It's peaceful."

"

**FAMILY IS  
FAMILY—  
IT'S WHERE  
HOME IS. MINE IS  
AT HOME WITH  
MY PARTNER.  
THE REST OF  
MY FAMILY ARE  
SPREAD ACROSS  
THE GLOBE LIKE  
FAIRY DUST."**

—IAN TEH







"

**HE INNOCENTLY  
RECOGNIZES HIS  
GRANDFATHER  
AND HIS UNCLES  
WHEN WE HAVE  
A VIRTUAL CALL  
AND KISSES  
THEM, TOUCHES  
THEM, LAUGHS  
WITH THEM, AS  
IF THAT COLD  
GLASS DIDN'T  
EXIST."**

—TAMARA MERINO

03.25

**TIME TOGETHER**  
SANTIAGO, CHILE

**Photograph by**  
**TAMARA MERINO**



A self-portrait shows Tamara Merino with her son, Ikal, during their first week of quarantine. "An unexpected joy is that I have been spending 24/7 with my baby, and that is priceless," says Merino. Her mother is also with her. "It is an endless circle, since she is the beginning of my own motherhood. And today we are sharing experiences that we would never have lived together if it weren't for the isolation."

04.06

**RELISHING NATURE**  
JOHANNESBURG,  
SOUTH AFRICA

**Photograph by**  
**LINDOKUHLE SOBEKWA**  
MAGNUM PHOTOS



Flowers brighten a barbed wire fence in a Johannesburg township. People here often don't have space for gardens, but they find beauty in unexpected places, says Lindokuhle Sobekwa. "Growing up, there were always some flowers that grew near a dumping site, that we used to pick and play with."





04.06

**KEEPING IN TOUCH  
WITH FRIENDS**  
SANTA ROSA, CA

**Photograph by**  
**ALESSANDRA**  
**SANGUINETTI**  
MAGNUM PHOTOS



Whether through Zoom happy hours, backyard gatherings, or socially distanced walks, people have found ways during the pandemic to connect with the people they care about. "My daughter, Catalina, misses her friends very much, so we did the rounds in our car and visited her best friends from far away," says Alessandra Sanguinetti. "Here she's breaking the rules and touching fingertips with her best friend, Avery."







A close-up photograph showing a person's body completely wrapped in a large sheet of clear plastic. The plastic is draped over the head and shoulders, with visible wrinkles and folds. The background is dark and out of focus.

05.24

**A HUMAN TOUCH,  
WRAPPED IN PLASTIC**  
WANTAGH, NY

**Photograph by**

**AL BELLO**  
GETTY IMAGES



After more than two months of social distancing, Mary Grace Sileo (at left), her daughter, Michelle Grant, and other family members found a way to safely touch their loved ones. They hung a clothesline in Sileo's yard and pinned a drop cloth to it. With one on each side, they embraced through the plastic.



04.25

## A FAMILY'S FAREWELL DETROIT, MI

Photograph by  
**DANNY WILCOX  
FRAZIER**

Jerry Lovett releases a dove to symbolize his brother Chester's spirit. A retired Detroit mail carrier with 10 children, Chester died of COVID-19 complications. Under pandemic rules, only 10 people at a time could attend his funeral, but some of his family members were able to gather outside to watch the dove take flight.

**“  
MY BROTHER WOULD SAY, ‘I’LL BE BACK IN TWO OR THREE WEEKS,’ AND JUMP ON A MEGABUS FOR GEORGIA OR MISSISSIPPI OR SOMEWHERE. HE LIVED A GOOD LIFE. HE LOVED HIS 10 KIDS AND KEPT THEM ALL TOGETHER.”**  
—JERRY LOVETT

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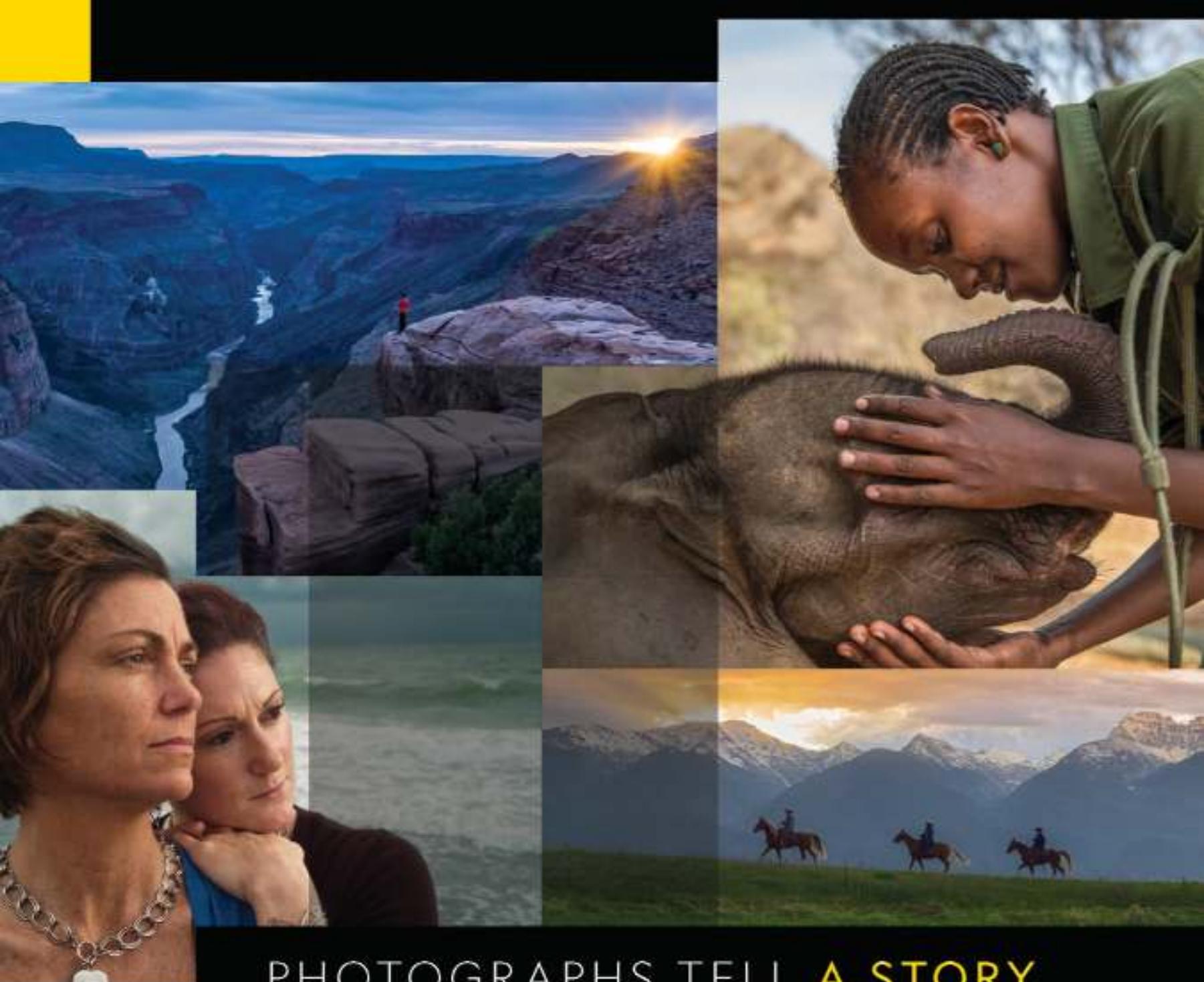
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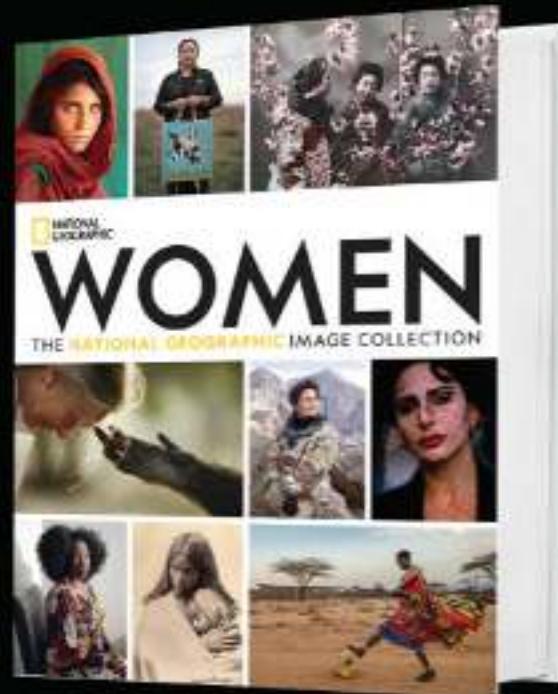
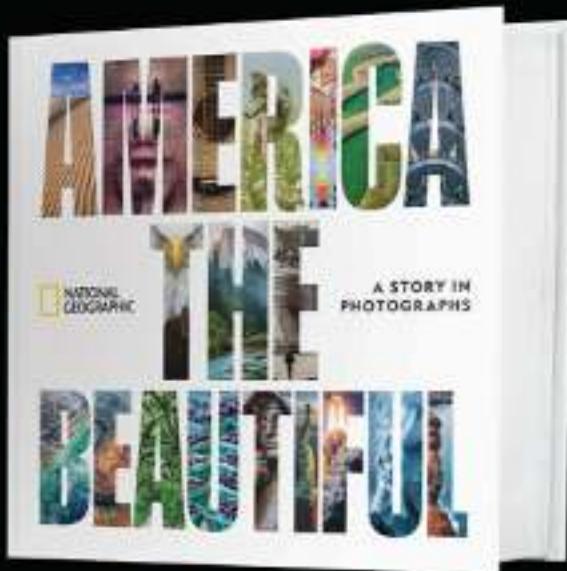
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