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NEWSMAKERS OF THE YEAR

THE POWER OF TWO

Narendra Modi and Amit Shah have radically altered the Indian political landscape in 2019, making them our Newsmakers of the Year

Cover by NILANJAN DAS, Digital imaging by AMARJEET SINGH NAGI



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IAF PILOT

2. NIRMALA SITHARAMAN
UNION MINISTER FOR FINANCE

3. RAHUL GANDHI
CONGRESS MP

4. SHARAD PAWAR, NCP CHIEF
UDDHAV THACKERAY,
SHIV SENA CHIEF

5. ABHIJIT BANERJEE
ECONOMIST

6. SHAKTIKANTA DAS
RESERVE BANK OF INDIA
GOVERNOR

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8. P.V. SINDHU
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ISRO CHAIRMAN

10. P. CHIDAMBARAM
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How the BJP lost Jharkhand

by *Amitabh Srivastava*

The JMM-Congress won 25 of the 28 Scheduled Tribe (ST) seats, signalling that the state's tribal population had rejected the Raghubar Das government

<http://bit.ly/2MqvY7y>

Everything you wanted to know about the CAA and NRC

by *Kaushik Deka*
Does the CAA discriminate against Muslims? Together with the NRC, will it exclude Muslims and aid the RSS-BJP goal of building a Hindu *rashtra*?

<http://bit.ly/2SpIiYa>



What's behind the SAD's U-turn on inclusion of Muslims in CAA?

By *Anilesh S. Mahajan*
The party—whose national president had in his Lok Sabha speech supported the Citizenship Amendment Bill—no longer wants Muslims alienated

<http://bit.ly/2EMmak8>

The Battle for the Tata Board

by *M.G. Arun*
Why the Cyrus Mistry-Ratan Tata war for control of Tata Sons is far from over

<http://bit.ly/2rq0F5J>

Citizenship Amendment Act: Anatomy of a Protest

by *Shweta Punj*
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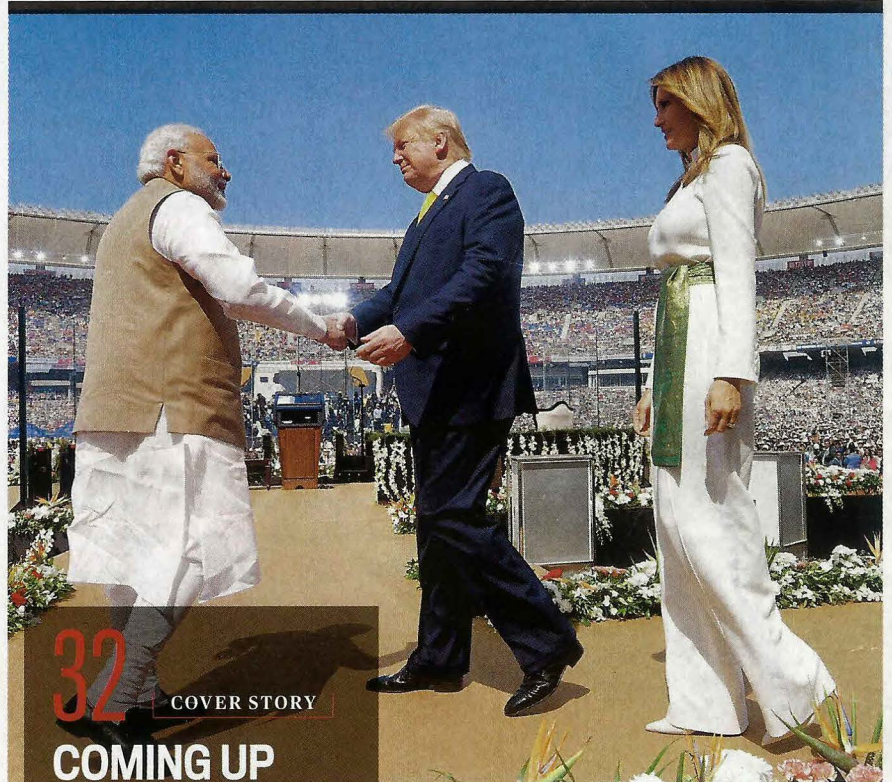
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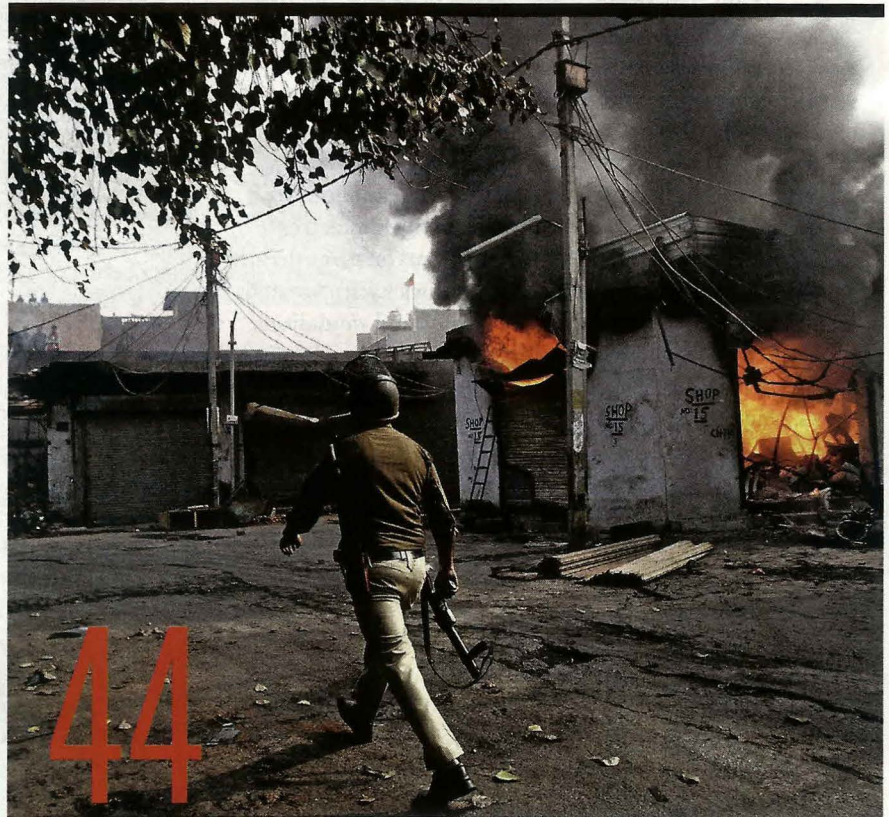
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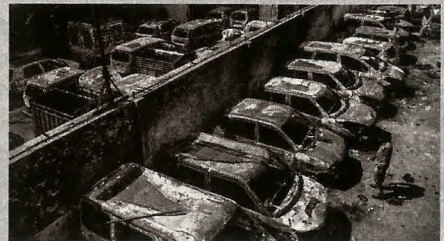
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CAPITAL SHAME

Homes looted, lives lost, trust broken... four days of violence that left Delhi shocked and shamed



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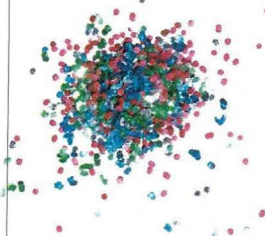
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Science has only begun to explain annoyance and what may cause it. Doesn't that bug you?
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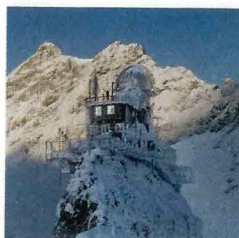
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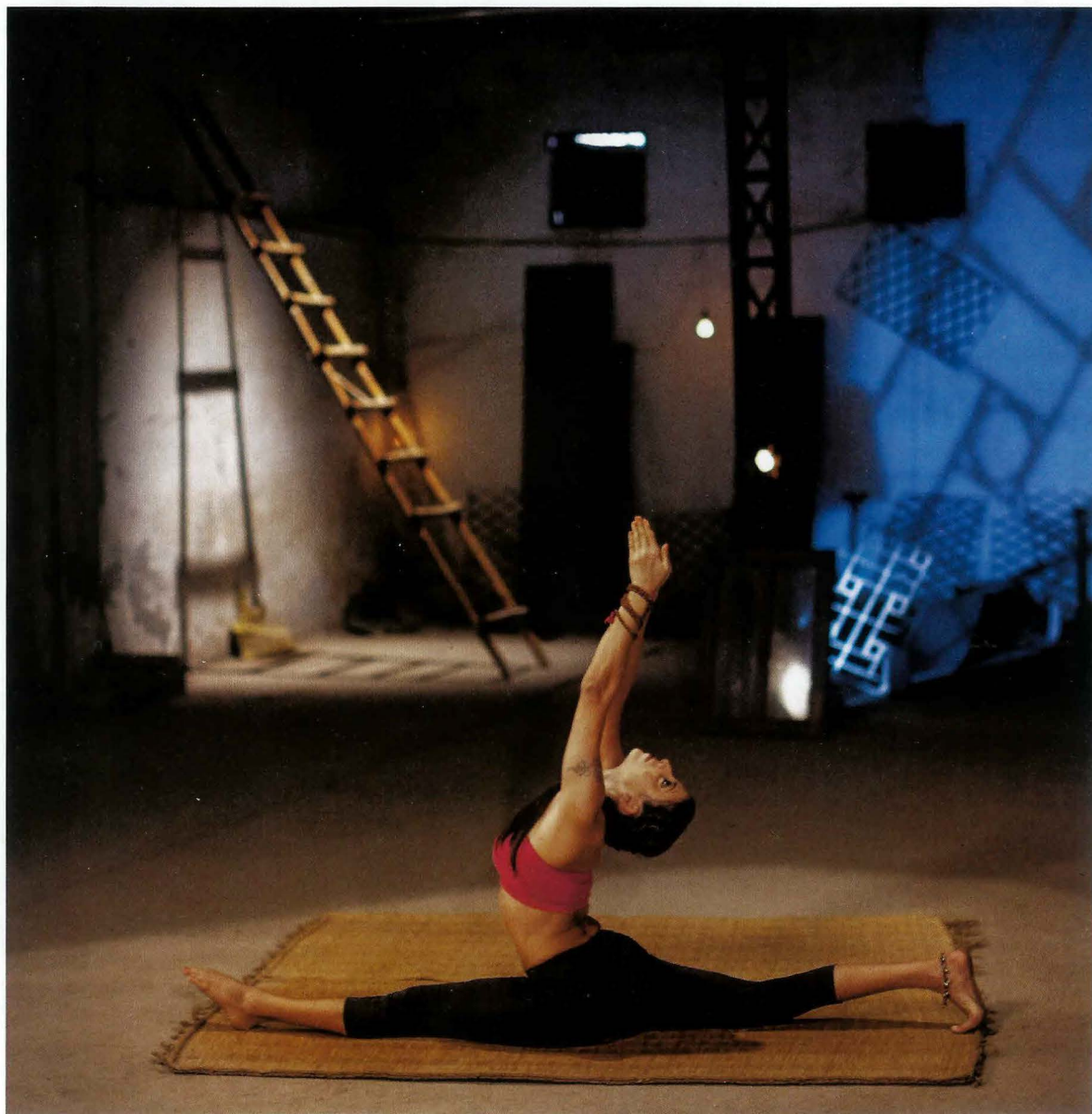
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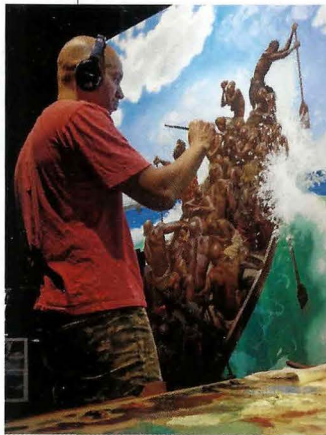
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Kadir Nelson's painting for *National Geographic's* cover depicts captive Africans being taken by boat to the slave ship *Clotilda* in 1860, at a slave port in what's now Benin.

Nelson's art is in galleries and collections worldwide, and in award-winning picture books. The 45-year-old illustrator and author has used his artistry in a wide range of media, from the Steven Spielberg film *Amistad* to an album cover for recording artist Drake.

PHOTO (LEFT): JUNGMIWHA BULLOCK NELSON

PROOF



8

When Flowers Were No Longer Enough

After years of giving his wife birthday bouquets, an artist wanted longer lasting gifts. His solution: flower photos combined with paint, plywood, and more.

PHOTOGRAPHS BY ABELARDO MORELL



EXPLORE

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THE BIG IDEA

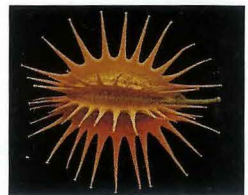
A Broader View of Black Inventors

The legacy of African-American scientists should be as much about how they lived as what they created.

BY EZELLE STANFORD III

ALSO

- Why Locusts Swarm
- Seeds of Survival?
- Tough Tardigrades
- The Stormchasers' Tale



TRAVEL

30

GETTING THERE

A Vanishing Feat

Will Gadd went to Kilimanjaro to climb ice—but it's melting before his eyes.

BY DANIEL STONE
PHOTOGRAPH BY CHRISTIAN PONDELLO

ALSO

- Tarot's Italian Roots
- Carnival, by Country
- Forest Bathing: Into the Woods, Mindfully



FEATURES

The Last Slave Ship

The *Clotilda* illegally delivered 108 Africans to Alabama in 1860. It was the last known slave ship to reach U.S. shores—and descendants still tell the captives' stories.

BY JOEL K. BOURNE, JR., SYLVIANE DIOUF, AND CHELSEA BRASTED
PHOTOGRAPHS BY ELIAS WILLIAMS
PAINTINGS BY SEDRICK HUCKABY

P. 42



Prairie Divide

Returning grasslands to their past state faces resistance today.

BY HANNAH NORDHAUS
PHOTOGRAPHS BY AMY TOENSING

P. 68

Redefining Beauty

In an inclusive culture, everyone can be celebrated as beautiful.

BY ROBIN GIVHAN
PHOTOGRAPHS BY HANNAH REYES MORALES

P. 90

Flamingo Bob

How a gravely injured bird became a pampered pink celebrity.

BY CHRISTINE DELL'AMORE
PHOTOGRAPHS BY JASPER DOEST

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A Journey With Spice

Finding cardamom is well worth the quest.

BY MIKE IVES
PHOTOGRAPHS BY IAN TEH

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On the Cover

Mountains of wool and cast-off clothes in this Prato, Italy, facility are sorted by color, cleaned, processed, and used to make new clothing.

LUCA LOCATELLI

PROOF



8

When Art Sounds a Climate Warning

In bubbles captured by ice on Alaska lakes and ponds, a photographer found inspiration—and sobering evidence—of climate change.

PHOTOGRAPHS BY RYOTA KAJITA

EXPLORE

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THE BIG IDEA

Finding Our Way to the Future

A *Cosmos* author's plea: Let's take what scientists tell us to heart.

BY ANN DRUYAN

DECODER

Microbial Art

Agar helps scientists grow microbes in labs. It's also a canvas for unconventional art.

BY JENNIFER TSANG



ALSO

- A Giant Among Geodes
- What Vikings Consumed
- Mudskipper Parenting

TRAVEL



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GETTING THERE

Sacred Heights

Visiting the mountain monasteries of Meteora, Greece, is worth the steep climb.

BY DANIEL STONE

CLOSER LOOK

Bike Between Parks on Kokopelli's Trail

A backcountry path runs 142 miles through "big, wild country" in the western U.S.

BY AARON GULLEY

ALSO

- Coral Recovery: How Travelers Can Help
- Gardeners' Guide



FEATURES

The End of Trash

"To get along on this Earth," *National Geographic's* senior environment editor writes, "we must do just one thing: Stop wasting so much of it." That's the goal of advocates of a circular economy—one that would extract value from most of the trash we now discard.

BY ROBERT KUNZIG
PHOTOGRAPHS BY
LUCA LOCATELLI

..... P. 42

The Secrets of Bees

Observing a wild nest of honeybees reveals tricks to their survival.

BY JASON BITTEL
PHOTOGRAPHS BY
INGO ARNDT

..... P. 72

Chibok Schoolgirls

These Nigerian kidnapping survivors are reclaiming their future.

BY NINA STROCHLIC
PHOTOGRAPHS BY
BÉNÉDICTE KURZEN

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Culture, or Abuse?

Questions surround the treatment of Japanese macaques.

BY RENE EBERSOLE
PHOTOGRAPHS BY
JASPER DOEST

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Trailblazers

The accomplishments of groundbreaking women light up *National Geographic's* history.

BY NINA STROCHLIC

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THE CASE FOR RENEWAL

We already have the tools to feed a larger population, provide energy for all, begin to reverse climate change, and prevent most extinctions.

BY EMMA MARRIS

42

THE ROAD TO 2070

A 4,000-mile drive across the U.S. aims to find out if we truly can wean ourselves from fossil fuels.

BY CRAIG WELCH
PHOTOGRAPHS BY
DAVID GUTTENFELDER

70

FIGHTING FOR THEIR FUTURE

Ice sheets are melting and temperatures soaring as millions of young people come of age. They're tired of waiting for leaders to act.

BY LAURA PARKER

84

FIFTY YEARS OF PROGRESS

In wealthy nations, the air, the water, and the land are cleaner than they were 50 years ago. The challenge: to make that true for everyone.



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PULLOUT POSTER
Where can preserving land and sea have the most conservation impact? We've mapped it.

ON THE COVER
An optimistic illustration of our thriving planet in 50 years.
IMAGINARY FORCES

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THE CASE FOR CATASTROPHE

The world will be a much more dangerous place, where flooding, drought, fire, and unrest have forced millions from their homes.

BY ELIZABETH KOLBERT

30

A WORLD LOST

Losing a landscape—through climate change, disaster, or development—takes an emotional toll.

STORY AND PHOTOGRAPHS BY PETE MULLER

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THE WORLD IN 2070

In the next 50 years, our environment is set to change drastically.

BY KAYA LEE BERNE, ALEJANDRA BORUNDA, RILEY D. CHAMPINE, AND JASON TREAT

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FIFTY YEARS OF DAMAGE

The recent fires across Australia are one of many signs over the past five decades that Earth and its inhabitants are in the midst of a crisis.



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ON THE COVER
Unchecked climate change will hit Africa especially hard.
IMAGINARY FORCES

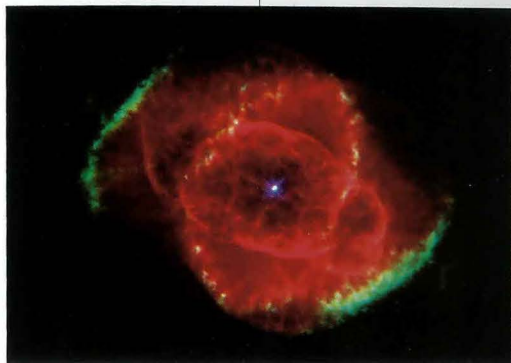
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On the Cover

At the Southwestern Research Station in Arizona, a light trap still lures a multitude of insects. But around the globe, insect populations are shrinking.

DAVID LIITTSCHWAGER

PROOF



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Hubble's Heavenly Visions

Thirty years after its launch into orbit around the Earth, the optical telescope continues to reveal the secrets of deep space and make amazing images.

EXPLORE

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THE BIG IDEA

Meet Your Face's Tiny Tenants

The author gets a look at her constant companions: microscopic face mites.

BY ERIKA ENGELHAUPT

THROUGH THE LENS

It's More Than a Show

A photojournalist looks beyond North Korea's propaganda.

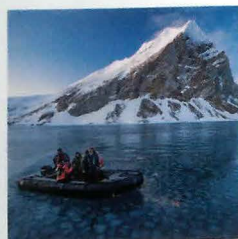
BY DAVID GUTTENFELDER



ALSO

Fake Frogs
Disaster Science
Wee Trees

TRAVEL



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GETTING THERE

Svalbard in Sight

In this remote Arctic region, the focus is squarely on nature's grand displays.

BY DANIEL STONE
PHOTOGRAPH BY ACACIA JOHNSON

CLOSER LOOK

The Exalted Valley

Community-based tourism is helping keep traditions alive along Ethiopia's Omo River.

BY STANLEY STEWART

ALSO

Bird's-Eye Views
Chewable Treasure



FEATURES

Where Have All the Insects Gone?

Species are vanishing at alarming rates.

BY ELIZABETH KOLBERT
PHOTOGRAPHS BY DAVID LIITTSCHWAGER

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Coming of Age With Autism

Adults on the spectrum find work, love elusive.

BY JUDITH NEWMAN
PHOTOGRAPHS BY LYNN JOHNSON

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Early Autism Signs

With swift detection, effects may be limited.

BY YUDHIJIT BHATTACHARJEE
PHOTOGRAPHS BY LYNN JOHNSON

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▲ A Wild Idea

In Argentina and Chile, millions of acres will be preserved as parkland.

BY DAVID QUAMMEN
PHOTOGRAPHS BY TOMÁS MUNITA

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Bodies in Motion

How animals evolved to move through life.

BY JASON TREAT, BRAD SCRIBER, AND PATRICIA HEALY; ILLUSTRATIONS BY BRYAN CHRISTIE DESIGN

..... P. 118

TRAVEL

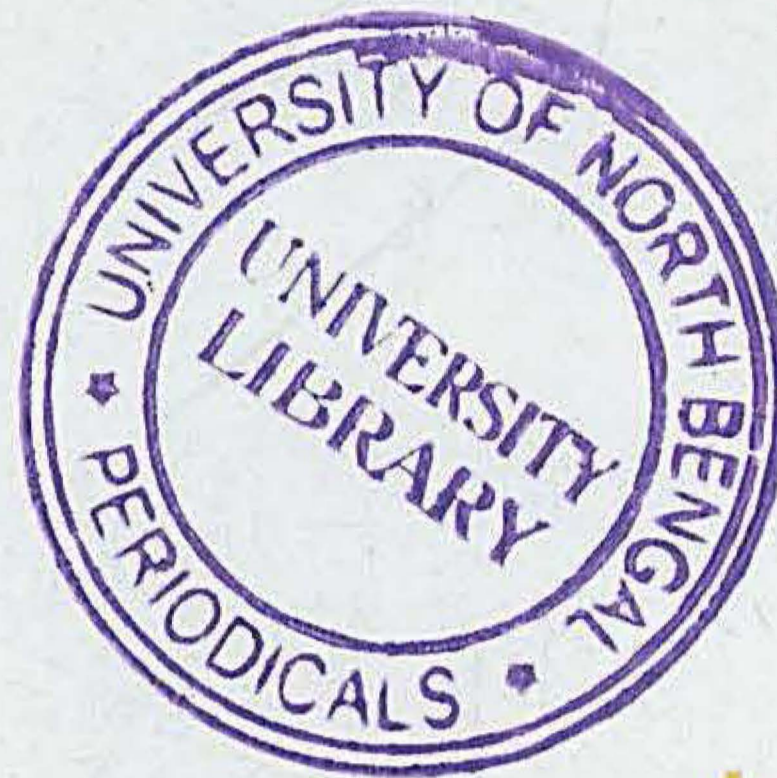
Italy's Timeless Trails

A migratory tradition lives on in pastoral areas.

BY ALEXIS MARIE ADAMS
PHOTOGRAPHS BY GIUSEPPE NUCCI

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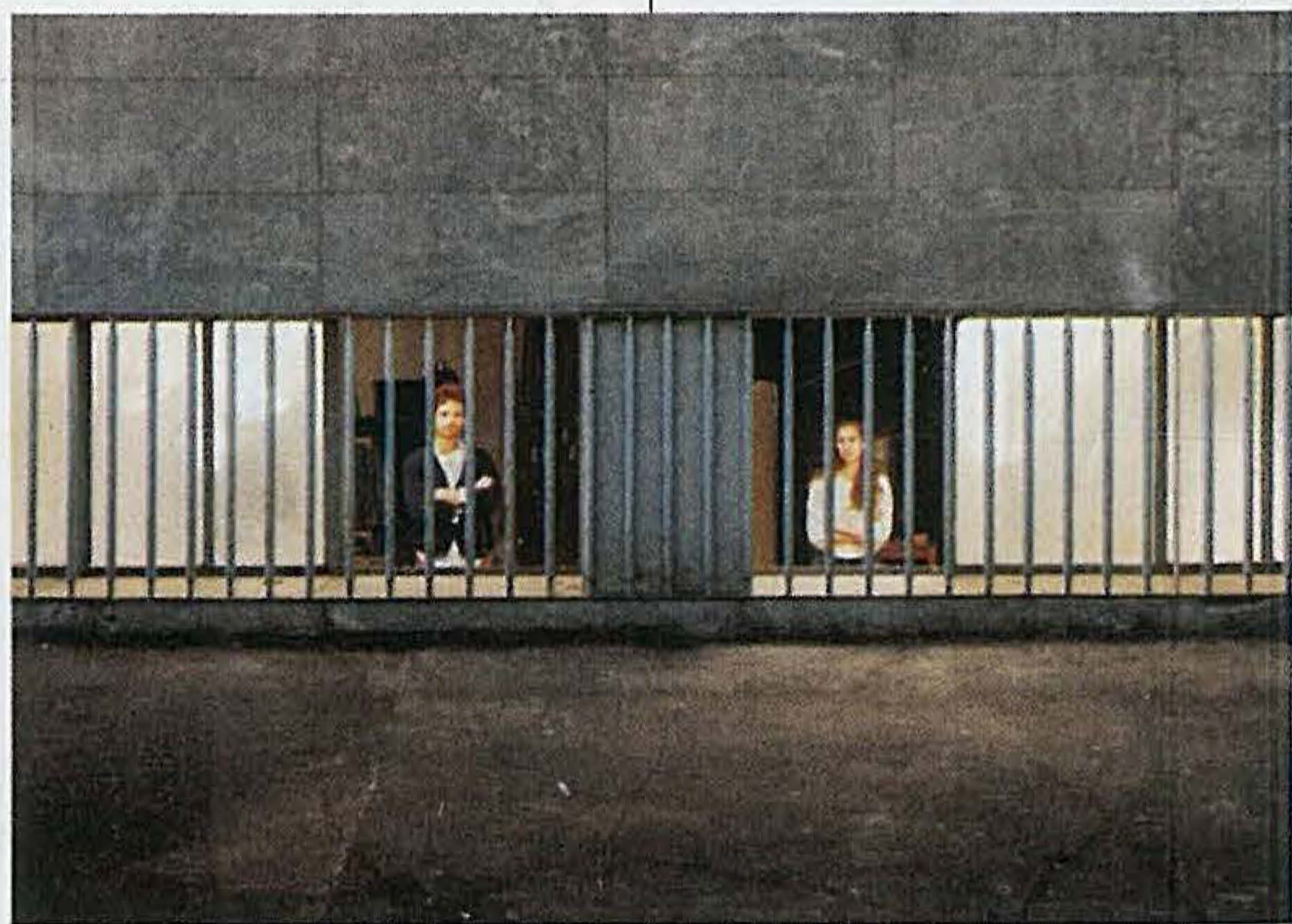


On the Cover

At age 110, Lawrence Brooks of New Orleans is the oldest known U.S. veteran of World War II. From 1941 to 1945 he served in the Pacific with the Army's predominantly African-American 91st Engineer Battalion, as a support worker to its officers. Brooks says he has good memories of Army days, and bad ones—such as being “treated so much better in Australia” than by white people in America.

ROBERT CLARK

PROOF



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Inside the Quarantine

As the coronavirus ravaged Italy, a photographer in Milan found a way to take portraits of subjects in self-quarantine—from afar.

PHOTOGRAPHS BY GABRIELE GALIMBERTI

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THE BIG IDEA

Satire and Science

Controversial issues are no joke—but treating them satirically can help change minds.

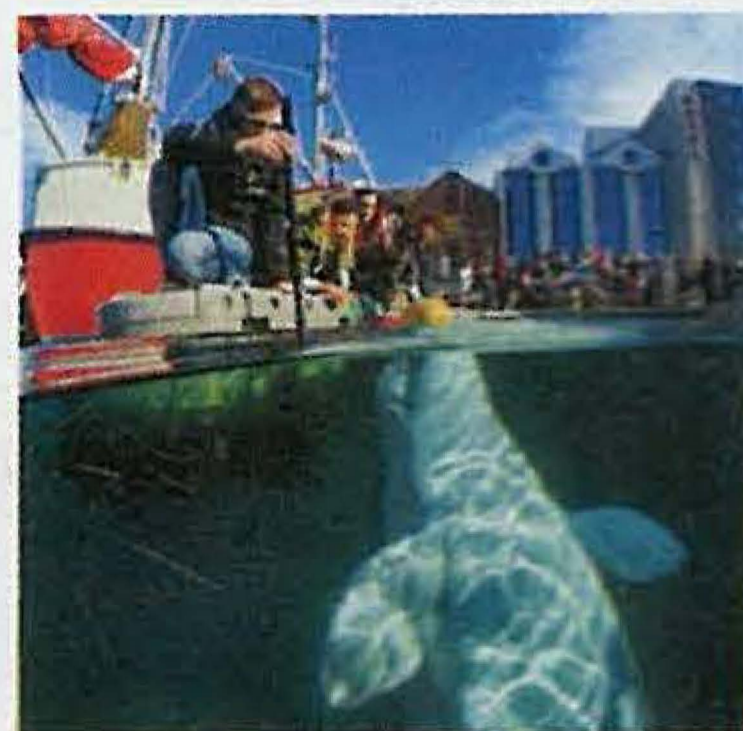
BY PAUL R. BREWER AND JESSICA MCKNIGHT

THROUGH THE LENS

A Lost Whale Tale

The beluga was well trained and friendly. Was he also a spy?

STORY AND PHOTOGRAPH BY AUDUN RIKARDBSEN

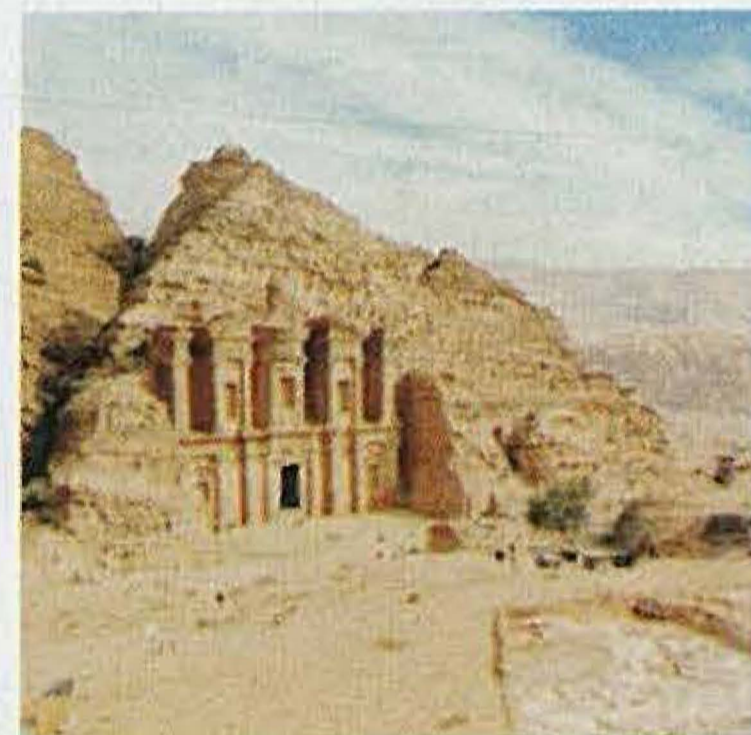


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Seeing Shock Waves
Cuttlefish 3D Glasses
Internet of Elephants

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GETTING THERE

Jordan's Epic Trek

The Jordan Trail crosses the country, through deserts to the Red Sea.

BY AARON GULLEY
PHOTOGRAPH BY CATHERINE HYLAND

CLOSER LOOK

Coastal Connection

Denmark, a nation of 406 islands, is largely surrounded by water and blessed with coastlines of all kinds.

BY HELEN RUSSELL

ALSO

Commemorating WWII
Potatoes of Peru



FEATURES

The Last Voices of World War II

More than 66 million military men and women served in World War II, and countless civilians also figured in the war effort. To mark the 75th anniversary of the war's end, *National Geographic* shares portraits and stories of some of the last surviving witnesses. PHOTOGRAPHS BY ROBERT CLARK

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Hiroshima Memories

Nearly 75 years after a nuclear bomb blast devastated it, the city tries to move on from what it cannot forget.

BY TED GUP

P. 86

Emperor Penguins

As sea ice dwindles, the species is marching toward extinction.

BY HELEN SCALES

PHOTOGRAPHS BY

STEFAN CHRISTMANN

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Taking the Lead

Women's role in politics is mandated in some nations—but can be violently thwarted.

BY RANIA ABOUZEID

PHOTOGRAPHS BY

ANDREA BRUCE

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TRAVEL

Air Time

Skateboards go global.

BY ROBERT DRAPER

PHOTOGRAPHS BY

DINA LITOVSKY

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On the Cover

Mount Everest and the snowcapped peaks of the Himalaya glow under a starlit sky in Nepal.

WILLIAM FAWCETT, FOTVOYAGER/
GETTY IMAGES

CORONAVIRUS: A SPECIAL REPORT

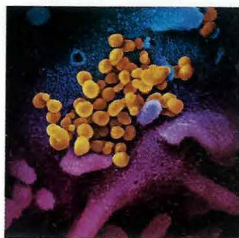


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Seeing the Pandemic Around the World

Photographers are known for roaming widely to document life on Earth. Despite being constrained by lockdowns and quarantines, they were still on the job.

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Why Weren't We Ready for This?

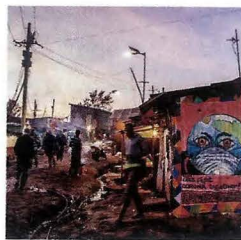
Science journalists have long cautioned that the world was unprepared for pandemics such as COVID-19. The author explores why the warnings weren't heeded.

BY ROBIN MARANTZ HENIG

We Are Not Made for the New Normal

In perilous times, our deepest human impulse is to draw close to each other—the very thing we've been told not to do in the wake of COVID-19.

BY CYNTHIA GORNEY



24

When the Virus Came to Kenya

Staying safe from the coronavirus can be an unaffordable luxury in one of the world's most unequal countries.

PHOTOGRAPHS BY
NICHOLE SOBECKI

Hands Free of Virus: A Clean Challenge

Some three billion people—40 percent of the global population—lack basic facilities at home to wash their hands with soap and water. Will the pandemic change that?

BY NILANJANA BHOWMICK



FEATURES

Mystery on Everest

Nearly a century ago, Andrew "Sandy" Irvine and George Mallory vanished on Everest. Were they the first to make it to the top?

BY MARK SYNNOTT
PHOTOGRAPHS BY
RENAN OZTURK
..... P. 42

POSTER

Roof of the World

See a drone's-eye view and map of Earth's "third pole."

The Looming Crisis Over Water

The Indus River is vital to 270 million people.

BY ALICE ALBINIA
PHOTOGRAPHS BY
BRENDAN HOFFMAN
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Making Glaciers in Northern India

Ice towers help fight climate change effects.

BY ARATI KUMAR-RAO
PHOTOGRAPHS BY
CIRIL JAZBEC
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The Himalaya's Ghost Leopards

Conservation boosts snow leopard sightings.

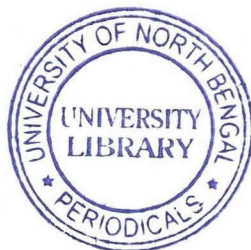
BY PETER GWIN; PHOTOGRAPHS BY PRASENJEET YADAV, FRÉDÉRIC LARREY, AND SANDESH KADUR
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A New Window Into the Weather

Everest stations will gauge climate change.

BY FREDDIE WILKINSON
PHOTOGRAPHS BY
MARK FISHER P. 128

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Physician Gerald Foret dons a protective mask before seeing COVID-19 patients at Our Lady of the Angels Hospital in Bogalusa, Louisiana.

MAX AGUILERA-HELLWEG

CORONAVIRUS



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THE BIG IDEA

When Virtual Life Turns Into Quarantine

Isolating from each other in a health crisis is one thing. But what if we get so used to living virtual lives through our electronic devices that we never want to emerge? A digital native from Generation C (for coronavirus) ponders the question.

BY OLIVER WHANG

6

PROOF

Metropolis on Lockdown

To fight COVID-19, New Yorkers stayed in, cut back on travel, and shunned gatherings, leaving a perennially busy city oddly empty.

PHOTOGRAPHS BY STEPHEN WILKES

EXPLORE



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DECODER

The Dodo's New Look

Recent discoveries show that the bird was smarter and sleeker than its unflattering image in lore.

BY FERNANDO G. BAPTISTA AND PATRICIA HEALY



TOOL KIT

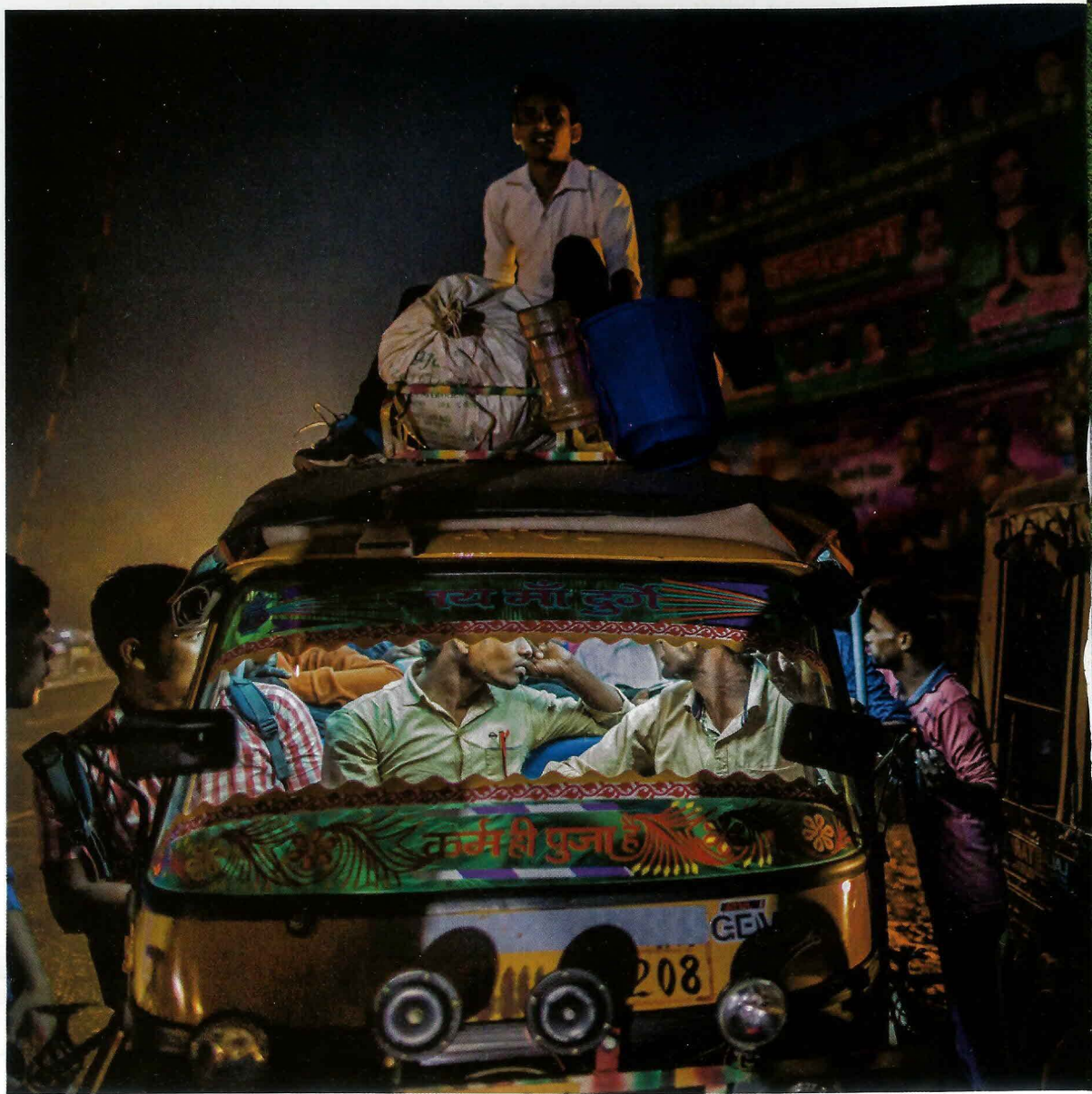
In Black and White

He likes the "difficult, slow" work of developing prints from film.

BY NINA STROCHLIC

ALSO

Porcupine Courtship
A Harrowing Cave Escape



FEATURES

Stopping Pandemics

New disease outbreaks such as COVID-19 serve as harsh reminders of how easy it is for us to infect one another. Looking at previous pandemics—and the heroes that fought them—can help us understand important lessons for today. But will we remember what we learned when the danger has passed? BY RICHARD CONNIFF P. 40

Water Everywhere and Nowhere

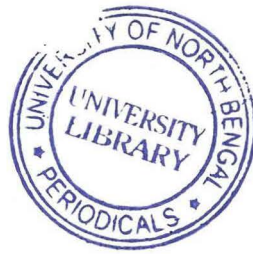
India, shaped by its rivers, now is facing a water crisis. BY PAUL SALOPEK PHOTOGRAPHS BY JOHN STANMEYER P. 74

The Fight to Be Heard

How U.S. women got the vote and left a legacy. BY RACHEL HARTIGAN PHOTOGRAPHS BY CELESTE SLOMAN; ILLUSTRATIONS BY JOHANNA GOODMAN P. 96

Scared All the Time

As the forest habitats of Uganda's chimpanzees keep shrinking, the hungry animals regularly resort to taking crops—and sometimes carrying off children. The struggle pits humans' needs against chimps' needs, in a nation long committed to protecting the apes. BY DAVID QUAMMEN PHOTOGRAPHS BY RONAN DONOVAN P. 124



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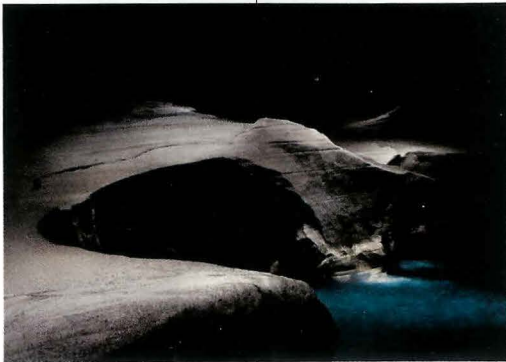
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On the Cover

This soft robotic hand—made with pliable materials to give it a more delicate and dexterous grip—was developed in the Robotics and Biology Laboratory at the Technical University of Berlin, Germany.

SPENCER LOWELL

PROOF



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Light in Odd Places

To explore the effects of artificial lighting in a natural environment, the photographer flew lighted drones above some of Earth's most dramatic landscapes.

PHOTO ILLUSTRATIONS
BY REUBEN WU

CORONAVIRUS | EXPLORE

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THE BIG IDEA

Harming Nature Risks Our Health

A damaged planet can't shield us as well from diseases. Here's why.

BY ENRIC SALA

DATA SHEET

Flattening the Curve of Influenza in 1918

That historic pandemic has lessons for today.

BY RILEY D. CHAMPINE
AND DIANA MARQUES



TOOL KIT

Scrutinizing Viruses

Handling some samples takes specific tools.

BY TAMAS VITRAY, JR.



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CAPTURED

A Brain Circuitry Map Worth Buzzing About

Detailed diagramming of a fly's brain reveals millions of connections.

BY THERESA MACHEMER

DECODER

Shocking Behavior

Many fish use electricity to communicate and navigate—but some eels use it to hunt and defend themselves.

BY DIANA MARQUES

ALSO

Fossilized Footprints
The Year of the Panda
Peculiar Turtle Traits



FEATURES

The Robots Are Here

The new kind of robot isn't like C-3PO of *Star Wars* fame. It's far from human—but still smart, adept, and mobile. It's designed to “live” and work with people. And it's migrating steadily into daily life, in jobs ranging from stocking warehouse shelves to arranging flowers.

BY DAVID BERREBY
PHOTOGRAPHS BY SPENCER LOWELL
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A Future Less Frozen

Ice loss is shaping the Great Lakes region's economy and culture.

BY ALEJANDRA BORUNDA
PHOTOGRAPHS BY AMY SACKA
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▲ **Nobody's Fool**

Forget the dim-witted stereotype. Ostriches are shrewd survivors.

BY RICHARD CONNIFF
PHOTOGRAPHS BY KLAUS NIGGE
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The Power of Protection

An ambitious project aims to preserve a third of the world's oceans.

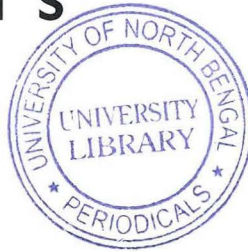
BY KENNEDY WARNE
PHOTOGRAPHS BY ENRIC SALA
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Waiting for Gdańsk

Solidarity's hometown is still an inspiring place.

BY VICTORIA POPE
PHOTOGRAPHS BY JUSTYNA MIELNIKIEWICZ
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A male *Deinonychus* stands over hatchlings and eggs he's brooding. Recent studies have produced many new insights into dinosaurs' looks and behaviors.

PAINTING BY DAVIDE BONADONNA

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Every Mother's Son
African-American mothers pose with the sons they fear losing to violence, in the photography project "Stranger Fruit."

BY LONNAE O'NEAL
PHOTOGRAPHS BY
JON HENRY

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THE BIG IDEA

A Map for Aliens in Search of Earth

To replace the aging star map the Voyagers took into space, this pair devised a new one.

BY NADIA DRAKE
AND SCOTT RANSOM

ARTIFACT

A Shark's Perspective

A Crittercam placed on a shark's fin captures photos where humans cannot go.

BY NINA STROCHLIC

ALSO

Sounds to Renew Reefs
Bee Bites Spur Pollen

CORONAVIRUS



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DECODER

How COVID-19 Affects Animals

In addition to people, the disease has hit lions, tigers, mink, and more.

BY NATASHA DALY

INNOVATOR

Disease Detective

This bioarchaeologist studies the DNA of ancient pathogens.

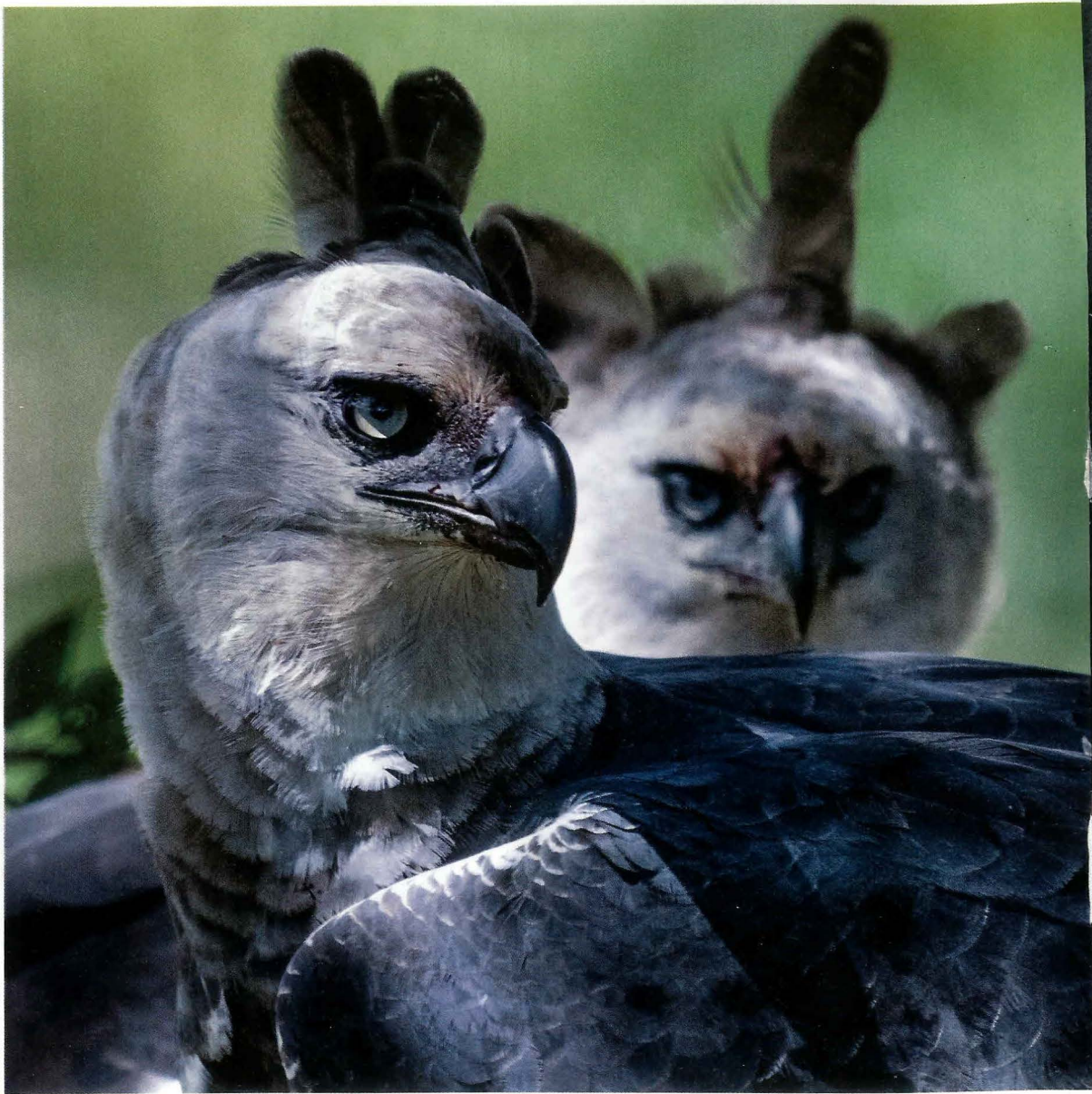
BY THERESA MACHEMER

THROUGH THE LENS

Sorrow and Resilience

A photographer covers the virus, and catches it.

BY DANNY WILCOX FRAZIER
AND CASSANDRA SPRATLING



FEATURES

Reimagining Dinosaurs

It's a new age of dinosaur discoveries. Using innovative scientific techniques and a flood of recently unearthed fossils, paleontologists are rewriting what we know about the ancient creatures.

BY MICHAEL GRESHKO
PHOTOGRAPHS BY
PAOLO VERZONE; ART
BY DAVIDE BONADONNA
AND GABRIEL UGUETO

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Stolen Lives

Each year thousands of girls from Bangladesh and India's West Bengal are sold into sexual slavery. Children whose lack of opportunity makes them vulnerable are tricked or abducted, then forced to work in brothels and red-light districts.

BY YUDHIJIT
BHATTACHARJEE
PHOTOGRAPHS BY
SMITA SHARMA

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Amazon Raptors

Science, business join forces to help eagles.

BY RACHEL NUWER
PHOTOGRAPHS BY
KARINE AIGNER

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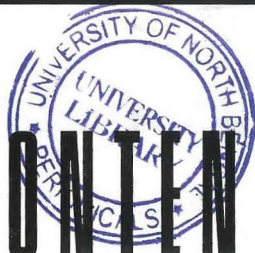
TRAVEL

Hiking U.S. Trails

Long-distance trails can take us to the nation's last wild places.

BY NICHOLAS KRISTOF
PHOTOGRAPHS BY
ZACHARY KRAHMER

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From a hospital in La Louvière, Belgium, this image shows a CT scan of the chest area and lungs of a 69-year-old patient with COVID-19.

CÉDRIC GERBEHAYE



PROOF
LIFE WITH COVID-19

The novel coronavirus has changed how we come into the world, live in it, and leave it.
..... P. 8

INTRODUCTION
THIS DEVASTATING YEAR

COVID-19 dominated life in 2020 and left many wondering, What will recovery look like?
BY CYNTHIA GORNEY
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DATA SHEET
THE FIRST 100 DAYS

How the virus spread across the globe.
BY MANUEL CANALES AND IRENE BERMAN-VAPORIS
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ESSAY
LETTER TO MY GENERATION

The pandemic has hit 18- to 25-year-olds hard. But don't dismiss us as Generation Screwed.
BY JORDAN SALAMA
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CORONAVIRUS, EXPLAINED

How the virus attacks the human body.
BY MANUEL CANALES AND ALEXANDER STEGMAIER
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THROUGH THE LENS
WHAT A COMMUNITY LOST

Larry Hammond's death resounds within the organizations he loved.
BY WILL SUTTON; PHOTO BY MAX AGUILERA-HELLWEG
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At the Leo F. Kearns Funeral Home in Queens, New York, where he is a resident funeral director, Francisco James enters a refrigerated container filled with bodies—mostly of casualties of the COVID-19 pandemic—awaiting embalming or burial.

PETER VAN AGTMAEL, MAGNUM PHOTOS

DISPATCH

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A CARE CRISIS: BELGIUM

Overextended medical teams care for COVID-19 patients and listen to their fears. "If I don't do this," one nurse asks, "who will?"

PHOTOGRAPHS BY
CÉDRIC GERBEHAYE

ESSAY

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IN SCIENCE WE MUST TRUST

After watching scientists debate, restate, and learn on the fly how to battle COVID-19, we should trust their work even more.

BY
ROBIN MARANTZ HENIG

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LIVES UPENDED: INDONESIA

The pandemic that filled graveyards also emptied streets. Still, people ventured out for essentials: religious observances and food.

PHOTOGRAPHS BY
MUHAMMAD FADLI

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LET'S NOT WASTE THIS MOMENT

Will the pandemic have a lasting effect on how we treat planet Earth? It could—if it changes our thinking.

BY
ROBERT KUNZIG

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LOCKDOWN PAIN: JORDAN

Strict isolation measures held down the COVID-19 death toll but heightened joblessness and hardship, especially for refugees.

PHOTOGRAPHS BY
MOISES SAMAN

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IMPOVERISHED BY COVID-19

The pandemic has hit the poor extremely hard and is projected to put 100 million more in extreme poverty by the end of 2020.

BY
ALBERTO LUCAS LÓPEZ

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A WEALTH GAP: KENYA

In Nairobi the virus looks very different to the affluent in spacious compounds than it does to the impoverished in crowded settlements.

PHOTOGRAPHS BY
NICHOLE SOBECKI

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THE TIMES TEST OUR HUMANITY

We are reminded—by the pandemic and by social justice demonstrations—of the global ills and inequities that need our attention.

BY
PHILLIP MORRIS

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LOPSIDED LOSS: UNITED STATES

In three hard-hit areas, a photographer hears bereaved people's stories of losing their loved ones to COVID-19 or its complications.

PHOTOGRAPHS BY
WAYNE LAWRENCE

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A storm moves over Lake Michigan in this view from the Empire Bluff Trail in Sleeping Bear Dunes National Lakeshore, near Empire, Michigan.

KEITH LADZINSKI

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As Seen From the Ground

Quarantined in the Veluwe region of the Netherlands, a photographer documents the many fungi in his yard and nearby woods.

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Celebrating in the Pandemic

Lockdowns limit togetherness. But the holidays' love and light are still within reach.

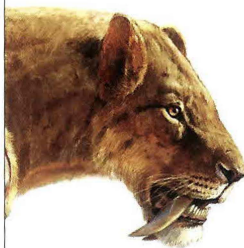
BY ANNE LAMOTT

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Saber-Toothed Giant

We know more about its bite and its build, thanks to new studies.

BY FERNANDO G. BAPTISTA
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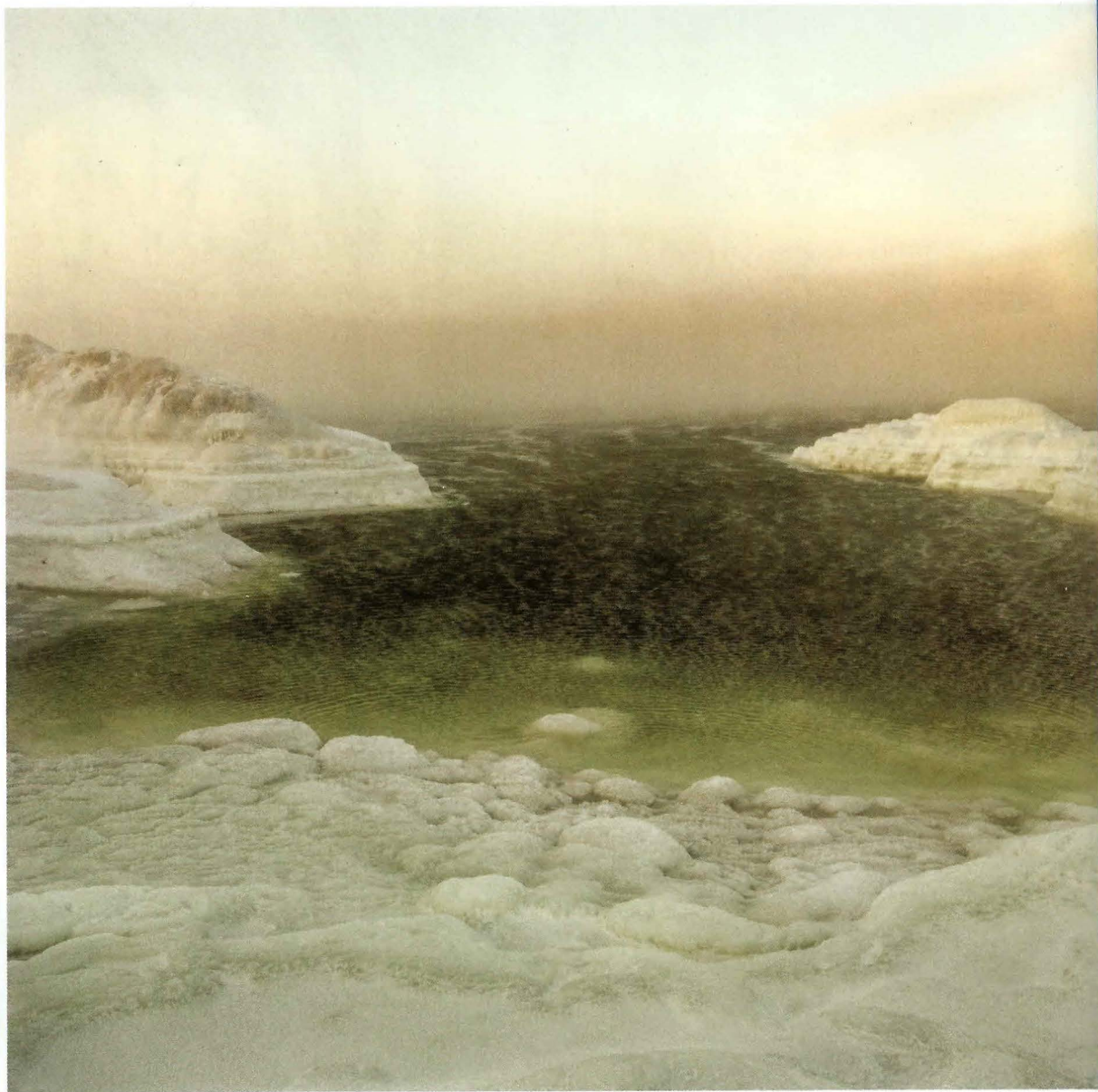
The State of Women

A new index shows that the well-being of U.S. women varies widely from state to state.

BY IRENE BERMAN-VAPORIS,
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ROSEMARY WARDLEY

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So Great, So Fragile

The Great Lakes hold 84 percent of North America's surface freshwater and helped make the United States an agricultural and industrial powerhouse. But now climate change, pollution, and invasive species threaten what may be the continent's most valuable resource.

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Songs that soothe little ones to sleep also reflect grown-ups' hopes and fears.

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In Russia's far north, a native returns to the memories and colors of the long polar night.

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As many as 138,000 people die each year from snakebites and another 400,000 are permanently disabled, says the World Health Organization. It has become a health crisis in sub-Saharan Africa, where getting treatment can be difficult and antivenoms are in short supply.

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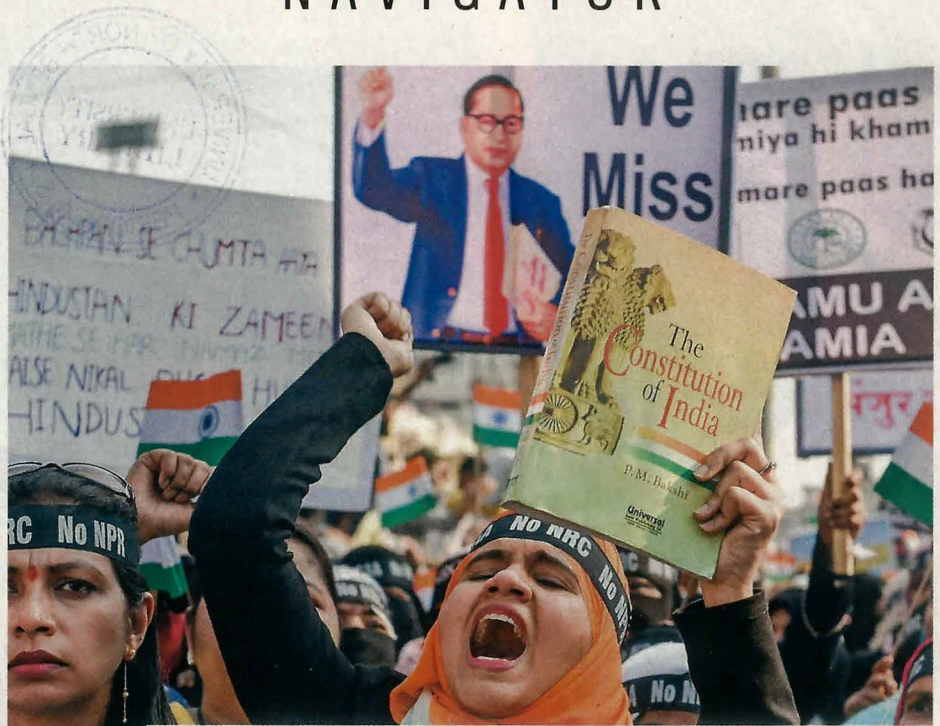
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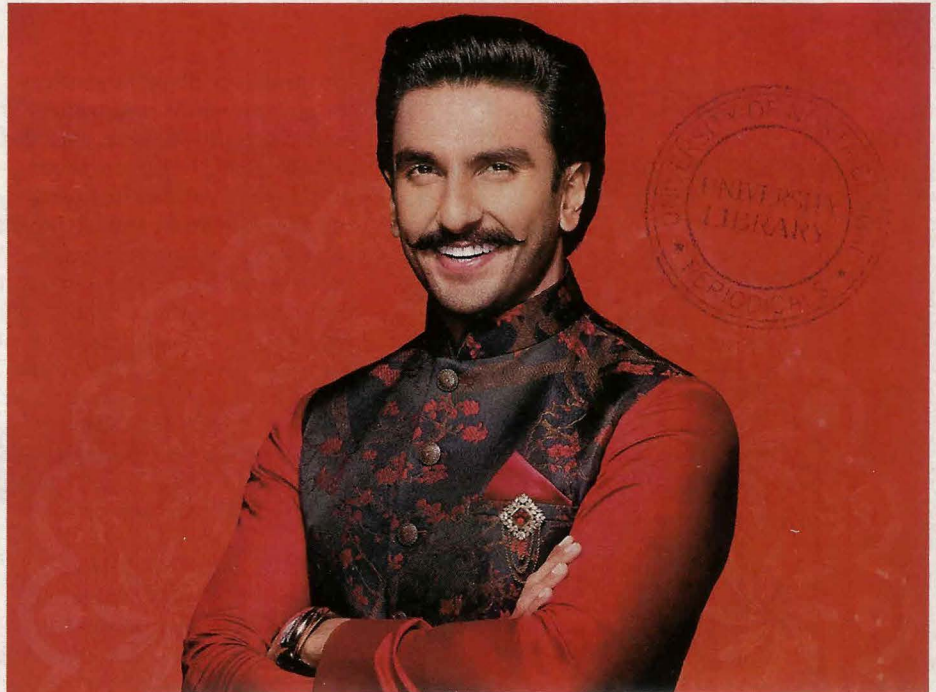
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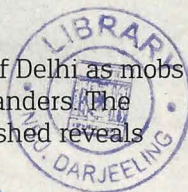


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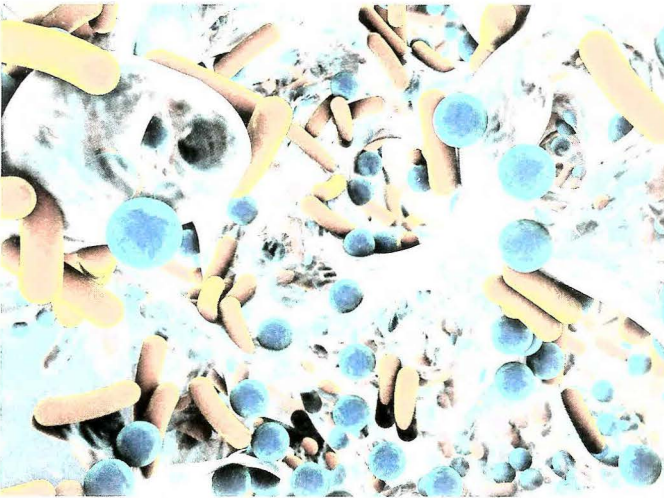


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The real story of unicorns is not about billion-dollar valuations, but the celebration of ordinary Indians unleashing their potential

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Antibiotics have saved millions from death. But due to their injudicious use, the world—especially developing countries like India—is now staring at the spectre of antibiotic resistance, which could, in about a decade, be the single biggest cause of deaths worldwide.

- Need more laws to deal with antimicrobial resistance: Dr Balram Bhargava, director general, Indian Council of Medical Research
- To contain the threat of antimicrobial resistance in India, the focus is now on early diagnostics, newer drug development and preventatives

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2020 will be a year of firsts for Kajol, as she continues to juggle family and career

COVER DESIGN **BINESH SREEDHARAN**

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A man who witnessed the IS attack on the Sheikh Al Haz Navi mosque in northeast Syria sits outside the damaged mosque

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Even though Islamic State has been defeated in Syria, security challenges persist in the country that is yet to recover from the war. THE WEEK visited a facility with IS prisoners, and a camp for wives, widows and children of IS fighters

- A taxing trip to prison camps in Syria, where inmates battle poor conditions
- **Photo feature:** Syria, once the cradle of civilisations, now ravaged by war

COVER PHOTO **BHANU PRAKASH CHANDRA**
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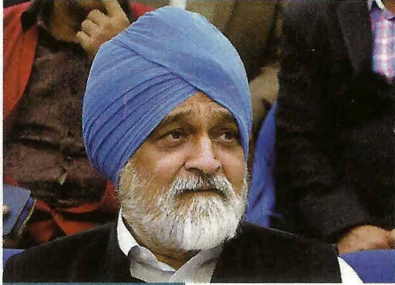
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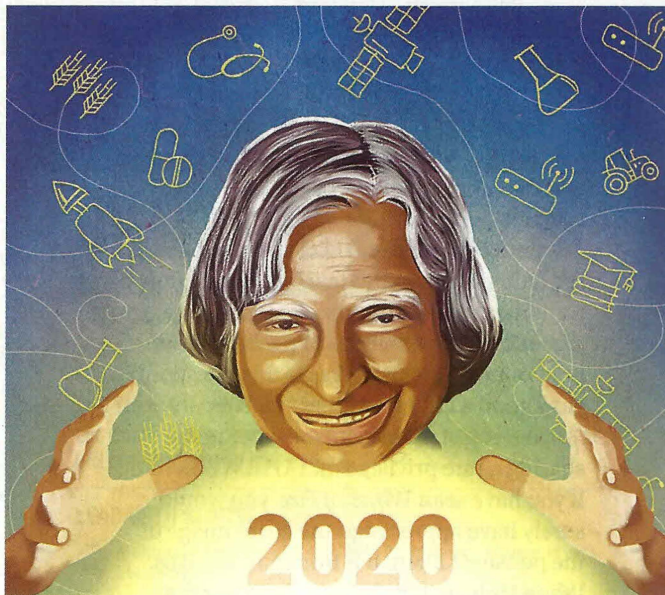


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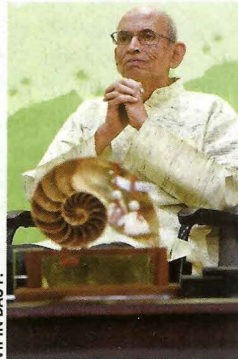
THE PRESIDENT'S VISION

A.P.J. Abdul Kalam visualised India to emerge as a developed nation by 2020. While there has been progress in some areas, some others have lagged. THE WEEK explores India's journey so far and the challenges that lie ahead

Focus areas:

Infrastructure | Space | Telecom | Defence | Judiciary
Agriculture | Health care | Education

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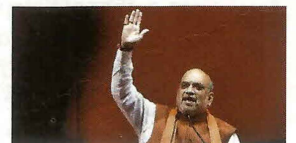


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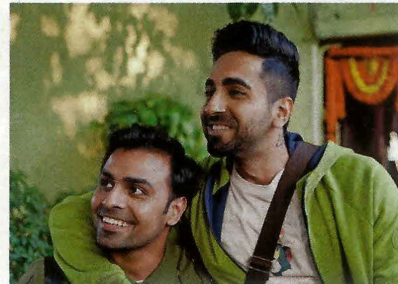
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BLIND LAW

A school play in Bidar, Karnataka, attracts charges of sedition against the mother and headmistress of a class VI student who mouthed a dialogue against the CAA. There have been allegations of the police flouting norms, and the political parties have been cashing in on it by playing the polarisation game. The girl, however, says she just wants her mother to be released.

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How South Korean cinema worked its way to Oscar glory

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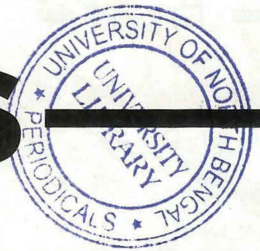
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Masaba Gupta is expanding her horizons with a quirky clothing line and a Netflix series with her mother

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HUG DIPLOMACY

US President Donald Trump and Prime Minister Narendra Modi at the White House in 2017

TRUMP COMES TO TOWN

While US President Donald Trump will appreciate the warm Indian welcome, says Navtej Sarna, former Indian ambassador to the US, South Block would want the warm, fuzzy feeling created by the hype of his visit to rub off on the substance of the relationship

- ◆ Modi and Trump hope to take security, defence and strategic ties to the next level even as trade remains a matter of concern
- ◆ India and US must join hands to save democracy: Tim Roemer, former US ambassador to India
- ◆ Dealing with Trump is like traipsing through a minefield: Bharat Karnad, strategic expert
- ◆ The nuclear deal will continue to be a big facilitator: Anil Kakodkar, former chairman, Atomic Energy Commission of India
- ◆ Trump's immigration policy is not only keeping Indians from

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- ◆ Chandrashekhar Azad is building a dalit-Muslim coalition to take on the BJP
- ◆ How two former civil servants, Kannan Gopinathan and Abdur Rahman, have become the voice of protests against the

- ◆ government Poetry in the time of protests

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Family members of Amani Fathima, the Indian widow THE WEEK met in Syria, await her return home

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DELHI'S DARK DAYS

The anti-CAA protests in Delhi, which had been largely peaceful for the past two months, took a turn for the worse on February 23 as violent clashes broke out in North East Delhi. Over the next two days, riots raged in the capital as some 20 people died and more than 200 were injured. THE WEEK reports from the smouldering ruins.

36 CURRENT EVENTS

Like Nipah, coronavirus, too, has taught us lessons: K.K. Shailaja, health minister, Kerala

COVER PHOTO PTI

COVER DESIGN BINESH SREEDHARAN

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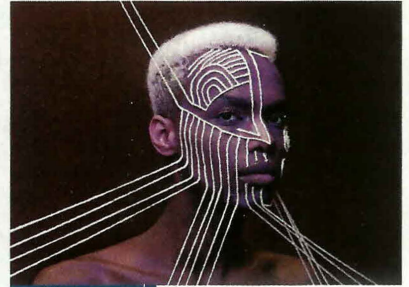


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STRIKE MODE

Intelligence reports THE WEEK accessed reveal how major terrorist outfits are regrouping with the help of Pakistan's Inter-Services Intelligence. The reports also state that dormant outfits headed by Kashmir militants are being revived to plan attacks in India

+ Plus

Pakistan knows what will happen if it tries another Pulwama: **Rajnath Singh**, defence minister

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In the absence of Masood Azhar and Hafiz Saeed, the Jaish-e-Mohammed and the Lashkar-e-Taiba are looking at grooming new leaders

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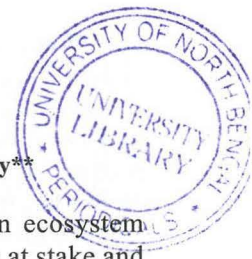
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#Let'sBeatCoronaTogether

University Examinations: The Way Forward

Madhusudan Chakraborty* and Avijit Gangopadhyay**



COVID-19 has mercilessly battered the education ecosystem across the globe. The career of the student community is at stake and the universities have been taking a call on the same. The pandemic has created an extraordinary situation disrupting the regular teaching-learning process. The universities are pondering on how to deal with the unprecedented disruption and how to maintain the standard of education while protecting the students, staff and the faculty members from deadly infections.

A university confers degree on a student only after the latter fulfils all the academic requirements. The pandemic has, however, raised several roadblocks to the entire process of imparting education including the conduct of the examinations. With the lockdown all over the world the universities have been closed for over eight months. While the universities took upon the responsibility of continuing with the academic programmes offering education online, the situation has so far not been conducive to conduct the examination in a normal way as has been the practice so far. In order to complete the academic requirements many universities have conducted the final examinations online on the available digital platforms. Conduct of examinations online has perhaps come to stay in view of the uncertainties imposed by the pandemic. Yet the efficacy of the same in conducting subject wise university examinations needs further scrutiny. Necessary modifications may have to be incorporated in the software as we gain experience with time that hopefully will result in building a robust system that would keep the integrity of the process intact.

The existing pattern of university examinations has wide acceptability all over the world precisely because of its robustness. The smoothness of conducting the examination in large halls accommodating a fairly large number of students with invigilation in place and ease of controlling malpractices perhaps made the process continue till date. However, debates were on in different forums on the possibility of introducing better methods for measuring the outcome of learning. It has been felt that prevailing examination system primarily measures the level of conceptual understanding in addition to the ability of the students to retrieve information from memory. Rarely the ability to solve a problem based on the skills and knowledge acquired by a student is examined.

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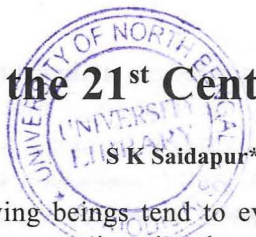
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#Let'sBeatCoronaTogether

Trends in the 21st Century Education#

In nature living beings tend to evolve in response to many prevailing forces operating in the given environment. They essentially struggle, for resources like food, space, and mate. Additionally, it involves overcoming tussle with the neighbors (inter and intra-specific competition for food, space and mate), and also avoid parasites and predators. Thus, predators, parasites and neighbors are 3 major enemies of all forms of life. Who survive at the end? Obviously those that can overcome such challenges survive and/or reproduce. This defines the phrase 'survival of the fittest', a connotation that has no bearing to the physical fitness of an individual. It simply refers to the ability of organisms to leave behind fertile offspring. Such ability is largely due to (1) reshuffling of genes in each generation, (2) selection of useful (including harmless) genes, and (3) elimination of genes that are harmful particularly in early life. This is a very sketchy depiction of how in nature selection pressures work on living beings. Charles Darwin called it natural selection and proposed that through such a mechanism organisms evolve (Theory of Evolution-1958). It is a profound theory with ramifications even outside biological realms. For instance, market or socially driven forces, akin to selection forces in nature, affect evolution of human societies, trade and commerce, industrial production, political rise and fall of individuals, and behaviors like, nepotism, favoritism and corruption in public life. The Universities are also organic entities and they too are affected by the selection forces operating around them at a given point of time. Therefore, scenario of higher education at any given point of time in the history is a reflection of the quality of academicians and educational managers of that time; from faculty of colleges/universities, principals, Vice Chancellors, State Higher Education Ministers, State Councils of Higher Education, UGC, AICTE, IMA, ICAR, ICMR, Bar Council and other regulatory bodies. This prelude is merely to remind ourselves that we must own our responsibilities in addition to crying for our rights.

Evolution of Education System in India

India is indeed the mother of all civilizations as it represents one of oldest surviving of the 45 or so civilizations of the world. She will always be remembered for her many notable contributions in the fields of science and technology, medicine, yoga & meditation, metallurgy, architecture and engineering and more importantly universal message of spirituality to the whole world (Gautier 2013, 2019). India may well have been the world leader in promoting the

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*Former Vice Chancellor and Founder Director, Karnataka State Higher Education Academy and, Diamond Jubilee Professor for Life, Karnatak University, Dharwad-580003. E-mail: saidapur@gmail.com.

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#Let'sBeatCoronaTogether

Role of Mass Media in Nation Building

G P Pandey*

The preamble of the constitution of India provides for the development of a socialist, secular and democratic society having their base on well-defined fundamental rights that are enshrined in our constitution. These allow the citizens to live harmoniously without any social, economic, religious and gender discrimination. To develop is to become more advanced. It means a qualitative change in the structure of the economy, political disposition as well as social environment thereby contributing to the advancement of the nation.

Concept of Nation Building

To understand what nation building is, we must first understand what a nation is. A nation is basically a group of people living in the same territory and who have a common history and culture. The people of a nation visualize themselves as one with a shared destiny which instils in them a sense of belongingness. The sense of oneness and 'we-feeling' develops naturally among the people of a nation.

Nation-building refers to the process of constructing a national identity. It does not occur overnight. Rather it is a gradual process that takes place over a long period of time. Nation building or the process of creating national identity is an ongoing process for any country which initiates with the establishment of modern national states and continue in the form of state politics with an aim to consolidate and promote the nation. It refers to a constructive process of building and maintaining political stability, social cohesion and economic prosperity in an inclusive and democratic way.

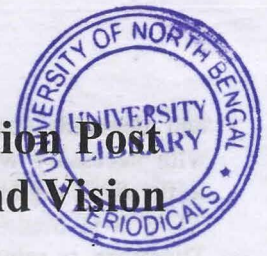
Significance of Nationalism in the Indian Context

Nationalism is basically a feeling of belongingness. We experience a feeling of oneness, togetherness, solidarity, brotherhood and that we share a common identity related to the nation. That is, we are Indians. In a diverse land like India, nationality emerged during the British rule. They brought a centralized system of administration, education, railways and so on. Through education, a new social class emerged who inspired our people to fight for Independence. Satyagraha, non-cooperation movement, civil disobedience movement stands as examples of how people belonging to different caste, class, religion and region united to fight against the British for attaining freedom and Independence.

In India, the media became a poignant medium in gaining independence from the 200 years of British rule. If we talk about Gandhi, Nehru, Tilak and many others, they have all utilized the print media to circulate their thoughts and opinions. Even when they were in prison, they continued to do so. All the freedom fighters have distributed their messages and voiced their opinions through the print media, thereby uniting the people to fight for freedom and liberty.

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Reinventing Higher Education Post Pandemic: New Realities and Vision

Suresh Garg*

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#Let'sBeatCoronaTogether

COVID-19 has infected more than 5 Million people and caused about 1.3 Million casualties globally so far. These numbers continue to increase as there is no reliable treatment (medicine/vaccine) available so far. (If press reports are to be relied, a vaccine should become available in 1-3 months. In our country, the logistics of distribution are going to be quite challenging.) But one thing is clear: due to intense global collaborations among medical/health care researchers/professionals, a lot is known about corona. Corona is a microscopic virus (it is not clear till now whether the virus is a living entity or non living) and we need the most powerful microscopes to view its structure; it cannot travel more than a few feet at a time by itself but has reached all countries on the globe and felled the mightiest that can change the face of the earth in a matter of minutes. COVID-19 locked down cities, overwhelmed health systems, put tourism in tatters, and academic/political conferences as well as sporting events were either cancelled or moved to e-mode, wherever feasible. The world faced unprecedented social and economic crisis due to migration of labour and substantial decline in demand, trade and manufacturing. In fact, COVID-19 induced events made us believe that fleeting things are very potent and human mind finds a way out of adversity through disruptive innovations.

COVID-19 has affected education extremely harsh. This article seeks to examine need for reinventing higher education post pandemic. When corona first reached our shores and began to infect, everyone—from political leadership to academic administrators—was highly confused for the direction to take to provide education. After considerable discussion, e-mode was considered the most suited option for teaching-learning to save loss of academic semester as well as human lives. As such, this change posed unique challenges to teachers as well as students. Teachers showed resilience and adapted with incredible speed to the challenge of digital transformation; they overcame camera inhibition overnight and forego privacy for the sake of their students, who, in spite of inconvenience, travelled without travelling through new technologies.

This brings us to the use of technology, which is on the centre stage of all human activities—education, sports, agriculture, aviation, banking, security, governance—as never before. The entry of technology in classroom was heralded by the Open University of UK in 1968. It facilitated a paradigm shift in the role of a teacher; the focus shifted from teacher to learner and teaching to self-learning. Moreover, it marked the beginning of the transition of education from art to craft to technology. However, COVID-19 made us to believe that post pandemic, future of teaching-learning would be in hybrid; a mix of word of mouth for face to face (F2F) interaction and online digital education supported by multiple media (study materials). For students, this mode is new

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#Let'sBeatCoronaTogether

An Evaluation of Usefulness of Ranking System in Relation to Different Ranking Systems of the World

Saket Kushwaha* and Anamika Yadav**

Ranking is an important part of the higher education institutions at national as well as international level. This rise of ranking has made it so commercialized that different companies and organizations have entered in it and have started ranking colleges and universities. Due to this commercialization, everyone i.e. students, parents, employers and government shape their opinions about the quality of higher education. This ranking has become a legitimate source for promotional purposes as well as for driving policy decisions of government and higher education institutions. We can see it by the concerns shown by governments for ranking instead of its relevancy for higher education institutions. Sometimes, this concern of government for ranking diverts the significant part of resources to some high ranked institutions while limiting support for others. But if we are going to use ranking as end rather than as means for higher education then it is a matter of concern. Different institutions and governments are giving too much importance to ranking which must be paid attention (World Economy Forum, 2015).

Many universities which try to get fund from government use ranking as indicator of improvement in academic and research environment of universities (Aguillo et al, 2010) while other universities use it as a proof for getting additional funds. Students also use this ranking to choose any higher education institution for better future opportunities.

All over the world, the ranking system is published by a variety of agencies, organizations and media. As education has become globalised so ranking has been focused on international level. Nowadays, Shanghai ranking system is thought to be a leader in ranking system, sometimes called as ARWU (Academic Ranking of World Universities). Besides it, we have Leiden, THE (Times Higher Education), QS (Quacquarelli Symonds) and U-Multirank as major ranking systems. All these ranking systems use different indicators or metrics to rank the higher education institutions. But due to the lack of appropriate data to compare the teaching-learning and other service activities, these ranking systems are mostly dependent on research data and peer-review (IMHE, 2007).

Various researches have been done by the researchers to know the pros and cons of different ranking systems of the world. Dill and Soo in 2005 have reviewed five ranking systems of the world with the objective to know the suitability of rankings as representative of academic quality. They concluded that the

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#Let'sBeatCoronaTogether

Using ICT to Cope With the Impact of COVID-19: Response of the Educational Sector

Diksha Rajput*

14 JAN 2021

The turn of the millennium made it evident that Information and Communications Technology (ICT) would soon bring sweeping changes to the management and governance landscape across the world. It was only a matter of time before by-the-minute advancements in ICT would reach a point where governments would reap rich dividends on every investment in technology, which would in-turn enable them to optimise the utilisation of costs, time and resources. The arrival of the Corona Virus or COVID-19 pandemic changed all of that in December, 2019.

The WHO declared COVID-19 as a pandemic spreading the disease worldwide (WHO, 2010). As per OECD, 'the spread of COVID-19 has sent shock waves across the globe. The public health crisis, unprecedented in our lifetimes, has caused severe human suffering and loss of life. The exponential rise in infected patients and the dramatic consequences of serious cases of the disease have overwhelmed hospitals and health professionals and put significant strain on the health sector' (Schleicher, 2020). The Sustainable Development Goals (SDGs)-Education 2030 Steering Committee (SDG 4 education 2030, 2020) in its recommendations for COVID-19 education response has referred to the COVID-19 pandemic as a global health crisis as well as an educational crisis, with over 1.5 billion learners affected by near-universal school closures.

As the COVID-19 pandemic spread worldwide, governments across the world were forced to shut down offices, educational institutions, businesses etc. Efforts to stop the viral outbreak included working from homes, providing flexible working hours, or closing many institutions where people could infect one another with COVID-19. Protocols to shut down buildings involved schools, universities and many other educational institutions. This situation forced all levels of educational institutions to operate remotely and to put emergency remote teaching into practice (Bozkurt and Sharma, 2020).

As per World Economic Forum Report (World Economic Forum, 2020), the COVID-19 has resulted in schools shut all across the world. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms.

According to UNESCO Director-General Audrey Azoulay, "while temporary school closures as a result of health and other crises are not new unfortunately, the global scale and speed of the

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