

The End of the World

SARS-CoV-2

Disease

&

Pandemics

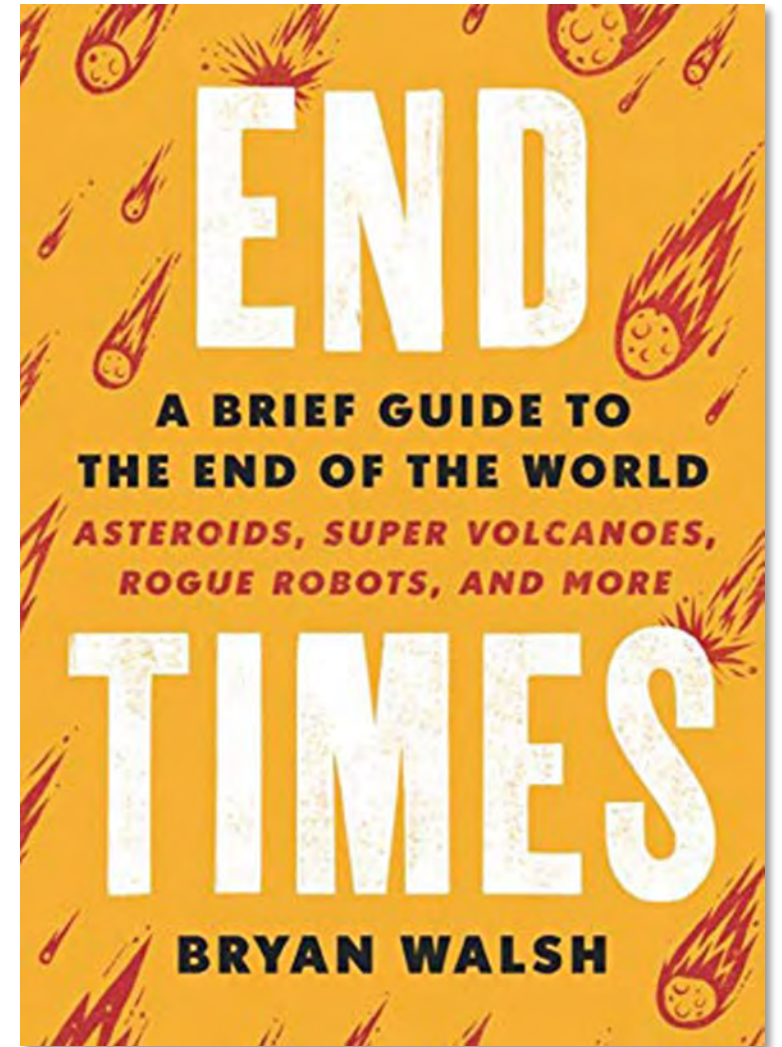
TYPE II ALVEOLAR CELL MEMBRANE

Week 11 Lecture | Professor Crews
Religious Studies 357 W

In *End Times: A Brief Guide to the End of the World*, author Bryan Walsh takes us through a wide range of possible end of the world scenarios, from asteroids and super volcanoes to killer robots and climate apocalypse.

Walsh explores many common end times scientific worries and asks how realistic these threats are and what we can do to address them. As he noted in the introduction:

“If we don’t appreciate the present, it’s in part because we don’t fully understand the past— even as we make the mistake of assuming the future will be like the present... Risks that are most available to the mind are the ones that we care about, which is why so much of our regulation is driven by crisis, rather than by reason.”



As author Bryan Walsh argues, for most people alive today the idea of a global pandemic was something outside our lived experience—something we saw in movies, but never experienced personally. When his book went to press in 2019, this was still the case. But now, reading with the experience of covid-19, it becomes crystal clear why disease remains the greatest natural enemy of humanity.

“Modern science has defanged most infectious diseases, at least outside of the developing world...The decline of infectious disease is the best evidence that life on this planet truly is getting better. Yet there is no guarantee these trends will continue.”

2020 has been a painful reminder that nature is still in control, and our survival as a species is always at risk. In fact, as Walsh notes, our rush to build a highly industrialized and interconnected global society has made us more vulnerable, not less, to these risks. “As the SARS [outbreak in 2003] demonstrated, our interconnected global economy, with its long supply chains, is uniquely vulnerable to the global disruptions that can be wrought by infectious diseases, even those that kill in relatively small numbers.”

If you think back to our earlier discussions of prepper culture, this is exactly the point many of them made. Reliance on global supply chains makes us more vulnerable to disaster.

One of the last major viral outbreaks in recent years was the 2003 outbreak of SARS-CoV-1 (severe acute respiratory syndrome coronavirus), which began in Guangdong, southern China. From there it spread to Hong Kong, and then from Hong Kong to Singapore, Canada, and other countries.

The HK government was initially slow to respond, but a major outbreak took place in the Amoy Gardens apartment complex, at which point a mandatory quarantine was put in place and more serious detection efforts began. Soon after, the World Health Organization (WHO) placed a travel advisory on HK and Guangdong—the first time the WHO had taken such a step.

At the height of the SARS outbreak, 50 people a day were being diagnosed as positive, with a 9% mortality rate overall, but a 50% mortality rate for those over 60. In total an estimated 8,000 people worldwide were infected, leading to over 770 deaths. By the end of 2003 SARS was under control.

As Walsh argues, “SARS was a twenty-first century plague. It was a zoonotic disease, meaning it jumped from animals to humans—a pathway it has in common with most emerging diseases, including HIV...The SARS outbreak was the product of a series of accidents and errors, one after the other.”

SARS – A Perfect Storm

- Infection Vector (wild animals > domestic animals > humans via wet markets)
- Transmission (open borders & air travel, “super-spreader” patients, deforestation, wildlife trafficking)
- Response (government secrecy, information restrictions, delayed or inadequate responses)

Live animal markets or “wet markets” continue to be an important disease transmission vector for the spread of zoonotic diseases. In the case of SARS, scientists believe the virus was transmitted from the horseshoe bat to masked palm civets and then to humans. With covid, it was bats to pangolins to humans.



Vox



DEATH TOLL

200M
Black Death
(Bubonic Plague)
1347-1351



56M
Small Pox
1520



40-50M
Spanish Flu
1918-1919



30-50M
Plague of Justinian
541-542



25-35M
HIV/AIDS
1981-present

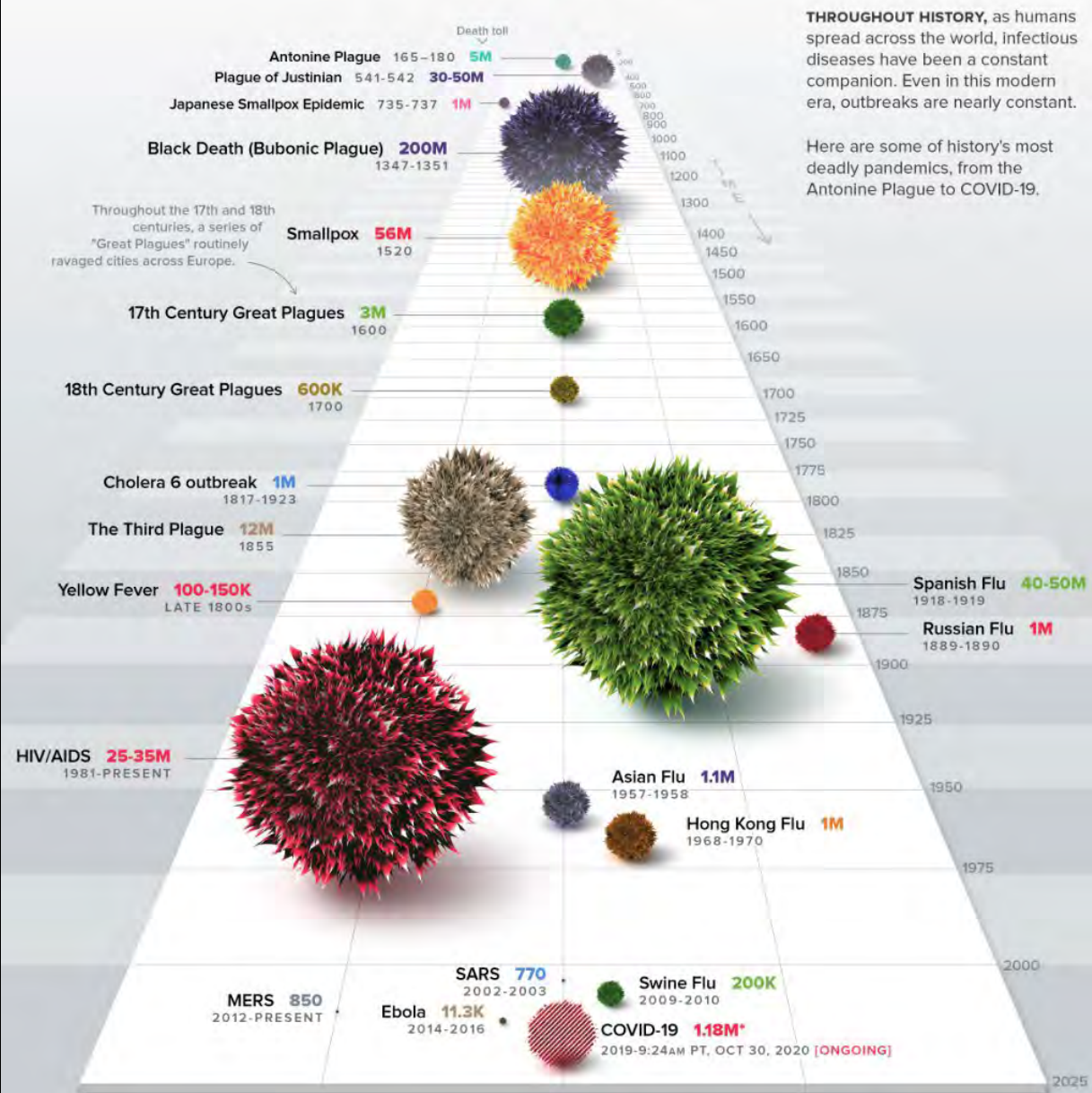


12M
The Third
Plague
1855



HISTORY OF PANDEMICS

PAN-DEM-IC (of a disease) prevalent over a whole country or the world.



The Bubonic plague, better known as the “Black Death,” swept through Europe from 1346-1353 CE. It remains the single worst pandemic in human history. Some areas in Europe were spared major outbreaks, but other cities like Florence lost more than 60% of their population. Some rural areas were almost entirely depopulated for over a generation. Scholars once believed only 1/3 of Europe died from the Plague, but more recent research suggests 40-60% of the population of Europe died, with estimates between 75-200 million dying (global population less than 500 million).

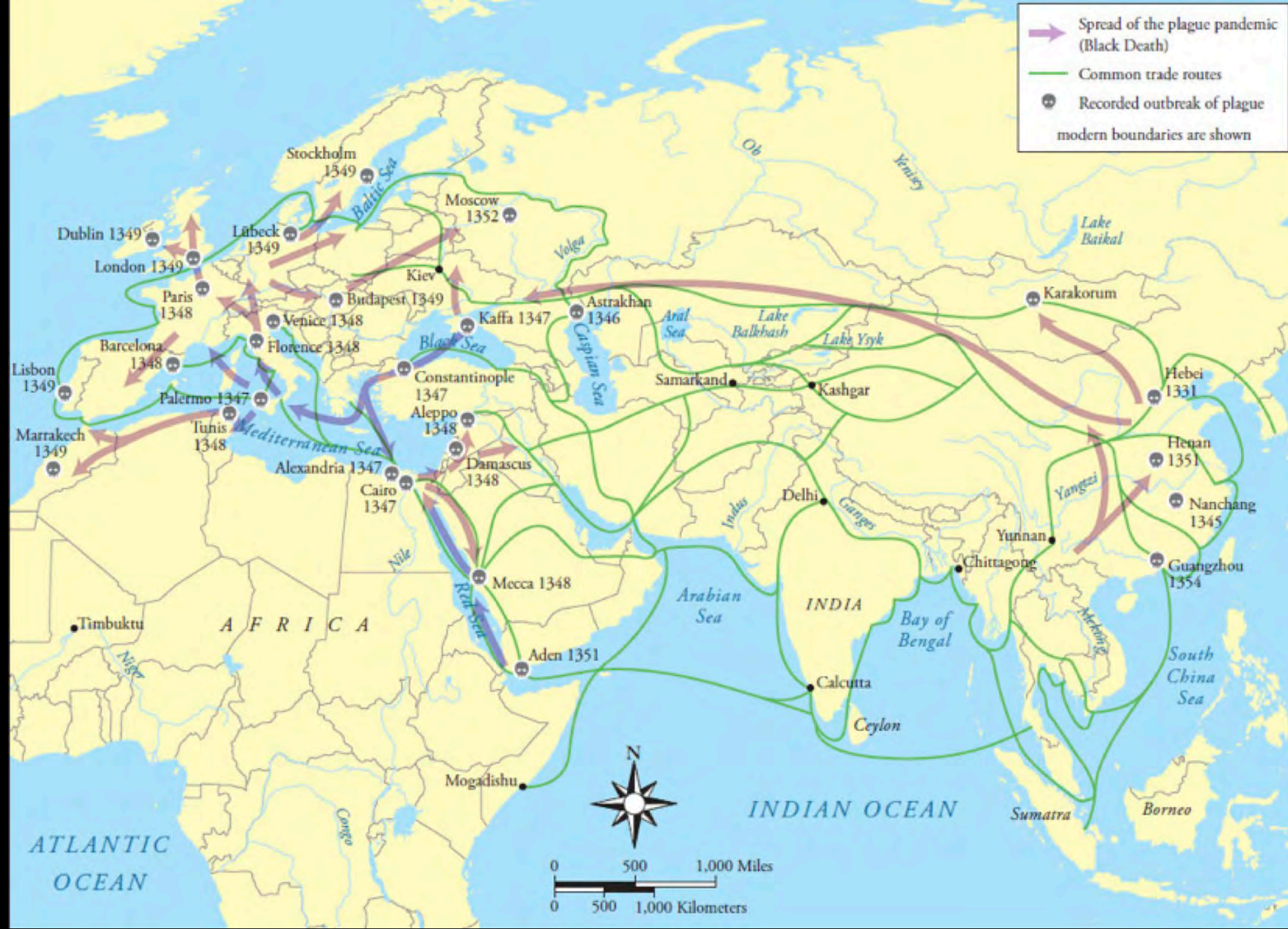
In his book *The Black Death, 1345-1353: The Complete History* and later article “*The Black Death: The Greatest Catastrophe Ever*” author Ole Benedictow noted the lasting effects on Medieval Europe:

“This dramatic fall in Europe’s population became a lasting and characteristic feature of late medieval society...[It] had an enormous impact on European society and greatly affected the dynamics of change and development from the medieval to Early Modern period. A historical turning point, as well as a vast human tragedy, the Black Death of 1346-53 is unparalleled in human history.”

Initially called the “Great Dying” or “Great Pestilence,” the name “Black Death” came into usage later. It originated somewhere in Central or East Asia then spread via trade routes into the Mediterranean and Europe. The source of plague was the *Yersinia pestis* bacteria, spread by fleas on infected black rats.



Triumph of Death. From the Flemish painter Pieter Bruegel the Elder (~1562 CE)



“Doctor Beaky of Rome”

During the early outbreak of the Plague, doctors developed a kind of Medieval PPE that used a leather mask with a distinctive bird beak and a long leather gown.

The end of the mask was filled with strong smelling flowers or herbs to keep the “miasma” at bay, which was thought to be the main way the Plague spread.

The lack of a germ theory of transmission also meant that doctors had no real understanding of what bacteria was or how it was transmitted.

Doctors often operated at lazarettos, early medical quarantine facilities outside town.



A plague doctor of Marseilles (“Dr Beaky of Rome”).
Engraving by Paul Fürst. ~ 1721 CE.



Plague Doctor Masks

Mask often used glass in eye cutouts and included two small holes in nose.

Dried plants in the beak may have including roses, carnations, mint, various spices, camphor. Some may have also used a sponge soaked in vinegar. These strong smells were thought to keep the miasma or diseased air, away from the wearer.

Original 16th century plague mask. German Museum of Medical History, Ingolstadt.

To stop the spread of plague, cities in Italy began to stop new arrivals, especially by boat, forcing them to wait thirty days (later extended to 40 days) prior to entry. It's thanks to such practices in Venice that we have the term quarantine (from the Italian for forty days, *quaranta giorni*), which was the duration travelers were required to stay at a *lazaretto* (isolation facility) before being considered “healthy” and allowed to enter the city.

Vectors of Transmission

Monasteries were one important source of transmission due to their role as social centers and places of trade and food supplies (granaries).

Travelling merchants were another important source of transmission and were likely the primary vector for disease introduction to Europe.

Religious pilgrims were another important source of the Plague spread, particularly those travelling in groups like the “Flagellants.”

People fleeing from infected cities were another vehicle for transmission.



The Lazzaretto of Manoel Island on Malta.

1918 Influenza Pandemic

After the Black Death of the 14th century, the 1918 Influenza epidemic (aka “Spanish Flu”) ranks as the worst pandemic in human history.

Reactions to the outbreak were complicated by a lack of prior exposure and WWI politics. Leaders suppressed public knowledge about the pandemic even as US troops carried it into war. Influenza targeted young, healthy people in a very short period. Flu moved in seasonal waves and often led to a secondary illness like pneumonia, which explains the high death tolls (~40-50 million dead).

The Influenza outbreak began in early 1918 in the US, likely in Kansas. Avian strain of the Influenza A virus (H1N1) was likely passed to pigs. Where it mutated then spread to local farm communities.

As the *Wichita Eagle* in Kansas noted in its centennial pandemic retrospective in 2018:

“It was winter, 100 years ago...The virus began on the windswept Kansas prairie, where dirt-poor farm families struggled to do daily chores — slopping pigs, feeding cattle, horses, and chickens, living in primitive, cramped, uninsulated quarters. It’s not known whether it started in the pigs or chickens or birds flying overhead. But it spread to young farmers who, drafted for World War I, reported for duty at Fort Riley.”



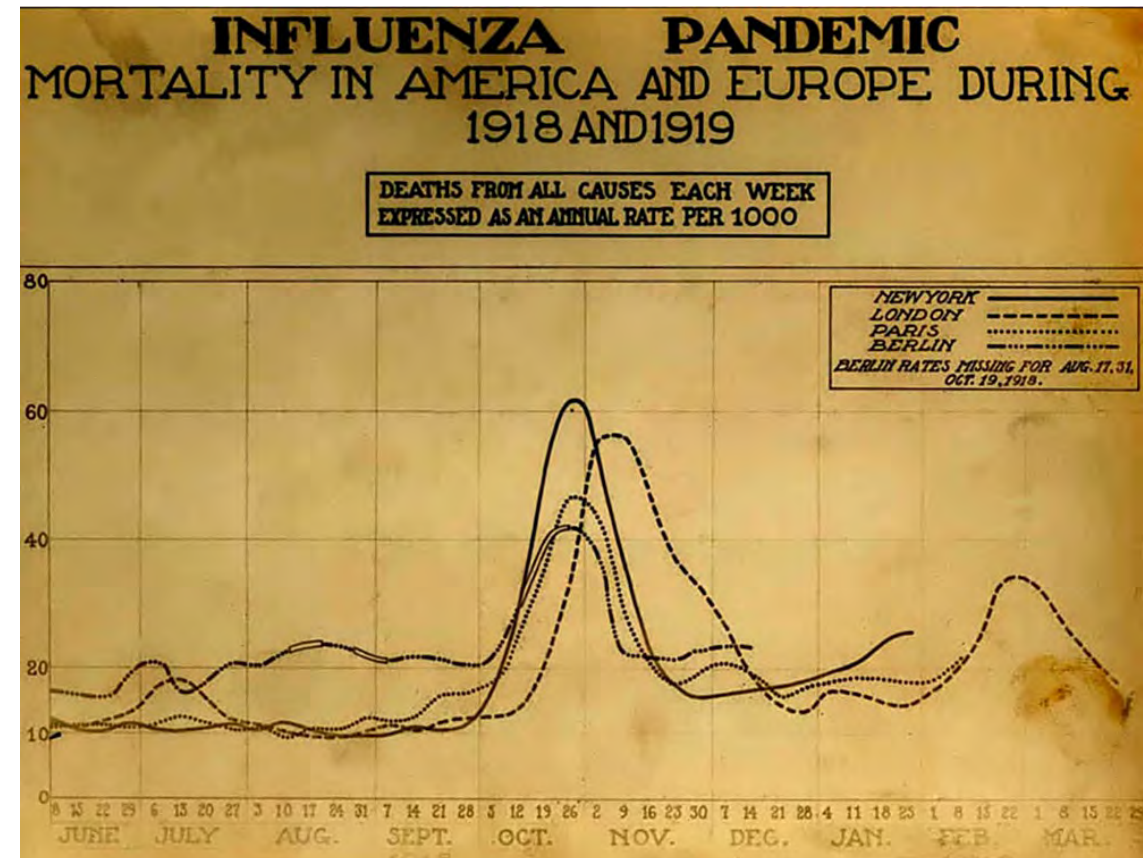
The second wave was the worst of the three major waves. Both army bases and major cities began reporting new Influenza outbreaks in September 1918.

By the early fall of 1918 cities were finally beginning to take the Influenza outbreak seriously, despite some government efforts to downplay the seriousness of the situation (as in Philadelphia in late Sept).

Like the “social distancing” coronavirus measures in 2020, many cities mandated public quarantine measures in 1918-19, ranging from partial closures or staggered hours to complete shutdowns.

Some cities mandated masks in public, fining anyone found without a mask.

Everything from schools, churches and theatres to soda fountains, dance halls and pubs were closed by the fall of 1918.





The 1918-19 Influenza pandemic spread through 3 major waves globally:

First Wave (Spring 1918)

- Initial outbreaks in the spring. Reports of outbreak and deaths not significant enough to warrant widespread concerns or precautionary measures.

Second Wave (*Fall 1918)

- Second outbreak followed a lull in the summer. Massive deaths and global spread linked to movement of troops within the United States and then overseas in Europe.

Third Wave (Spring 1919)

- Third outbreak was also significant, with widespread deaths. Virus slowly began to lessen by the summer, although some scholars argue there was a weak 4th wave in early 1920.

**NIGHT
EXTRA**

FOR INFORMATION
on any subject—the time
of day, movement of
trains, mails and so on—
Call Main 300

MEMBER ASSOCIATED PRESS

The Seattle Daily Times

TIMES WHISTLE SIGNALS
ONE LONG BLAST
at 11:25 a. m. daily—Time
will elapse to drop ac-
cording to the clock work.
TWO LONG BLASTS
at frequent intervals—
Signal for closing news
gate.
THREE SHORT BLASTS
at frequent intervals—
Signal for the press.
FOUR LONG BLASTS
at frequent intervals—
Signal for the office.
FIVE SHORT BLASTS
at frequent intervals—
Signal for the office.
SIX LONG BLASTS
at frequent intervals—
Signal for the office.

12 Pages.

SEATTLE, WASHINGTON, SATURDAY EVENING, OCT. 5, 1918.

Price 3c (In News Stands,
Booth, Train, Etc.)

CHURCHES, SCHOOLS, SHOWS CLOSED

EPIDEMIC PUTS BAN ON ALL PUBLIC ASSEMBLIES

MR. LOVERING'S COMMENT

Tenat in victory. Buy Liberty Bonds!

GERMANY PLAYS ITS LAST BIG CARD.

Commenting
the other day
on the ap-
pointment of
Prince Maximilian as Imperial Chancellor, James
W. Gerard, former American ambas-
sador to Germany, declared he had "al-
ways suspected that when they really
sought peace, they would employ
other Prince Maximilian or Dr. Stoll,
who was so opposed to a break with
America that when relations were
broken he took to his bed."

It is an interesting coincidence that
both Maximilian and Stoll are in the
new German cabinet, the former as
Premier and the latter as foreign sec-
retary.

With them in the ministry are
Philipp Scheidemann, leader of the
Socialist majority in the Reichstag;
Mathias Erzberger, the Finance Minister,
and Gustav Bauer, another Social-
ist. Herr Bauer, a Socialist, has been named
secretary of state for the important labor
affair.

In making these appointments, Ger-
many is playing its last big card.
By the elevation of Maximilian,
Scheidemann and Erzberger, the
Kaiser is striving to convince the Allies
and his own people that a new Demo-
cratic regime has assumed control of
the empire's affairs. Based on this
ground, a new peace offer may be
looked for in the near future.
However, the Allied world and, in

SEATTLE TO MAKE FIGHT ON DISEASE

Mayor and City Health Officer
Will Permit None but Gather-
ings in Open Air.

POLICE ORDERED TO CLOSE PUBLIC PLACES

The following order was posted
at the police station this after-
noon:

General Order No. 81—On ac-
count of reports of many cases of
Spanish influenza existing in all
theatres, churches, schools and
places of public assembly will be
closed until further orders. By
order of the Board of Health and
the Mayor.

(Signed) J. F. WARREN,
Chief of Police.



AMERICANS AND FRENCH SMASH FOE

Associated Press Summary.

FRENCH and American troops are smashing into the German positions in
Champagne and have forced the enemy to withdraw from valuable
ground in the hill country near the Meuse River, says today's Associated
Press summary of news from the theatre of war.

East and west of the Argonne and northwest of Rheims there has been
heavy fighting, in the advantage of the Allies.

On the northern sector facilities
apparently have quieted down.
By withdrawing over the heights of
Blanc Mont and the Madish farm the
French and Americans placed the Ger-
mans in the eastern part of the
hill country about Montgiscard in a
dangerous position. The enemy retired
hastily toward the first Argonne just
west of the Meuse the French are
moving toward Montgiscard.

News in Deep Water.

Between the Meuse and Rhine the
Germans are in a deep water and the
Allies are that they will retire
from it altogether. The Germans seem
to be being further endangered by

U.S. TROOPS SMASH HUNS

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Thrills

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Influenza Epidemic Closes Schools, Churches, Theatres

DRUG STORES SWAMPED WITH "FLU" VICTIMS

Trade at Pharmacies is Ex-
ceedingly Heavy; Clerks
Are Worn Out by
Hard Work.

ONE STORE IS CLOSED

HEALTH COMMISSIONER ISSUES PROCLAMATION ORDERING DRASTIC METHODS TO CHECK DISEASE SPREAD

Drastic measures, including the closing of all schools, churches, moving picture theaters, and the prohibiting of all public gatherings until further notice were adopted today in an effort to stamp out the epidemic of Spanish influenza which has steadily been gaining headway in Evanston.

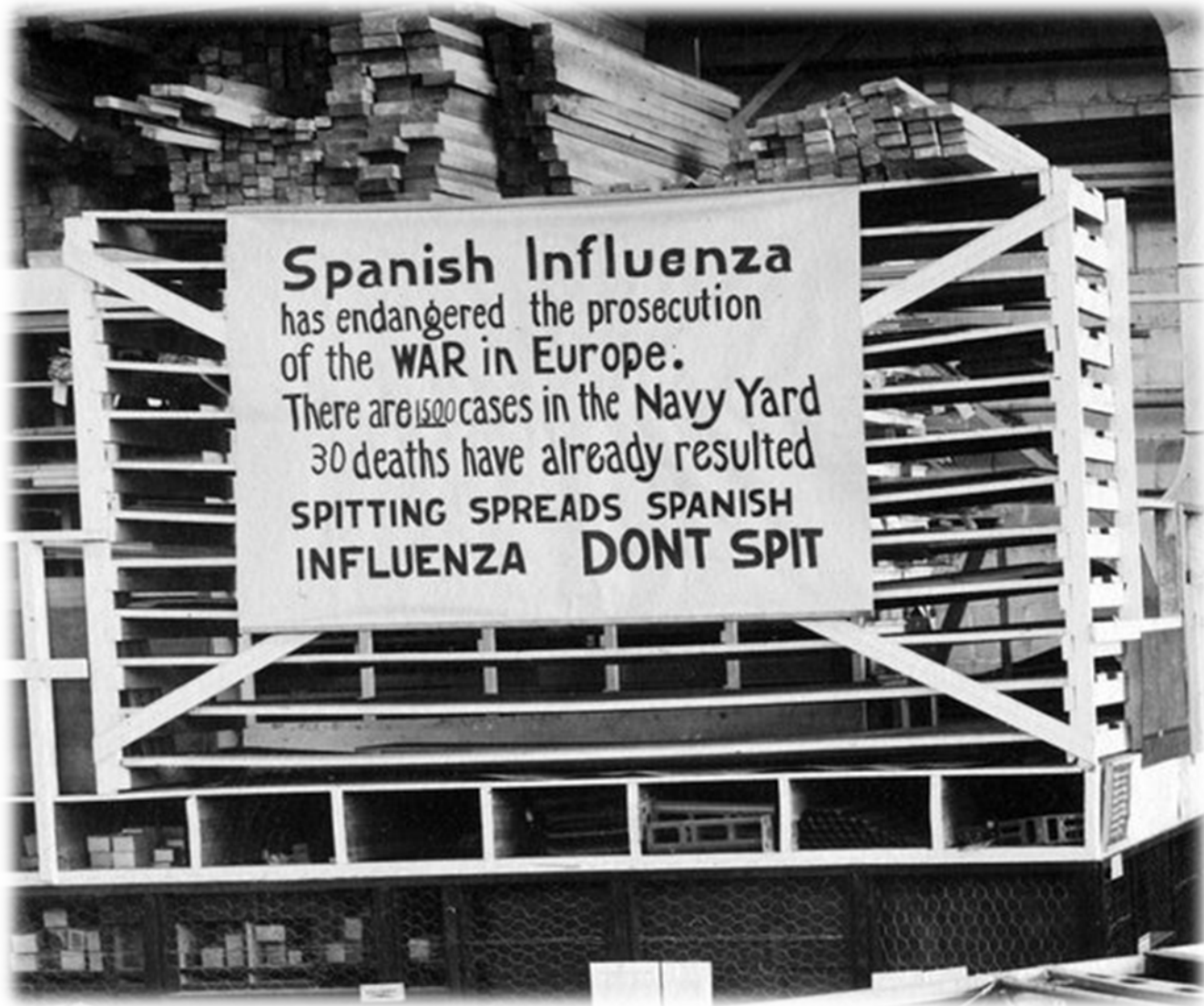
Proclamation Issued.

Health Commissioner C. T. Roome, as a result of a conference held with Dr. Winner of the state department of health, Professor

NORTH END PUTS NEW PUNCH INTO WAR BOND DRIVE

Workers Take Steps to Pre-
vent North End from Lag-
ging; Evanston Total
Now Is \$1,350,000.

TROPHY FOR WINNER



Naval Aircraft Factory in Philadelphia warning about spreading the Spanish Flu through spitting. Oct 19, 1918.

SANTA ANA DAILY REGISTER, THURSDAY EVENING, OCTOBER 17, 1918.

Coughs and Sneezes Spread Diseases

As Dangerous as Poison Gas Shells

SPREAD OF SPANISH INFLUENZA MENACES OUR WAR PRODUCTION

California Influenza Ad. (*Orange County Register*)

Religious Responses to 1918 Influenza Pandemic

Churches closed in some cities, while others remained open. In cities where indoor church services were not allowed, they held open air services.

“We, the Pastors’ Federation [of D.C.], in special assembly, do place ourselves on record as cheerfully complying with the request of the Commissioners, which, we understand applies to all churches alike. We furthermore recommend that our people shall conduct in their own homes some form of religious worship remembering in prayer especially the sick...”

But as public closures wore on, some religious figures pushed to re-open, as this op-ed letter from Randolph McKim in Washington DC suggests.

“Hence, however we may respect the motives and good intentions of our authorities in ordering the closing of our churches, we are at liberty to challenge the wisdom of that order, and to affirm, as we do, that it is an outrage upon the religious convictions of the great body of our citizens...”

Compliance With Church Closing Order Approved by Pastors’ Federation

Compliance in both the letter and spirit of the request of the District Commissioners to close the churches of Washington today to prevent the spread of **influenza** was expressed at the meeting of the Pastors’ Federation of Washington yesterday at the New York Avenue Presbyterian Church.

A resolution, expressing the unanimous feeling of the pastors of Washington passed at the meeting, follows:

“Resolved, in view of the prevailing condition of our city and the widespread prevalence of **influenza**, that we cordially forth the request from the District of Columbia Commissioners for the temporary closing of all churches, we, the Pastors’ Federation, in special assembly, do place ourselves on record as cheerfully complying with the request of the Commissioners, which, we understand, applies to all churches alike. We furthermore recommend that our people shall conduct in their own homes some form of religious worship remembering in prayer especially the sick, our allied nations at war and the present victims for the Fourth Liberty Loan.”

The Evening Star, Oct 6, 1918



Crowds gather outside Cathedral of Saint Mary of the Assumption for outdoor service. San Francisco, 1918.

'Old time religion' preacher Billy Sunday was a well-known travelling revivalists who continued to preach during the 1918-19 pandemic.

Sunday held 70 revival meetings in Providence, Rhode Island between Sep. 21 and Nov. 17, 1918.

Although Providence closed most public spaces on Oct 5, 1918 as the pandemic spread, the mayor allowed Mr. Sunday to still hold 3 packed weekend services. Media reports of the event noted people falling ill and fainting during the services.

While initially supportive of government restrictions, Sunday soon lashed out at local restrictions and claimed the Influenza pandemic was really a German conspiracy that the US could beat with prayer:

"We can meet here tonight and pray down an epidemic just as well as we can pray down a German victory. The whole thing is a part of their propaganda; it started over there in Spain, where they scattered germs around..."





Coronavirus:



CBS
NEWS

Influenza in San Francisco

The first reported case was on Sept. 24, 1918. It spread rapidly in October, and by the 19th there were 3,733 cases and 70 deaths in San Francisco.

On October 18, the Board of Health closed all public amusement parks and schools and prohibits dances, fraternal meetings, and social gatherings (except for public meetings).

On October 24, the Board of Supervisors passed a resolution on mandatory mask wearing, with the threat of fines or jail time for non-compliance. The *SF Chronicle* reported 127 people were arrested for disobeying the mask order on October 27. 50 more were arrested and jailed the next day for “disturbing the peace” and given \$5 or \$10 fines.

“When the maskless ones found that the police meant business all manner of excuse were advanced for not wearing masks, the favorite excuse being that the mask had just been removed to permit of smoking.”

**BOARD TO FORCE
MASK WEARING
BY ORDINANCE**

**Measure Drafted by City At-
torney to Be Passed at
Meeting Today**

ALL MUST COVER FACES

**State and City Health Of-
ficials and Mayor Agree on
Need for Action**

San Francisco Chronicle, Oct 24, 1918

By October 31, nearly 20,000 cases and 1,000 deaths were reported in San Francisco. Health Officer William Hassler felt things were improving, so the city begins lifting restrictions Nov 16, 1918.

Mask ordinance expires on Nov 21. Whistles sound across town at noon as people celebrated by tossing away masks and dancing in the street. Nov 25, 1918 public schools are re-opened in San Francisco.

A surge in outbreaks follows soon after social restrictions are lifted. 600 new cases were reported on January 10 alone. So a second mask ordinance was enacted on January 17, 1919 following the surge of cases between December 1918 and January 1919.

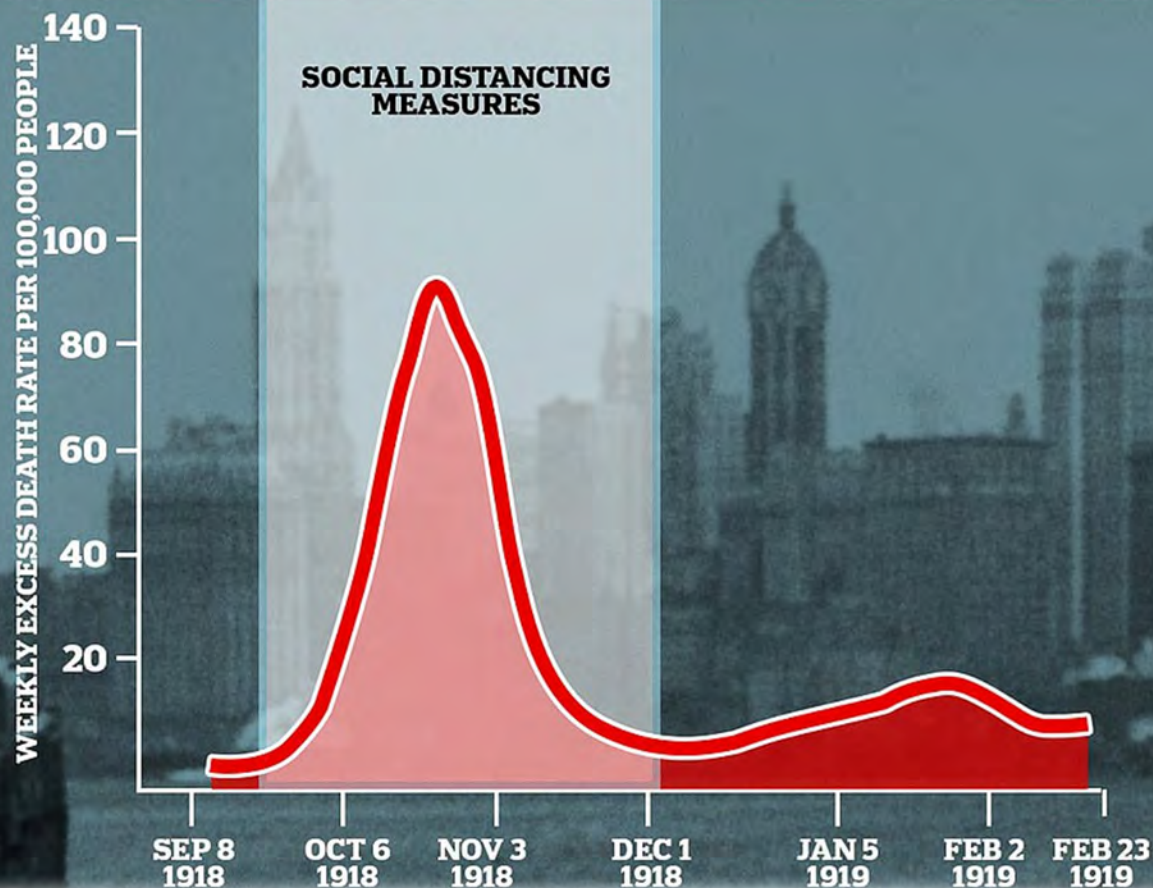
Public health ads also stressed the importance of wearing masks:

“Doctors wear them. Those who do not wear them get sick. The man or woman or child who will not wear a mask now is a dangerous slacker.”



Impacts of “social distancing” measures during the worst of the Influenza outbreaks in the fall of 1918 and early winter of 1919.

NEW YORK, NY

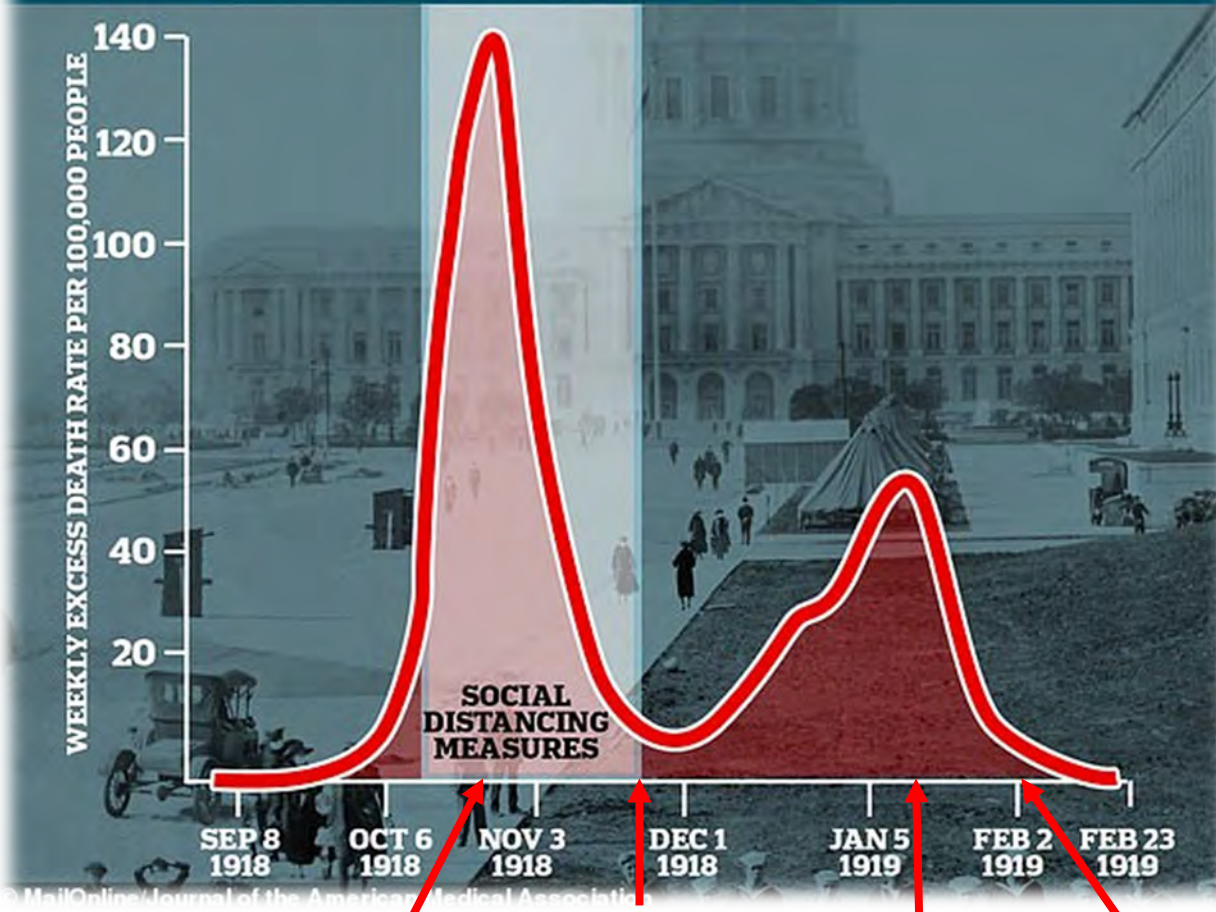


ST LOUIS, MO



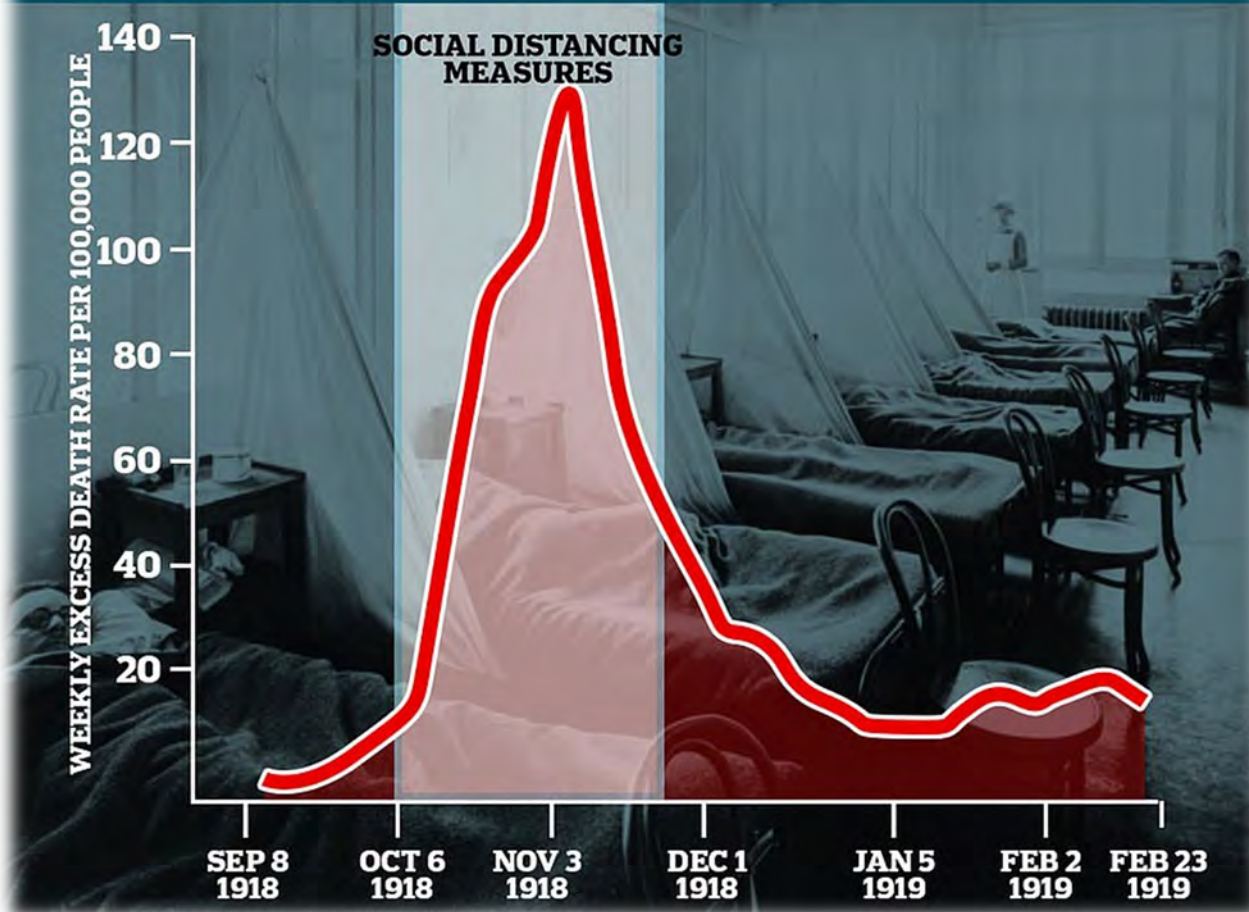
Impacts of “social distancing” measures during the worst of the Influenza outbreaks in the fall of 1918 and early winter of 1919.

SAN FRANCISCO, CA



#1 Mask law (Oct 24) Law rescinded (Nov 21) #2 Mask law (Jan 17) Law rescinded (Feb 1)

PITTSBURGH, PA



Journal of the American Medical Association

'Anti-Mask' League to Fight Flu Ruling at San Francisco

Objectors Insist Gauze
Is Unsanitary and
Ineffective.

SAN FRANCISCO, Jan. 21.—“Sanitary Spartacans” have broken out in San Francisco in protest of the influenza mask wearing ordinance. A league was organized last night which is to be known as the “Anti-Mask” league. Its members declare the masks insanitary and useless. At a meeting in the Pacific building \$350 was raised to aid in fighting the board of health's enforcement of the mask-wearing ordinance.

Pasadenans Arrested.

PASADENA, Cal., Jan. 21.—Fifty Pasadenans, many prominent, were under arrest today charged with appearing in public without “flu” masks. The police started enforcement of the flu mask ordinance yesterday.

Public opposition to second mask law emerged (public officials, businessmen, civic leaders). Anti-Mask League of San Francisco holds Jan. 25, 1919 rally at Dreamland Rink demanding end to “mask ordinance.” ~4,500 people attend. Petition delivered to city on Jan 27, 1919 requesting mask law be revoked.

According to the SF Chronicle, “Christian Scientists objected, arguing that it was “subversive of personal liberty and constitutional rights.” Civil libertarians argued that if health officials could force them to wear masks, then it could force them to inoculate “or any experiment or indignity.””

Anti-Mask League supporters argue the masks are “an infringement of our personal liberty and that it was not in keeping with the spirit of a truly democratic people to compel people to wear the mask who do not believe in its efficacy, but rather that it is a menace to their health.”

Due to public outcry, the mask law was rescinded Feb. 1, 1919.

San Francisco had at least 45,000 recorded cases of Influenza and more than 3,000 deaths in the period between 1918 and 1920.

4 Important Lessons from the 1918 Influenza pandemic

For pandemic response efforts to be effective, the government must provide clear, timely, and accurate information to the public.

Public quarantine and social distancing measures do work and can make a significant difference in containing viral outbreaks if followed.

As we saw with the Black Death in the 14th century and the 1918 Influenza pandemic, disease outbreaks often returns in waves, and later outbreak waves can be even more deadly.

Tensions between government health policies based on science and religious expressions of political liberty often come into conflict. Religious institutions and beliefs can both help and hinder public health policies.



EMERGING RALLIES/PROTESTS TO REOPEN ECONOMY

SCHEDULED FROM APRIL 18 - MAY 2 2020



ANES WILL RETURN AS EARLY AS MON, WITH MOST RETURNING TO WORK BY TUES, COMPANY SAYS...BOE

SUBSCRIBE



As Pandemic Toll Rises, Science Denie...
desmogblog.com



Coronavirus in Ohio: Anti-mask crowd r...
argusleader.com



Video shows anti-mask protesters in downtow...
globalnews.ca



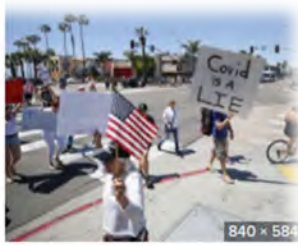
AZ Councilman Apologizes for Saying 'I Can't ...
complex.com



Alarm as vaccine foes, anti-mask activists target publ...
foxnews.com



Let Freedom Ring Rally' p...
houstonchronicle.com



Readers React: Anti-mask mentality...
sandiegouniontribune.com



QAnon conspiracy theorists, far-right group join Vanc...
msn.com



Tampa Anti-Mask, Pro-Freedom, and 'Bac...
tampafp.com



Anti-mask protesters rally across the nation
wsocvtv.com



About 100 anti-mask protesters meet at SC State H...
wistv.com



Anti-mask rallies held across Canada as cases beg...
youtube.com



Several hundred protestors march in large...
vancouverisawesome.com



People take to Toronto streets and subways to protes...
blogto.com



Meagre turnout for Stratford anti-mask ral...
stratfordbeaconherald.com



Hundreds of armed anti-mask protesters gather o...
dailymail.co.uk



'Anti-mask' rally to protest mask mandate held in ...
12news.com



Hundreds of armed anti-mask protesters ...
dailymail.co.uk



Anti-mask rallies held in Saskatchewan as COVID-19 c...
globalnews.ca

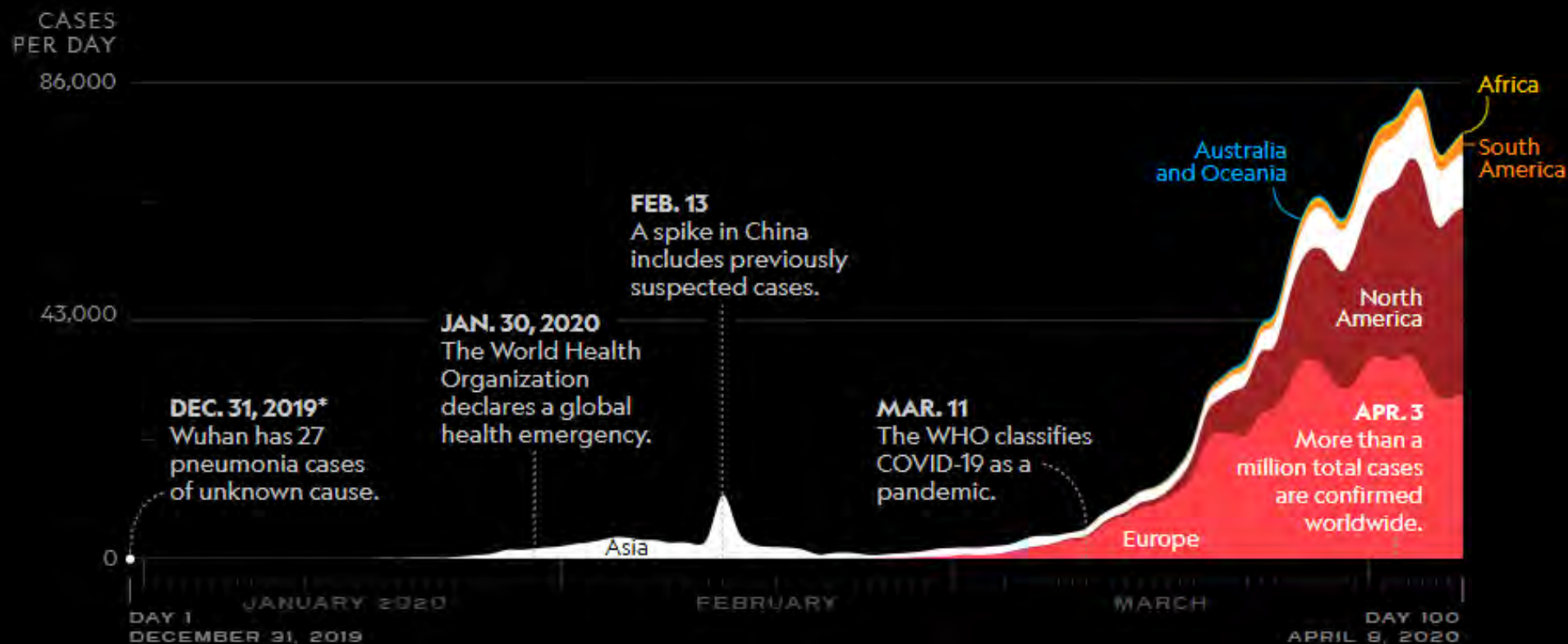


THE FIRST 100 DAYS

How the coronavirus outbreak grew from a few cases in China to a global pandemic in less than three months

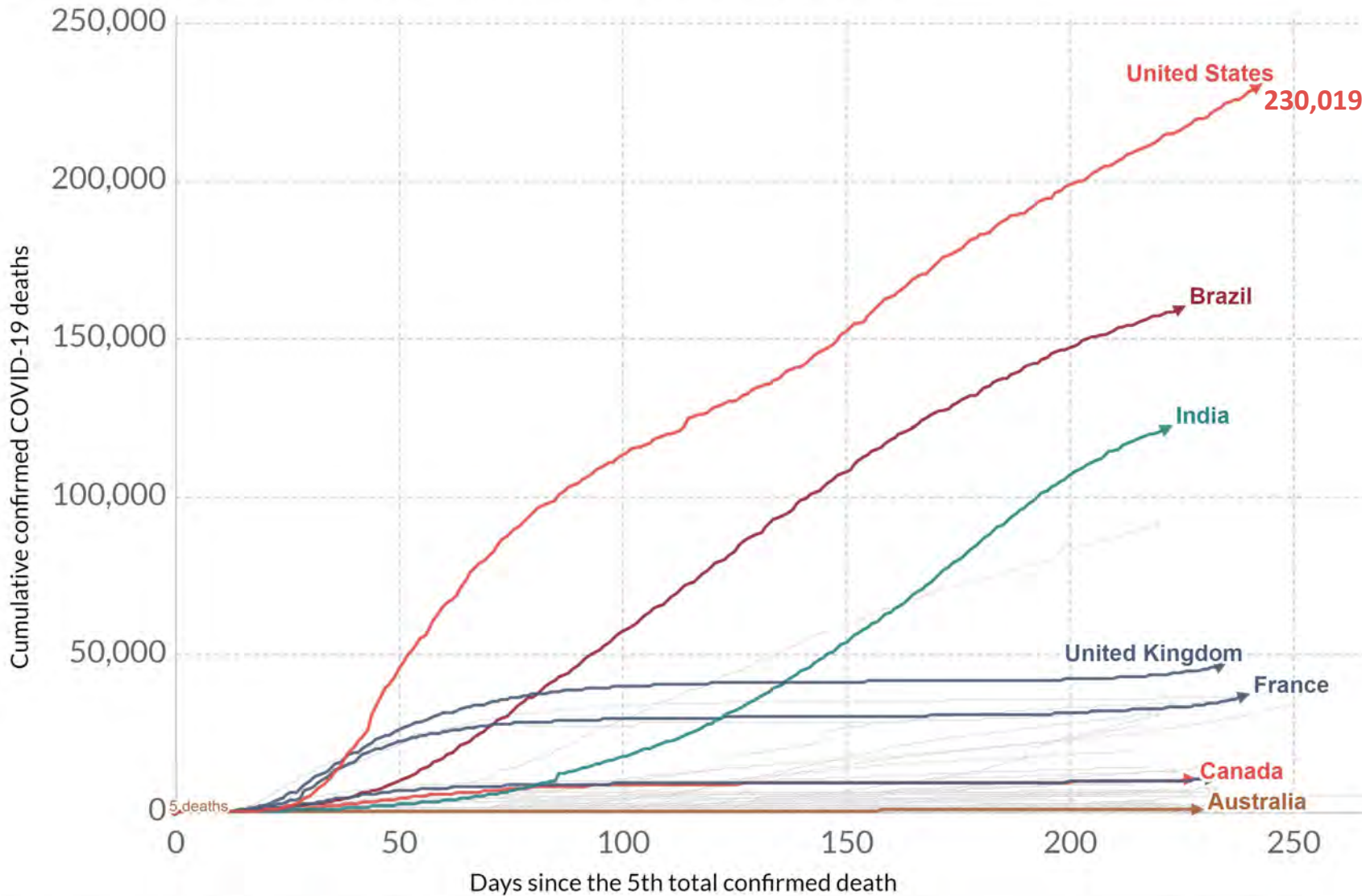
HOW IT BEGAN

Leaked reports cite what health officials describe as cases of viral pneumonia in Wuhan, China. Not even three weeks later, similar cases are confirmed in Thailand, Japan, and South Korea. Soon cases proliferate around the globe: Within 58 days, cases are confirmed on every continent except Antarctica.



Cumulative confirmed COVID-19 deaths

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.



US

Yesterday's data (10/31/2020)

NEW CASES: **99,321** | DEATHS: **1,030**

The first case of COVID-19 in US was reported 282 days ago on 1/21/2020. Yesterday, the country reported 99,321 new confirmed cases and 1,030 deaths.

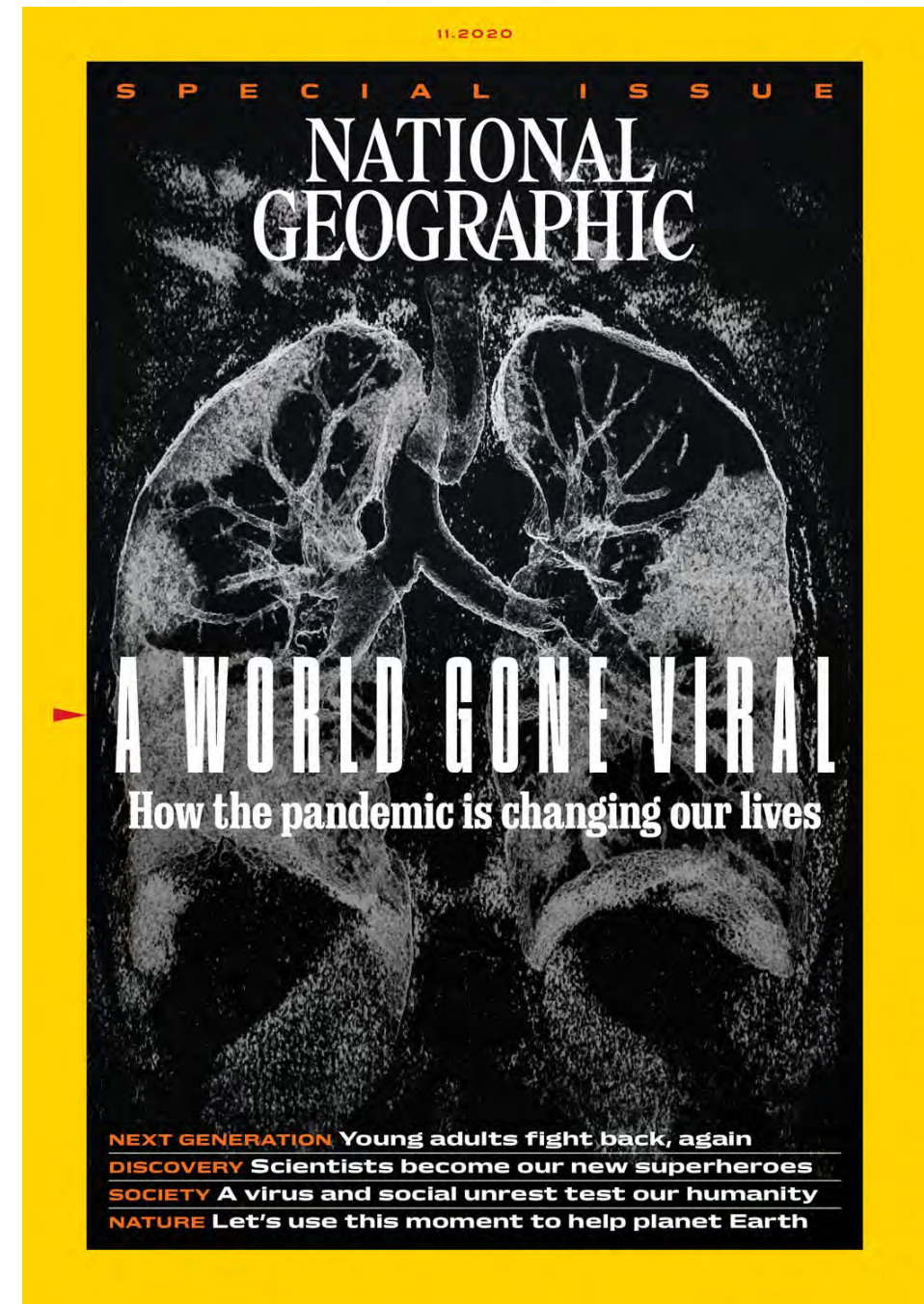


As Cynthia Gorney writes in a new *National Geographic* special issue on Covid-19 this month:

“Here’s what the year has demanded we understand: that a single phenomenon connects these people, these places, this sorrow, this fear. Most of us are neither epidemiologists nor Spanish flu survivors; for most of us, before 2020 the word “pandemic” belonged to history, dystopian fiction, or books of warning from science journalists...The effort to comprehend, to grasp the new coronavirus as the actual global event it has become, is exhausting.

To call the essays and images [collected here](#) a record of the pandemic is an act of hubris and of hope; a record is a thing you look at afterward, in retrospect. When do we get to afterward? We will move on because we must, but how? To what?”

This is a central question as we near the end of 2020 and head into 2021. What will our lives, and our country, look like?





Bryan Walsh argues the US response to the coronavirus was shaped by multiple factors:

- Absence of early, decisive leadership from Congress and a skeptical Trump administration
- Weakened federal pandemic planning (Strategic National Stockpile, National Defense Authorization)
- Earlier pandemic monitoring in flux (NSC Directorate for Global Health Security and Biodefense disbanded in 2018, and CDC global health monitoring work shrunk from 49 to 10 countries)
- Problems with public health agencies (faulty CDC covid kits, conflicting covid guidance and info, lack of federal rapid testing & contact tracing)
- Mixed worries among US public about covid risks (age, mask opposition, lack of social distancing)

“We’ve built a world that amplifies the opportunities for a new virus to leap from an animal to human, and from there to any other spot on the globe. That’s why the rate of new diseases and new outbreaks is growing. A globalized, interconnected planet of more than seven billion people is a feast for viruses.”

So while it is highly unlikely that covid-19 will spell the end of the world, there is no doubt that the world will never be the same. What a new post-coronavirus normal will look like remains to be seen.

Weekly Assignment Reminder

- Remember to check our class Blackboard regularly for updates, announcements, and other related class information...
- Have you done the weekly readings and watched any associated videos? Weekly readings are listed on the Class Schedule page.
- Complete the weekly discussion post response. Initial post due Wed, Nov 4 by end of day, and peer response post due Fri Nov 6 by end of the day.

I had a little bird
And its name was Enza.
I opened the window
And in flew enza.

