



**United States Department of State**

*Washington, D.C. 20520*

January 31, 2024

Case No. FL-2022-00076

Mr. Sainath Suryanarayanan, PhD  
U.S. Right to Know  
4096 Piedmont Ave. #963  
Oakland, CA 94611

Dear Mr. Suryanarayanan:

As we noted in our letter dated December 29, 2023, we are processing your request for material under the Freedom of Information Act (“FOIA”), 5 U.S.C. § 552. The Department of State (“Department”) has identified an additional 44 responsive records subject to the FOIA. Upon review, we have determined that 32 records may be released in part and 12 records must be withheld in their entirety.

An enclosure explains the FOIA exemptions and other grounds for withholding material. Where we have made redactions, the applicable FOIA exemptions are marked on each record. The records that were withheld in full are exempt from release pursuant to FOIA Exemptions 5 and 6, 5 U.S.C. §§ 552(b)(5) and (b)(6). A list of the document identification numbers for the records withheld in full is attached to this letter. Where applicable, the Department has considered the foreseeable harm standard when reviewing these records and applying FOIA exemptions. All non-exempt material that is reasonably segregable from the exempt material has been released and is enclosed.

We will keep you informed as your case progresses. If you have any questions, your attorney may contact Savith Iyengar, Assistant U.S. Attorney, at [savith.iyengar@usdoj.gov](mailto:savith.iyengar@usdoj.gov). Please refer to the case number, FL-2022-00076, and the civil action number, 22-cv-04359, in all correspondence about this case.

Sincerely,

A handwritten signature in black ink, appearing to read "Diamonece Hickson". The signature is fluid and cursive, with a large initial "D" and "H".

Diamonece Hickson  
Chief, Litigation and Appeals Branch  
Office of Information Programs and Services

Enclosures: As stated.

Denied in Full Document IDs:

A-00000567039

A-00000572429

A-00000572448

A-00000572452

A-00000572465

A-00000572480

A-00000572621

A-00000572644

A-00000572645

A-00000572653

A-00000572658

A-00000572724

## The Freedom of Information Act (5 USC 552)

### FOIA Exemptions

- (b)(1) Information specifically authorized by an executive order to be kept secret in the interest of national defense or foreign policy. Executive Order 13526 includes the following classification categories:
- 1.4(a) Military plans, systems, or operations
  - 1.4(b) Foreign government information
  - 1.4(c) Intelligence activities, sources or methods, or cryptology
  - 1.4(d) Foreign relations or foreign activities of the US, including confidential sources
  - 1.4(e) Scientific, technological, or economic matters relating to national security, including defense against transnational terrorism
  - 1.4(f) U.S. Government programs for safeguarding nuclear materials or facilities
  - 1.4(g) Vulnerabilities or capabilities of systems, installations, infrastructures, projects, plans, or protection services relating to US national security, including defense against transnational terrorism
  - 1.4(h) Weapons of mass destruction
- (b)(2) Related solely to the internal personnel rules and practices of an agency
- (b)(3) Specifically exempted from disclosure by statute (other than 5 USC 552), for example:
- |                |   |
|----------------|---|
| ARMSEXP        | Arms Export Control Act, 50a USC 2411(c)                    |
| CIA PERS/ORG   | Central Intelligence Agency Act of 1949, 50 USC 403(g)      |
| EXPORT CONTROL | Export Administration Act of 1979, 50 USC App. Sec. 2411(c) |
| FS ACT         | Foreign Service Act of 1980, 22 USC 4004                    |
| INA            | Immigration and Nationality Act, 8 USC 1202(f), Sec. 222(f) |
| IRAN           | Iran Claims Settlement Act, Public Law 99-99, Sec. 505      |
- (b)(4) Trade secrets and confidential commercial or financial information
- (b)(5) Interagency or intra-agency communications forming part of the deliberative process, attorney-client privilege, or attorney work product
- (b)(6) Personal privacy information
- (b)(7) Law enforcement information whose disclosure would:
- (A) interfere with enforcement proceedings
  - (B) deprive a person of a fair trial
  - (C) constitute an unwarranted invasion of personal privacy
  - (D) disclose confidential sources
  - (E) disclose investigation techniques
  - (F) endanger life or physical safety of an individual
- (b)(8) Prepared by or for a government agency regulating or supervising financial institutions
- (b)(9) Geological and geophysical information and data, including maps, concerning wells

### Other Grounds for Withholding

- NR Material not responsive to a FOIA request excised with the agreement of the requester

**From:** "Park, Christopher J (T)" (b)(6)@state.gov>  
 (h)(6)@state.gov>;  
 (b)(6)@state.gov>;  
**To:** (b)(6)@state.gov>;  
 (b)(6)@state.gov>;  
 Pandemic-Response-OES <Pandemic-Response-OES@state.gov>;  
 Park, Christopher J (b)(6)@state.gov>  
**Subject:** Re: Wuhan Institute of Virology  
**Date:** Mon, 27 Apr 2020 18:37:05 +0000

(b)(5)

**From:** (b)(6)@state.gov>  
**Sent:** Monday, April 27, 2020 2:35 PM  
**To:** Park, Christopher J (T) (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (h)(6)@state.gov>; Pandemic-Response-OES <Pandemic-Response-OES@state.gov>; Park, Christopher J (b)(6)@state.gov>  
**Subject:** Re: Wuhan Institute of Virology

(b)(5)

**From:** Park, Christopher J (T) (b)(6)@state.gov>  
**Sent:** Monday, April 27, 2020 2:32 PM  
**To:** (h)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; Pandemic-Response-OES <Pandemic-Response-OES@state.gov>; Park, Christopher J (b)(6)@state.gov>  
**Subject:** Re: Wuhan Institute of Virology

(b)(5)

**From:** (h)(6)@state.gov>  
**Sent:** Monday, April 27, 2020 2:26 PM  
**To:** (b)(6)@state.gov>; (h)(6)@state.gov>; Pandemic-Response-OES <Pandemic-Response-OES@state.gov>; Park, Christopher J (b)(6)@state.gov>  
**Cc:** Park, Christopher J (T) (b)(6)@state.gov>  
**Subject:** Re: Wuhan Institute of Virology

(SBU). According to para 5 of 18 Wuhan 38, which I believe the Washington Post is suing the Department to get expedited access to through FOIA, "(Wuhan) Institute (of Virology) officials said that France provided the lab's design and much of its technology, but that it is entirely China-funded and has been completely China-run since a 'handover' ceremony in 2016." The next para says that experts with the University of Texas Medical Branch in Galveston have trained Wuhan lab technicians in lab management and maintenance, and that scientists from the Galveston lab would be invited to do research at WIV.

(b)(6)

**From:** (b)(6)@state.gov>  
**Sent:** Monday, April 27, 2020 1:58 PM  
**To:** (b)(6)@state.gov>; Pandemic-Response-OES <Pandemic-Response-OES@state.gov>; Park, Christopher J (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** Re: Wuhan Institute of Virology

+ Chris Park and (b)(6) as they may have relevant knowledge

**From:** (b)(6)@state.gov>  
**Sent:** Monday, April 27, 2020 1:55 PM  
**To:** Pandemic-Response-OES <Pandemic-Response-OES@state.gov>  
**Subject:** Fw: Wuhan Institute of Virology

(b)(5)

Please see below.

Sent from my BlackBerry 10 smartphone.

**From:** (b)(6)@state.gov>  
**Sent:** Monday, April 27, 2020 1:25 PM  
**To:** (b)(6)@state.gov>; EAP-CM-ECON-DL; OES-PA-DG  
**Cc:** EAP-Press  
**Subject:** Fw: Wuhan Institute of Virology

See below - (b)(5)

Best,

(b)(6)

EAP Press

(b)(6)@state.gov

**From:** (b)(6)@state.gov>  
**Sent:** Monday, April 27, 2020 1:17 PM  
**To:** EAP-Press <EAP-Press@state.gov>  
**Cc:** F-Press <F-Press@state.gov>  
**Subject:** Fw: Wuhan Institute of Virology

EAP,

(b)(5)

(b)(6)

**From:** Joseph Harriss (b)(6)  
**Sent:** Monday, April 27, 2020 11:42 AM  
**To:** PA Press Duty <PAPressDuty@state.gov>  
**Subject:** Wuhan Institute of Virology

To State Department Press Service:

As the Paris correspondent of *The American Spectator*, published in Washington, I am researching an article on the Wuhan Institute of Virology. According to Wikipedia, the establishment of the laboratory was funded partially by

the U.S. government. Can you please confirm that? And if so, can you please give me the amount of funding involved?

Thank you for any assistance you can provide in this matter.

Sincerely,

Joseph Harriss, Paris

--

**Books**--<http://b.link/harriss71>

**Spectator**--<https://spectator.org/author/josephaharriss/>

**Sender:** "Park, Christopher J (T)" (b)(6)@state.gov>

(b)(6)@state.gov>;

(b)(6)@state.gov>;

**Recipient:** (b)(6)@state.gov>;

(b)(6)@state.gov>;

Pandemic-Response-OES <Pandemic-Response-OES@state.gov>;

Park, Christopher J (b)(6)@state.gov>

**From:** "Park, Christopher J (T)" (b)(6)@state.gov>  
ISN-BPS-DL <ISN-BPS-DL@STATE.GOV>;  
(b)(6)@state.gov>;  
**To:** (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>  
**Subject:** FW: New York Mag: The Lab Leak Hypothesis  
**Date:** Wed, 6 Jan 2021 15:57:35 +0000

I'd welcome any thoughts or insights on the attached.

**From:** Stilwell, David R (b)(6)@state.gov>  
**Sent:** Tuesday, January 5, 2021 8:31 PM  
**To:** Park, Christopher J (T) (b)(6)@state.gov>  
**Cc:** Feith, David (b)(6)@state.gov>; Ford, Christopher A (b)(6)@state.gov>  
**Subject:** RE: New York Mag: The Lab Leak Hypothesis

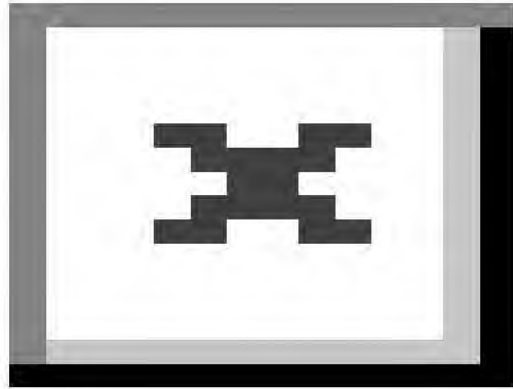
Having spent a lifetime in the world of USAF heavy equipment operators I'm used to posers, loud-mouths, and ego's. But I always imagined the laboratories and classrooms of the scientific world to be filled with kind, gentle, introverted, objective people who avoided drama and sought the truth. Then I read the attached.

One day we'll figure out what happened in Wuhan a year ago and the debate will end. Until then, I don't get why suggesting the best place to start looking is the WIV—an organization that bragged about studying Horseshoe Bats and coronaviruses for years—is radioactive. Beijing has exploited our inexplicable squeamishness for over a year now.

Alina Chan offers some useful insights on the sensitivities in an article from Sep '20.

Best  
Dave





---

**From:** Park, Christopher J (T) <(b)(6)@state.gov>  
**Sent:** Tuesday, January 5, 2021 9:33 AM  
**To:** Feith, David <(b)(6)@state.gov>; Ford, Christopher A <(b)(6)@state.gov>  
**Cc:** Stilwell, David R <(b)(6)@state.gov>  
**Subject:** RE: New York Mag: The Lab Leak Hypothesis

It's a good read, though Angela Rasmussen (Georgetown virologist) shredded it rather savagely yesterday and thinks he misunderstands a lot of the science he's trying to describe.

At the end of the day, there's no question but that it's possible all of this was the result of a lab accident. The challenge after that is to assess the relative probability of such an event as opposed to natural emergence, factoring in the available evidence, and to figure out whether it's actually possible to know for certain – pinning down outbreak origins is historically a pretty iffy business.

---

**From:** Feith, David <(b)(6)@state.gov>  
**Sent:** Monday, January 4, 2021 2:22 PM  
**To:** Ford, Christopher A <(b)(6)@state.gov>; Park, Christopher J (T) <(b)(6)@state.gov>  
**Cc:** Stilwell, David R <(b)(6)@state.gov>  
**Subject:** FW: New York Mag: The Lab Leak Hypothesis

**From:** Feith, David <(b)(6)@state.gov>

**Sent:** Monday, January 4, 2021 2:20 PM

**To:** EAP-FO-Principals-DL <EAP-FO-Principals-DL@state.gov>; DL NSC Asia (b)(6)

<(b)(6)>; (b)(6) Ruggiero, Anthony J. EOP/NSC

<(b)(6)>

**Subject:** New York Mag: The Lab Leak Hypothesis

This looks awfully interesting. The story the New Yorker wouldn't tell...

<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>

Jan 4, 2021, 6:00 A.M.

# The Lab-Leak Hypothesis

## The Lab Leak Hypothesis

For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

By *Nicholson Baker*

I.

## Flask Monsters

**What happened** was fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically,"

from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, 80 million people have been infected, and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They've made machines that mix and mingle the viral code for bat diseases with the code for human diseases — diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that

the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” wrote infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in *Bulletin of the Atomic Scientists*, Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

## II.

# “A Reasonable Chance”

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who’d suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published a paper saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in Yunnan province in

southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: “It’s too airborne — too catching — it’s something that has been selected for infectivity. That’s what I suspect. No way to know so no reason to waste time thinking about it.”

This was just a note to self — at the time, I hadn’t interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, *Baseless*, that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve “an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date.”

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America’s biological-weapons program in the ’50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called “serial passaging,” in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the “foaming process” of high-volume production, developed a fever and died. In 1964, veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn’t told that he had Machupo virus, or Bolivian hemorrhagic fever. “I watched him die through a little window to his quarantine room at the Detrick infirmary,” she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease leaked from a faulty drainpipe at the Institute for Animal Health in Surrey. In the U.S., “more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people

and agriculture were reported to federal regulators during 2008 through 2012,” reported *USA Today* in an exposé published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had mistakenly sent close to 200 shipments of live anthrax to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where “defensive” research involves the creation of potential pathogens to defend against — were shut down for several months by the Centers for Disease Control and Prevention for “breaches of containment.” They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don’t always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. “There is a reasonable chance that what we are dealing with is the result of a lab accident,” Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. “I don’t know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time.”

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he’d thought *lab accident* when he first heard about the epidemic. “Absolutely, absolutely,” King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were “very intense, very subtle pressures” on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, “generates new threats and desperately needs to be reined in.”

“All possibilities should be on the table, including a lab leak,” a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, “There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin.” Richard Ebright, a molecular biologist at Rutgers University, wrote that he’d been concerned for some years about the Wuhan laboratory and about the work being done there to create “chimeric” (i.e., hybrid) SARS-related bat coronaviruses “with enhanced human infectivity.” Ebright said, “In this context, the news of a novel coronavirus in Wuhan \*\*\*screamed\*\*\* lab release.”

### III.

## “No Credible Evidence”

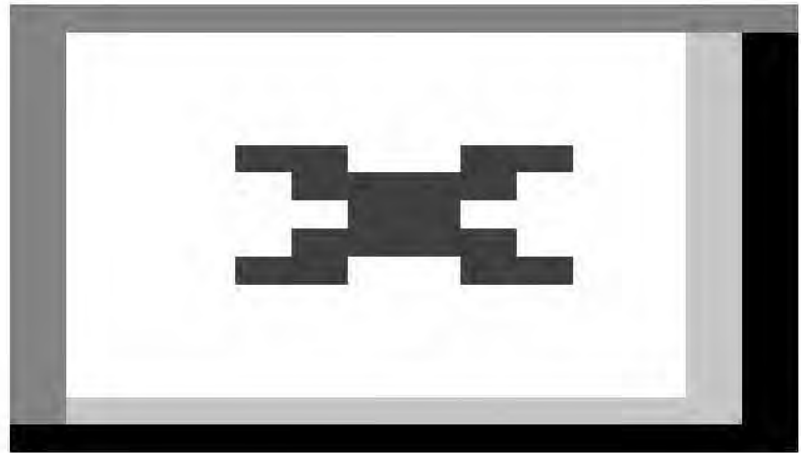
**The new disease**, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others bullied and harassed Asian Americans. Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the “CCP virus.” And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists’ goal was to “use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly.”

In *The Lancet*, in February, a powerful counterstatement appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin,” the statement said. “Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude that this coronavirus originated in wildlife, as have so many other emerging pathogens.”

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit

called EcoHealth Alliance — a group that (as veteran science journalist Fred Guterl explained later in *Newsweek*) has channeled money from the National Institutes of Health to Shi Zhengli's laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. "We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye," Daszak said in February in *Science* magazine.



**How Did It Get Out? 1. The Tongguan Mine Shaft** in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARSCoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli's team brought the RaTG13 sample, sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called *This Week in Virology*, said on February 9 that the idea of an accident in Wuhan was "complete bunk." The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. "It's not a man-made virus. It wasn't released from a lab."



Racaniello's dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the "speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin." There was "currently no credible evidence" that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello's. "Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported," they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper's authors, Susan Weiss, told the Raleigh *News & Observer*, "The conspiracy theory is ridiculous."

The most influential natural-origin paper, "The Proximal Origin of SARS-CoV-2," by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February. "We do not believe any type of laboratory-based scenario is plausible," the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and "more parsimonious" explanation was that the features came about through some kind of natural mutation or recombination. "What we think," explained one of the authors, Robert F. Garry of Tulane University, on YouTube, "is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin." Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. "The balance of the scientific evidence strongly supports the conclusion that the new coronavirus emerged from nature — be it the Wuhan market or somewhere else," said the Washington *Post's* "Fact Checker" column. "Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus," said CBS News, posting a video interview of Anthony Fauci by *National Geographic*. "If you look at the evolution of the virus in bats, and what's out there now," Fauci said, "it's very, very strongly leaning toward 'This could not have been artificially or deliberately manipulated' — the way the mutations have naturally evolved."

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don't-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. "The administration's claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened," wrote science journalist Mara Hvistendahl in the Intercept.

#### IV.

## “Is It a Complete Coincidence?”

**Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.**

One person was Sam Hussein, who works for Consortium News. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC's representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

“Obviously the main concern is how to stop the virus,” Hussein said; nonetheless, he wanted to know more about its source. “Is it the CDC's contention,” he asked, “that there's absolutely no relation to the BSL-4 lab in Wuhan? It's my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents.” (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Hussein hastened to say that he wasn't implying that what happened in Wuhan was in any way intentional. “I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?”

Schuchat thanked Hussein for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a sequence of amino acids that formed what Etienne Decroly and colleagues called a "peculiar furin-like cleavage site" — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell's outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it's a roar: "R-R-A-R." The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the "pathogenicity" — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted a short paper on a preprint server titled "The Possible Origins of 2019-nCoV Coronavirus." Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. "The killer coronavirus probably originated from a laboratory in Wuhan," Xiao believed. He urged the relocation of "biohazardous laboratories" away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chitai, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was "unlikely to have four amino acids added all at once," Fang said — natural mutations were smaller and more haphazard, he argued. "From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans." When the *Taiwan News* published an article about Fang's talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of

the Taiwan Public Health Association. "It has been taken down for a certain reason," the association explained. "Thank you for your understanding."

v.

## **“A Serious Shortage of Appropriately Trained Technicians”**

**In the spring**, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn't start killing humans, though, until 2003 — that's when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually traced to horseshoe bats.

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China's National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization's safety investigators wrote, in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” wrote *Washington Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

## **I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?**

MERS arose in 2012, possibly spread by camels that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all

but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the *Washington Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

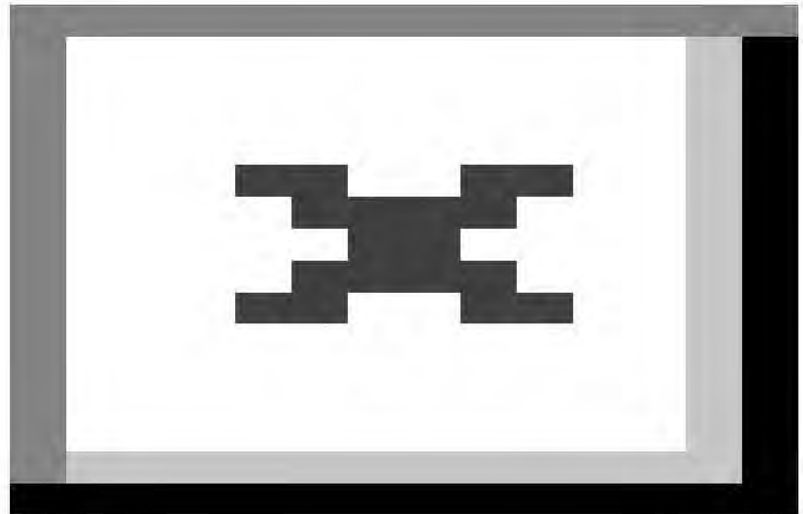
## VI.

# Emergence

**Now let’s take a step back.** AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature’s woodwork. In 1992, Richard Preston wrote a horrific account of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett’s *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it —

or it could be a disease that hadn't arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.



**Where Did It Come From?** This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a much more distant relative. Graphic: Zhou, P., Yang, XL., Wang, XG. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, [this paper](#) from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell

cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus, while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn't do much with the hamster cells, which were left almost free of infection, floating in their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: "It is clear that MHV can rapidly alter its species specificity and infect rats and primates," Baric said. "The resulting virus variants are associated with demyelinating diseases in these alternative species." (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of "interspecies transfer" experimentation, Baric's scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They'd found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their "infectious construct" replicated itself just like the real thing, they wrote.

Not only that, but they'd figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the "no-see'm method," and he asserted that it had "broad and largely unappreciated molecular biology applications." The method was named, he wrote, after a "very small biting insect that is occasionally found on North Carolina beaches."

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see'm method. But this time, it wasn't a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as "the Wild Wild West." In 2007, Baric said that we had entered "the golden age of coronavirus genetics."

"I would be afraid to look in their freezers," one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.

## VII.

# “I Had Not Slept a Wink”

**Early in the** pandemic, *Scientific American* profiled Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi’s team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction Agency of the Department of Defense via Peter Daszak’s EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: “I had never expected this kind of thing to happen in Wuhan, in central China.” The bat hiding places that she’d been visiting were, after all, as far away as Orlando, Florida, is from New York City. Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. “That really took a load off my mind,” she said. “I had not slept a wink for days.”

If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the



one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn't happen. The Wuhan Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: "Any paper that traces the origin of the virus must be strictly and tightly managed."

Shi made some WeChat posts early in 2020. "The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits," she wrote. "I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory." She advised those who believed rumors, and gave credence to unreliable scientific papers, to "shut their stinking mouths."

#### VIII.

## “ ‘Bug to Drug’ in 24 Hours”

**It wasn't only AIDS** that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late '90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, "U.S. Germ Warfare Research Pushes Treaty Limits," appeared in the *New York Times* on September 4, 2001, one week before 9/11. "Pentagon Says Projects Are Defense, Is Pressing Ahead," was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, "TAKE PENACILIN [sic] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT"), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci's anti-terror budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he'd foreseen, Fauci said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for

instance. “We are making this the highest priority,” Fauci said. “We are really marshaling all available resources.”

## **I would be afraid to look in their freezers.**

Vaccine development had to progress much faster, Fauci believed; he wanted to set up “vaccine systems” and “vaccine platforms,” which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. “Our goal within the next 20 years is ‘bug to drug’ in 24 hours,” Fauci said. “This would specifically meet the challenge of genetically engineered bioagents.” The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward biothreat reduction and preparedness that more than 750 scientists sent a protest letter to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread “normal” diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: “The United States through its leaders made the decision that this money was going to be spent on biodefense,” he said. “We disagree with the notion that biodefense concerns are of ‘low public-health significance.’”

In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultralethal germs on the government’s select pathogen list. And yet the sole bioterrorist in living memory who actually killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government’s own researchers. Bruce Ivins, an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman’s fascinating biography of Ivins, *Mirage Man*.) Fauci’s staff at NIH funded Ivins’s vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH’s \$878 million contract with VaxGen,

however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

“The whole incident amounted to a snake eating its own tail,” wrote Wendy Orent in an August 2008 piece titled “Our Own Worst Bioenemy” in the Los Angeles *Times*. “No ingenious biowarrior from Al Qaeda sent the lethal envelopes through the U.S. postal system. An American scientist did.” What confirmed Ivins’s guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

## IX.

# “Weapons of Mass Disruption”

**After SARS appeared** in 2003, Ralph Baric’s laboratory moved up the NIH funding ladder. SARS was a “dual use” organism — a security threat and a zoonotic threat at the same time. In 2006, Baric wrote a long, fairly creepy paper on the threat of “weaponizable” viruses. Synthetic biology had made possible new kinds of viral “weapons of mass disruption,” he wrote, involving, for example, “rapid production of numerous candidate bioweapons that can be simultaneously released,” a scattershot terror tactic Baric called the “‘survival of the fittest’ approach.”

Baric hoped to find a SARS vaccine, but he couldn’t; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn’t really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, “they don’t go extinct. They are waiting to return.” What do you do if you run a well-funded laboratory, an NIH “center of excellence,” and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric’s safety record is good — although there was a minor mouse-bite incident in 2016, uncovered by ProPublica — and his motives are beyond reproach: “Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or

monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American germ-warfare agent), which they fitted with various SARS spike proteins. Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina’s Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. “By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission,” Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent “numerous adaptive mutations” before settling down. Perhaps viral nature hit a bull’s-eye of airborne infectivity, with almost no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric’s work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some existing viral bat backbone. It could have happened in Wuhan, but — because anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry.

No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

X.

## “Risky Areas for Spillover”

**Project Bioshield began** to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama’s Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID’s “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict’s exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of GenBank, the NIH’s genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli’s bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet announced that Shi Zhengli’s virus hunters, with Predict’s support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or “angiotensin-converting enzyme 2,” receptor, which Baric’s laboratory had determined to be the sine qua non of human infectivity. “This work shows that these viruses can directly infect humans and validates our assumption that we should be searching for viruses of pandemic potential before they spill over to people,” Mazet said.

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel’s painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended “through an evolutionary (not

spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh," Daszak wrote. "Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?"

## XI.

# “Lab-Made?”

**There are, in fact**, some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when pressed, that a lab origin can't be conclusively ruled out and a natural origin can't be ruled out either — because nature, after all, is capable of improbable, teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rinolophus affinis* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2's crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait —but no: Snakes don't typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on top of which there were no pangolins for sale at the Wuhan market. Then a group from China's government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, reported that they had created a “computational pipeline” to screen

nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque, and the bonobo. All these primates were “permissive” to the SARS-2 coronavirus and should undergo “further experimental investigation,” the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There’s also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn’t find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who “disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people,” and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote a massive, lucid paper on Medium, “Lab-Made?,” which illumined the mysteries of the spike protein. Jonathan Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a close look at the small outbreak of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I corresponded with Alina Chan (now the subject of a nicely turned piece in *Boston* magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a paper with her husband, Rahul

Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose paper, "Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?" co-authored with Yuri Deigin, was finally published in November under a milder title; it argued that SARS-2's most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and "might be the result of lab manipulation techniques such as site directed mutagenesis." Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2's origins, in the *Times* of London, in July: "Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus," the *Times* authors write. "But did their courageous detective work lead inadvertently to a global disaster?"

## XII.

# "A New, Non-Natural Risk"

**In 2011, a tall, confident Dutch scientist, Ron Fouchier, using grant money from Fauci's group at NIH, created a mutant form of highly pathogenic avian influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could "force" (his word) this potentially fatal disease to infect mammals, including humans, "via aerosols or respiratory droplets." Fouchier said his findings indicated that these avian influenza viruses, thus forced, "pose a risk of becoming pandemic in humans."**

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for caution. On January 8, 2012, the *New York Times* published a scorching editorial, "An Engineered Doomsday." "We cannot say there would be no benefits at all from studying the virus," the *Times* said. "But the consequences, should the virus escape, are too devastating to risk."



These gain-of-function experiments were an important part of the NIH's approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were "a risk worth taking." "Important information and insights can come from generating a potentially dangerous virus in the laboratory," they wrote; the work can "help delineate the principles of virus transmission between species." The work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. "Nature is the worst bioterrorist," Fauci told a reporter. "We know that through history."

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza. These got attention in the science press. Then Lipsitch's activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with "Potential Pandemic Pathogens," signed by more than a hundred scientists. The work might "trigger outbreaks that would be difficult or impossible to control," the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a "pause" in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. "It took me ten seconds to realize that most of them were going to be affected," he told *NPR*. Baric and a former colleague from Vanderbilt University wrote a long letter to an NIH review board expressing their "profound concerns." "This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels," they wrote. The funding ban was itself dangerous, they argued. "Emerging coronaviruses in nature do not observe a mandated pause."

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF. In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. "Increasing the

transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident," they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, "We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without scientists creating incredibly deadly new viruses that might accidentally escape their labs." David Relman of Stanford Medical School said, "It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process." Richard Ebright wrote that creating and evaluating new threats very seldom increases security: "Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive." Lynn Klotz wrote, "Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak." Marc Lipsitch argued that gain-of-function experiments can mislead, "resulting in worse not better decisions," and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and "distinctly unwelcoming of public participation."

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: "Similar to nuclear or chemical weapons there is no going back once we get a thing in our hands."

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist's Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published a collaboration paper with Shi Zhengli titled "A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for Human Emergence." Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat virus, SHC014, discovered by Shi in southern China. They dabbled the mice nasally with virus and waited, looking for signs of sickness: "hunching, ruffled fur." They also infected human airway cells with the mouse-adapted bat-spike-

in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a “robust infection.”

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations “may pose a future threat.” Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said, “move this virus from a candidate emerging pathogen to a clear and present danger.”

Richard Ebricht was trenchantly unenthusiastic. “The only impact of this work,” he said, “is the creation, in a lab, of a new, non-natural risk.”

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. “The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,” reported the UNC’s website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially “poised to emerge in human populations.” It was “an ongoing threat,” Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 “poised for human emergence” paper was supported by eight different NIH grants. In 2015, Baric’s lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. “The National Institutes of Health will again fund research that makes viruses more dangerous,” said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH’s office of science policy defended the decision. “These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health,” she told *The Lancet*. The NIH, Wolinetz said, was committed to a leadership role with gain-of-function research internationally. “If we are pursuing this research in an active way, we will be much better positioned to develop protection and countermeasures should something bad happen in another country.”

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments “have done almost nothing to improve our preparedness for pandemics,” he said, “yet they risked creating an accidental pandemic.”

### XIII.

## “Proximity Is a Problem”

**In April**, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. “You are instructed to cease providing any funds to Wuhan Institute of Virology,” it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the “nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future.” Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to procure from Wuhan’s scientists a sample of whatever they’d used to sequence the SARS-2 virus. Daszak was outraged (“I am not trained as a private detective”), and again he fought back. He was reluctant to give up his own secrets, too. “Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH,” he told *Nature*. “We don’t think it’s fair that we should have to reveal everything we do.”

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. (“We’re still close enough to the origin to really find out more details about where it has come from,” Daszak told *Nature*.)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak’s EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand. Baric is one of Daszak’s partners in CREID. The virus hunting and collecting, which Richard Ebright likens to “looking for a gas leak with a lighted match,” will continue and widen with U.S. funding. “We’re going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start,” Daszak told NPR.

In May, an interviewer from the People's Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. "Or was there something a little bit more, perhaps, insidious involved?"

"Well, of course the answers to those questions are in China," Baric replied. "Exactly how they work in that facility is something that would be very difficult for a Westerner to know," he said. "The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it's — you know — proximity is a problem. It's a problem."

Over the course of the fall, and especially after the election muffled Donald Trump's influence over the country's public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy's RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO's effort is perhaps the world's best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC's virus lab near the Wuhan seafood market. But, as the *New York Times* has reported, the WHO's information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members' access to scientists would be restricted and that it couldn't visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had "broken down" shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. "That's not my job to do that," Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published a paper in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. "If SARS-CoV-2 escaped from a lab to cause the pandemic," he wrote, "it will become critical to understand

the chain of events and prevent this from happening again.” Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. “A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet.”

“The world is sitting on a precedent-setting decision right now,” wrote Alina Chan on December 8. “It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS.”

Just before this issue of *New York* went to press, I reached Ralph Baric by phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn’t respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan “and the pandemic took off.” Then he said, “Can you rule out a laboratory escape? The answer in this case is probably not.”

#### XIV.

## Transmission

**So how did** we actually get this disease?

Here’s what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the

disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out, they were treated with antivirals, and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of

cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.

The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.



*\*This article appears in the January 4, 2021, issue of New York Magazine*

--

David Feith  
Deputy Assistant Secretary  
Bureau of East Asian and Pacific Affairs (EAP)  
U.S. Department of State

(b)(6) (o)  
(b)(6) (c)  
(b)(6)@state.gov

**Sender:** "Park, Christopher J (T)" (b)(6)@state.gov>  
ISN-BPS-DL <ISN-BPS-DL@STATE.GOV>;  
**Recipient:** (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>

**From:** "Stilwell, David R"  
**To:** [REDACTED] (b)(6)  
**CC:** Buangan, Richard L [REDACTED] (b)(6)@state.gov >;  
[REDACTED] (b)(6)@state.gov >  
**Subject:** FW: New York Mag: The Lab Leak Hypothesis  
**Date:** Mon, 4 Jan 2021 23:47:27 +0000

You gotta read this.

**From:** Feith, David [REDACTED] (b)(6)@state.gov >  
**Sent:** Monday, January 4, 2021 2:20 PM  
**To:** EAP-FO-Principals-DL <EAP-FO-Principals-DL@state.gov>; DL NSC Asia [REDACTED] (b)(6)  
[REDACTED] (b)(6); [REDACTED] (b)(6); Ruggiero, Anthony J. EOP/NSC  
[REDACTED] (b)(6)  
**Subject:** New York Mag: The Lab Leak Hypothesis

This looks awfully interesting. The story the New Yorker wouldn't tell...

<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>

Jan 4, 2021, 6:00 A.M.

# The Lab-Leak Hypothesis

## The Lab Leak Hypothesis

For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

*By Nicholson Baker*

I.

## Flask Monsters

**What happened was** fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically," from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, 80 million people have been infected, and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They've made machines that mix and mingle the viral code for bat diseases with the code for human diseases —

diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” wrote infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in *Bulletin of the Atomic Scientists*, Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

## II.

# “A Reasonable Chance”

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals

were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who'd suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published a paper saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: "It's too airborne — too catching — it's something that has been selected for infectivity. That's what I suspect. No way to know so no reason to waste time thinking about it."

This was just a note to self — at the time, I hadn't interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, *Baseless*, that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve "an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date."

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America's biological-weapons program in the '50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called "serial passaging," in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the "foaming process" of high-volume production, developed a fever and died. In 1964, veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn't told that he had Machupo virus, or Bolivian hemorrhagic

fever. “I watched him die through a little window to his quarantine room at the Detrick infirmary,” she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease leaked from a faulty drainpipe at the Institute for Animal Health in Surrey. In the U.S., “more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012,” reported *USA Today* in an exposé published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had mistakenly sent close to 200 shipments of live anthrax to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where “defensive” research involves the creation of potential pathogens to defend against — were shut down for several months by the Centers for Disease Control and Prevention for “breaches of containment.” They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don’t always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. “There is a reasonable chance that what we are dealing with is the result of a lab accident,” Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. “I don’t know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time.”

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he'd thought *lab accident* when he first heard about the epidemic. "Absolutely, absolutely," King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were "very intense, very subtle pressures" on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, "generates new threats and desperately needs to be reined in."

"All possibilities should be on the table, including a lab leak," a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, "There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin." Richard Ebright, a molecular biologist at Rutgers University, wrote that he'd been concerned for some years about the Wuhan laboratory and about the work being done there to create "chimeric" (i.e., hybrid) SARS-related bat coronaviruses "with enhanced human infectivity." Ebright said, "In this context, the news of a novel coronavirus in Wuhan \*\*\*screamed\*\*\* lab release."

### III.

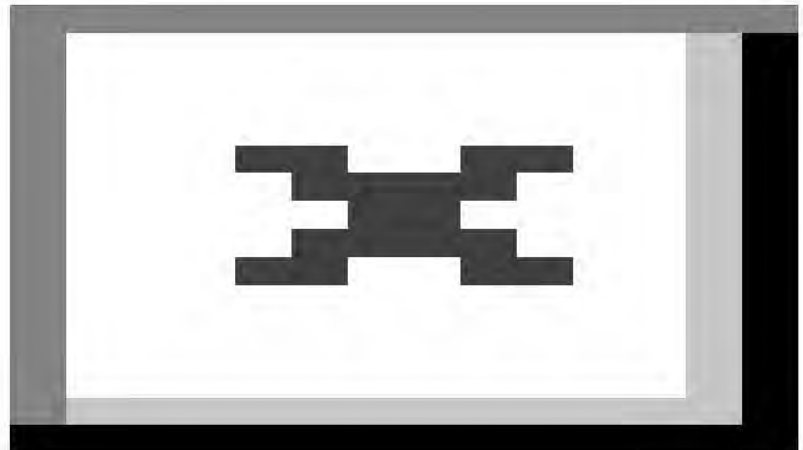
## "No Credible Evidence"

**The new disease**, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others bullied and harassed Asian Americans. Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the "CCP virus." And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists' goal was to "use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly."

In *The Lancet*, in February, a powerful counterstatement appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin,” the statement said. “Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude that this coronavirus originated in wildlife, as have so many other emerging pathogens.”

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called EcoHealth Alliance — a group that (as veteran science journalist Fred Guterl explained later in *Newsweek*) has channeled money from the National Institutes of Health to Shi Zhengli’s laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. “We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye,” Daszak said in February in *Science* magazine.



**How Did It Get Out? 1. The Tongguan Mine Shaft** in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARSCoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli’s team brought the RaTG13 sample,



sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called *This Week in Virology*, said on February 9 that the idea of an accident in Wuhan was “complete bunk.” The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. “It’s not a man-made virus. It wasn’t released from a lab.”

Racaniello’s dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the “speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin.” There was “currently no credible evidence” that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello’s. “Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported,” they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper’s authors, Susan Weiss, told the Raleigh *News & Observer*, “The conspiracy theory is ridiculous.”

The most influential natural-origin paper, “The Proximal Origin of SARS-CoV-2,” by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February. “We do not believe any type of laboratory-based scenario is plausible,” the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and “more parsimonious” explanation was that the features came about through some kind of natural mutation or recombination. “What we think,” explained one of the authors, Robert F. Garry of Tulane University, on YouTube, “is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin.” Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. “The balance of the scientific evidence strongly supports the conclusion that the

new coronavirus emerged from nature — be it the Wuhan market or somewhere else,” said the Washington *Post*’s “Fact Checker” column. “Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus,” said *CBS News*, posting a video interview of Anthony Fauci by *National Geographic*. “If you look at the evolution of the virus in bats, and what’s out there now,” Fauci said, “it’s very, very strongly leaning toward ‘This could not have been artificially or deliberately manipulated’ — the way the mutations have naturally evolved.”

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don’t-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. “The administration’s claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened,” wrote science journalist Mara Hvistendahl in *the Intercept*.

#### IV.

## “Is It a Complete Coincidence?”

**Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.**

One person was Sam Hussein, who works for Consortium News. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC’s representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

“Obviously the main concern is how to stop the virus,” Hussein said; nonetheless, he wanted to know more about its source. “Is it the CDC’s contention,” he asked, “that there’s absolutely no relation to the BSL-4 lab in Wuhan? It’s my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents.” (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous

known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Husseini hastened to say that he wasn't implying that what happened in Wuhan was in any way intentional. "I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?"

Schuchat thanked Husseini for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a sequence of amino acids that formed what Etienne Decroly and colleagues called a "peculiar furin-like cleavage site" — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell's outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it's a roar: "R-R-A-R." The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the "pathogenicity" — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted a short paper on a preprint server titled "The Possible Origins of 2019-nCoV Coronavirus." Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. "The killer coronavirus probably originated from a laboratory in Wuhan," Xiao believed. He urged the relocation of "biohazardous laboratories" away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chitai, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was “unlikely to have four amino acids added all at once,” Fang said — natural mutations were smaller and more haphazard, he argued. “From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans.” When the *Taiwan News* published an article about Fang’s talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. “It has been taken down for a certain reason,” the association explained. “Thank you for your understanding.”

v.

## “A Serious Shortage of Appropriately Trained Technicians”

**In the spring**, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn’t start killing humans, though, until 2003 — that’s when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually traced to horseshoe bats.

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China’s National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization’s safety investigators wrote, in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” wrote *Washington Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

## **I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?**

MERS arose in 2012, possibly spread by camels that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the *Washington Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

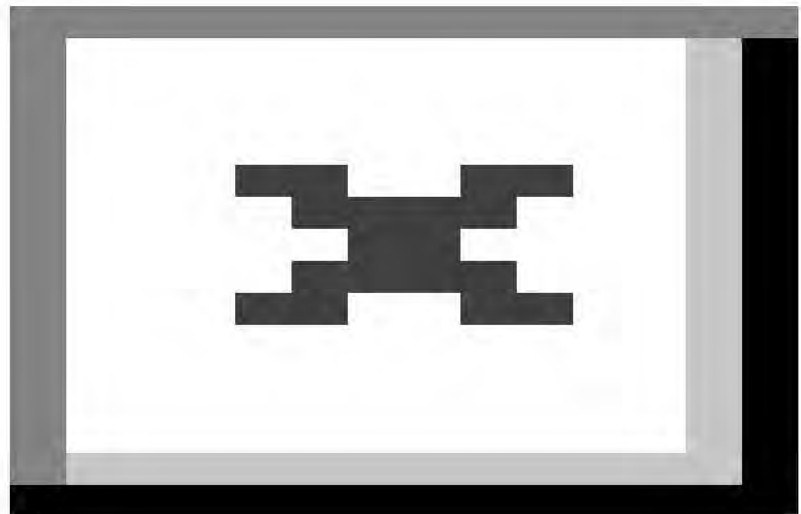
### VI.

## Emergence

**Now let's take a step back.** AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature's woodwork. In 1992, Richard Preston wrote a horrific account of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett's *The*

*Coming Plague: Newly Emerging Diseases in a World Out of Balance* appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it — or it could be a disease that hadn't arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.



**Where Did It Come From?** This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a

much more distant relative. Graphic: Zhou, P., Yang, XL., Wang, XG. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, this paper from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus, while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn’t do much with the hamster cells, which were left almost free of infection, floating in their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: “It is clear that MHV can rapidly alter its species specificity and infect rats and primates,” Baric said. “The resulting virus variants are associated with demyelinating diseases in these alternative species.” (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of “interspecies transfer” experimentation, Baric’s scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They’d found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their “infectious construct” replicated itself just like the real thing, they wrote.

Not only that, but they’d figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the “no-see’m method,” and he asserted that it had “broad and largely unappreciated molecular biology applications.” The method was named, he wrote, after a “very small biting insect that is occasionally found on North Carolina beaches.”

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see'm method. But this time, it wasn't a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as “the Wild Wild West.” In 2007, Baric said that we had entered “the golden age of coronavirus genetics.”

“I would be afraid to look in their freezers,” one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.

## VII.

# “I Had Not Slept a Wink”

**Early in the** pandemic, *Scientific American* profiled Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi's team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction Agency of the Department of Defense via Peter Daszak's EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: “I had never expected this kind of thing to happen in Wuhan, in central China.” The bat hiding places that she'd been visiting were, after all, as far away as Orlando, Florida, is from New York City.



Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. “That really took a load off my mind,” she said. “I had not slept a wink for days.”

If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn’t happen. The Wuhan Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: “Any paper that traces the origin of the virus must be strictly and tightly managed.”

Shi made some WeChat posts early in 2020. “The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits,” she wrote. “I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory.” She advised those who believed rumors, and gave credence to unreliable scientific papers, to “shut their stinking mouths.”

#### VIII.

## “ ‘Bug to Drug’ in 24 Hours”

**It wasn’t only AIDS** that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late ’90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, “U.S. Germ Warfare Research Pushes Treaty Limits,” appeared in the *New York Times* on September 4, 2001, one week before 9/11. “Pentagon Says Projects Are Defense, Is Pressing Ahead,” was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, "TAKE PENACILIN [sic] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT"), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci's anti-terror budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he'd foreseen, Fauci said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for instance. "We are making this the highest priority," Fauci said. "We are really marshaling all available resources."

## **I would be afraid to look in their freezers.**

Vaccine development had to progress much faster, Fauci believed; he wanted to set up "vaccine systems" and "vaccine platforms," which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. "Our goal within the next 20 years is 'bug to drug' in 24 hours," Fauci said. "This would specifically meet the challenge of genetically engineered bioagents." The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward biothreat reduction and preparedness that more than 750 scientists sent a protest letter to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread "normal" diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: "The United States through its leaders made the decision that this money was going to be spent on biodefense," he said. "We disagree with the notion that biodefense concerns are of 'low public-health significance.'"

In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultra-lethal germs on the government's select pathogen list. And yet the sole bioterrorist in living memory who actually

killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government’s own researchers. Bruce Ivins, an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman’s fascinating biography of Ivins, *Mirage Man*.) Fauci’s staff at NIH funded Ivins’s vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH’s \$878 million contract with VaxGen, however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

“The whole incident amounted to a snake eating its own tail,” wrote Wendy Orent in an August 2008 piece titled “Our Own Worst Bioenemy” in the *Los Angeles Times*. “No ingenious biowarrior from Al Qaeda sent the lethal envelopes through the U.S. postal system. An American scientist did.” What confirmed Ivins’s guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

## IX.

# “Weapons of Mass Disruption”

**After SARS appeared** in 2003, Ralph Baric’s laboratory moved up the NIH funding ladder. SARS was a “dual use” organism — a security threat and a zoonotic threat at the same time. In 2006, Baric wrote a long, fairly creepy paper on the threat of “weaponizable” viruses. Synthetic biology had made possible new kinds of viral “weapons of mass disruption,” he wrote, involving, for example, “rapid production of numerous candidate bioweapons that can be simultaneously released,” a scattershot terror tactic Baric called the “‘survival of the fittest’ approach.”

Baric hoped to find a SARS vaccine, but he couldn’t; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn’t really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, “they don’t go extinct. They are waiting to return.” What do you do if you run a well-funded laboratory, an NIH “center of excellence,” and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric's safety record is good — although there was a minor mouse-bite incident in 2016, uncovered by ProPublica — and his motives are beyond reproach: “Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American germ-warfare agent), which they fitted with various SARS spike proteins. Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina's Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. “By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission,” Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent “numerous adaptive mutations” before settling down. Perhaps viral nature hit a bull's-eye of airborne infectivity, with almost

no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric's work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some existing viral bat backbone. It could have happened in Wuhan, but — because anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry. No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

X.

## “Risky Areas for Spillover”

**Project Bioshield** began to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama's Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID's “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict's exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of GenBank, the NIH's genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli's bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet announced that Shi Zhengli's virus hunters, with Predict's support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or “angiotensin-converting enzyme 2,” receptor, which Baric's laboratory had determined to be the sine qua non of human infectivity. “This work shows that these viruses can directly infect humans and validates our assumption that we should be

searching for viruses of pandemic potential before they spill over to people,” Mazet said.

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel’s painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended “through an evolutionary (not spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh,” Daszak wrote. “Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?”

## XI.

# “Lab-Made?”

**There are, in fact,** some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when pressed, that a lab origin can’t be conclusively ruled out and a natural origin can’t be ruled out either — because nature, after all, is capable of improbable, teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rinolophus affinis* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2’s crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait —but no: Snakes don’t typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on

top of which there were no pangolins for sale at the Wuhan market. Then a group from China's government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, reported that they had created a "computational pipeline" to screen nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque, and the bonobo. All these primates were "permissive" to the SARS-2 coronavirus and should undergo "further experimental investigation," the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There's also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn't find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who "disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people," and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote a massive, lucid paper on Medium, "Lab-Made?," which illumined the mysteries of the spike protein. Jonathan Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two

important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a close look at the small outbreak of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I corresponded with Alina Chan (now the subject of a nicely turned piece in *Boston* magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a paper with her husband, Rahul Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose paper, “Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?,” co-authored with Yuri Deigin, was finally published in November under a milder title; it argued that SARS-2’s most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and “might be the result of lab manipulation techniques such as site directed mutagenesis.” Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2’s origins, in the *Times* of London, in July: “Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus,” the *Times* authors write. “But did their courageous detective work lead inadvertently to a global disaster?”

## XII.

# “A New, Non-Natural Risk”

**In 2011, a tall, confident Dutch scientist, Ron Fouchier, using grant money from Fauci’s group at NIH, created a mutant form of highly pathogenic avian influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could “force” (his word) this potentially fatal disease to infect mammals, including humans, “via aerosols or respiratory droplets.” Fouchier said his findings indicated that these avian influenza viruses, thus forced, “pose a risk of becoming pandemic in humans.”**

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it



happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for caution. On January 8, 2012, the *New York Times* published a scorching editorial, "An Engineered Doomsday." "We cannot say there would be no benefits at all from studying the virus," the *Times* said. "But the consequences, should the virus escape, are too devastating to risk."

These gain-of-function experiments were an important part of the NIH's approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were "a risk worth taking." "Important information and insights can come from generating a potentially dangerous virus in the laboratory," they wrote; the work can "help delineate the principles of virus transmission between species." The work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. "Nature is the worst bioterrorist," Fauci told a reporter. "We know that through history."

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza. These got attention in the science press. Then Lipsitch's activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with "Potential Pandemic Pathogens," signed by more than a hundred scientists. The work might "trigger outbreaks that would be difficult or impossible to control," the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a "pause" in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. "It took me ten seconds to realize that most of them were going to be affected," he told NPR. Baric and a former colleague from Vanderbilt University wrote a long letter to an NIH review board expressing their "profound concerns." "This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels," they wrote. The funding ban was itself dangerous, they argued. "Emerging coronaviruses in nature do not observe a mandated pause."

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF. In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. “Increasing the transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident,” they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, “We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without scientists creating incredibly deadly new viruses that might accidentally escape their labs.” David Relman of Stanford Medical School said, “It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process.” Richard Ebright wrote that creating and evaluating new threats very seldom increases security: “Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive.” Lynn Klotz wrote, “Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak.” Marc Lipsitch argued that gain-of-function experiments can mislead, “resulting in worse not better decisions,” and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and “distinctly unwelcoming of public participation.”

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: “Similar to nuclear or chemical weapons there is no going back once we get a thing in our hands.”

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist's Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published [a collaboration paper](#) with Shi Zhengli titled “A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for

Human Emergence.” Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat virus, SHC014, discovered by Shi in southern China. They dabbed the mice nasally with virus and waited, looking for signs of sickness: “hunching, ruffled fur.” They also infected human airway cells with the mouse-adapted bat-spike-in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a “robust infection.”

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations “may pose a future threat.” Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said, “move this virus from a candidate emerging pathogen to a clear and present danger.”

Richard Ebricht was trenchantly unenthusiastic. “The only impact of this work,” he said, “is the creation, in a lab, of a new, non-natural risk.”

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. “The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,” reported the UNC’s website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially “poised to emerge in human populations.” It was “an ongoing threat,” Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 “poised for human emergence” paper was supported by eight different NIH grants. In 2015, Baric’s lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. “The National Institutes of Health will again fund research that makes viruses more dangerous,” said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH’s office of science policy defended the decision. “These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health,” she told *The Lancet*. The NIH, Wolinetz

said, was committed to a leadership role with gain-of-function research internationally. “If we are pursuing this research in an active way, we will be much better positioned to develop protection and countermeasures should something bad happen in another country.”

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments “have done almost nothing to improve our preparedness for pandemics,” he said, “yet they risked creating an accidental pandemic.”

### XIII.

## “Proximity Is a Problem”

**In April**, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. “You are instructed to cease providing any funds to Wuhan Institute of Virology,” it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the “nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future.” Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to procure from Wuhan’s scientists a sample of whatever they’d used to sequence the SARS-2 virus. Daszak was outraged (“I am not trained as a private detective”), and again he fought back. He was reluctant to give up his own secrets, too. “Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH,” he told *Nature*. “We don’t think it’s fair that we should have to reveal everything we do.”

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. (“We’re still close enough to the origin to really find out more details about where it has come from,” Daszak told *Nature*.)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak’s EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand. Baric is

one of Daszak's partners in CREID. The virus hunting and collecting, which Richard Ebright likens to "looking for a gas leak with a lighted match," will continue and widen with U.S. funding. "We're going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start," Daszak told NPR.

In May, an interviewer from the People's Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. "Or was there something a little bit more, perhaps, insidious involved?"

"Well, of course the answers to those questions are in China," Baric replied. "Exactly how they work in that facility is something that would be very difficult for a Westerner to know," he said. "The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it's — you know — proximity is a problem. It's a problem."

Over the course of the fall, and especially after the election muffled Donald Trump's influence over the country's public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy's RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO's effort is perhaps the world's best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC's virus lab near the Wuhan seafood market. But, as the *New York Times* has reported, the WHO's information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members' access to scientists would be restricted and that it couldn't visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had "broken down" shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. "That's not my job to do that," Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published a paper in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. “If SARS-CoV-2 escaped from a lab to cause the pandemic,” he wrote, “it will become critical to understand the chain of events and prevent this from happening again.” Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. “A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet.”

“The world is sitting on a precedent-setting decision right now,” wrote Alina Chan on December 8. “It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS.”

Just before this issue of *New York* went to press, I reached Ralph Baric by phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn’t respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan “and the pandemic took off.” Then he said, “Can you rule out a laboratory escape? The answer in this case is probably not.”

#### XIV.

## Transmission

**So how did** we actually get this disease?

Here’s what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out, they were treated with antivirals, and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six

men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.

The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The



hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.

*\*This article appears in the January 4, 2021, issue of New York Magazine*

--

David Feith  
Deputy Assistant Secretary  
Bureau of East Asian and Pacific Affairs (EAP)  
U.S. Department of State

(b)(6) (o)  
(c)

(b)(6)@state.gov

**Sender:** "Stilwell, David R"

(b)(6)

**Recipient:** Buangan, Richard L (b)(6)@state.gov>;

(b)(6)@state.gov>

**From:** "Stilwell, David R"  
**To:** [REDACTED]@state.gov>  
**Subject:** FW: New York Mag: The Lab Leak Hypothesis  
**Date:** Tue, 5 Jan 2021 20:06:41 +0000

Another article that lays out what we've all observed for the last year. I also attached the email I said I'd attach previously.

**From:** Feith, David <[REDACTED]@state.gov>  
**Sent:** Monday, January 4, 2021 2:20 PM  
**To:** EAP-FO-Principals-DL <EAP-FO-Principals-DL@state.gov>; DL NSC Asia [REDACTED]  
<[REDACTED]>; [REDACTED]; Ruggiero, Anthony J. EOP/NSC  
<[REDACTED]>  
**Subject:** New York Mag: The Lab Leak Hypothesis

This looks awfully interesting. The story the New Yorker wouldn't tell...

<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>

Jan 4, 2021, 6:00 A.M.

# The Lab-Leak Hypothesis

## The Lab Leak Hypothesis

For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

*By Nicholson Baker*

I.

## Flask Monsters

**What happened was** fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically," from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, 80 million people have been infected, and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They've made machines that mix and mingle the viral code for bat diseases with the code for human diseases —

diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” wrote infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in *Bulletin of the Atomic Scientists*, Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

## II.

# “A Reasonable Chance”

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals

were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who'd suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published a paper saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: "It's too airborne — too catching — it's something that has been selected for infectivity. That's what I suspect. No way to know so no reason to waste time thinking about it."

This was just a note to self — at the time, I hadn't interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, *Baseless*, that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve "an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date."

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America's biological-weapons program in the '50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called "serial passaging," in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the "foaming process" of high-volume production, developed a fever and died. In 1964, veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn't told that he had Machupo virus, or Bolivian hemorrhagic

fever. “I watched him die through a little window to his quarantine room at the Detrick infirmary,” she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease leaked from a faulty drainpipe at the Institute for Animal Health in Surrey. In the U.S., “more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012,” reported *USA Today* in an exposé published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had mistakenly sent close to 200 shipments of live anthrax to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where “defensive” research involves the creation of potential pathogens to defend against — were shut down for several months by the Centers for Disease Control and Prevention for “breaches of containment.” They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don’t always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. “There is a reasonable chance that what we are dealing with is the result of a lab accident,” Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. “I don’t know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time.”

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he'd thought *lab accident* when he first heard about the epidemic. "Absolutely, absolutely," King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were "very intense, very subtle pressures" on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, "generates new threats and desperately needs to be reined in."

"All possibilities should be on the table, including a lab leak," a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, "There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin." Richard Ebright, a molecular biologist at Rutgers University, wrote that he'd been concerned for some years about the Wuhan laboratory and about the work being done there to create "chimeric" (i.e., hybrid) SARS-related bat coronaviruses "with enhanced human infectivity." Ebright said, "In this context, the news of a novel coronavirus in Wuhan \*\*\*screamed\*\*\* lab release."

### III.

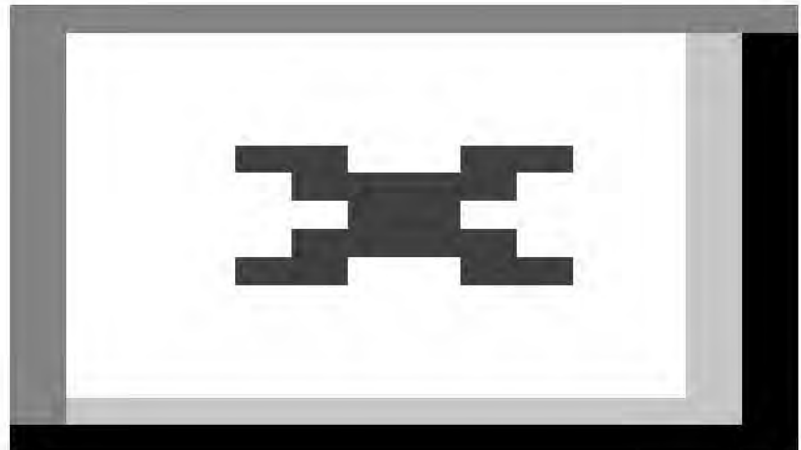
## "No Credible Evidence"

**The new disease**, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others bullied and harassed Asian Americans. Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the "CCP virus." And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists' goal was to "use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly."

In *The Lancet*, in February, a powerful counterstatement appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin,” the statement said. “Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude that this coronavirus originated in wildlife, as have so many other emerging pathogens.”

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called EcoHealth Alliance — a group that (as veteran science journalist Fred Gutler explained later in *Newsweek*) has channeled money from the National Institutes of Health to Shi Zhengli’s laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. “We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye,” Daszak said in February in *Science* magazine.



**How Did It Get Out? 1. The Tongguan Mine Shaft** in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARSCoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli’s team brought the RaTG13 sample,



sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called *This Week in Virology*, said on February 9 that the idea of an accident in Wuhan was “complete bunk.” The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. “It’s not a man-made virus. It wasn’t released from a lab.”

Racaniello’s dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the “speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin.” There was “currently no credible evidence” that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello’s. “Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported,” they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper’s authors, Susan Weiss, told the Raleigh *News & Observer*, “The conspiracy theory is ridiculous.”

The most influential natural-origin paper, “The Proximal Origin of SARS-CoV-2,” by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February. “We do not believe any type of laboratory-based scenario is plausible,” the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and “more parsimonious” explanation was that the features came about through some kind of natural mutation or recombination. “What we think,” explained one of the authors, Robert F. Garry of Tulane University, on YouTube, “is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin.” Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. “The balance of the scientific evidence strongly supports the conclusion that the

new coronavirus emerged from nature — be it the Wuhan market or somewhere else,” said the Washington *Post*’s “Fact Checker” column. “Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus,” said *CBS News*, posting a video interview of Anthony Fauci by *National Geographic*. “If you look at the evolution of the virus in bats, and what’s out there now,” Fauci said, “it’s very, very strongly leaning toward ‘This could not have been artificially or deliberately manipulated’ — the way the mutations have naturally evolved.”

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don’t-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. “The administration’s claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened,” wrote science journalist Mara Hvistendahl in *the Intercept*.

#### IV.

## “Is It a Complete Coincidence?”

**Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.**

One person was Sam Hussein, who works for Consortium News. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC’s representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

“Obviously the main concern is how to stop the virus,” Hussein said; nonetheless, he wanted to know more about its source. “Is it the CDC’s contention,” he asked, “that there’s absolutely no relation to the BSL-4 lab in Wuhan? It’s my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents.” (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous

known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Husseini hastened to say that he wasn't implying that what happened in Wuhan was in any way intentional. "I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?"

Schuchat thanked Husseini for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a sequence of amino acids that formed what Etienne Decroly and colleagues called a "peculiar furin-like cleavage site" — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell's outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it's a roar: "R-R-A-R." The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the "pathogenicity" — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted a short paper on a preprint server titled "The Possible Origins of 2019-nCoV Coronavirus." Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. "The killer coronavirus probably originated from a laboratory in Wuhan," Xiao believed. He urged the relocation of "biohazardous laboratories" away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chitai, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was “unlikely to have four amino acids added all at once,” Fang said — natural mutations were smaller and more haphazard, he argued. “From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans.” When the *Taiwan News* published an article about Fang’s talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. “It has been taken down for a certain reason,” the association explained. “Thank you for your understanding.”

v.

## “A Serious Shortage of Appropriately Trained Technicians”

**In the spring**, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn’t start killing humans, though, until 2003 — that’s when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually traced to horseshoe bats.

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China’s National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization’s safety investigators wrote, in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” wrote *Washington Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

## **I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?**

MERS arose in 2012, possibly spread by camels that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the *Washington Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

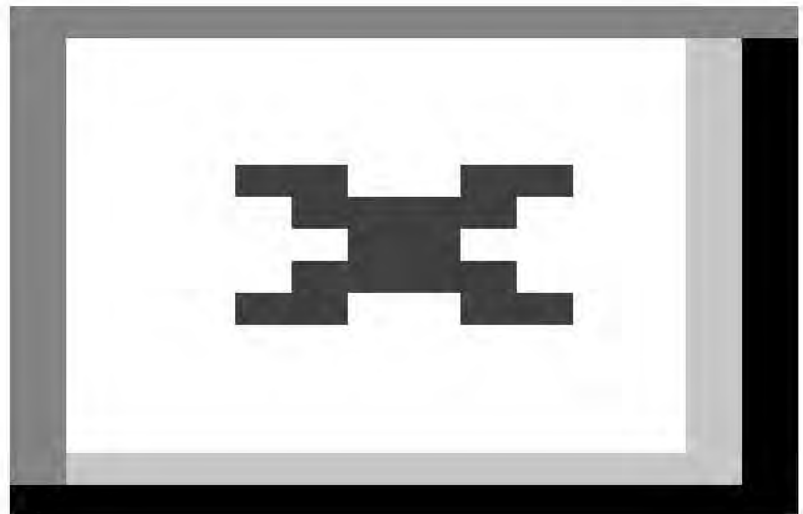
### VI.

## Emergence

**Now let's take a step back.** AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature's woodwork. In 1992, Richard Preston wrote a horrific account of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett's *The*

*Coming Plague: Newly Emerging Diseases in a World Out of Balance* appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it — or it could be a disease that hadn't arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.



**Where Did It Come From?** This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a

much more distant relative. Graphic: Zhou, P., Yang, XL., Wang, XG. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, [this paper](#) from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus, while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn’t do much with the hamster cells, which were left almost free of infection, floating in their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: “It is clear that MHV can rapidly alter its species specificity and infect rats and primates,” Baric said. “The resulting virus variants are associated with demyelinating diseases in these alternative species.” (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of “interspecies transfer” experimentation, Baric’s scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They’d found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their “infectious construct” replicated itself just like the real thing, [they wrote](#).

Not only that, but they’d figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the “no-see’m method,” and he asserted that it had “broad and largely unappreciated molecular biology applications.” The method was named, he wrote, after a “very small biting insect that is occasionally found on North Carolina beaches.”

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see'm method. But this time, it wasn't a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as “the Wild Wild West.” In 2007, Baric said that we had entered “the golden age of coronavirus genetics.”

“I would be afraid to look in their freezers,” one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.

## VII.

# “I Had Not Slept a Wink”

**Early in the** pandemic, *Scientific American* profiled Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi's team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction Agency of the Department of Defense via Peter Daszak's EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: “I had never expected this kind of thing to happen in Wuhan, in central China.” The bat hiding places that she'd been visiting were, after all, as far away as Orlando, Florida, as from New York City.



Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. “That really took a load off my mind,” she said. “I had not slept a wink for days.”

If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn’t happen. The Wuhan Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: “Any paper that traces the origin of the virus must be strictly and tightly managed.”

Shi made some WeChat posts early in 2020. “The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits,” she wrote. “I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory.” She advised those who believed rumors, and gave credence to unreliable scientific papers, to “shut their stinking mouths.”

#### VIII.

## “ ‘Bug to Drug’ in 24 Hours”

**It wasn’t only AIDS** that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late ’90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, “U.S. Germ Warfare Research Pushes Treaty Limits,” appeared in the *New York Times* on September 4, 2001, one week before 9/11. “Pentagon Says Projects Are Defense, Is Pressing Ahead,” was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, “TAKE PENACILIN [sic] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT”), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci’s anti-terror budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he’d foreseen, Fauci said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for instance. “We are making this the highest priority,” Fauci said. “We are really marshaling all available resources.”

## **I would be afraid to look in their freezers.**

Vaccine development had to progress much faster, Fauci believed; he wanted to set up “vaccine systems” and “vaccine platforms,” which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. “Our goal within the next 20 years is ‘bug to drug’ in 24 hours,” Fauci said. “This would specifically meet the challenge of genetically engineered bioagents.” The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward biothreat reduction and preparedness that more than 750 scientists sent a protest letter to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread “normal” diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: “The United States through its leaders made the decision that this money was going to be spent on biodefense,” he said. “We disagree with the notion that biodefense concerns are of ‘low public-health significance.’”

In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultra-lethal germs on the government’s select pathogen list. And yet the sole bioterrorist in living memory who actually

killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government’s own researchers. Bruce Ivins, an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman’s fascinating biography of Ivins, *Mirage Man*.) Fauci’s staff at NIH funded Ivins’s vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH’s \$878 million contract with VaxGen, however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

“The whole incident amounted to a snake eating its own tail,” wrote Wendy Orent in an August 2008 piece titled “Our Own Worst Bioenemy” in the *Los Angeles Times*. “No ingenious biowarrior from Al Qaeda sent the lethal envelopes through the U.S. postal system. An American scientist did.” What confirmed Ivins’s guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

## IX.

# “Weapons of Mass Disruption”

**After SARS appeared** in 2003, Ralph Baric’s laboratory moved up the NIH funding ladder. SARS was a “dual use” organism — a security threat and a zoonotic threat at the same time. In 2006, Baric wrote a long, fairly creepy paper on the threat of “weaponizable” viruses. Synthetic biology had made possible new kinds of viral “weapons of mass disruption,” he wrote, involving, for example, “rapid production of numerous candidate bioweapons that can be simultaneously released,” a scattershot terror tactic Baric called the “‘survival of the fittest’ approach.”

Baric hoped to find a SARS vaccine, but he couldn’t; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn’t really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, “they don’t go extinct. They are waiting to return.” What do you do if you run a well-funded laboratory, an NIH “center of excellence,” and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric's safety record is good — although there was a minor mouse-bite incident in 2016, uncovered by ProPublica — and his motives are beyond reproach: “Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American germ-warfare agent), which they fitted with various SARS spike proteins. Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina's Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. “By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission,” Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent “numerous adaptive mutations” before settling down. Perhaps viral nature hit a bull's-eye of airborne infectivity, with almost

no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric's work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some existing viral bat backbone. It could have happened in Wuhan, but — because anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry. No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

X.

## “Risky Areas for Spillover”

**Project Bioshield began** to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama's Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID's “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict's exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of GenBank, the NIH's genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli's bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet announced that Shi Zhengli's virus hunters, with Predict's support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or “angiotensin-converting enzyme 2,” receptor, which Baric's laboratory had determined to be the sine qua non of human infectivity. “This work shows that these viruses can directly infect humans and validates our assumption that we should be

searching for viruses of pandemic potential before they spill over to people,” Mazet said.

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel’s painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended “through an evolutionary (not spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh,” Daszak wrote. “Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?”

## XI.

# “Lab-Made?”

**There are, in fact,** some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when pressed, that a lab origin can’t be conclusively ruled out and a natural origin can’t be ruled out either — because nature, after all, is capable of improbable, teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rinolophus affinis* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2’s crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait —but no: Snakes don’t typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on

top of which there were no pangolins for sale at the Wuhan market. Then a group from China's government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, reported that they had created a "computational pipeline" to screen nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque, and the bonobo. All these primates were "permissive" to the SARS-2 coronavirus and should undergo "further experimental investigation," the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There's also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn't find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who "disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people," and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote a massive, lucid paper on Medium, "Lab-Made?," which illumined the mysteries of the spike protein. Jonathan Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two

important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a close look at the small outbreak of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I corresponded with Alina Chan (now the subject of a nicely turned piece in *Boston* magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a paper with her husband, Rahul Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose paper, “Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?,” co-authored with Yuri Deigin, was finally published in November under a milder title; it argued that SARS-2’s most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and “might be the result of lab manipulation techniques such as site directed mutagenesis.” Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2’s origins, in the *Times* of London, in July: “Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus,” the *Times* authors write. “But did their courageous detective work lead inadvertently to a global disaster?”

## XII.

# “A New, Non-Natural Risk”

**In 2011, a tall**, confident Dutch scientist, Ron Fouchier, using grant money from Fauci’s group at NIH, created a mutant form of highly pathogenic avian influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could “force” (his word) this potentially fatal disease to infect mammals, including humans, “via aerosols or respiratory droplets.” Fouchier said his findings indicated that these avian influenza viruses, thus forced, “pose a risk of becoming pandemic in humans.”

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it



happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for caution. On January 8, 2012, the *New York Times* published a scorching editorial, "An Engineered Doomsday." "We cannot say there would be no benefits at all from studying the virus," the *Times* said. "But the consequences, should the virus escape, are too devastating to risk."

These gain-of-function experiments were an important part of the NIH's approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were "a risk worth taking." "Important information and insights can come from generating a potentially dangerous virus in the laboratory," they wrote; the work can "help delineate the principles of virus transmission between species." The work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. "Nature is the worst bioterrorist," Fauci told a reporter. "We know that through history."

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza. These got attention in the science press. Then Lipsitch's activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with "Potential Pandemic Pathogens," signed by more than a hundred scientists. The work might "trigger outbreaks that would be difficult or impossible to control," the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a "pause" in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. "It took me ten seconds to realize that most of them were going to be affected," he told NPR. Baric and a former colleague from Vanderbilt University wrote a long letter to an NIH review board expressing their "profound concerns." "This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels," they wrote. The funding ban was itself dangerous, they argued. "Emerging coronaviruses in nature do not observe a mandated pause."

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF. In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. “Increasing the transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident,” they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, “We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without scientists creating incredibly deadly new viruses that might accidentally escape their labs.” David Relman of Stanford Medical School said, “It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process.” Richard Ebright wrote that creating and evaluating new threats very seldom increases security: “Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive.” Lynn Klotz wrote, “Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak.” Marc Lipsitch argued that gain-of-function experiments can mislead, “resulting in worse not better decisions,” and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and “distinctly unwelcoming of public participation.”

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: “Similar to nuclear or chemical weapons there is no going back once we get a thing in our hands.”

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist's Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published [a collaboration paper](#) with Shi Zhengli titled “A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for

Human Emergence.” Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat virus, SHC014, discovered by Shi in southern China. They dabbed the mice nasally with virus and waited, looking for signs of sickness: “hunching, ruffled fur.” They also infected human airway cells with the mouse-adapted bat-spike-in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a “robust infection.”

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations “may pose a future threat.” Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said, “move this virus from a candidate emerging pathogen to a clear and present danger.”

Richard Ebricht was trenchantly unenthusiastic. “The only impact of this work,” he said, “is the creation, in a lab, of a new, non-natural risk.”

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. “The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,” reported the UNC’s website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially “poised to emerge in human populations.” It was “an ongoing threat,” Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 “poised for human emergence” paper was supported by eight different NIH grants. In 2015, Baric’s lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. “The National Institutes of Health will again fund research that makes viruses more dangerous,” said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH’s office of science policy defended the decision. “These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health,” she told *The Lancet*. The NIH, Wolinetz

said, was committed to a leadership role with gain-of-function research internationally. “If we are pursuing this research in an active way, we will be much better positioned to develop protection and countermeasures should something bad happen in another country.”

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments “have done almost nothing to improve our preparedness for pandemics,” he said, “yet they risked creating an accidental pandemic.”

### XIII.

## “Proximity Is a Problem”

**In April**, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. “You are instructed to cease providing any funds to Wuhan Institute of Virology,” it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the “nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future.” Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to procure from Wuhan’s scientists a sample of whatever they’d used to sequence the SARS-2 virus. Daszak was outraged (“I am not trained as a private detective”), and again he fought back. He was reluctant to give up his own secrets, too. “Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH,” he told *Nature*. “We don’t think it’s fair that we should have to reveal everything we do.”

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. (“We’re still close enough to the origin to really find out more details about where it has come from,” Daszak told *Nature*.)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak’s EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand. Baric is

one of Daszak's partners in CREID. The virus hunting and collecting, which Richard Ebright likens to "looking for a gas leak with a lighted match," will continue and widen with U.S. funding. "We're going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start," Daszak told NPR.

In May, an interviewer from the People's Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. "Or was there something a little bit more, perhaps, insidious involved?"

"Well, of course the answers to those questions are in China," Baric replied. "Exactly how they work in that facility is something that would be very difficult for a Westerner to know," he said. "The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it's — you know — proximity is a problem. It's a problem."

Over the course of the fall, and especially after the election muffled Donald Trump's influence over the country's public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy's RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO's effort is perhaps the world's best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC's virus lab near the Wuhan seafood market. But, as the *New York Times* has reported, the WHO's information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members' access to scientists would be restricted and that it couldn't visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had "broken down" shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. "That's not my job to do that," Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published a paper in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. “If SARS-CoV-2 escaped from a lab to cause the pandemic,” he wrote, “it will become critical to understand the chain of events and prevent this from happening again.” Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. “A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet.”

“The world is sitting on a precedent-setting decision right now,” wrote Alina Chan on December 8. “It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS.”

Just before this issue of *New York* went to press, I reached Ralph Baric by phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn’t respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan “and the pandemic took off.” Then he said, “Can you rule out a laboratory escape? The answer in this case is probably not.”

#### XIV.

## Transmission

**So how did** we actually get this disease?

Here’s what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out, they were treated with antivirals, and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six

men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.

The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The



hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.

*\*This article appears in the January 4, 2021, issue of New York Magazine*

--

David Feith  
Deputy Assistant Secretary  
Bureau of East Asian and Pacific Affairs (EAP)  
U.S. Department of State

(b)(6) (o)  
(c)  
(b)(6)@state.gov

**Sender:** "Stilwell, David R"  
**Recipient:** (b)(6)@state.gov>

**From:** [REDACTED] (b)(6) @state.gov>  
**To:** ISN-Press-DL <ISN-Press-DL@state.gov>;  
Park, Christopher J [REDACTED] (b)(6) @state.gov>  
**Subject:** FW: NEW DETAILS EMERGE ABOUT CORONAVIRUS RESEARCH AT CHINESE LAB  
**Date:** Tue, 7 Sep 2021 15:25:30 +0000

!

**From:** [REDACTED] (b)(6) @state.gov>  
**Sent:** Tuesday, September 7, 2021 11:14 AM  
**To:** AVC-VPO-DL <AVC-VPO-DL@state.gov>; AVC-CBW-DL <AVC-CBW-DL2@state.gov>  
**Subject:** NEW DETAILS EMERGE ABOUT CORONAVIRUS RESEARCH AT CHINESE LAB

**NEW DETAILS EMERGE ABOUT CORONAVIRUS RESEARCH AT CHINESE LAB**

(Intercept, Sharon Lerner, Mara Hvistendahl 9/6/21) **NEWLY RELEASED**

**DOCUMENTS** provide details of U.S.-funded research on several types of coronaviruses at the Wuhan Institute of Virology in China.

**Sender:** [REDACTED] (b)(6) @state.gov>  
**Recipient:** ISN-Press-DL <ISN-Press-DL@state.gov>;  
Park, Christopher J <[REDACTED] (b)(6) @state.gov>

**From:** (b)(6)@state.gov>  
**To:** Billingslea, Marshall S (b)(6)@state.gov>  
Westphal, Michael A (b)(6)@state.gov>;  
**CC:** Yu, Miles (b)(6)@state.gov>;  
DiNanno, Thomas G (b)(6)@state.gov>;  
(b)(6)@state.gov>  
**Subject:** Fw: My old doubt about WIV (Miles)  
**Date:** Thu, 14 Jan 2021 03:24:02 +0000

Miles saw this way ahead of the pack.

(b)(5)

(b)(5)

“China has been conducting research on dangerous dual-use biological and genetic technologies that are prone to causing global pandemics. Since 2009, the defence and public health ministries of Canada and the United Kingdom have sponsored a series of Biological and Toxin Weapons Convention Review Conferences. China is among the more than a dozen countries to routinely submit research and review reports, which would result in monographs for official and public use. China's submissions are a chilling display of what its scientists are doing. For example, for the 2011 review conference, the Chinese government's submissions are on the following subjects : *"Creation of Man-made Pathogens," "Genomics Laying the Foundation for Pathogen Transformation," "Population-specific Genetic Markers," and "Targeted Drug-delivery Technology Making It Easier to Spread Pathogens."*”

The CCP-ordered, systemic destruction of virus samples collected from the earliest infected patients in Wuhan has made it much more difficult to determine the true origin of the novel coronavirus that first broke out in China. With the staggering losses of lives and livelihoods for the entire world, it is imperative for the Chinese government to be open and candid about its flawed bio safety systems and reckless ambition to dominate global bio-medical research. Transparency saves lives, now and in the future.”

**Footnote 33:** "Preventing Biological Threats: What You Can Do," University of Bradford, UK, December 2015, pages 222-

224. [https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/75490916457180B1C125823B007E4048/Sfile/Biosecurity+Guide+\(full+version\).pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/75490916457180B1C125823B007E4048/Sfile/Biosecurity+Guide+(full+version).pdf) (attached)

**From:** (b)(6)@state.gov>

**Sent:** Wednesday, January 13, 2021 10:57 AM

**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)

(b)(6)@state.gov>; (b)(6)@state.gov>

**Cc:** David Asher (b)(6)@hudson.org>

**Subject:** Fw: My old doubt about WIV

Miles put together this open-source survey back in April...

**From:** Yu, Miles (b)(6)@state.gov>

**Sent:** Wednesday, January 13, 2021 10:34 AM

**To:** DiNanno, Thomas G (b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** My old doubt about WIV

Tom and (b)(6)

I compiled this open-sources document back in April. Note that in the last item, the PLA submissions for 2011 included "population specific genetic marking."

Miles

**Sender:** (b)(6)@state.gov>

Billingslea, Marshall S (b)(6)@state.gov>;

Westphal, Michael A (b)(6)@state.gov>;

**Recipient:** Yu, Miles (b)(6)@state.gov>;

DiNanno, Thomas G (b)(6)@state.gov>;

(b)(6)

**From:** (b)(6)@state.gov>  
 Yu, Miles (b)(6)@state.gov>;  
**To:** (b)(6)@state.gov>;  
 (b)(6)@state.gov>;  
 (b)(6)@state.gov>  
 (b)(6)@state.gov>;  
**CC:** (b)(6)@state.gov>;  
 (b)(6)@state.gov>;  
 (b)(6)@state.gov>  
**Subject:** FW: McCaul Releases Final Report on Origins of COVID-19 Pandemic  
**Date:** Tue, 22 Sep 2020 15:53:31 +0000

Colleagues,

H wanted to ensure that you/your principal was aware of the release of the House China Task Force full report on the origins of COVID-19. Thanks again for your engagement with this Task Force in recent weeks.

Best,

(b)(6)

(b)(6)

Bureau of Legislative Affairs

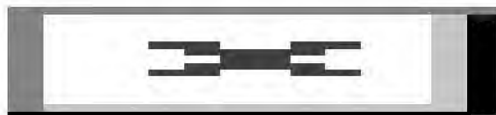
U.S. Department of State

(b)(6)@State.gov | (b)(6)

SENSITIVE BUT UNCLASSIFIED

**From:** House Foreign Affairs Committee <noreply.hfac@mail.house.gov>  
**Sent:** Monday, September 21, 2020 9:07 AM  
**To:** Farrar, Chris <Chris.Farrar@mail.house.gov>  
**Subject:** McCaul Releases Final Report on Origins of COVID-19 Pandemic

[View this email in your browser](#)

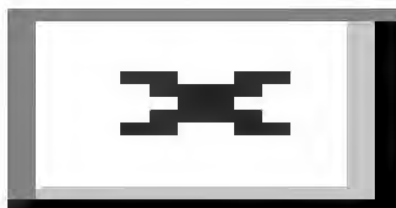


---

September 21, 2020 | Foreign Affairs Committee Press Office | (202) 226-8467  
<https://qo.usa.gov/xGUpv>

## McCaul Releases Final Report on Origins of COVID-19 Pandemic

*Report uncovers additional evidence showing the Chinese Communist Party (CCP) and World Health Organization are culpable in the spread of the COVID-19 pandemic*



[Click Here or Above to Read the Report](#)

**Washington, D.C.-** Today, House Foreign Affairs Committee Lead Republican Michael McCaul released the final report detailing the investigation into the origins and initial handling of the COVID-19 pandemic, following the interim report released in June 2020. This investigation further uncovered how coronavirus spread throughout China and to other countries because of the CCP's cover-up, as

well as grave missteps by the World Health Organization. In addition, it builds on recommendations in the interim report to better protect the world from another pandemic.

*"As we continued our investigation into the origins of the COVID-19 pandemic, we uncovered even more disturbing evidence about the Chinese Communist Party's (CCP) coverup and WHO Director General Tedros's gross mishandling of the virus that allowed it to turn into a deadly pandemic," said **Lead Republican Michael McCaul**. "It is crystal clear that had the CCP been transparent, and had the head of the WHO cared more about global health than appeasing the CCP, lives could have been spared and widespread economic devastation could have been mitigated. Revealing the truth is just the first step: we must hold both the CCP and WHO Director General Tedros accountable for the suffering they have allowed the world to endure."*

This report builds on research conducted for the interim report and utilizes multiple sources of information including WeChat logs and social media posts from doctors and residents of Wuhan, domestic and international open source media reports, academic papers, peer-reviewed scientific research, think tank products, and public assessments from the American and French intelligence communities.

Rep. McCaul also serves as the Chairman of the China Task Force, a group of lawmakers working to find and address the most serious threats posed to the United States by the Chinese Communist Party. A summary of the final report's findings on the CCP's cover-up and WHO's missteps will be included in the upcoming China Task Force report.

## **Background**

### **Early Stages of the Pandemic:**

CCP officials knew about human to human transmission and took steps to hide it

from the public as the virus spread both inside and beyond its borders. (pg. 12-13)

### **The Chinese Communist Party's Cover-up:**

There are multiple examples of the CCP harassing, detaining, and in some cases disappearing journalists, scientists, and healthcare professionals who were telling the truth about the CCP's handling of coronavirus. (pg. 27)

As early as mid-December, the CCP had enough information to assess it was legally obligated to inform the WHO that the outbreak in Wuhan was an event "that may constitute a Public Health Emergency of International Concern," (PHEIC) but they chose not to in violation of international law. (pg. 30)

The CCP nationalized their medical supply chain in early February, directing the production of medical supplies, including U.S. companies' production lines in China, to dramatically increase and stop foreign exports so that they could stockpile Personal Protective Equipment. (pg. 33)

This is further evidence the CCP knew how catastrophic this virus could be before they took steps to warn the world. (pg. 33)

Had the CCP been transparent and followed international health regulations, it is estimated that, at a minimum, the CCP could have prevented two-thirds of cases in China before the end of February. This would have enabled an earlier and more focused global response. (pg. 36)

### **The Wuhan Institute of Virology:**

There are documented concerns about the safety and integrity of the Wuhan Institute of Virology, including in State Department Cables. The CCP still refuses to share lab samples from WIV that would help assess if WIV played a role in the origins of the COVID-19 pandemic. (pg. 42-43)

### **World Health Organization Missteps:**



The WHO refused to heed warnings from Taiwan and Hong Kong about human to human transmission. (pg. 44-45)

WHO Director General Tedros had enough information to declare a PHEIC on January 23<sup>rd</sup>, though he opted not to; this decision violated WHO mandates. (pg. 45)

The evidence shows the decision to not declare a PHEIC was likely political in nature rather than scientific. (pg. 46)

WHO guidance has routinely lagged behind the scientific community throughout the COVID-19 pandemic. In addition to not recommending the widespread use of masks for 130+ days, their guidance on aerosol transmission has been widely criticized by health experts. (pg. 47-48)

The WHO has been complicit in the spread and normalization of CCP propaganda and disinformation. According to outside experts, the WHO's public statements were "heavily influenced by the Chinese Communist Party". (pg. 50 – 51)

### **Recommendations:**

Director General Tedros should accept responsibility for his detrimental impact on the COVID-19 pandemic response and resign as head of the WHO. (pg. 57)

Taiwan should be readmitted to the WHO as an observer to ensure that future warnings about potential health and emergencies do not go unheeded. (pg. 58-59)

We recommend the WHO fix the deficiencies outlined by the Administration, adopt the recommendations of this report through internal action where possible, and make preparations for improvements and reforms that need to be ratified by the World Health Assembly at its next meeting or emergency session. By remaining part of a WHO that is ready for change, the United States can drive forward the necessary reforms of the International Health Regulations and the WHO. (pg. 59)

The COVID-19 pandemic revealed several flaws in the International Health Regulations that must be reformed to help mitigate the spread of future health emergencies. (pg. 60)

###



**Sender:** (b)(6)@state.gov>  
Yu, Miles (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;

**Recipient:** (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>

**From:** (b)(6)@state.gov>  
**To:** Park, Christopher J (b)(6)@state.gov>;  
(b)(6)@state.gov>  
**CC:** ISN-CPA-DL <ISN-CPA-DL@state.gov>  
**Subject:** Fw: ISN News 8.31.21  
**Date:** Wed, 1 Sep 2021 13:54:19 +0000

Super weird that the big online Egyptian newspaper is running the Chris Ford piece from Medium from May. But flagging that they did.

**From:** (b)(6)@state.gov>  
**Sent:** Tuesday, August 31, 2021 4:14 PM  
**Subject:** ISN News 8.31.21

x]

International Security & Nonproliferation (ISN) Media Clips  
Office of Strategic Communications and Outreach  
Tuesday, August 31, 2021

## ISN ISSUES IN THE NEWS

### IRAN

**Iran Hints Nuclear Talks May Not Resume Until November**, *Bloomberg (Patrick Sykes)*. Excerpt: "Iran's new government may not resume negotiations with world powers to revive the 2015 nuclear deal until late November, dashing hopes of a quick conclusion of talks that would allow Iranian oil back onto the market in exchange for curbs on its nuclear program. "The other side understands that it's ultimately a two- or three-month process for the new government to become well-established and plan for any sort of decision on this subject," Foreign Minister Hossein Amirabdollahian told state TV in an interview late on Monday, without giving a specific date." <https://bloom.bg/3Dz8LsH>

**What's Iran's Nuclear Deal?**, *War on the Rocks (Samuel M. Hickey, Manuel Reinert)*. Excerpt: "President Joe Biden's much-discussed plans to rejoin the Iran nuclear deal are off to a bad start. After six rounds, indirect talks between Washington and Tehran were put on hold last June until Iran's new president, Ebrahim Raisi, could take office on Aug. 5. Now, almost a month later, there is still no indication of when the next diplomatic session will take place." <https://bit.ly/38qaLFF>

### CHINA

**The parallels between UFOs and covid-19 continue**, *Washington Post (Daniel W. Drezner)*. Excerpt: "Back in May, the hard-working staff here at Spoiler Alerts noted some interesting parallels between elite attitudes about UFOs and the origins of covid-19. In both instances, there was initially an establishment consensus that pooh-poohed anything but the conventional wisdom (UFOs are not real, covid-19 had zoonotic origins). Then, as time passed, inconvenient data points began to emerge (unimpeachable witnesses for UFOs, the absence of evidence for natural origins). Eventually, it became respectable to believe that UFOs are real and that it was possible that covid-19 leaked into the world from the Wuhan Institute of Virology." <https://wapo.st/3gOExIN>

**Cautious scrutiny of COVID origins marks a win for US intelligence agencies**, *The Hill* (Steve Kelman). Excerpt: "In May, President Biden asked the intelligence agencies to prepare a report on the origins of the coronavirus. In the background was the question of whether and how the Chinese government was involved. At the beginning of the pandemic, then-President Trump made incendiary and evidence-free statements that China had "unleashed" the virus on the U.S. This produced a counter-reaction, from Trump critics and others, rejecting a blame-China approach in favor of the view the virus had a natural origin in wet markets in Wuhan, China." <https://bit.ly/3Bso3R>

**Why the COVID-19 origin report came up inconclusive**, *The Hill* (Reid Wilson). Excerpt: "The U.S. intelligence community was unable to reach a conclusion about the origins of COVID-19 after a 90-day review of available data and interviews with top health experts and officials. If anyone was surprised about the inconclusive results, it was not those same health experts and officials. Those with experience hunting viruses in their natural habitats know just how difficult it is to track their origins." <https://bit.ly/3BrWGnp>

**The 'Lab-leak' inquiry at the State Department: An Open Letter by former Assistant Secretary Christopher Ford**, *Ahram Online* (Christopher Ford). Excerpt: "In both journalism and policymaking — if not always in politics, or in the sordid world of score-settling by unemployed, second-rate apparatchiks — facts matter, and intellectual integrity matters. In light of the remarkable quantity of errant nonsense that has been written in the last couple of weeks about squabbles inside the U.S. State Department about how to look into the origins of SARS-CoV-2 in the closing weeks of the Trump Administration, I hope this open letter will help set the record straight for those who still care about things such as facts." <https://bit.ly/3mPouOE>

**Scientists in China 'struggle to get instruments because of US export controls'**, *SCMP* (Stephen Chen). Excerpt: "Scientific instruments, mostly analytical or measuring devices for use in a laboratory, made up more than 40 per cent of the items restricted for sale to China after being put on the US commercial export control list, according to analysis by Chinese researchers and artificial intelligence. After the trade war between China and the United States started in 2018, Chinese scientists said they found it increasingly difficult to buy research tools from the US. While researchers from different fields were making the same complaint, it was not known how problematic the overall situation had become for scientists in China." <https://bit.ly/38v715u>

**China's biggest air show to highlight homegrown technology**, *Reuters* (Stella Qiu, Jamie Freed). Excerpt: "China's biggest air show will put its homegrown civil and military aviation technology on display next month, the mayor of host city Zhuhai said on Tuesday, though the closely watched C919 narrowbody jet is not among the listed aerial exhibitions. The biennial China International Aviation and Aerospace Exhibition from Sept. 28 to Oct. 3 had been scheduled to take place in the southern city of Zhuhai was postponed from its original date of last November because of the pandemic." <https://reut.rs/2V1VYxE>

**China Strengthens Claims Over Disputed Waters With New Maritime Law Against Foreign Ships**, *Newsweek* (John Feng). Excerpt: "China will begin requiring foreign vessels to report their call signs and cargo before sailing into its "territorial sea"—a term it applies to all the islands it claims in the South China Sea and beyond. The new regulation under China's Maritime Traffic Safety Law will come into effect on September 1, according to a notice published last Friday by the country's Maritime Safety Administration." <https://bit.ly/3gQv9nP>

**Chinese warship on 24-hour standby in waters east of Taiwan: Sankei Shimbun**, *Taiwan Times* (Keoni Everington). Excerpt: "Japanese media on Monday (Aug. 30) reported that a Chinese warship is being deployed 24-hours a day in the waters between Yonaguni Island and northeast Taiwan. On Monday, the Sankei Shimbun cited Japanese government officials and Taiwanese military leaders as saying that a Chinese warship is being kept on 24-hour standby between Okinawa Prefecture's Yonaguni Island and Taiwan's Yilan County. The Japanese

government perceives this deployment as an "action to raise military tensions" and is analyzing China's intentions, according to the newspaper." <https://bit.ly/3mNMQlt>

**Taiwan to hold air raid drill alongside mega war games as test of 'overall alertness' against Chinese PLA attack**, *SCMP (Lawrence Chung)*. Excerpt: "Taiwan will stage a large-scale air raid drill – simulating missile and warplane attacks by Beijing – alongside its annual live-fire military exercise in September, as tensions mount in the Taiwan Strait. The annual air raid drill, dubbed the "Wan An exercise", will be carried out on September 15 across Taiwan, including its frontline islands of Kinmen (Quemoy) and Matsu, which lie at the doorstep of the southeastern Chinese province of Fujian." <https://bit.ly/3yrvAek>

**How Hackers Hammered Australia After China Ties Turned Sour**, *Bloomberg (Jamie Tarabay)*. Excerpt: "A few days after Prime Minister Scott Morrison called for an independent international probe into the origins of the coronavirus, Chinese bots swarmed on to Australian government networks. It was April 2020. The bots ran hundreds of thousands of scans, apparently looking for vulnerabilities that could later be exploited. It was a massive and noisy attack with little effort made to hide the bots' presence, said Robert Potter, chief executive officer of Internet 2.0, an Australian cybersecurity firm that works extensively with the federal government." <https://bloom.bg/3mN2l3g>

## **RUSSIA**

**Russia to hold naval drills with Iran, Azerbaijan and Kazakhstan**, *Reuters (Maria Kiselyova)*. Excerpt: "Russia's defence ministry said on Tuesday it would hold naval drills in the Caspian Sea with small missile and artillery ships from Iran, Azerbaijan and Kazakhstan in early September." <https://reut.rs/2WAudNE>

**Nigeria and Russia Sign Military Cooperation Agreement**, *Council on Foreign Relations (John Campbell)*. Excerpt: "The Nigerian Embassy in Moscow announced last week the signing of a legal framework agreement that would provide for Russia to supply Nigeria with military equipment and training. The Agreement on Military-Technical Cooperation also provides for "after-sales services, training of personnel in respective educational establishments, and technology transfer." Nigerian President Muhammadu Buhari reportedly raised the possibility of such an agreement with Russian President Vladimir Putin in 2019." <https://on.cfr.org/3DxLQhE>

## **NORTH KOREA**

**Satellite imagery signals resumption of work on North Korea nuclear reactor**, *The Hill (Mychael Schnell)*. Excerpt: "New satellite images of North Korea's Yongbyon nuclear reactor indicate that the site has resumed work. In a satellite photo from Planet Labs and the Center for Nonproliferation Studies obtained by NBC News, a discharge of cooling water is seen flowing out of the reactor into a channel that leads to the Kuryong River in Yongbyon. Separate commercial satellite imagery of the Yongbyon site taken on Wednesday and published by 38 North also shows a discharge of cooling water into a new outflow channel that leads to the Kuryong. The outlet said the discharge of cooling water has historically been a central indicator of operations at reactors." <https://bit.ly/3gOKLs9>

**Why is North Korea reheating its nuclear program?**, *DW (Julian Ryall)*. Excerpt: "The United Nations' nuclear watchdog described the resumption of operations over the weekend at North Korea's Yongbyon nuclear reactor as "deeply troubling." In its new annual report on North Korea's nuclear program, the International Atomic Energy Agency (IAEA) stated that while monitors have not been granted access to the Yongbyon site, there are "indications" that the five-megawatt reactor is once more producing plutonium for the first time since December 2018." <https://bit.ly/3jwYXrf>

**Deterrence vs. Engagement: Striking the Right Balance in North Korea Policy**, *The Diplomat (Yangmo Ku)*. Excerpt: "Resolving North Korea's nuclear and missile challenges peacefully has been an extremely difficult task since the mid-1980s, when the issue first emerged as an international problem. Over the last three decades, the United States has endeavored to address this issue diplomatically while simultaneously adopting other

approaches, such as deterrence, military pressure, and economic sanctions. In spite of recursive military tensions on the Korean peninsula, such diplomatic efforts have culminated in four main agreements: the 1994 Agreed Framework, the 2005–2007 Six-Party Talks Agreements, and the 2012 Leap-Day Agreement, and the 2018 Trump-Kim Singapore Agreement. All these agreements, however, have largely failed to produce the successful outcomes stipulated in the agreements – the denuclearization of North Korea and/or a moratorium on the nation's nuclear and missile tests. Instead, North Korea has been enhancing its nuclear and missile capabilities, even after the three dramatic summits between former U.S. President Donald Trump and North Korean leader Kim Jong Un in 2018–2019." <https://bit.ly/3DIlk4f>

**North Korea warns of 'preemptive strike capabilities' following US-South Korea military drills**, *Stars & Stripes* (David Choi). Excerpt: "North Korean officials have railed against a recent joint military exercise between the U.S. and South Korea, calling it "the most vivid expression" of a "hostile policy." The Aug. 16-26 drills consisted of computer simulations and a smaller number of troops than the thousands of ground forces used in large-scale field exercises of the past. North Korea's Foreign Ministry frequently complains about the allies' military exercises and on Saturday alleged the most recent drill was "fueling up the instability of the situation." The drills were "the most vivid expression of the U.S. hostile policy against [North Korea], which is aimed at stifling our state by means of force," according to the ministry statement. North Korea may "continue bolstering the national defensive power and preemptive strike capabilities which can strongly contain and eliminate the outside threats," the statement reads." <https://bit.ly/2V6B00K>

#### **ARMS CONTROL**

**The Growing Risk of Militarized Unmanned Submersibles**, *The Maritime Executive* (Andro Mathewson). Excerpt: "In late May 2021, the Israeli armed forces destroyed an armed underwater uninhabited vehicle (UUV)<sup>1</sup> operated by the terrorist group Hamas. This kamikaze-UUV was used in an attempt to attack Israeli offshore gas and oil installations, which Hamas had unsuccessfully targeted in the past using rockets and uninhabited aerial vehicles (UAVs). This is possibly the first use of an armed UUV by a non-state actor, but UUVs have been in use since the 1950s, with the United States and Russia leading the charge. UUVs are now owned by over fifty nations across the world. Understanding why and how this technology proliferates is crucial to recognizing the role of such new technologies in international security and preparing effective responses. Based on this common understanding, the international community can counter further UUV proliferation by establishing a framework of norms and agreements, while security forces and military industries can focus on advancing effective counter-UUV technology." <https://bit.ly/3qOodYo>

**HASC Chair Wants New Cost Estimates Before Air Force Awards LRSO Procurement Deal**, *Air Force Magazine* (Greg Hadley). Excerpt: "The chairman of the House Armed Services Committee is looking to stop the Air Force's procurement of the nuclear Long-Range Standoff weapon system, at least until he gets some more information. Rep. Adam Smith (D-Wash.) released his chairman's markup of the 2022 National Defense Authorization Act on Aug. 30, and included in it were a number of provisions related to the LRSO, the Air Force's replacement for the nuclear AGM-86B Air-Launched Cruise Missile." <https://bit.ly/3yx14zJ>

**Thirty years after the Cold War ended, we still have too many nukes**, *The Hill* (Thomas P. Grumbly). Excerpt: "Three decades ago, at the end of the Cold War, the world had over 55,000 atomic weapons and nuclear Armageddon was thought to be more likely than climate change. Today, there are "only" 13,400 weapons, still enough to destroy life on the planet many times over. The explosion of even one of these weapons – whether in the form of a "dirty" device or a true explosion, as an act of war or terror or just by accident – would transform the world and international politics in ways we have difficulty imagining." <https://bit.ly/3kFeO6w>

**Turkish Military Inducts Akinci Advanced Attack UAV**, *Defense World*. Excerpt: "The Turkish military inducted the Akinci unmanned combat aerial vehicle (UCAV), claimed to be the

most advanced drone built in Turkey. In his speech at the induction ceremony, Turkish President Recep Tayyip Erdoğan said, "We are determined to make Turkey the leading country in Unmanned Warplanes. When we achieve this, we will be one step beyond the 5th generation warplanes that we were not given." Erdogan's reference was to the denial of F-35 jets by the United States as punishment for buying Russian S-400 air defense system. The ceremony held Sunday in the northwestern province of Tekirdağ. Besides President Recep Tayyip Erdoğan, others present included Baykar's Chief Technology Officer (CTO) Selçuk Bayraktar and other officials." <https://bit.ly/3yvdeIL>

#### **MCF**

**China's amassing of genomic data highlights global biotech race**, *Roll Call (Gopal Ratnam)*. Excerpt: "Losing your DNA is not like losing your credit card." That little-noticed warning from the top U.S. intelligence office came in February, alerting Americans of the risks of inadvertently handing over their genetic codes to China. Unlike a misplaced credit card, lost DNA cannot be replaced, the Office of the Director of National Intelligence said in the bulletin, adding that Beijing, as part of its quest to become a global leader in biotech, is aggressively collecting large quantities of genomic data from around the world." <https://bit.ly/3yBD2Ua>

**US: Chinese graduate visa ban has "overly broad criteria"**, *The PIE News (Will Nott)*. Excerpt: "A Trump administration presidential proclamation that bans thousands of Chinese graduate students from entering the country contains "overly broad criteria" and does not assess students based on the individual risk they pose, according to a report from The National Foundation for American Policy. Under the presidential proclamation, which has been continued by the Biden administration, graduates and researchers with links to China's 'military-civil fusion strategy' are banned from entering the US." <https://bit.ly/3ywuNca>

#### **5G**

**Special operators are already dealing with a shady piece of Chinese technology the US has been warning about.**, *Business Insider (Stavros Atlamazoglou)*. Excerpt: "In an increasingly interconnected world, the US military is facing new challenges in old stomping grounds. Even though the US isn't at war with China, competition with Beijing is already raging, and conventional and special-operations troops deployed around the world are exposed, either directly or through proxies, to Chinese technology that could hinder them in a conflict. The worst offender is 5G, the same mobile communications technology ordinary people use or will be using in the future." <https://bit.ly/3BsG6nn>

**Nokia suspends O-RAN Alliance work**, *TechCrunch (Steve McCaskill)*. Excerpt: "Nokia has suspended its work with the O-RAN Alliance amid concerns that the involvement of Chinese firms on the US non-entity list could expose the company to potential penalties. The GSMA-affiliated O-RAN Alliance is one of the industry's largest working groups devoted to Open RAN technology - a vendor-neutral approach to Radio Access Network (RAN) technologies such as antennas, masts, and small cells." <https://bit.ly/2Wl1WnG>

**Chinese components double to 60% in new Huawei smartphone**, *Nikkei Asia (Norio Matsumoto, Hideaki Ryugen, Takashi Kawakami)*. Excerpt: "Huawei Technologies has sharply increased the use of parts made in China in its latest smartphone as U.S. sanctions banning American companies from selling to the Chinese telecommunications group continue. Nikkei, together with Tokyo-based research specialist Fomalhaut Techno Solutions, took apart Huawei's Mate 40E, which is compatible with fifth-generation networks, and found that Chinese-made parts account for roughly 60% of the total value of components -- twice as much as the Mate 30, the previous model." <https://s.nikkei.com/3DB5ZmQ>

#### **BIOLOGICAL WEAPONS**

**Bio-weapons experts call for tighter controls as Covid highlights risk**, *Financial Times (Izabella Kaminska)*. Excerpt: "Experts convening in Geneva for an annual Biological Weapons Convention gathering have called for tougher powers to enforce the treaty as the Covid-19 pandemic sharpens global awareness of biological threats. "The pandemic provided stark

illustration that the inevitable uncertainty surrounding the origin of biological events can fuel speculation and mistrust that can have cascading global effects," academics and research institutions, including the Johns Hopkins Center for Health Security and the British non-profit VERTIC, said in a joint statement on Monday at the start of the eight-day meeting, attended by representatives of the 183 BWC members and bio-weapons experts." <https://on.ft.com/3mSSoRZ>

#### **OTHER ITEMS OF INTEREST**

**Japan Seeks Record \$50 Billion Defense Budget With Eye on China**, *Bloomberg (Isabel Reynolds)*. Excerpt: "Japan's Defense Ministry is seeking a record \$50 billion annual budget that would entail the largest percentage jump in spending in eight years as it seeks to bolster its capabilities amid simmering tensions with China. If granted in full, the 5.5 trillion yen budget request for the year starting in April would amount to a 2.6% increase on the previous year, which would be the largest annual increase since 2014, the ministry said Tuesday." <https://bloom.bg/2V6meXQ>

#### **TEXT OF ARTICLES REFERENCED ABOVE**

**Bio-weapons experts call for tighter controls as Covid highlights risk**, *Financial Times (Izabella Kaminska)*.

Experts convening in Geneva for an annual Biological Weapons Convention gathering have called for tougher powers to enforce the treaty as the Covid-19 pandemic sharpens global awareness of biological threats.

"The pandemic provided stark illustration that the inevitable uncertainty surrounding the origin of biological events can fuel speculation and mistrust that can have cascading global effects," academics and research institutions, including the Johns Hopkins Center for Health Security and the British non-profit VERTIC, said in a joint statement on Monday at the start of the eight-day meeting, attended by representatives of the 183 BWC members and bio-weapons experts. "The BWC is well positioned to establish a trusted clearing house for gathering and analysing information related to the origin of significant biological events," they added.

Twenty months after the first cases of Covid-19 were identified in the Chinese city of Wuhan, the origins of the virus remain hotly debated. A World Health Organization fact-finding mission to the city in January 2021 was inconclusive and criticised for having gained limited access to Chinese facilities and data.

A US intelligence probe ordered by President Joe Biden in May into whether Sars-Cov-2 — the virus that causes Covid-19 — emerged naturally or could have leaked from the Wuhan Institute of Virology failed to reach a definitive conclusion. Beijing has rejected any suggestion of a leak from the laboratory.

Diplomatic sensitivities would prevent any formal reference to the so-called lab-leak theory at the Geneva conference, but the reluctance of Chinese officials to give inspectors more access was undermining faith in Beijing's commitment to the BWC, said Filippa Lentzos, a social scientist at King's College London who is researching biological agent threats.

"The whole saga will have implications on confidence in China's commitments, but none of that will be aired publicly," said Lentzos, who will be attending the meeting.

Government signatories to the BWC, plus independent experts, meet regularly under the auspices of the UN to review the text of the treaty. The convention bans the development, stockpiling, transfer and use of biological weapons but does not include formal measures to ensure compliance by member states.

It covers dual use research — technology that can be used for either defensive or offensive purposes — but gives governments room for manoeuvre. Conducting such activity for offensive military use is prohibited, while research and development for defence or prophylactic purposes is allowed.



Although it remains unproven that Sars-Cov-2 emerged from a research facility rather than naturally, experts are calling for a global mechanism to provide independent, transparent and accredited fact-checking of major biological events.

They argue that little is known about the biological research conducted by different governments because the BWC is too weak. When the convention was crafted, James Leonard, the US chief negotiator, described it as a "gentleman's agreement".

Andy Weber, assistant secretary of defence for nuclear, chemical and biological defence programmes under President Barack Obama, said the convention lacked any mechanism for enforcement or the verification and inspection of biological research.

"There was an effort in the late 1990s, early 2000s, to add a verification provision based on the success of the Chemical Weapons Convention, which has very good verification and inspection capabilities . . . but that was blocked, mostly by the United States," he said.

Staff at the Wuhan Institute have in the past expressed concern about some of the research conducted there, particularly where it may have intersected with work by the Chinese military. During a December 2011 panel held by the US government's National Institutes of Health, Yuan Zhiming, a microbiologist at the Wuhan Institute, warned: "In China, there is no regulation on the identification of dual use research, and there's no regulation on the classification of research and classification of information."

There were "very legitimate questions around the dual use of what they're doing in this [Wuhan] facility, but again it's not implying they're necessarily doing anything in contravention of the BWC", said Lentzos.

"What is legitimate is drawing attention to Chinese military involvement in the Wuhan Institute of Virology, both in terms of leadership, in terms of co-authorship on publications, in terms of the funding going into all those things, which is a lot of stuff we don't know about and the Chinese are not being very open or transparent about."

The Wuhan Institute did not respond to a request for comment.

China's foreign ministry told the Financial Times that it remained committed to protecting the convention and said the US had undermined efforts to establish a mechanism for biological weapons inspections when it withdrew from talks in the early 2000s on broadening the BWC's powers following concerns by US pharmaceutical groups.

"Since the US thinks it is practical to inspect Wuhan labs, then it has no reason to oppose [such a mechanism] and has even less reason to reject inspections of Fort Detrick," the ministry said, referring to the home of the US Army Medical Research Institute of Infectious Diseases in Maryland.

In response to calls for an independent inspection of the Wuhan Institute, China has repeatedly suggested, without providing credible evidence, that Sars-Cov-2 may have originated at the US facility.

"Fort Detrick keeps a large number of viruses that seriously threaten human safety, and there are many security risks and loopholes at Fort Detrick," a spokesman for China's foreign ministry told a press conference in June.

(b)(6)

Public Affairs Specialist, Bureau of International Security & Nonproliferation

E-mail: stonejw@state.gov

**Sender:** (b)(6)@state.gov>

Park, Christopher J (b)(6)@state.gov>;

**Recipient:** (b)(6)@state.gov>;

ISN-CPA-DL <ISN-CPA-DL@state.gov>

**From:** [redacted] (b)(5) [redacted]@state.gov>  
**To:** DiNanno, Thomas G [redacted] (b)(5) [redacted]@state.gov>  
**Subject:** FW: FW: CBM Technical Question  
**Date:** Tue, 8 Dec 2020 18:17:31 +0000



[redacted] (b)(6)

Chief of Staff  
 Bureau of Arms Control, Verification and Compliance  
 U.S. Department of State  
 HST Room 5950

Office: [redacted] (b)(6)  
 Cell: [redacted]

OpenNet: [redacted] (b)(6) [redacted]@state.gov  
 ClassNet: [redacted] (b)(6) [redacted]@state.sgov.gov  
 JWICS: [redacted] (b)(6) [redacted]@state.ic.gov

**From:** [redacted] (b)(6) [redacted]@state.gov>  
**Sent:** Tuesday, December 8, 2020 10:20 AM  
**To:** [redacted] (b)(6) [redacted]@state.gov>  
**Cc:** [redacted] (b)(6) [redacted]@state.gov>; [redacted] (b)(6) [redacted]@state.gov>; [redacted] (b)(6) [redacted]@state.gov>; DiNanno, Thomas G [redacted] (b)(6) [redacted]@state.gov>; [redacted] (b)(6) [redacted]@state.gov>  
**Subject:** Re: FW: CBM Technical Question

Please see my attached comments. Best - [redacted] (b)(6)

---

**From:** [redacted] (b)(6) [redacted]@state.gov>  
**Sent:** Tuesday, December 8, 2020 8:56 AM  
**To:** [redacted] (b)(6) [redacted]@state.gov>; DiNanno, Thomas G [redacted] (b)(6) [redacted]@state.gov>  
**Cc:** [redacted] (b)(6) [redacted]@state.gov>; [redacted] (b)(6) [redacted]@state.gov>; [redacted] (b)(6) [redacted]

(b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** Re: FW: CBM Technical Question

(b)(5)

Attached is my draft one-pager. Finished it last night but wanted to read it over in the Cold Light of Morning.

(b)(6) (b)(5) Heading  
in shortly.

(b)(6)

Senior Adviser AVC  
SSD/AVC

c: (b)(6)

---

**From:** (b)(6)@state.gov>

**Sent:** Tuesday, December 8, 2020 8:23 AM

**To:** DiNanno, Thomas G (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov> (b)(6)@state.gov>; (b)(6)

<(b)(6)@state.gov>; (b)(6)@state.gov> (b)(6)@state.gov>

**Subject:** RE: FW: CBM Technical Question

(b)(5)

(b)(5)

(b)(5)

**From:** DiNanno, Thomas G (b)(6)@state.gov>

**Sent:** Monday, December 7, 2020 2:43 PM

**To:** (b)(6)@state.gov> (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)

(b)(6)@state.gov>

**Subject:** RE: FW: CBM Technical Question

(b)(5)

On December 7, 2020 at 12:41:23 PM EST, (b)(6)@state.gov> wrote:

(b)(5)

**From:** (b)(6)

**Sent:** Friday, May 29, 2020 1:48 PM

**To:** AVC-CBW-DL <AVC-CBW-DL2@state.gov>

**Cc:** (b)(6)@state.gov>

**Subject:** DARs re Chinese CBMs and C-19 RFI

(U//FOUO) **Update on Chinese BWC CBMs re COVID-19:** CBW (b)(6) (b)(5)

(b)(5)

**From:** DiNanno, Thomas G (b)(6)@state.gov>

**Sent:** Monday, December 7, 2020 12:30 PM

**To:** (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)

(b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** Re: FW: CBM Technical Question

Thanks (b)(6) - maybe the question is : (b)(5)  
(b)(5)

On December 7, 2020 at 10:48:40 AM EST, (b)(6)@state.gov> wrote:

CBM guide attached.

~~SENSITIVE BUT UNCLASSIFIED~~

~~SENSITIVE BUT UNCLASSIFIED~~

**From:** (b)(6)

**Sent:** Friday, December 4, 2020 3:10 PM

**To:** (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; Feith, David (b)(6)@state.gov>; (b)(6)

(b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)

(b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** RE: CBM Technical Question

Many thanks. (b)(5)  
(b)(5)

"Although the CBMs are not derived directly from the text of the Convention itself, the Second Review Conference decided by consensus that *"the States Parties are to implement, on the basis of mutual co-operation, the following measures"*. This means that participation in the CBMs is a requirement for all States Parties to the Convention." (CBM manual page 2)

**From:** (b)(6)@state.gov>  
**Sent:** Friday, December 4, 2020 2:58 PM  
**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)  
 (h)(6)@state.gov>; (b)(6)@state.gov>; (h)(6)  
 (b)(6)@state.gov>  
**Cc:** (b)(6)@state.gov>; Feith, David <(b)(6)@state.gov>; (b)(6)  
 (b)(6)@state.gov>  
**Subject:** Re: CBM Technical Question

Thanks (b)(6) (b)(5)  
 (b)(5)

Best,  
 (b)(6)

---

**From:** (b)(6)@state.gov>  
**Sent:** Friday, December 4, 2020 2:38 PM  
**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)  
 (h)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)  
 (b)(6)@state.gov>  
**Cc:** (b)(6)@state.gov>; Feith, David <(b)(6)@state.gov>; (h)(6)  
 (b)(6)@state.gov>  
**Subject:** RE: CBM Technical Question

Many thanks!

---  
 Sent from Workspace ONE Boxer

On December 4, 2020 at 2:37:10 PM EST, (b)(6)@state.gov> wrote:

Said list in work.

**From:** (b)(6)@state.gov>  
**Sent:** Friday, December 4, 2020 2:35 PM  
**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>  
**Cc:** (b)(6)@state.gov>; Feith, David (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** Re: CBM Technical Question

Hi (b)(6) - Many thanks.

It would be most useful if these questions were pulled into one list of questions that we could pass forward.

The below conversation about the CBMs is similar to the ones we've had in person three times. We understand the concerns you're raising about the CBMs - you're "preaching to the choir."

We're with you. The next step is to write it up.

Best (b)(6)

---

Sent from Workspace ONE Boxer

On December 4, 2020 at 1:16:06 PM EST, (b)(6)@state.gov> wrote:

Most importantly any mil funded or apparently classified activities. Read (b)(6) explanation of how AMMS operates including via CAS. CAS is not like the US NSF or NIH.

(b)(5)

In what year do the Chinese state their lab BSL 4 lab began operations/and for what purpose?

(b)(5)

**From:** (b)(6)@state.gov>  
**Sent:** Friday, December 4, 2020 12:43 PM  
**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)  
 (b)(6)@state.gov>; (h)(6)@state.gov>  
**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; Feith, David  
 (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** Re: CBM Technical Question

Understand, but what is reported should not be misleading or in accurate.

(b)(6)  
 Senior Adviser AVC  
 SSD/AVC  
 c: (b)(6)

**From:** (b)(6)@state.gov>  
**Sent:** Friday, December 4, 2020 12:12 PM  
**To:** (h)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)  
 (h)(6)@state.gov>  
**Cc:** (b)(6)@state.gov>; (h)(6)@state.gov>; (b)(6)  
 (h)(6)@state.gov>; Feith, David <(b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** Re: CBM Technical Question

Looping in (b)(6)

Hi (b)(6) I defer to our lawyer, (b)(6) (b)(5)

(b)(5)

(b)(5) From my understanding, providing CBM input is voluntary. Many countries provide no input, other countries overreport.



I'm not sure how to respond to your last comment. The BWC is only a few pages long, only has three international staff supporting its implementing organization, and is usually lacking funds even to hold its annual meeting.

Best - (b)(6)

---

**From:** (b)(6)@state.gov>

**Sent:** Friday, December 4, 2020 11:15 AM

**To:** (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)

(b)(6)@state.gov>; Feith, David <(b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** CBM Technical Question

(b)(6)

(U//SBU) Going through the PRC's CY18 and CY19 CBMs, there is no mention of SARS coronavirus research in WIV's BSL4 activities. Up until the outbreak of COVID-19, SARS coronaviruses were not considered BSL4 pathogens, at least by the PRC (according to their CY19 CBM).

(U) Based on the guidance I have read (CBM manual and WHO laboratory biosafety manual – attached), it appears that , prior to this year, the PRC would not be required to report any SARS coronavirus research by their civilian labs in their CBM because:

1. Until the COVID-19 outbreak, bat SARS coronaviruses were not considered dangerous pathogens requiring BSL4 ,
2. In CBM A, Form A, part 1 (i) ("Exchange of data on research centers and laboratories") a country only declares, or is required to declare, its BSL4, or highest BSL civilian lab, research activities. Any SARS coronavirus research conducted at BSL3 in CY18 and CY19 (when the WIV BSL4 lab was operating) would not be reported.

(U) Is this true? If so, it seems like a significant deficiency in the BWC.

(b)(6)

*Bureau of Arms Control, Verification and Compliance  
US Department of State*

(b)(6)

NSTS: (b)(6)

JWICS: (b)(6)@state.ic.gov

SIPR: (b)(6)@state.sgov.gov

~~SENSITIVE BUT UNCLASSIFIED~~

~~SENSITIVE BUT UNCLASSIFIED~~

~~SENSITIVE BUT UNCLASSIFIED~~

~~SENSITIVE BUT UNCLASSIFIED~~

<cbm-guide-2015.pdf>

~~SENSITIVE BUT UNCLASSIFIED~~

**Sender:** (b)(6)@state.gov>

**Recipient:** DiNanno, Thomas G (b)(6)@state.gov>

**From:** "Stilwell, David R"

**To:** Hooker, Allison M <(b)(6)>

**CC:** Kanapathy, Ivan J. EOP/NSC (b)(6)  
Tobin, Elizabeth D. EOP/NSC

**Subject:** FW: FT: How a Wuhan lab became embroiled in a global coronavirus blame game

**Date:** Tue, 5 May 2020 13:00:18 +0000

Why do people who know better keep answering the wrong question? No one is asserting the virus is man-made, so why does Fauci keep going there?

Anthony Fauci, the director of the US National Institute of Allergy and Infectious Diseases, who has appeared alongside Mr Trump at many press briefings during the crisis, told National Geographic magazine that the evidence is "very, very strongly leaning toward this could not have been artificially or deliberately manipulated".

---

**From:** Buangan, Richard L <(b)(6)@state.gov>

**Sent:** Tuesday, May 5, 2020 8:51 AM

**To:** EAP-FO-Principals-DL <EAP-FO-Principals-DL@state.gov>; (b)(6) Beijing)  
(b)(6)@state.gov; (b)(6) Shenyang) (b)(6)@state.gov>

**Subject:** FW: FT: How a Wuhan lab became embroiled in a global coronavirus blame game

---

**From:** darby holladay <(b)(6)>

**Sent:** Tuesday, May 5, 2020 8:36 AM

**To:** PA Monitoring Group <PAMonitoringGroup@state.gov>

**Subject:** FT: How a Wuhan lab became embroiled in a global coronavirus blame game

How a Wuhan lab became embroiled in a global coronavirus blame game

Donald Trump's claims that the Wuhan Institute of Virology was source of outbreak belie scientific evidence

Don Weinland in Beijing and Katrina Manson in Washington 7 MINUTES AGO

bat virus specialist known as China's "batwoman" and her lab in Wuhan have become the centre of a furious blame game between the US and China over the source of the coronavirus outbreak.

US president Donald Trump insists he has seen evidence coronavirus was leaked from the Wuhan Institute of Virology in the city where the outbreak began in January.

But his assertions clash with the message from his country's scientific and intelligence communities, as well as some of the health experts leading the fight against coronavirus in the US.

The Chinese Ministry of Foreign Affairs has not responded to the allegations but Beijing has at times indicated the source of the virus was a wet animal market in Wuhan, where wild animals were sold as delicacies. It has also allowed diplomats to support other theories lacking in evidence — such as one positing that the CIA planted the virus in Wuhan last year.

Chinese state media has hit back, too, accusing Mike Pompeo, the US secretary of state who has publicly supported and pushed Mr Trump's claims, of "spreading a political virus". Global Times, a nationalist tabloid, has called on the US officials to reveal their evidence or stop making wild accusations.

None of this has put an end to the escalation of hostile rhetoric, which has largely played out in clashes between scientists, journalists and the Trump administration on Twitter.

What is the Wuhan Institute of Virology?

The institute was set up in 1956 as a microbiology lab, one of the first of its kind in the country following the communist takeover of China seven years earlier.

As a level-4 biosafety facility, the highest level of security in China, it is allowed to handle the world's deadliest viruses. Scientists at the facility are known to have created hybrid versions of a bat coronavirus that could infect human cells.

Nature, the scientific journal, published an article in 2015 that raised questions about the level of risk associated with such research. This has contributed to theories that the virus could have originated as a leak from the lab.

Simon Wain-Hobson, a virologist at the Pasteur Institute in Paris, noted in the article that the novel virus "grows remarkably well" in human cells and "if the virus escaped, nobody could predict the trajectory".

However, the journal added a note to the report in March this year stating: "We are aware that this story is being used as the basis for unverified theories that the novel coronavirus causing Covid-19 was engineered. There is no evidence that this is true; scientists believe that an animal is the most likely source of the coronavirus."

Who is China's 'batwoman'?

Shi Zhengli was probably not seeking out a spot at the centre of a venomous argument between Washington and Beijing. Instead, the 55-year-old scientist had been looking to make a mark on bat-linked virology, an area to which she has dedicated her life.

For years, Ms Shi has collected strains of coronaviruses from bats. In 2004, she identified a reservoir for such diseases in bat caves in Yunnan province in southern China and she has been at the forefront of research on how viruses such as Sars may have jumped to humans.

The outbreak of coronavirus in the city where she lives and works quickly thrust her into the spotlight. Since then, she has emphasised how she did not believe the virus originated in her lab. Yet online rumours over the past week have suggested that she had "defected" from China and taken confidential documents to Paris, ostensibly to reveal the origin of the outbreak.

The Financial Times was unable to reach Ms Shi for comment. However, she has posted pictures of herself in China online and has rejected claims that she left the country.

Is there credible evidence that the virus originated in a Wuhan lab?

Anthony Fauci, the director of the US National Institute of Allergy and Infectious Diseases, who has appeared alongside Mr Trump at many press briefings during the crisis, told National Geographic

magazine that the evidence is “very, very strongly leaning toward this could not have been artificially or deliberately manipulated”.

The US intelligence community has also ruled out any possibility the virus was man-made, saying it concurs with the scientific consensus. But it continues to investigate if the outbreak was the result of an accident at a Wuhan laboratory or human contact with infected animals.

Edward Holmes, an Australian virologist who helped map and share the genetic sequence of the virus, said there was “no evidence” that Sars-Cov-2, the virus that causes Covid-19 in humans, originated in a Wuhan laboratory.

He said the closest known relative of Sars-Cov-2 was a bat virus named RaTG13, which was indeed kept at the Wuhan Institute of Virology. But he added that the bat virus, which was sampled in Yunnan province, had a level of genome sequence divergence from coronavirus equivalent to at least 20-50 years of evolutionary change. Thus, he does not believe it was responsible for Covid-19.

Prof Holmes, who in 2014 visited the Wuhan live animal market that Chinese authorities have said was the source of the disease, argues the most likely origin of the virus is that it jumped from wildlife to new hosts. In an April paper written jointly with a Shanghai colleague, he said the emergence and rapid spread of Covid-19 signified “a perfect epidemiological storm”.

“The way humans live today is just perfect for pandemics to occur,” he said.

**Sender:** "Stilwell, David R"

Hooker, Allison M (b)(6)

**Recipient:** Kanopathy, Ivan J. EOP/NSC (b)(6)  
Tobin, Elizabeth D. EOP/NSC (b)(6)

**From:** (b)(6)@state.gov>  
(b)(6)@state.gov>;  
**To:** Park, Christopher J (b)(6)@state.gov>;  
(b)(6)@state.gov>  
**Subject:** FW: Fox News - Former State Department official reveals 'procedural' and 'substantive concerns' with Wuhan COVID-19 origin  
**Date:** Wed, 26 May 2021 21:47:16 +0000

**From:** PA Press Clips <PAPressMediaMonitors@state.gov>  
**Sent:** Wednesday, May 26, 2021 4:24 PM  
**To:** PA Monitoring Group <PAMonitoringGroup@state.gov>  
**Subject:** Fox News - Former State Department official reveals 'procedural' and 'substantive concerns' with Wuhan COVID-19 origin

Former State Department official reveals 'procedural' and 'substantive concerns' with Wuhan COVID-19 origin

Fox News

Wednesday, May 26, 2021 2 hours ago

Jennifer Griffin and Brooke Singman

<https://www.foxnews.com/politics/wuhan-coronavirus-origin-state-department-chris-ford-investigation>

Wuhan lab outbreak theory under consideration with State Department investigation efforts in focus

EXCLUSIVE: Former Assistant Secretary of State Chris Ford told Fox News on Wednesday he had "procedural" and "substantive concerns" with the Trump State Department's investigation into the origins of COVID-19 and whether the virus stemmed from a leak out of the Wuhan Institute of Virology (WIV) in China.

The Biden administration terminated the inquiry—which was being led out of the State Department's Bureau of Arms Control and Verification (AVC) bureau, and initially launched at the request of former Trump Secretary of State Mike Pompeo—after being briefed on the team's initial findings in February and March.

Ford, in an exclusive interview with Fox News, said he learned of the investigation in December 2020. He said it had been kept secret from him and bypassed department and intelligence community biological experts.

BIDEN: INTEL COMMUNITY TORN BETWEEN 'TWO LIKELY SCENARIOS' ON COVID-19 OUTBREAK SOURCE

Ford told Fox News the team had been told not to share their work with him, or the intelligence community.

"I had procedural concerns and substantive concerns," Ford said.

"There are all sorts of reasons to worry about possible lab origins, and it's critical to get to the bottom of this," Ford continued, adding that "one very particular claim made by AVC purporting to 'prove' WIV origin by 'statistical analysis' turned out to be junk science and evaporated when subjected to scrutiny by their own scientific panel," referring to a Jan. 7 panel of experts the AVC had arranged to review its findings.

"I was trying to protect Pompeo and the Trump Administration from having the Department go out there with something that had already been disproved," Ford told Fox News. "We can't hold China to account if AVC makes us look like cranks!"

Ford, though, told Fox News he was not opposed to looking into the Wuhan lab, but was concerned about much of the team's analysis and its desire to operate in secrecy and circumvent the intelligence community.

President Biden, on Wednesday, announced that he tasked the intelligence community to "redouble" its efforts in the investigation into the origins of COVID-19, and noted that U.S. intelligence officials, at this point, have been torn between "two likely scenarios." Biden asked that the IC report back within 90 days so that the U.S. government could get closer to a "definitive conclusion."

#### BIDEN STATE DEPARTMENT QUIETLY ENDED TEAM'S WORK PROBING COVID ORIGIN

"The lab origin theory is very possible and China must be held to account," Ford said.

Fox News obtained an internal email, written by Ford, that was in response to the presentation from the Jan. 7 AVC panel discussion featuring experts assembled by the team investigating the matter.

The email said "a contractor on AVC's payroll" made the argument that the Wuhan Institute of Virology was "most likely the origin" of COVID-19.

"AVC has apparently been briefing this argument inside the Department and some interagency partners for weeks, apparently on instructions from a staffer at S/P who told them they should not inform me, or others of this work, nor involve the intelligence community," Ford wrote.

The email stated that the AVC's argument was "heavily based upon what it claims is the statistical improbability of SARS-CoV-2 occurring naturally, through zoonotic transmission outside of a laboratory."

"Under examination at the expert panel, however, these claims largely fell apart," Ford wrote, noting that while the panel agreed on the importance of pressing China to be more transparent, and for information on the "nature of any work done" at the Wuhan lab on novel coronaviruses.

But, the email stated that the analysis "rests primarily on a non-published Bayesian statistical analysis" prepared for the AVC by a pathologist, rather than a virologist, epidemiologist, or infectious disease modeler. The email said that pathologist "admitted to us that he had 'never done a Bayesian analysis before' this."

"AVC's statistical case seems notably weak," Ford wrote in the email, saying that the analysis "revolves around drawing conclusions about how statistically likely it is" that COVID appeared naturally, compared to being "engineered in or released from a laboratory."

Ford, in the email, noted that the analysis was "crippled by the fact that we have essentially no data to support key model inputs."

"I would also caution you against suggesting that there is anything inherently suspicious--and suggestive of biological warfare activity--about People's Liberation Army involvement at WIV on classified projects," Ford wrote in the email. "It's certainly possible that the PLA did secret BW work at WIV, but we have no information to suggest this. And it would be difficult to say that military involvement in classified virus research is intrinsically problematic, since the U.S. Army has been deeply involved in virus research in the United States for many years."

#### HOUSE INTEL REPUBLICANS SAY 'SIGNIFICANT CIRCUMSTANTIAL EVIDENCE' OF COVID WUHAN LAB LEAK

Meanwhile, State Department spokesman Ned Price on Tuesday denied shutting down the inquiry:

"There has been incorrect reporting that the Biden-Harris administration shut down an investigation by the State Department's Bureau of Arms Control and Verification (AVC) into the origins of the COVID-19 pandemic." He said the team's work ended after delivering a report in February and March, adding that "all relevant parts of the department continue to work with the interagency on this matter."

"The world continues to have serious questions about the earliest days of the COVID-19 pandemic, including its origins within the Peoples Republic of China," Price continued. "China's position that their part in this investigation is complete is disappointing and at odds with the rest of the international community that is working collaboratively across the board to bring an end to this pandemic and improve global health security."

Senator Tom Cotton, R-Ark., joins 'America's Newsroom' to provide insight into the media doing an about-face on the Wuhan lab theory.

A State Department official earlier told Fox News that Secretary of State Antony Blinken did not disband any cell looking into the origins of COVID-19, and that the department only employed a single contractor who was conducting research on several topics – including coronavirus. That contractor, according to the official, left the State Department before Blinken's confirmation. The official said the inquiry was closed amid concerns about methodology.

The Biden administration's investigation into the origins of the coronavirus pandemic is currently being led out of the White House National Security Council.

Fox News has learned that David Asher, who has a history of investigative work tracking money for AQ Khan network, North Korea's nuclear program and top Al Qaeda leaders, was the contractor leading the investigation.

Ford was one of the officials at the State Department who sought to block his and the team's efforts.

In a statement to Fox News, Asher defended the investigation, and said that, at the time, some State Department colleagues "were deliberately playing down possible links to China's biological weapons program."



"It is U.S. law to engage in effective arms control and nonproliferation, not facilitate it via 'scientific cooperation' in the name of threat reduction or refusal to engage in effective compliance with Communist countries that openly aim to incorporate synthetic biology into the future of warfare (apparently with our naive material and scientific assistance)," Asher said.

"We don't know for certain what happened in Wuhan but we had every reason to investigate and ask questions," Asher continued. "As the State Department's Jan. 15 statement said – and as additional disclosures and expert analyses of the last few months have underscored – there is probable cause for deep suspicion."

Asher, who left the State Department at the end of the Trump administration, had been hired as a contractor, but had helped to put together the Jan. 15 memo released by Pompeo, using declassified intelligence. CNN first reported the shutdown of the probe.

#### WHITE HOUSE INSISTS COVID-19 ORIGINS REQUIRE 'TRANSPARENT' INTERNATIONAL INVESTIGATION

That memo said the Wuhan Institute of Virology collaborated on "secret projects" with China's military, and claims that "despite the WIV presenting itself as a civilian institution, the United States has determined that the WIV has collaborated on publications and secret projects within China's military" since "at least 2017."

Asher told Fox News, "certainly the Chinese Communist Party engaged in a huge coverup over the stealth ability of COVID to transmit human-to-human."

"The coverup continues via refusal to allow WHO access, accept CDC offers to assist, and simply tell the truth of this pandemic's endemic dangerous, incessant and pernicious injurious traits, which has caused huge injury to the American people and citizens of the world, Chinese citizens included," he said. "Does anyone sane doubt that?"

Asher added he didn't "know why the Biden team would doubt an effort to carry out a fair and accurate investigation into a subject that increasing numbers of leading scientists are now also calling to study."

#### FAUCI DEFENDS 'MODEST' COLLABORATION WITH WUHAN SCIENTISTS, SAYS NIH DIDN'T FUND 'GAIN OF FUNCTION' RESEARCH

"At the State Department in the last months of the last administration we didn't draw or assert any conclusions, but we worked successfully to reveal certain facts and raise significant questions about the clear plausibility of a lab leak origin," Asher said. "This was a global public service, and it is good that experts and journalists are increasingly turning their own attention to the issue, albeit belatedly."

David Feith, a former State Department official during the Trump administration, was part of the small team working with Asher on the COVID origin investigation. Feith, this week, underscored the importance of learning how the coronavirus originated.

"Getting further information about this, getting it from honest researchers, honest investigators and press inquiries and getting it from the U.S. government is absolutely essential to finding out what happened in the origin of COVID, which is not only important for understanding what we're still living

through and for basic questions of responsibility, but most importantly, it's absolutely essential to the future," Feith said on "Fox News at Night" on Monday.

#### BECERRA TELLS WHO IT 'MUST' LAUNCH MORE 'TRANSPARENT' INVESTIGATION INTO COVID ORIGIN

Feith, though, said there has been a "terrible failure for 15 months" on the part of the public and the U.S. government to recognize "the plausibility of the lab leak possibility."

"Elevating this now as a political matter, as a diplomatic matter, is overdue but essential," Feith said.

#### US LEARNED SEVERAL WUHAN LAB RESEARCHERS SICKENED BEFORE COVID-19 OUTBREAK: FORMER STATE DEPARTMENT OFFICIAL

A State Department official told Fox News that Blinken has been committed to getting more details on the origins of COVID-19, as both a function of accountability, but also to ensure the U.S. and the American people are protected from public health threats in the future.

The official added that the U.S. and the world need transparency from China, which Beijing has not yet allowed, and said the State Department is working closely with their administration partners and international partners to get the answers needed.

The Wuhan Institute of Virology, one of China's top virus research labs, built an archive of genetic information about bat coronaviruses after the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) and has faced criticism over its transparency throughout the COVID-19 pandemic.

China has promoted unproven theories that the virus may have originated elsewhere, or was even brought into the country from overseas with imports of frozen seafood tainted with the virus, a notion rejected by international scientists and agencies.

**Sender:** (b)(6)@state.gov>  
(b)(6)@state.gov>;  
**Recipient:** Park, Christopher J (b)(6)@state.gov>;  
(b)(6)@state.gov>

**From:** "Stilwell, David R" (b)(6)@state.gov>  
**To:** Feith, David (b)(6)@state.gov>;  
Buangan, Richard L (b)(6)@state.gov>  
**Subject:** FW: For S in Prep for 1200 Monday Meeting with Stilwell  
**Date:** Mon, 4 Jan 2021 14:51:13 +0000

Here we go.

---

**From:** Kenna, Lisa D (b)(6)@state.gov>  
**Sent:** Monday, January 4, 2021 9:50 AM  
**To:** Stilwell, David R (b)(6)@state.gov>  
**Subject:** FW: For S in Prep for 1200 Monday Meeting with Stilwell

Hi,

(b)(5)

---

**From:** Stilwell, David R (b)(6)@state.gov>  
**Sent:** Sunday, January 3, 2021 4:22 PM  
**To:** Kenna, Lisa D (b)(6)@state.gov>  
**Subject:** FW: For S in Prep for 1200 Monday Meeting with Stilwell

Lisa

Sorry to bother you on the weekend. Checking two things before meeting with S tomorrow.

(b)(5)

Thanks  
Dave

---

**From:** Stilwell, David R  
**Sent:** Sunday, January 3, 2021 3:54 PM  
**To:** SES\_FO Paper <SES\_FOPaper@state.gov>  
**Cc:** Kenna, Lisa D (b)(6)@state.gov>  
**Subject:** For S in Prep for 1200 Monday Meeting with Stilwell

The upcoming WHO delegation is getting others interested in the Pandemic origins question.

<https://www.dailymail.co.uk/news/article-91069S1/Lab-leak-credible-source-coronavirus-outbreak-says-government-official.html>

# China lab leak is the 'most credible' source of the coronavirus outbreak, says top US government official, amid bombshell claims Wuhan scientist has turned whistleblower

- Donald Trump's Deputy National Security Adviser Matthew Pottinger spoke
- Mr Pottinger told politicians leak is emerging as 'most credible source' of virus
- He claimed the pathogen may have escaped through a 'leak or an accident'

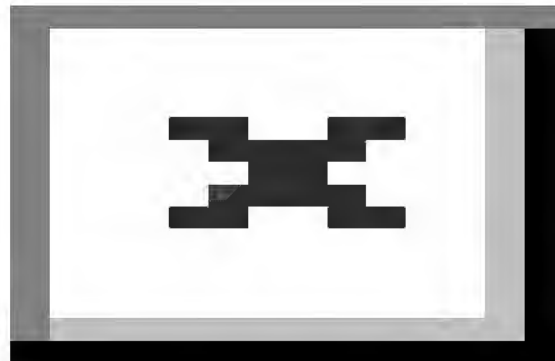
By ABUL TAHER, SECURITY CORRESPONDENT FOR THE MAIL ON SUNDAY

**PUBLISHED:** 17:06 EST, 2 January 2021 | **UPDATED:** 07:06 EST, 3 January 2021

One of America's most senior government officials says the most 'credible' theory about the origin of **coronavirus** is that it escaped from a laboratory in **China**.

Matthew Pottinger, who is President **Donald Trump**'s respected Deputy National Security Adviser, told politicians from around the world that even China's leaders now openly admit their previous claims that the virus originated in a Wuhan market are false.

Mr Pottinger said that the latest intelligence points to the virus leaking from the top-secret Wuhan Institute of Virology, 11 miles from the market, saying: 'There is a growing body of evidence that the lab is likely the most credible source of the virus.'



**Matthew Pottinger, who is President Donald Trump's respected Deputy National Security Adviser, says the most 'credible' theory about the origin of coronavirus is that it escaped from from the top-secret Wuhan Institute of Virology in China**

He claimed the pathogen may have escaped through a 'leak or an accident', adding: 'Even establishment figures in Beijing have openly dismissed the wet market story.'

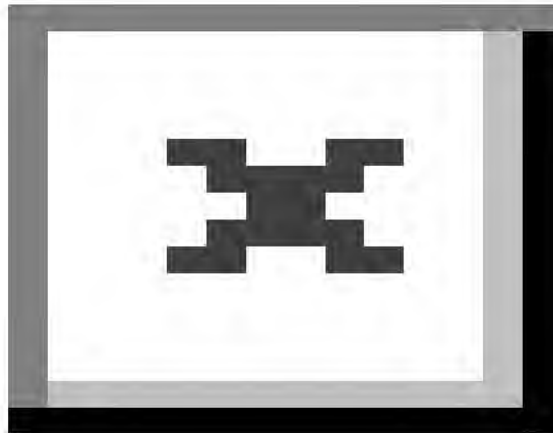
The comments, which were made during a Zoom conference with MPs on China last week, come as a team of experts from the World Health Organisation prepare to fly to Wuhan to investigate how the pandemic began.

Critics fear the probe will be a whitewash given China's influence on the WHO.

'MPs around the world have a moral role to play in exposing the WHO investigation as a Potemkin exercise,' Mr Pottinger told the parliamentarians, in reference to the fake villages created in the Crimea in the 18th Century, intended to convince the visiting Russian Empress Catherine the Great that the region was in good health.

Iain Duncan Smith, the former Tory Party leader who attended the meeting, said Mr Pottinger's comments represented a 'stiffening' of the US position on the theory that the

virus came from a leak at the laboratory, amid reports that the Americans are talking to a whistleblower from the Wuhan institute.



**Mr Pottinger (left) told politicians from around the world that even China's leaders now openly admit their previous claims that the virus originated in a Wuhan market are false.**

'I was told the US have an ex-scientist from the laboratory in America at the moment,' he said. 'That was what I heard a few weeks ago.'

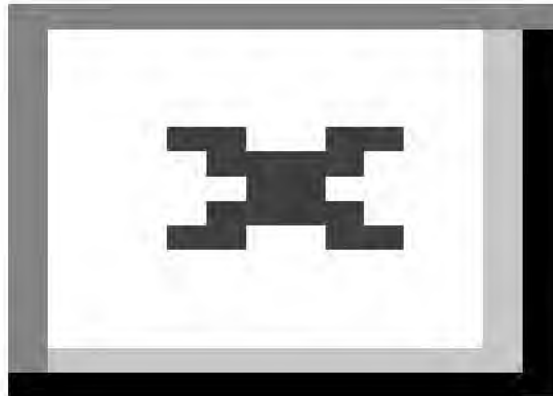
'I was led to believe this is how they have been able to stiffen up their position on how this outbreak originated.'

He added that Beijing's refusal to allow journalists to visit the laboratory only served to increase suspicion that it was 'ground zero' for the pandemic.

'The truth is there are people who have been in those labs who maintain that this is the case,' he said.

'We don't know what they have been doing in that laboratory.

'They may well have been fiddling with bat coronaviruses and looking at them and they made a mistake. I've spoken to various people who believe that to be the case.'



**He claimed the pathogen may have escaped through a 'leak or an accident', adding: 'Even establishment figures in Beijing have openly dismissed the wet market story'. Pictured: Chinese**

Sam Armstrong, communications director at the Henry Jackson Society foreign policy think-tank, said: 'With such a senior and respected intelligence official speaking in support of this claim, the time has come for the British Government to seek both answers about and compensation for Covid-19.'

Mr Pottinger, who speaks fluent Mandarin, previously worked as a journalist for Reuters and The Wall Street Journal, including seven years as its China correspondent.

In 2005, he became a US marine and served as a military intelligence officer before being asked to join the US National Security Council in 2017, becoming Asia director before assuming his current role.

His older brother, Paul, is a virologist at the University of Washington.

President Trump last year accused the WHO of being a 'puppet of China' and withdrew funding.

The visit to Wuhan by the WHO team is already mired in controversy after it published terms of reference revealing it will not investigate the Wuhan institute – the only laboratory in China with the highest international bio-security grading – as a possible source of Covid-19.

---

## **The world must investigate all the mounting evidence Covid leaked from a Wuhan lab, writes IAN BIRRELL**

**By Ian Birrell for the Mail on Sunday**

It is a year since the world learned of a deadly new respiratory disease stalking the central Chinese city of Wuhan.

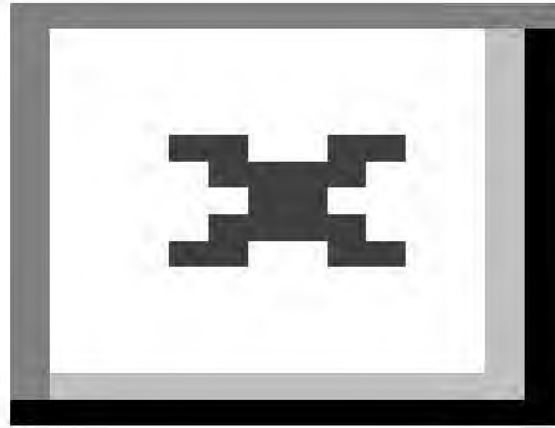
Yet we still know little about how and why the virus spread with such devastating consequences.

It can almost certainly be traced to bats. But we do not know how this pathogen – having evolved an extraordinary ability to infect, causing such damage to different bodily organs – made the jump into human beings.

At last, a World Health Organisation investigation is under way into the origins of the coronavirus, but it is accused of meekly pandering to China's agenda by recruiting patsy scientists and relying on Beijing's dubious data.

Now there is growing clamour from experts around the world that no stone should be left unturned during this inquiry – and that it must include one key element of a hunt which has all the hallmarks of a thriller novel.





•  
**It is a year since the world learned of a deadly new respiratory disease stalking the central Chinese city of Wuhan, writes Ian Birrell. Pictured: Chinese virologist Shi Zhengli, who was dubbed 'Batwoman', at the Wuhan Institute of Virology**

This centres on a cave filled with bats, a clutch of mysterious deaths, some brilliant scientists carrying out futuristic experiments in a secretive laboratory – and a cover-up of epic proportions that, if proven, would have huge consequences for the Chinese Communist Party and the global practice of science.

So what, precisely, is this theory on the origins of this pandemic?

It must be stated clearly that it is just a theory, albeit one based on crumbs of evidence teased out by a few courageous scientists and some online detectives.

New diseases have emerged throughout human history. Most experts believe Covid to be a 'zoonotic' disease that spilled over naturally from animals to humans.

They think it was most likely 'amplified' by an intermediate species – similar to how Chinese people's consumption of civet cats sparked the 2002 Sars epidemic.

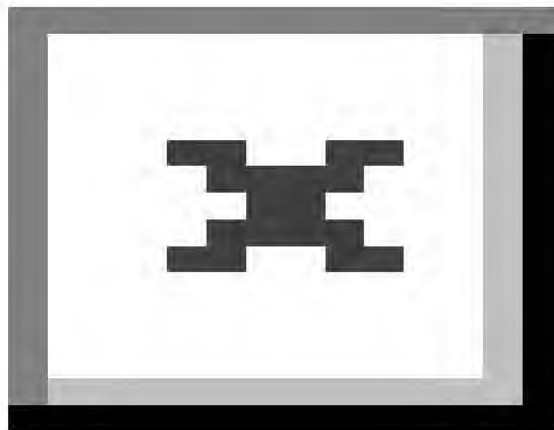
Yet at the same time, Beijing's actions from the outset – covering up the outbreak, blaming a wild animal market that it has since admitted wasn't at fault, barring outside investigators, burying data and silencing its own experts – have served to fuel suspicions.

Last week, leaked documents exposed how the Chinese government, under orders from President Xi Jinping, is strictly controlling all research into the origins of Covid while promoting fringe theories suggesting it came from outside China.

And it is an uncomfortable coincidence that Wuhan – a city buzzing once again, with busy shops, packed restaurants and many people without masks on the streets celebrating New Year – is home to the world's top coronavirus research unit as well as ground zero to a pandemic from a strange new strain.

The clues start with an abandoned copper mine in Mojiang, a hilly region in Yunnan, southern China, where bats roost in a network of underground caves, cracks and crannies.

Two weeks ago, a BBC reporter was prevented from reaching this remote site after being trailed by police for miles along bumpy tracks, then blocked by a lorry and confronted by men at roadblocks saying their job was to stop him.



- 

**Days after three Chinese miners who had been clearing bat droppings inside caves died, Zhengli went to investigate**

---

The previous month, a team of US journalists had also been tailed by plainclothes police who barred their access.

One research team recently managed to take some samples at the mine, but reportedly had them confiscated.

The reason for such secrecy goes back to the end of April 2012 when a 42-year-old man clearing bat droppings in these underground caverns turned up at a nearby hospital with a bad cough, high fever and struggling to breathe.

Within a week, five colleagues had similar symptoms. Three later died, one after doctors spent more than 100 days fighting to save his life – yet the two youngest spent less than a week in the hospital and survived. Sound familiar?

We have since learned from a detailed masters thesis, which included medical reports and radiological scans, that these miners suffered a viral pneumonia, attributed to Sars-like coronaviruses originating from horseshoe bats.

One leading US health body pointed out last year that they had 'an illness remarkably similar to Covid-19'.

Little wonder a prominent vaccine scientist told me: 'This is about as close to a smoking gun as exists.'

Intriguingly, a second thesis three years later also highlighted these cases.

It was written by a student of Oxford-trained virologist Professor George Gao Fu, who is now head of China's Centre for Disease Control and Prevention, which is leading their response to the pandemic.

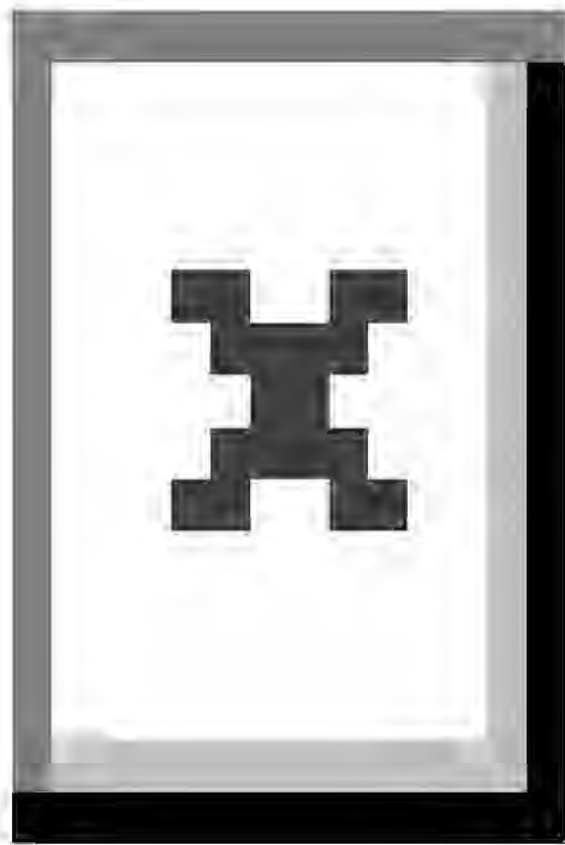
So the Chinese authorities must have known about the dead miners.

Yet they quickly tried to blame the wildlife market in Wuhan as Covid's source, until challenged by respected studies revealed in this newspaper.

Following the miners' deaths, Shi Zhengli, a Wuhan-based virologist known as Batwoman for her expeditions to gather samples in such caves and a member of the team that traced the origin of Sars to bats, went to investigate.

'The mine shaft stank like hell,' she told Scientific American magazine, explaining how her colleagues spent a year discovering new coronaviruses in samples taken from the blood and faeces of bats.

The miners, she claimed, died from a fungal infection.



- 

**'The mine shaft stank like hell,' she told Scientific American magazine, explaining how her colleagues spent a year discovering new coronaviruses in samples taken from the blood and faeces of bats. The miners, she claimed, died from a fungal infection.**

Another expert noted how the miners who died were treated with anti-fungal medications, while those surviving were given other drugs.

'So in addition to the fact that the cases were more Sars-like than fungal-like, this treatment story argues against a fungal [cause],' he said.

'It is very odd that Shi Zhengli would assert these cases were fungal.'

Prof Shi examined samples in her Wuhan lab, a few miles from the infamous market. Studies later found the virus in sewage, but it was not detected in animals.

The Wuhan Institute of Virology is the first laboratory with the highest global bio-safety level in China.

It specialises in the study of bat-borne viruses and is spearheading China's drive to assert itself in bio-technology.

Leaked diplomatic cables reveal that US officials who visited the lab two years ago warned about safety weaknesses and the risks of a new Sars-like epidemic emerging from the site.

The lab's own safety chief also publicly admitted concerns over flawed security systems.

The institute has carried out experiments on bat coronaviruses since 2015 – including research that can increase their virulence by combining snippets from different strains.

Some viruses were injected into special 'humanised' mice that had been created for use in labs with human genes, cells or tissues in their bodies.

These controversial experiments artificially force the evolution of viruses so as to boost our understanding of diseases and their transmissibility.

They help researchers develop new drugs and vaccines.

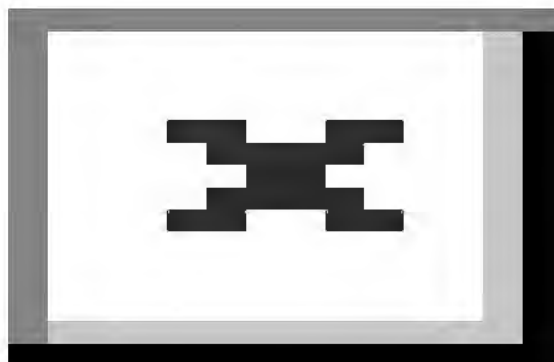
The Wuhan scientists were working with prominent Western experts and supported financially by the National Institutes of Health, the most important US funding body – although this relationship was ended on safety grounds after being revealed by The Mail on Sunday.

Some scientists argue this type of pathogen research is too risky since it could trigger a pandemic from a new disease.

As a result, there was a moratorium on such work by the US for four years under the Obama administration.

Other critics have warned that the Wuhan Institute was constructing 'chimeric' coronaviruses – new hybrid micro-organisms that show no sign of human manipulation.

Now the big question is whether they took samples from the coronavirus that killed the Yunnan miners and, back in their laboratory more than 1,000 miles away, created a new virus that somehow leaked out into their own city.



•

**Leaked diplomatic cables reveal that US officials who visited the lab two years ago warned about safety weaknesses and the risks of a new Sars-like epidemic emerging from the site**

As leading experts have suggested, it would have been a logical step to create chimeric viruses by combining properties from different samples.

Many scientific breakthroughs have emerged from such speculative endeavours.

One medical professor suggested to me that the miners may have died after being exposed to very high doses of coronaviruses while working in deep shafts filled with bats and their droppings.

But the Wuhan scientists then struggled to prove causality in their lab as their samples were too weak to infect human cells.

'This would have stopped them publishing a major finding of a new Sars-like virus infecting humans.

The possibility is they might then have tried modifying the virus to make it better able to infect human cells in a bid to establish the missing link.'

This is, it must be stressed, unproven speculation.

And it is understandable why China wants to comprehend as much as possible about bat viruses that emerge in their country.

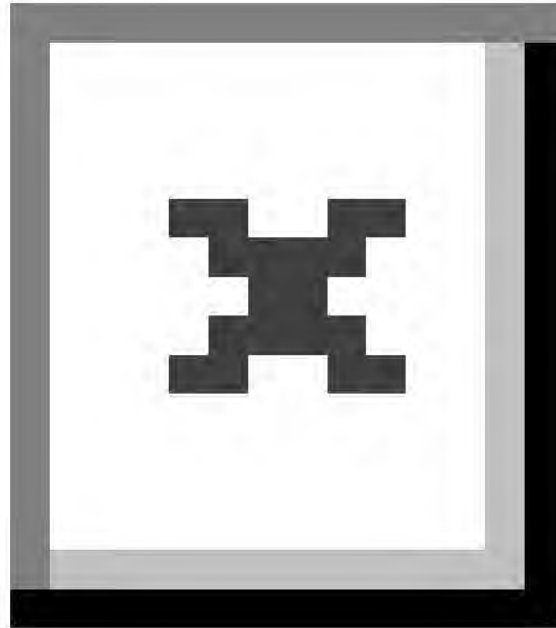
Yet as experts say, there are many unanswered questions centring on Beijing's reluctance to come clean about the miners' cases, viruses and samples held in their labs.

The Wuhan Institute has even taken key databases offline.

Key to all this is the enigmatic Batwoman, Prof Shi. First, she published a genetic sequence for Sars-Cov-2 – the strain of coronavirus that causes Covid-19 – which, despite close analysis of other novel features, ignored its most surprising characteristic.

This is 'the furin cleavage site', a mutation not found on similar types of coronavirus that allows its spike protein to bind so effectively to many human cells.





- 

**The lab's own safety chief also publicly admitted concerns over flawed security systems**

---

Then, last January, Prof Shi and two colleagues published a paper in Nature that revealed the existence of a virus called RaTG13 that was taken from a horseshoe bat and stored on their premises, the biggest repository of bat coronaviruses in Asia.

This paper, submitted on the same day China admitted to human transmission, caused a stir in the scientific world since it revealed the existence of the closest known relative to Sars-Cov-2 with more than 96 per cent genetic similarity.

It underlined that such diseases occur in nature – yet although closely related, it would have taken RaTG13 several decades to evolve in the wild into Sars-Cov-2 and was too distant to be manipulated in a laboratory.

Other experts wondered why there was so little information about this new strain. One reason soon became clear: the name had been changed from that of another virus called Ra4991 identified in a previous paper – but, unusually, not cited in the Nature piece.

This obscured a direct link to the dead miners, which was only confirmed when Nature sought publication of an 'addendum' following complaints.

The Wuhan team also admitted it had eight more Sars viruses from the Yunnan mine that have not been disclosed.

Some scientists say these new details raise many fresh issues – including a 20-point critique put on her blog by an Indian microbiologist called Monali Rahalkar.

Many high-profile experts, however, still dismiss the idea of a lab leak as a conspiracy theory.

Yet David Relman, one of the world's leading experts in this field, points out that scientists could easily have combined a 'furin cleavage site' from one viral ancestor with the backbone of Sars-Cov-2 taken from another.

'Alternatively, the complete Sars-Cov-2 sequence could have been recovered from a bat sample and viable virus recreated from a synthetic genome to study it before that virus accidentally escaped,' wrote Relman, professor of microbiology and immunology at Stanford University's medical school, in a recent paper.

The former US government adviser on bio-security told me he raised the issues out of frustration with scientists who seemed discomforted by the idea.

'This perplexing story does not add up – the possibility of a lab accident cannot be discounted,' he said.

There have also been questions over the apparent disappearance of a young woman researcher who worked in the laboratory.

It has been suggested she might have been patient zero of this pandemic, although this has been denied by the Chinese authorities.

Even if the miners' link was eliminated, it would not rule out the possibility of an accident causing this pandemic.

Alina Chan, a molecular biologist at the Broad Institute of MIT and Harvard, said Wuhan scientists have shown in publications that they have sampled hundreds of bats and people living near bat caves in their search for Sars-related viruses.

'Even if the precursor to Sars-Cov-2 was not from these miners or the Mojiang mine, did they find other viruses that are very closely related that we do not yet know about?' she asked.

It sounds like the plot from a science-fiction film: an engineered virus leaking from a high-tech lab to cause global chaos.

Yet there are plenty of precedents, including two researchers infected with Sars in a Beijing virology lab in 2004.

Studies also show accidents with deadly pathogens are common in labs where people are working with microscopic viruses.

Prof Shi admitted she never expected an outbreak in a city so far from the home of the bats she studied.

She said her first thought on hearing coronaviruses might be the culprit was to wonder: 'Could they have come from our lab?'

She then frantically rushed back to Wuhan to check her records for any possible mishandling of materials – which proves she believed such a leak was a possibility.

There is also another lab in Wuhan with a lower level of bio-security, 500 yards from the animal market.

A study posted by two Chinese scientists in February on a site for sharing research – then pulled two days later – enigmatically claimed 605 bats were kept here, describing how some attacked, bled and urinated on a researcher.

'It is plausible that the virus leaked,' the paper concluded.

Perhaps this theory will unravel as we find out fresh facts.

Or scientists will uncover an alternative explanation for the path of Covid-19 from bats to humans.

Equally, it is possible we may never discover the truth about the origins of this virus.

But at this stage the only certainty is that we all do science – and indeed, investigative reporting – a disservice if this idea is discarded without being properly disproved and devoid of evidence.

We owe this to a world dislocated so terribly by this pandemic.

## **Charles Tyrwhitt is scaling back shirt-making in China after customers complained about the government in Beijing**

**By Harriet Dennys, City Correspondent for the Mail on Sunday**

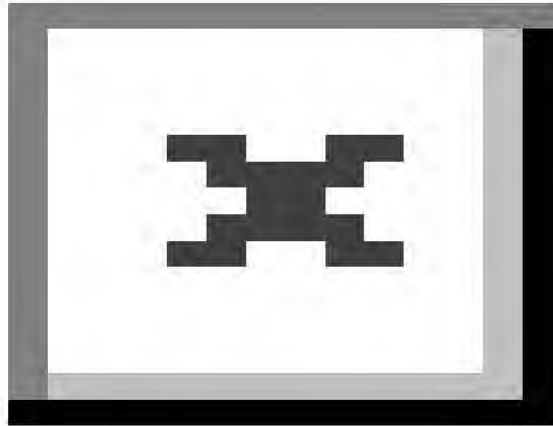
British shirt-maker Charles Tyrwhitt is scaling back manufacturing in China after customers said they no longer wanted to buy products from the country.

Founder Nick Wheeler told The Mail on Sunday: 'We are reacting to what the customer wants.

'A lot of customers are telling us they don't want us to make shirts in China. They don't like the Chinese government.'

As well as reducing the number of garments made in China, the company is ending contracts with cotton suppliers in Xinjiang province from July.

Mr Wheeler also cited wider human rights issues for the move, saying: 'There are areas of Chinese manufacturing using forced labour... it's so far removed from anything we would ever do.'



•  
**British shirt-maker Charles Tyrwhitt is scaling back manufacturing in China after customers said they no longer wanted to buy products from the country. Founder Nick Wheeler told The Mail on Sunday: 'We are reacting to what the customer wants'**

Charles Tyrwhitt is just one of dozens of multinationals scaling back manufacturing in China due to such concerns, coupled with steep tariffs on Chinese goods imported to the US.

A study by Swiss bank UBS last year found three in four US firms with factories in China are either moving or considering moving their operations to other countries, such as Vietnam.

They include Nike and Apple, which could shift almost a third of its iPhone production out of China.

Relations between China and Australia are also deteriorating. Beijing has slapped tariffs on barley and wine and is disrupting imports of many other Australian goods.

Charles Tyrwhitt makes all of its shirts overseas – it has factories in Vietnam, India, Malaysia, Italy, Portugal and Eastern Europe.

In the UK, the company makes shoes in Northampton, ties in Essex and suit fabric in Yorkshire.

Mr Wheeler said customers have asked him to make shirts in the UK, but he said higher manufacturing costs would mean he would have to more than quadruple prices, charging about £140 a shirt.

DAVID R. STILWELL

Assistant Secretary, East Asia Pacific

(b)(6)

**Sender:** "Stilwell, David R" (b)(6)@state.gov>

**Recipient:** Feith, David (b)(6)@state.gov>;  
Buangan, Richard L (b)(6)@state.gov>

**From:** "Stilwell, David R" (b)(6)@state.gov>  
**To:** Feith, David (b)(6)@state.gov>  
**Subject:** FW: For S in Prep for 1200 Monday Meeting with Stilwell  
**Date:** Wed, 6 Jan 2021 15:36:34 +0000

**From:** Stilwell, David R  
**Sent:** Wednesday, January 6, 2021 10:36 AM  
**To:** Kenna, Lisa D (b)(6)@state.gov>  
**Subject:** RE: For S in Prep for 1200 Monday Meeting with Stilwell

Lisa

(b)(5)

Sincere thanks;  
Dave

**From:** Kenna, Lisa D (b)(6)@state.gov>  
**Sent:** Sunday, January 3, 2021 5:38 PM  
**To:** Stilwell, David R <(b)(6)@state.gov>  
**Subject:** Re: For S in Prep for 1200 Monday Meeting with Stilwell

Hi,

(b)(5) See you in the am. Lisa

Sent from my iPhone

On Jan 3, 2021, at 4:21 PM, Stilwell, David R (b)(6)@state.gov> wrote:

Lisa

Sorry to bother you on the weekend. Checking two things before meeting with S tomorrow.

(b)(5)

Thanks  
Dave

**From:** Stilwell, David R  
**Sent:** Sunday, January 3, 2021 3:54 PM  
**To:** SES\_FO Paper <SES\_FOPaper@state.gov>  
**Cc:** Kenna, Lisa D <(b)(6)@state.gov>  
**Subject:** For S in Prep for 1200 Monday Meeting with Stilwell

The upcoming WHO delegation is getting others interested in the Pandemic origins question.

<https://www.dailymail.co.uk/news/article-9106951/Lab-leak-credible-source-coronavirus-outbreak-says-government-official.html>

## China lab leak is the 'most credible' source of the coronavirus outbreak, says top US government official, amid bombshell claims Wuhan scientist has turned whistleblower

- Donald Trump's Deputy National Security Adviser Matthew Pottinger spoke
- Mr Pottinger told politicians leak is emerging as 'most credible source' of virus
- He claimed the pathogen may have escaped through a 'leak or an accident'

By ABUL TAHER, SECURITY CORRESPONDENT FOR THE MAIL ON SUNDAY

**PUBLISHED:** 17:06 EST, 2 January 2021 | **UPDATED:** 07:06 EST, 3 January 2021

One of America's most senior government officials says the most 'credible' theory about the origin of **coronavirus** is that it escaped from a laboratory in **China**.

Matthew Pottinger, who is President **Donald Trump**'s respected Deputy National Security Adviser, told politicians from around the world that even China's leaders now openly admit their previous claims that the virus originated in a Wuhan market are false.

Mr Pottinger said that the latest intelligence points to the virus leaking from the top-secret Wuhan Institute of Virology, 11 miles from the market, saying: 'There is a growing body of evidence that the lab is likely the most credible source of the virus.'

<image001.jpg>



**Matthew Pottinger, who is President Donald Trump's respected Deputy National Security Adviser, says the most 'credible' theory about the origin of coronavirus is that it escaped from from the top-secret Wuhan Institute of Virology in China**

He claimed the pathogen may have escaped through a 'leak or an accident', adding: 'Even establishment figures in Beijing have openly dismissed the wet market story.'

The comments, which were made during a Zoom conference with MPs on China last week, come as a team of experts from the World Health Organisation prepare to fly to Wuhan to investigate how the pandemic began.

Critics fear the probe will be a whitewash given China's influence on the WHO.

'MPs around the world have a moral role to play in exposing the WHO investigation as a Potemkin exercise,' Mr Pottinger told the parliamentarians, in reference to the fake villages created in the Crimea in the 18th Century, intended to convince the visiting Russian Empress Catherine the Great that the region was in good health.

Iain Duncan Smith, the former Tory Party leader who attended the meeting, said Mr Pottinger's comments represented a 'stiffening' of the US position on the theory that the virus came from a leak at the laboratory, amid reports that the Americans are talking to a whistleblower from the Wuhan institute.

<image002.jpg>

**Mr Pottinger (left) told politicians from around the world that even China's leaders now openly admit their previous claims that the virus originated in a Wuhan market are false.**

'I was told the US have an ex-scientist from the laboratory in America at the moment,' he said. 'That was what I heard a few weeks ago.'

'I was led to believe this is how they have been able to stiffen up their position on how this outbreak originated.'

He added that Beijing's refusal to allow journalists to visit the laboratory only served to increase suspicion that it was 'ground zero' for the pandemic.

'The truth is there are people who have been in those labs who maintain that this is the case,' he said.

'We don't know what they have been doing in that laboratory.

'They may well have been fiddling with bat coronaviruses and looking at them and they made a mistake. I've spoken to various people who believe that to be the case.'

<image003.jpg>

**He claimed the pathogen may have escaped through a 'leak or an accident', adding: 'Even establishment figures in Beijing have openly dismissed the wet market story'. Pictured: Chinese**

Sam Armstrong, communications director at the Henry Jackson Society foreign policy think-tank, said: 'With such a senior and respected intelligence official speaking in support of this claim, the time has come for the British Government to seek both answers about and compensation for Covid-19.'

Mr Pottinger, who speaks fluent Mandarin, previously worked as a journalist for Reuters and The Wall Street Journal, including seven years as its China correspondent.

In 2005, he became a US marine and served as a military intelligence officer before being asked to join the US National Security Council in 2017, becoming Asia director before assuming his current role.

His older brother, Paul, is a virologist at the University of Washington.

President Trump last year accused the WHO of being a 'puppet of China' and withdrew funding.

The visit to Wuhan by the WHO team is already mired in controversy after it published terms of reference revealing it will not investigate the Wuhan institute – the only laboratory in China with the highest international bio-security grading – as a possible source of Covid-19.

---

**The world must investigate all the mounting evidence Covid leaked from a Wuhan lab, writes IAN BIRRELL**

**By Ian Birrell for the Mail on Sunday**

It is a year since the world learned of a deadly new respiratory disease stalking the central Chinese city of Wuhan.

Yet we still know little about how and why the virus spread with such devastating consequences.

It can almost certainly be traced to bats. But we do not know how this pathogen – having evolved an extraordinary ability to infect, causing such damage to different bodily organs – made the jump into human beings.

At last, a World Health Organisation investigation is under way into the origins of the coronavirus, but it is accused of meekly pandering to China's agenda by recruiting patsy scientists and relying on Beijing's dubious data.

Now there is growing clamour from experts around the world that no stone should be left unturned during this inquiry – and that it must include one key element of a hunt which has all the hallmarks of a thriller novel.

<image004.jpg>

•

**It is a year since the world learned of a deadly new respiratory disease stalking the central Chinese city of Wuhan, writes Ian Birrell. Pictured: Chinese virologist Shi Zhengli, who was dubbed 'Batwoman', at the Wuhan Institute of Virology**

This centres on a cave filled with bats, a clutch of mysterious deaths, some brilliant scientists carrying out futuristic experiments in a secretive laboratory – and a cover-up of epic proportions that, if proven, would have huge consequences for the Chinese Communist Party and the global practice of science.

So what, precisely, is this theory on the origins of this pandemic?

It must be stated clearly that it is just a theory, albeit one based on crumbs of evidence teased out by a few courageous scientists and some online detectives.

New diseases have emerged throughout human history. Most experts believe Covid to be a 'zoonotic' disease that spilled over naturally from animals to humans.

They think it was most likely 'amplified' by an intermediate species – similar to how Chinese people's consumption of civet cats sparked the 2002 Sars epidemic.

Yet at the same time, Beijing's actions from the outset – covering up the outbreak, blaming a wild animal market that it has since admitted wasn't at fault, barring outside investigators, burying data and silencing its own experts – have served to fuel suspicions.

Last week, leaked documents exposed how the Chinese government, under orders from President Xi Jinping, is strictly controlling all research into the origins of Covid while promoting fringe theories suggesting it came from outside China.

And it is an uncomfortable coincidence that Wuhan – a city buzzing once again, with busy shops, packed restaurants and many people without masks on the streets celebrating New Year – is home to the world's top coronavirus research unit as well as ground zero to a pandemic from a strange new strain.

The clues start with an abandoned copper mine in Mojiang, a hilly region in Yunnan, southern China, where bats roost in a network of underground caves, cracks and crannies.

Two weeks ago, a BBC reporter was prevented from reaching this remote site after being trailed by police for miles along bumpy tracks, then blocked by a lorry and confronted by men at roadblocks saying their job was to stop him.

<image005.jpg>

•

**Days after three Chinese miners who had been clearing bat droppings inside caves died, Zhengli went to investigate**

The previous month, a team of US journalists had also been tailed by plainclothes police who barred their access.

One research team recently managed to take some samples at the mine, but reportedly had them confiscated.

The reason for such secrecy goes back to the end of April 2012 when a 42-year-old man clearing bat droppings in these underground caverns turned up at a nearby hospital with a bad cough, high fever and struggling to breathe.

Within a week, five colleagues had similar symptoms. Three later died, one after doctors spent more than 100 days fighting to save his life – yet the two youngest spent less than a week in the hospital and survived. Sound familiar?

We have since learned from a detailed masters thesis, which included medical reports and radiological scans, that these miners suffered a viral pneumonia, attributed to Sars-like coronaviruses originating from horseshoe bats.

One leading US health body pointed out last year that they had 'an illness remarkably similar to Covid-19'.

Little wonder a prominent vaccine scientist told me: 'This is about as close to a smoking gun as exists.'

Intriguingly, a second thesis three years later also highlighted these cases.

It was written by a student of Oxford-trained virologist Professor George Gao Fu, who is now head of China's Centre for Disease Control and Prevention, which is leading their response to the pandemic.

So the Chinese authorities must have known about the dead miners.

Yet they quickly tried to blame the wildlife market in Wuhan as Covid's source, until challenged by respected studies revealed in this newspaper.

Following the miners' deaths, Shi Zhengli, a Wuhan-based virologist known as Batwoman for her expeditions to gather samples in such caves and a member of the team that traced the origin of Sars to bats, went to investigate.

'The mine shaft stank like hell,' she told Scientific American magazine, explaining how her colleagues spent a year discovering new coronaviruses in samples taken from the blood and faeces of bats.

The miners, she claimed, died from a fungal infection.

<image006.jpg>

•

**'The mine shaft stank like hell,' she told Scientific American magazine, explaining how her colleagues spent a year discovering new coronaviruses in samples taken from the blood and faeces of bats. The miners, she claimed, died from a fungal infection.**

Another expert noted how the miners who died were treated with anti-fungal medications, while those surviving were given other drugs.

'So in addition to the fact that the cases were more Sars-like than fungal-like, this treatment story argues against a fungal [cause],' he said.

'It is very odd that Shi Zhengli would assert these cases were fungal.'

Prof Shi examined samples in her Wuhan lab, a few miles from the infamous market. Studies later found the virus in sewage, but it was not detected in animals.

The Wuhan Institute of Virology is the first laboratory with the highest global bio-safety level in China.

It specialises in the study of bat-borne viruses and is spearheading China's drive to assert itself in bio-technology.

Leaked diplomatic cables reveal that US officials who visited the lab two years ago warned about safety weaknesses and the risks of a new Sars-like epidemic emerging from the site.

The lab's own safety chief also publicly admitted concerns over flawed security systems.

The institute has carried out experiments on bat coronaviruses since 2015 – including research that can increase their virulence by combining snippets from different strains.

Some viruses were injected into special 'humanised' mice that had been created for use in labs with human genes, cells or tissues in their bodies.

These controversial experiments artificially force the evolution of viruses so as to boost our understanding of diseases and their transmissibility.

They help researchers develop new drugs and vaccines.

The Wuhan scientists were working with prominent Western experts and supported financially by the National Institutes of Health, the most important US funding body –

although this relationship was ended on safety grounds after being revealed by The Mail on Sunday.

Some scientists argue this type of pathogen research is too risky since it could trigger a pandemic from a new disease.

As a result, there was a moratorium on such work by the US for four years under the Obama administration.

Other critics have warned that the Wuhan Institute was constructing 'chimeric' coronaviruses – new hybrid micro-organisms that show no sign of human manipulation.

Now the big question is whether they took samples from the coronavirus that killed the Yunnan miners and, back in their laboratory more than 1,000 miles away, created a new virus that somehow leaked out into their own city.

<image007.jpg>

•

**Leaked diplomatic cables reveal that US officials who visited the lab two years ago warned about safety weaknesses and the risks of a new Sars-like epidemic emerging from the site**

As leading experts have suggested, it would have been a logical step to create chimeric viruses by combining properties from different samples.

Many scientific breakthroughs have emerged from such speculative endeavours.

One medical professor suggested to me that the miners may have died after being exposed to very high doses of coronaviruses while working in deep shafts filled with bats and their droppings.

But the Wuhan scientists then struggled to prove causality in their lab as their samples were too weak to infect human cells.

'This would have stopped them publishing a major finding of a new Sars-like virus infecting humans.

The possibility is they might then have tried modifying the virus to make it better able to infect human cells in a bid to establish the missing link.'

This is, it must be stressed, unproven speculation.

And it is understandable why China wants to comprehend as much as possible about bat viruses that emerge in their country.

Yet as experts say, there are many unanswered questions centring on Beijing's reluctance to come clean about the miners' cases, viruses and samples held in their labs.

The Wuhan Institute has even taken key databases offline.

Key to all this is the enigmatic Batwoman, Prof Shi. First, she published a genetic sequence for Sars-Cov-2 – the strain of coronavirus that causes Covid-19 – which, despite close analysis of other novel features, ignored its most surprising characteristic.

This is 'the furin cleavage site', a mutation not found on similar types of coronavirus that allows its spike protein to bind so effectively to many human cells.

<image008.jpg>

•

**The lab's own safety chief also publicly admitted concerns over flawed security systems**

Then, last January, Prof Shi and two colleagues published a paper in Nature that revealed the existence of a virus called RaTG13 that was taken from a horseshoe bat and stored on their premises, the biggest repository of bat coronaviruses in Asia.

This paper, submitted on the same day China admitted to human transmission, caused a stir in the scientific world since it revealed the existence of the closest known relative to Sars-Cov-2 with more than 96 per cent genetic similarity.

It underlined that such diseases occur in nature – yet although closely related, it would have taken RaTG13 several decades to evolve in the wild into Sars-Cov-2 and was too distant to be manipulated in a laboratory.

Other experts wondered why there was so little information about this new strain. One reason soon became clear: the name had been changed from that of another virus called Ra4991 identified in a previous paper – but, unusually, not cited in the Nature piece.



This obscured a direct link to the dead miners, which was only confirmed when Nature sought publication of an 'addendum' following complaints.

The Wuhan team also admitted it had eight more Sars viruses from the Yunnan mine that have not been disclosed.

Some scientists say these new details raise many fresh issues – including a 20-point critique put on her blog by an Indian microbiologist called Monali Rahalkar.

Many high-profile experts, however, still dismiss the idea of a lab leak as a conspiracy theory.

Yet David Relman, one of the world's leading experts in this field, points out that scientists could easily have combined a 'furin cleavage site' from one viral ancestor with the backbone of Sars-Cov-2 taken from another.

'Alternatively, the complete Sars-Cov-2 sequence could have been recovered from a bat sample and viable virus recreated from a synthetic genome to study it before that virus accidentally escaped,' wrote Relman, professor of microbiology and immunology at Stanford University's medical school, in a recent paper.

The former US government adviser on bio-security told me he raised the issues out of frustration with scientists who seemed discomfited by the idea.

'This perplexing story does not add up – the possibility of a lab accident cannot be discounted,' he said.

There have also been questions over the apparent disappearance of a young woman researcher who worked in the laboratory.

It has been suggested she might have been patient zero of this pandemic, although this has been denied by the Chinese authorities.

Even if the miners' link was eliminated, it would not rule out the possibility of an accident causing this pandemic.

Alina Chan, a molecular biologist at the Broad Institute of MIT and Harvard, said Wuhan scientists have shown in publications that they have sampled hundreds of bats and people living near bat caves in their search for Sars-related viruses.

'Even if the precursor to Sars-Cov-2 was not from these miners or the Mojiang mine, did they find other viruses that are very closely related that we do not yet know about?' she asked.

It sounds like the plot from a science-fiction film: an engineered virus leaking from a high-tech lab to cause global chaos.

Yet there are plenty of precedents, including two researchers infected with Sars in a Beijing virology lab in 2004.

Studies also show accidents with deadly pathogens are common in labs where people are working with microscopic viruses.

Prof Shi admitted she never expected an outbreak in a city so far from the home of the bats she studied.

She said her first thought on hearing coronaviruses might be the culprit was to wonder: 'Could they have come from our lab?'

She then frantically rushed back to Wuhan to check her records for any possible mishandling of materials – which proves she believed such a leak was a possibility.

There is also another lab in Wuhan with a lower level of bio-security, 500 yards from the animal market.

A study posted by two Chinese scientists in February on a site for sharing research – then pulled two days later – enigmatically claimed 605 bats were kept here, describing how some attacked, bled and urinated on a researcher.

'It is plausible that the virus leaked,' the paper concluded.

Perhaps this theory will unravel as we find out fresh facts.

Or scientists will uncover an alternative explanation for the path of Covid-19 from bats to humans.

Equally, it is possible we may never discover the truth about the origins of this virus.

But at this stage the only certainty is that we all do science – and indeed, investigative reporting – a disservice if this idea is discarded without being properly disproved and devoid of evidence.

We owe this to a world dislocated so terribly by this pandemic.

## **Charles Tyrwhitt is scaling back shirt-making in China after customers complained about the government in Beijing**

**By Harriet Dennys, City Correspondent for the Mail on Sunday**

British shirt-maker Charles Tyrwhitt is scaling back manufacturing in China after customers said they no longer wanted to buy products from the country.

Founder Nick Wheeler told The Mail on Sunday: 'We are reacting to what the customer wants.'

'A lot of customers are telling us they don't want us to make shirts in China. They don't like the Chinese government.'

As well as reducing the number of garments made in China, the company is ending contracts with cotton suppliers in Xinjiang province from July.

Mr Wheeler also cited wider human rights issues for the move, saying: 'There are areas of Chinese manufacturing using forced labour... it's so far removed from anything we would ever do.'

<image009.jpg>

•

**British shirt-maker Charles Tyrwhitt is scaling back manufacturing in China after customers said they no longer wanted to buy products from the country. Founder Nick Wheeler told The Mail on Sunday: 'We are reacting to what the customer wants'**

Charles Tyrwhitt is just one of dozens of multinationals scaling back manufacturing in China due to such concerns, coupled with steep tariffs on Chinese goods imported to the US.

A study by Swiss bank UBS last year found three in four US firms with factories in China are either moving or considering moving their operations to other countries, such as Vietnam.

They include Nike and Apple, which could shift almost a third of its iPhone production out of China.

Relations between China and Australia are also deteriorating. Beijing has slapped tariffs on barley and wine and is disrupting imports of many other Australian goods.

Charles Tyrwhitt makes all of its shirts overseas – it has factories in Vietnam, India, Malaysia, Italy, Portugal and Eastern Europe.

In the UK, the company makes shoes in Northampton, ties in Essex and suit fabric in Yorkshire.

Mr Wheeler said customers have asked him to make shirts in the UK, but he said higher manufacturing costs would mean he would have to more than quadruple prices, charging about £140 a shirt.

DAVID R. STILWELL

Assistant Secretary, East Asia Pacific

(b)(6)

**Sender:** "Stilwell, David R" (b)(6)@state.gov>

**Recipient:** Feith, David (b)(6)@state.gov>

**From:** (b)(6)@state.gov>

**To:** DiNanno, Thomas G (b)(6)@state.gov>

**Subject:** FW: For Review: Draft Article 5 re China BWC compliance

**Date:** Fri, 20 Nov 2020 23:10:27 +0000

(b)(5) (b)(6)

~~SENSITIVE BUT UNCLASSIFIED~~

**From:** (b)(6)@state.gov>

**Sent:** Friday, November 20, 2020 3:43 PM

**To:** (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>;

(b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** Re: For Review: Draft Article 5 re China BWC compliance

Hi all - (b)(5)

(b)(5)

(b)(5) Best - (b)(6)

**From:** (b)(6)@state.gov>

**Sent:** Friday, November 20, 2020 2:43 PM

**To:** DiNanno, Thomas G (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>;

(b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>;

(h)(6)@state.gov>

**Subject:** Re: For Review: Draft Article 5 re China BWC compliance

AA/S DiNanno—

Resending per our separate email just now. (b)(5)

(b)(5)

Happy to discuss further.

Thanks,

(b)(6)

~~SENSITIVE BUT UNCLASSIFIED~~

**From:** (b)(6)  
**Sent:** Friday, October 30, 2020 5:02 PM  
**To:** DiNanno, Thomas G (b)(6)@state.gov>  
**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** For Review: Draft Article 5 re China BWC compliance

AA/S DiNanno—

(b)(5)

Welcome your review and happy to answer any questions.

Thanks,

(b)(6)

~~SENSITIVE BUT UNCLASSIFIED~~

**From:** (b)(6)  
**Sent:** Friday, May 29, 2020 1:48 PM  
**To:** AVC-CBW-DL <AVC-CBW-DL2@state.gov>  
**Cc:** (b)(6)@state.gov>  
**Subject:** DARs re Chinese CBMs and C-19 RFI

(U//FOUO) Update on Chinese BWC CBMs re COVID-19: CBW (b)(6) (b)(5)

(b)(5)

(b)(5)

~~SENSITIVE BUT UNCLASSIFIED~~

~~SENSITIVE BUT UNCLASSIFIED~~

~~SENSITIVE BUT UNCLASSIFIED~~

**Sender:** (b)(6)@state.gov>  
**Recipient:** DiNanno, Thomas G (b)(6)@state.gov>

**From:** "Park, Christopher J" (b)(6)@state.gov>  
(b)(6)@dni.gov>;  
(b)(6)@state.gov>;  
**To:** (b)(6)@state.gov>;  
(b)(6)@state.gov>  
**Subject:** FW: Flagging: Chris Ford Blog on the Lab-Leak Inquiry  
**Date:** Thu, 10 Jun 2021 16:11:53 +0000

**From:** (b)(6)@state.gov>  
**Sent:** Thursday, June 10, 2021 12:05 PM  
**To:** Park, Christopher J (b)(6)@state.gov>; ISN-CPA-DL <ISN-CPA-DL@state.gov>  
**Subject:** FW: Flagging: Chris Ford Blog on the Lab-Leak Inquiry

**From:** (b)(6)@state.gov>  
**Sent:** Thursday, June 10, 2021 12:04 PM  
**To:** (b)(6)@state.gov>  
**Cc:** T\_SpecAssts <T\_SpecAssts@state.gov>; (b)(6)@state.gov>  
**Subject:** Flagging: Chris Ford Blog on the Lab-Leak Inquiry

Flagging this blog post by Chris Ford, which was posted two hours ago.

# The “Lab-leak” inquiry at the State Department:



Christopher Ashley Ford

2 hours ago · 20 min read

**An Open Letter by former Assistant Secretary  
Christopher Ford**



(June 10, 2021)

In both journalism and policymaking — if not always in politics, or in the sordid world of score-settling by unemployed, second-rate apparatchiks — facts matter, and intellectual integrity matters. In light of the remarkable quantity of errant nonsense that has been written in the last couple of weeks about squabbles inside the U.S. State Department about how to look into the origins of SARS-CoV-2 in the closing weeks of the Trump Administration, I hope this open letter will help set the record straight for those who still care about things such as facts.

I write this because, to put it bluntly, I'm tired of being the butt of stupid and paranoid conspiracy theories being promulgated by those who know better. I recognize that some of these conspiracy narratives are, for any thoughtful person, self-refuting even on their face. (As someone who has been warning the policy community since at least 2007 about threats to the United States and the democratic world from the Chinese Communist Party's geopolitical ambitions — including in two scholarly books and scores of articles and speeches, including in official capacity at the State Department — have I been “protecting” the Chinese Communist Party from accountability? Good grief.)

Nevertheless, I've been around politics long enough to know that an imbecility that slots into a convenient narrative beats an awkward fact any day, and manic performative outrage is much

more fun than sober analysis. So perhaps offering clarity here won't change a thing. Yet I'm still going to try.

I'm also going to try to do something unorthodox here. Rather than using this letter as an opportunity to invent and loudly dispense my own *post hoc* version of what happened — a dishonest revisionism-of-convenience that is in abundant supply, but that I will leave to others — I will try to offer you only specific claims that are supported by contemporaneous documents that enterprising journalists at Fox News and *Vanity Fair* have recently put into the public record.

### ***Part One: A Clear Documentary Record***

In particular, since the question at hand is my own particular role and position in connection with investigating the origins of the COVID-19 virus, I will refer to three unclassified documents that I myself wrote and sent to others at the State Department in early January 2021. (For the record, I did *not* retain these documents when I left the Department. Thankfully, however — at least for me — some of the lies being told on these topics have apparently caused offense among those who know what really happened and clearly *did* retain the documents.) I'm happy to see them in the public record, because they make very clear exactly what I was doing at the time, and why.

The documents are as follows:

1. An e-mail I sent to Tom DiNanno and David Asher on January 4, 2021, which can be found [here](#) thanks to Fox News;
2. An e-mail exchange between me and DiNanno on January 5–6, which can be found [here](#) thanks to Fox News; and
3. A message I sent to a number of senior State Department officials on January 8, which can be found [here](#) thanks to *Vanity Fair*.

### ***Part Two: Pushing for an Honest and Defensible Lab-Leak Inquiry***

So let me begin with a critical point. As detailed in these documents, the squabbling at the State Department was about trying to ensure that we got our facts straight before going public with dramatic steps such as having Secretary Pompeo announce that it was “statistically” impossible for SARS-CoV-2 to be anything other than the product of Chinese government manipulation, sending “demarches” to foreign governments with this theory, or writing up China for having violated the Biological Weapons Convention (BWC) in connection with COVID-19.

The dispute had nothing whatsoever to do with trying to quash investigation into the origins of the virus, and *everything* to do with trying to ensure the honesty and intellectual integrity of that investigation *precisely because* it was vital for us to get the bottom

of the question of COVID “origins,” including the possibility that it came from the Wuhan Institute of Virology (WIV). I strongly *supported* looking into the “lab-leak” hypothesis, which clearly is a real possibility.

But I’m not just saying this now. I said it at the time, too. A lot.

Let’s look at the documents, starting with my January 4 e-mail to DiNanno and Asher. In that message, I highlight that the Arms Control, Verification and Compliance (AVC) Bureau’s scientific “allegations about WIV and Chinese BW work allegedly being the source” of SARS-CoV-2 were “important” and “worrying,” and that these significant claims needed to be evaluated by real scientific experts.

(Yes, I admit that I called the virus the “WuFlu.” At a time before the World Health Organization had come up with “non-stigmatizing” designators such as “Alpha,” and people talked freely about things like the “UK variant” or “South African variant,” it didn’t seem unfair to tag the original virus as having indeed come from Wuhan. I’m afraid at another point I called it the “KungFlu,” too. None of this sounds as clever to me in retrospect as I fear it did at the time. But please remember that these were internal e-mails, not intended to see the light of day. Had I written these messages with an eye to public release, I would not have been so glib. *Mea culpa.*)

Anyway, in my e-mail, I reminded DiNanno and Asher that I had directed them, a month or so earlier, to establish an “expert vetting group or process” that would involve real scientists and intelligence experts in assessing the strength of AVC’s claims. But why, I asked them, had there been no progress in subjecting their assertions to peer review? And why were they running around the interagency spreading these allegations *before* we knew whether these claims could pass muster with objective, third-party scientists?

As I stated in that January 4 message, I wanted to “demand[] more transparency from the PRC here, especially in light of their appalling early cover-up of COVID-19 during the early weeks when honesty and resolute action could have made such a colossal difference in heading off millions of deaths and untold suffering, and in light of their grotesque history of such cover-ups.”

“An investigation of [COVID] origins is very important,” I reiterated, “and I’m delighted to press their feet to the fire for the honesty and clarity they’ve so far refused to provide.”

In the January 4 message, however, I also stressed how important it was that we get our facts straight before going public, *as the U.S. Government*, with the accusation that the Chinese government created the virus:

“[W]e need to make sure what we say is solid and passes muster from real experts *before* we risk embarrassing and discrediting ourselves in public. ... As I have repeatedly said, if it turns out that your conclusions are right, I’ll happily be first in line to scream from the rooftops about them, for it would be a colossal outrage. And you may well *be* right. But I want to be confident about where the facts really lie .... These issues are surpassingly important and we need to get to the bottom of them — but rigorously, defensibly, and truly.”

Hence my annoyance, expressed in that message, that DiNanno had been dragging his feet over my direction to “arrang[e] expert-level bioscience and intelligence vetting of David [Asher’s] work.” I warned DiNanno that such dithering looked bad: “Please don’t continue to feed the impression that AVC is afraid of peer review.” And I insisted that he tell me when they actually planned to get those allegations vetted by real scientists. It’s all there in the e-mail.

The next day, January 5, when I still hadn’t heard back from DiNanno about how they would ensure that their scientific assertions got evaluated by actual scientists, I e-mailed him again. (This was the message at the bottom of the January 5–6 e-mail string Fox News published.) I’ll admit I was grumpy, but I think I was also pretty clear about my focus on ensuring that we got our facts straight on this critical issue of COVID origins:

“It is ... becoming embarrassing — and, if I may say so, more than a little worrisome — that AVC seems still to be ducking an expert-level engagement to evaluate its own WIV allegations, even while it has continued, over the last month or so, to brief its claims to non-experts across the interagency.”

DiNanno responded to my January 5 message with platitudes about how all they were doing was “investigating potential arms control violations.” (This is the middle message in the January 5–6 string.) “That Is [sic] exactly what we have done,” he declared, “and will continue to do.”

Let’s pause here for a moment. If you’re paying attention, you’ll have noticed that with this comment about “investigating potential arms control violations,” DiNanno signaled that AVC regarded itself as focusing not so much upon the origins of SARS-CoV-2, *per se*, as more specifically upon *China allegedly having violated the Biological Weapons Convention by creating the virus*. They seemed to believe that COVID-19 was a biological weapons (BW) effort gone awry — or perhaps even a BW agent *deliberately* unleashed upon the world after Beijing had secretly vaccinated its population, as Asher has rather remarkably suggested in public now that the State Department has terminated his consultancy contract. (You can see him in all his sober, cautious, and methodical glory on YouTube.) In this context, I suppose it was hardly surprising — as I memorialized in my January 4 e-mail to DiNanno — that in the December briefing

when AVC first pitched me on their WIV-origins theory, Asher at one point suggested that SARS-CoV-2 might be a “genetically selective agent” (GSA) that China was using to target us, as evidenced, he said, by the fact that Sub-Saharan Africa wasn’t reporting many COVID cases while the United States was. (Surely you don’t need me to spell out how that notion was both analytically unsupportable on its face *and* contained deeply offensive implications, do you? I’ll leave you to work this out on your own, but, uh, wow.)

Fortunately, however, DiNanno also informed me in his January 5 response that AVC had now indeed set up a panel of experts to discuss the scientific claims, which would occur on Thursday evening, January 7. (Finally! As noted in my January 4 e-mail, I’d been demanding expert vetting of AVC’s “statistical” argument since they first came to me with this issue in my office in December.)

As this panel approached, however, I wrote DiNanno again — on January 6 — to emphasize how important it was that we get real scientists to vet AVC’s allegations before we surfaced such dramatic claims in public:

“As I indicated before, having something that sounds scientific to say when making assertions to laymen is not the same thing as being correct. I do not have the scientific expertise to critique David’s claims. Nor do you. Nor, in fact, does he have actual



technical training in the first place. That doesn't necessarily mean he's wrong, of course, but it does have implications for how to deal with the complex and controversial claims you guys are making about weedy bioscience. ... If you're right, you should be willing to prove it, and to confront experts who — unlike all of the people involved in building and making this argument for you — actually have training in the scientific field about which you make assertions. I really don't know how I could possibly have been more clear about this over the course of the last month. Your allegations are dramatic, and potentially very significant indeed, but it's for precisely that reason that they need to be tested and evaluated carefully. ...Your claims need to be assessed by real experts — not just waved around as bullet points on slide decks in front of non-scientists who are then dared to prove you wrong.”

It was particularly important to get real expert-level assessment of the scientific assertions AVC was making about laboratory origin because the AVC investigation appeared to have carefully *bypassed* State Department experts — both in my own bureau and in AVC itself, each of which has a whole *office* devoted to such questions — and the U.S. Intelligence Community. As I recounted in my January 8 message, “AVC ha[s] apparently been briefing this argument inside the Department and [to] some interagency partners for some weeks, apparently on instructions from a staffer at S/P [the Department's Office of Policy Planning] who told them they should not inform me or others of this work, nor involve the Intelligence Community.”

(A footnote, but perhaps a significant one: That last bit about cutting real experts out of the loop came to me directly from Tom DiNanno. When I asked him why AVC had been doing all this without telling the senior official to whom they reported — that is, me — he told me sheepishly that he had been *instructed* to do things this way by Miles Yu, an S/P staffer at the time. According to DiNanno, Yu had represented that these specific instructions came from the Secretary. DiNanno, then in charge of the verification bureau, gave no sign of ever actually having verified that this was true, however. He appeared to have accepted Yu's representations at face value — in effect, a *de facto* Assistant Secretary of State taking marching orders from a lower-ranking staffer in another bureau, sight unseen. It would be interesting, now, to find out whether: (1) Secretary Pompeo *really* directed that AVC's lab-leak inquiry avoid engaging Departmental BW experts and U.S. intelligence officials, and that it do its work essentially in secret, without telling the official performing the duties of the Under Secretary for Arms Control and International Security; (2) Yu was, at least in this respect, dishonestly freelancing; or (3) DiNanno was just lying to me about his conversation with Yu. Perhaps a good journalist can go figure this out.)

### ***Part Three: The Scientific Panel***

Anyway, at least a first chance for scientific vetting came on January 7, when the panel of experts picked by the AVC Bureau

had a chance to discuss the “statistical” proof that AVC had been relying upon in its assertions to me and others that the SARS-CoV-2 virus *had to have been* the product of Chinese government manipulation.

Unfortunately, as I memorialized the next day (January 8), despite my urging — in the last three paragraphs of my January 6 e-mail — that the other members of the panel “have ... the benefit of actually being able to read the paper beforehand,” AVC had not shared the document ahead of time. As I observed on January 8, “AVC did not provide us with the actual paper before yesterday’s discussion, so most other participants had not had the chance to study it in detail.”

Even so, it did not take the other panelists long to point out some key flaws in the “statistical” argument, which had been presented orally to the panel by the scientist upon whom AVC had apparently most relied in developing that line of argument. (His name is widely known, but I opted not to single him out in my message to Departmental colleagues. I felt that scientists should have some freedom to figure out the science amongst themselves; my concern was with what the *U.S. Government* would assert after they did. Rather than drag him personally into the fray, therefore, my memo reflected the fact that this man’s claims had effectively become *AVC’s argument* as the bureau promoted them in the interagency.)

I'll spare you the blow-by-blow of criticisms made by other panelists about the "statistical" case AVC had been making at least since the first briefing they gave me in my office in December, though you can read the salient details in the January 8 message I sent to a number of my senior State Department colleagues the next day. (My message focused on the statistical argument, given the prominence it had enjoyed in AVC's briefings; I did not purport to summarize the panel's discussion of all questions discussed.) As you'll see if you care to read my several-page account on January 8, the assertions AVC had been making seemed to have major problems. At the least, those assertions were clearly not *yet* ready to be the official position of the U.S. Department of State — which is why I sent that January 8 message warning my colleagues to be careful about running with that particular "statistical" claim.

I also now know, thanks to *Vanity Fair*, that DiNanno responded to my January 8 memo with one of his own a day or two later, after I had left the Department. The reader can find it online, so I won't walk through it here. In light of what you now know from documentary evidence about my *actual* positions at the time, however, you'll easily be able to see what a pack of distortions and falsehoods DiNanno's memo actually was. You might want to lay our two documents side by side and read them carefully in light of the information you now have. I suspect it will be pretty clear that his memo was a dishonest mess of baseless attacks on me — an angry screed addressed to readers whom DiNanno knew did not

have the benefit of knowing what I'd *actually* been saying to him for the last month, and which he sent to his readers at a time when he knew I had resigned from the Department and would have no chance to defend myself and correct the record. (Thankfully, however, our bosses were intelligent folks. One can probably infer how seriously our superiors took DiNanno's memo by the fact that they apparently acted on my note of caution about AVC's scientific claims rather than on DiNanno's shrill and convoluted attempt to defend those assertions and paint me as the villain. More on that below.)

For purposes of this open letter, I'll leave the issues of science to any of you who are scientists. As I told DiNanno in my January 4 message, "I do not have the scientific expertise to critique David's claims. Nor do you. Nor, in fact, does he have actual technical training in the first place." That is *precisely* why I insisted that AVC set up a panel of experts, and why — after they finally got around to arranging this peer review on January 7 — it was my *duty* to convey to my colleagues some of the concerns raised by the experts AVC had put on the panel. It may in the end turn out that science *does* prove that SARS-CoV-2 was the result of human intervention at WIV. But it would have been grievously irresponsible for us to adopt that theory publicly until it was *much* more able to stand on its own two feet than the January 7 panel discussion showed it to be at the time.

#### ***Part Four: Putting Absurd Accusations to Rest***

Some of my former colleagues are now — perhaps, one imagines, out of embarrassment over all of the events described above — asserting that I tried to prevent inquiry into the lab-leak hypothesis and to shut down any investigation of the question. (Thanks to Tucker Carlson making this claim at least twice on the air, by the way, I’ve now gotten vicious and deranged hate mail. Here’s, for instance, what I received on June 3 after Carlson first mentioned me on his show: “*Fuck you dickbag globalist shill. Why the fuck did you shut down the lab leak theory? Go lick some China communist boots.*” This person helpfully signed this missive [cantcuckthetuck@gmail.com](mailto:cantcuckthetuck@gmail.com). Thanks for introducing me to new friends, Tucker.)

Yet no serious person who is actually aware of my interactions with AVC could possibly think I wanted to prevent inquiry into the laboratory hypothesis, as you will already have seen from my e-mails of [January 4](#) and [January 5–6](#), from which I’ve quoted extensively here. (You can even read them online yourself, in their entirety.) You can also see that I was always crystal clear about the importance of getting to the truth by fully investigating the laboratory-leak question, making clear that “if it turns out that [AVC’s] conclusions are right,” I would myself “happily be first in line to scream from the rooftops about them.”

Additional proof of my commitment to looking into WIV — and indeed my focus upon *protecting* efforts to investigate the laboratory-leak question from the discredit and ridicule that might

have smothered it in its crib if we had foolishly hitched Secretary Pompeo, the Department of State, and the Administration to easily-debunkable junk science — can be found in my January 8 message itself. There, I made the point yet again:

“If well-founded, AVC’s findings would be extremely significant .... All participants [in the January 7 panel] seemed ... to agree that China should be pressed for answers about such things as the nature of any work done at WIV on novel coronaviruses, whether any safety incidents occurred, what data is in WIV’s sequencing database (which was mysteriously taken offline early in the pandemic), and when exactly the PRC realized (despite its early representations) that SARS-CoV-2 was only in its ‘wet market’ environmental samples — and not in its live animal samples — leading them to conclude that the market was not the source of the outbreak. These sorts of questions should indeed provide us with lots of grist for pressing China for answers and highlighting its non-transparency and history of failing to report (or even covering up) critical information.”

You’ll also see from my January 8 message that I specifically directed “AVC and ISN [the International Security and Nonproliferation Bureau] to collaborate on drawing up a list of questions and points that could be useful in this regard” in pressing Beijing for answers. So were these the actions of a “dickbag globalist shill” who “lick[s] ... China communist boots”? Or of a serious steward of the honesty and intellectual integrity of

U.S. State Department policymaking dedicated to ensuring we got our facts straight and pushing back against recklessness that would make it *harder* to have the lab-leak issue taken seriously? The reader can make up his or her own mind.

### ***Part Five: A Net Assessment***

So where does that leave us now?

Well, if you want to understand what I was trying to do during in this period of bickering inside the State Department, you now have my own words from internal contemporaneous records. Simply put, I felt it would be essentially *insane* to go public with AVC's scientific assertions — such as, as DiNanno and Asher had urged, making public statements, demarching foreign governments (including China), and finding China in violation of the Biological Weapons Convention over this coronavirus — before getting those scientific assertions vetted by objective, third-party scientists.

Let me be completely clear: From where I was sitting at the time, in the chair of the Under Secretary of State for Arms Control and International Security, I never saw *any* evidence of *any* effort at the State Department to prevent inquiry into the lab-leak idea. To the contrary — as you can now see proven by documents in the public record — I *supported* looking into the lab-leak hypothesis. I cared so much about getting to the truth about WIV, in fact, that I insisted that we do the work in a way that could stand up to



scrutiny. (If you're serious about something being done, you have an obligation to ensure it's done *right*. Wanting less than that just makes you a hack.) And I am aware of *no one anywhere* in the Department who thought that the laboratory hypothesis should be ignored or ruled out.

So there was no conspiracy to quash inquiry into the lab-leak question, at least not at the State Department. But there *was* a demand for intellectual rigor and analytically defensible conclusions in *doing* that important inquiry. For making that demand, however, I make no apologies. I was doing my duty.

What happened after that? Well, one might infer that my State Department superiors in fact *agreed* with the account in my January 8 message of the weaknesses that AVC's expert panel had pointed out in the supposed "statistical" proof that SARS-CoV-2 had to be the result of human intervention. Neither Secretary Pompeo nor any other serving U.S. official, after all, adopted and voiced the scientific assertions about WIV origin that AVC had previously been briefing to interagency stakeholders. Instead, Secretary Pompeo issued a "Fact Sheet" on January 15 that accurately recounted downgraded *intelligence reporting* we had received that seemed relevant to the question of whether COVID-19 had originated at the laboratory.

My superiors at the Department were not shy people, and I have no doubt that had they felt AVC's scientific assertions could pass

muster with real scientists, they *absolutely* would have made this case in public, and loudly. They chose not to do so, however. I suspect that we should read into this their quiet endorsement of my conclusion that AVC's scientific case wasn't ready for prime time. (Perhaps someone can ask my former bosses what precisely they thought of the merit of AVC's "statistical" argument about genomic variation, and why — if it was indeed good science — they seem to have dropped those assertions. I can tell you only one thing about this with certainty: not pursuing AVC's "scientific" argument after the January 7 panel meeting wasn't *my* decision. By the end of the day on January 8, after sending my message of caution, I had left the Department. It would be interesting to know what discussions happened thereafter.)

But I do think that what happened next is important. Instead of focusing on purported "scientific proofs" of laboratory origin, public discussion of the COVID-origins issue thereafter shifted to the questions and suspicions that had been raised about WIV by our intelligence information, as outlined in Secretary Pompeo's "Fact Sheet." This was, in my view, much the better way to go. Before leaving the Department, in fact, I had myself reviewed and cleared an early draft of that "Fact Sheet" as the downgraded information started to go around for interagency clearance, and I was glad to see it later emerge publicly on January 15. Tellingly, the Biden Administration has not questioned that information, and a robust debate is now underway about possible laboratory origin.

But let me be frank. Anyone who cares about ensuring that the lab-leak hypothesis is taken seriously should probably be *thanking* me, rather than vilifying me. I suspect that my push for scientific vetting of AVC's assertions actually helped *save* the lab-leak hypothesis from being preemptively discredited. The fact that we finally now have a credible public debate on the question owes much to the fact that pursuing these issues *wasn't* tainted by the State Department signing the U.S. Government's name to scientific assertions that we already knew hadn't stood up well to scrutiny.

I've been around the arms control and international security business for quite a while now, including spending 2003–06 as Principal Deputy Assistant Secretary in what is now the AVC Bureau. As I told someone the other day — an old and dear friend and former colleague who has now started demonizing me on the basis of the lies being spread about these issues — honesty, accuracy, and intellectual integrity are the strongest weapons that an arms control verifier has. These things need to be safeguarded carefully, for they are priceless. They are what separates the truth-teller from the ideological crank.

I am heartsick at the ugliness of the campaign against me in the press today, but I remain proud of my role in insisting upon fidelity to these values at a time when some officials seemed to be slipping. I dearly hope that we can all now put fratricidal

distractions aside and get back to the *real* task: figuring out what the hell happened in Wuhan.

***Part Seven: Conclusion***

The actual details of all this State Department infighting are, I'll admit, somewhat boring. They certainly don't map satisfyingly onto a moralistic narrative of redoubtable heroes fighting for right against malevolent cabals and institutional corruption. Nor are they well suited for spinning up rants of performative outrage by the occasional pundit disinclined to let little things like "truth" get in the way of the good Nielsen ratings that come from spinning a sexy narrative of deceit and conspiracy.

Nevertheless, these demonstrable facts about the positions I took at the time *are* clear in the record. If that's not important to you, you're reading the wrong letter, and I apologize for wasting your time.

If you've read this far, however, my guess is that facts are indeed important to you. So thanks for listening.

.....

*Dr. Ford served until January 8, 2021, as Assistant Secretary of State for International Security and Nonproliferation, and for the last 15 months of that period also performed the duties of the*

*Under Secretary of State for Arms Control and International Security. Prior to that service at the State Department, he ran the Weapons of Mass Destruction and Counterproliferation Directorate at the U.S. National Security Council staff. A graduate of Harvard, Oxford University as a Rhodes Scholar, and the Yale Law School, Dr. Ford has been a think tank scholar, U.S. Navy intelligence officer, a staff member on five different U.S. Senate Committees, and a senior American diplomat. He is the author of two books on Chinese foreign relations and scores of articles on international security topics, and his personal website may be found at <https://newparadigmsforum.com>.*

(b)(6)

Public Affairs Advisor  
Office of the Undersecretary for Arms Control and International Security  
U.S. Department of State  
Phone: (b)(6) Mobile: (b)(6)  
(b)(6)@state.gov

**Sender:** "Park, Christopher J" (b)(6)@state.gov>

**Recipient:** (b)(6)@dni.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>

**From:** "Ford, Christopher A" [(b)(6)]@state.gov>  
**To:** Park, Christopher J (T) [(b)(6)]@state.gov>  
**Subject:** FW: Federal Grants and Contracts Awarded to EcoHealth Alliance  
**Date:** Mon, 4 Jan 2021 17:48:19 +0000

More here

**From:** [(b)(6)]@state.gov>  
**Sent:** Thursday, December 17, 2020 6:53 PM  
**To:** Ford, Christopher A [(b)(6)]@state.gov>  
**Cc:** Kang, Eliot [(b)(6)]@state.gov>; DiNanno, Thomas G [(b)(6)]@state.gov>; [(b)(6)]@state.gov>  
**Subject:** Fw: Federal Grants and Contracts Awarded to EcoHealth Alliance

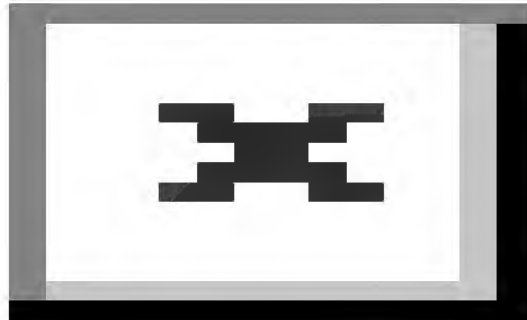
If you want a glance at how much USG money was going to support PRC gain of function research via the "Eco Health alliance," see attached.

# EcoHealth Alliance Orchestrated Key Scientists' Statement on "natural origin" of SARS-CoV-2

[Google](#) [Bookmark](#) [Facebook](#) [More](#) 13

by [Sainath Suryanarayanan](#) of U.S. Right to Know

Emails obtained by U.S. Right to Know show that a [statement in \*The Lancet\*](#) authored by 27 prominent public health scientists condemning "conspiracy theories suggesting that COVID-19 does not have a natural origin" was organized by employees of EcoHealth Alliance, a non-profit group that has [received millions of dollars of U.S. taxpayer funding to genetically manipulate coronaviruses](#) with scientists at the [Wuhan Institute of Virology](#).



### Peter Daszak of the Ecohealth Alliance

The emails obtained via public records requests show that EcoHealth Alliance President Peter Daszak drafted the *Lancet* statement, and that he intended it to “not be identifiable as coming from any one organization or person” but rather to be seen as “simply a letter from leading scientists”. Daszak wrote that he wanted “to avoid the appearance of a political statement”. The scientists’ letter appeared in *The Lancet* on February 18, just one week after the World Health Organization announced that the disease caused by the novel coronavirus would be named COVID-19.

The 27 authors “strongly condemn[ed] conspiracy theories suggesting that COVID-19 does not have a natural origin,” and reported that scientists from multiple countries “overwhelmingly conclude that this coronavirus originated in wildlife.” The letter included no scientific references to refute a lab-origin theory of the virus. One scientist, Linda Saif, asked via email whether it would be useful “to add just one or 2 statements in support of why nCOV is not a lab generated virus and is naturally occurring? Seems critical to scientifically refute such claims!” Daszak responded, “I think we should probably stick to a broad statement.”

Growing calls to investigate the Wuhan Institute of Virology as a potential source of SARS-CoV-2 have led to increased scrutiny of EcoHealth Alliance. The emails show how members of EcoHealth Alliance played an early role in framing questions about possible lab origin of SARS-CoV-2 as “crackpot theories that need to be addressed,” as Daszak told *The Guardian*.

Although the phrase “EcoHealth Alliance” appeared only once in *The Lancet* statement, in association with co-author Daszak, several other co-authors also have direct ties to the group that were not disclosed as conflicts of interest. Rita Colwell and James Hughes are members of the Board of Directors of EcoHealth Alliance, William Karesh is the group’s Executive Vice President for Health and Policy, and Hume Field is Science and Policy Advisor.

The statement’s authors also claimed that the “rapid, open, and transparent sharing of data on this outbreak is now being threatened by rumours and misinformation around its origins.” Today, however, little is known about the origins of SARS-CoV-2, and investigations into its origins by the World Health Organization and *The Lancet* COVID-19 commission have been shrouded in secrecy and mired by conflicts of interests.

Peter Daszak, Rita Colwell, and *The Lancet* Editor Richard Horton did not provide comments in response to our requests for this story.

This article is reprinted from the website of US Right to Know.

**For more information:**

A link to the entire batch of EcoHealth Alliance emails can be found here: [EcoHealth Alliance emails: University of Maryland](#) (466 pages)

---

**From:** (b)(6)@state.gov>

**Sent:** Thursday, December 17, 2020 7:40 AM

**To:** DiNanno, Thomas G (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)

(b)(6)@state.gov>

**Cc:** (b)(6)@state.gov>; (b)(6)@state.gov>; Feith, David

(b)(6)@state.gov>

**Subject:** Federal Grants and Contracts Awarded to EcoHealth Alliance

Attached is a formatted listing of federal grant and contract data for EcoHealth Alliance, sorted by agency and period of performance start. DoD awards records are highlighted.

**Note:**

- All but one of the DoD grants to EcoHealth Alliance grants were for "SCIENTIFIC RESEARCH - COMBATING WEAPONS OF MASS DESTRUCTION". Most grants were awarded by DTRA.
- All of the DoD contracts for EcoHealth Alliance were awarded by DTRA.
- The latest \$4.9M DoD contract for EcoHealth Alliance was terminated for cause in June.

Complete raw data CSV files also available. Source:

[https://www.usaspending.gov/keyword\\_search/%22ecohealth%20alliance%22](https://www.usaspending.gov/keyword_search/%22ecohealth%20alliance%22)

(b)(6)

*Bureau of Arms Control, Verification and Compliance*

*US Department of State*

(b)(6)

NSTS: (b)(6)

JWICS: (b)(6)@state.ic.gov

SIPR: (b)(6)@state.sgov.gov

**Sender:** "Ford, Christopher A" (b)(6)@state.gov>

**Recipient:** Park, Christopher J (T) (b)(6)@state.gov>



**From:** (b)(6)@state.gov>

**To:** Park, Christopher J (b)(6)@state.gov>

**Subject:** Fw: Draft for JMM

**Date:** Thu, 3 Jun 2021 18:17:34 +0000

(b)(6) has shared OneDrive for Business files with you. To view them, click the links below.

- ✕ (b)(5)
- ✕
- ✕

Here was my final write up (sorry I couldn't find it earlier).

(b)(6)

Office of International Health and Biodefense  
Bureau of Oceans and International Environmental and Scientific Affairs  
U.S. Department of State

(b)(6)@State.gov

Desk: (b)(6)

Mobile: (b)(6)

**From:** (b)(6)@state.gov>

**Sent:** Monday, December 14, 2020 6:21 PM

**To:** (b)(6)@state.gov>

**Cc:** (b)(6)@state.gov> (b)(6)@state.gov>

**Subject:** Draft for JMM

Good afternoon (b)(6)

Apologies for the delay. (b)(6) only got through the initial paragraph for editing but sending to you now since you would like to send to JAM tonight. Give me a call if you want me to do clean vs. tracked edits for the (b)(5) Not sure if you want the last paragraph or not, but given SBO Moore's interest in zoonotic outbreaks, I added it.

(SBU) (b)(5)

(b)(5)

(SBU) (b)(5)

(b)(5)

(b)(5)

(SBU) (b)(5)

(b)(5)

(SBU) (b)(5)

(b)(5)

(b)(6)

Office of International Health and Biodefense  
Bureau of Oceans and International Environmental and Scientific Affairs  
U.S. Department of State

(b)(6)@State.gov

Desk: (b)(6)

Mobile: (b)(6) *Please contact me on my mobile phone since I am teleworking most of the time.*

**Sender:** (b)(6)@state.gov>

**Recipient:** Park, Christopher J (b)(6)@state.gov>

**From:** "Stilwell, David R" (b)(6)@state.gov>  
**To:** peter.berkowitz@stanford.edu (b)(6)  
**Subject:** FW: Draft China Cable  
**Date:** Tue, 19 Jan 2021 19:41:02 +0000

This is the article I mentioned last night. A Rogue’s Gallery of Science-for-Sale.

**From:** (b)(6)@state.gov>  
**Sent:** Tuesday, January 19, 2021 2:34 PM  
**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; Turner, Bruce I (h)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; Westphal, Michael A (b)(6)@state.gov>; Billingslea, Marshall S (h)(6)@state.gov>  
**Cc:** Keshap, Atul (b)(6)@state.gov>; Feith, David (b)(6)@state.gov>; Stilwell, David R (h)(6)@state.gov>  
**Subject:** Re: Draft China Cable

Recommend you read the links below and NY Magazine—attached. (b)(5)

(b)(5) There is strong public evidence about PLA programs at WIV, beyond dispute.

(b)(5)

(b)(5) It’s time to get the whole gain of function debacle examined systematically.

<https://dilyana.bg/the-pentagon-bio-weapons/>

<https://armswatch.com/project-g-2101-pentagon-biolab-discovered-mers-and-sars-like-coronaviruses-in-bats/>

<https://armswatch.com/us-diplomats-involved-in-trafficking-of-human-blood-and-pathogens-for-secret-military-program/>

<https://armswatch.com/new-data-leak-from-the-pentagon-biolaboratory-in-georgia/>

---

**From:** (b)(6)@state.gov>  
**Sent:** Tuesday, January 19, 2021 2:25 PM  
**To:** (h)(6)@state.gov>; (h)(6)@state.gov>; (b)(6)@state.gov>; (h)(6)@state.gov>; Turner, Bruce I (h)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; Westphal, Michael A (b)(6)@state.gov>; Billingslea, Marshall S (b)(6)@state.gov>  
**Subject:** Re: Draft China Cable

Hi (b)(6)

(b)(5)

(b)(5)

(b)(5)

(b)(5)

s he ok to proceed in sending it out to colleagues?

Best - (b)(6)

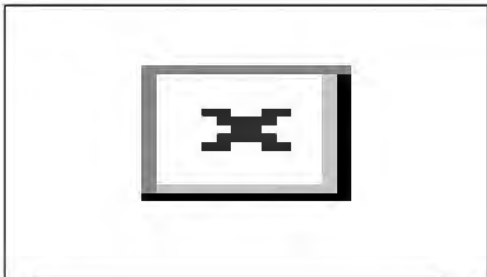
---

Sent from [Workspace ONE Boxer](#)

On January 19, 2021 at 2:14:43 PM EST, (b)(6)@state.gov> wrote:

(b)(6)

Have you read the intel? The S statement? Even the totally unclassified info below? Or the Jamestown Foundation and CNAS articles? <https://jamestown.org/program/chinas-military-biotech-frontier-crispr-military-civil-fusion-and-the-new-revolution-in-military-affairs/>. Also, <https://www.taiwannews.com.tw/en/news/4099020>.



Wuhan lab infected 'humanized mice' with bat coronaviruses in 2019 | Taiwan News | 2021/01/11

TAIPEI (Taiwan News) — The revelation that a researcher at the Wuhan Institute of Virology (WIV) had been infecting "humanized mice" with new bat SARS coronaviruses in 2019 raises the question of whether an accident during these experiments led to the COVID-19 pandemic. On Friday (Jan. 8), a ...

[www.taiwannews.com.tw](http://www.taiwannews.com.tw)

There was zero reason to classify biodefense research that the PRC could declare legitimately at the WIV. Note they deleted SARS research as a CBM under BWC a few years ago until it reappeared this year. Was this because they decided to pursue offense? I continue to believe

there was a lab accident—based on the data. That said, suspicion is warranted and asking questions under BWC is legit.

One thing I am certain about is that there is going to be an investigation on the Hill into COV origins—led by the ruling party.

		(b)(5)
		(b)(5)
(b)(5)	This is not trivial pursuit.	(b)(5)
		(b)(5)

(b)(6)

“China has been conducting research on dangerous dual-use biological and genetic technologies that are prone to causing global pandemics. Since 2009, the defence and public health ministries of Canada and the United Kingdom have sponsored a series of Biological and Toxin Weapons Convention Review Conferences. China is among the more than a dozen countries to routinely submit research and review reports, which would result in monographs for official and public use. China's submissions are a chilling display of what its scientists are doing. For example, for the 2011 review conference, the Chinese government's submissions are on the following

subjects : *"Creation of Man-made Pathogens," "Genomics Laying the Foundation for Pathogen Transformation," "Population-specific Genetic Markers," and "Targeted Drug-delivery Technology Making It Easier to Spread Pathogens."*<sup>33</sup>

The CCP-ordered, systemic destruction of virus samples collected from the earliest infected patients in Wuhan has made it much more difficult to determine the true origin of the novel coronavirus that first broke out in China. With the staggering losses of lives and livelihoods for the entire world, it is imperative for the Chinese government to be open and candid about its flawed bio safety systems and reckless ambition to dominate global bio-medical research. Transparency saves lives, now and in the future.”

**Footnote 33:** "Preventing Biological Threats: What You Can Do," University of Bradford, UK, December 2015, pages 222-224. [https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/75490916457180B1C125823B007E4048/Sfile/Biosecurity+Guide+\(full+version\).pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/75490916457180B1C125823B007E4048/Sfile/Biosecurity+Guide+(full+version).pdf) (attached)

---

**From:** (b)(6)@state.gov>  
**Sent:** Tuesday, January 19, 2021 9:40 AM  
**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)  
 (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>; Turner, Bruce I

(b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; Westphal, Michael A (b)(6)@state.gov>; Billingslea, Marshall S (b)(6)@state.gov>

**Subject:** Re: Draft China Cable

Hi all - (b)(5)  
(b)(5)  
(b)(5) Best (b)(6)

---  
Sent from Workspace ONE Boxer

On January 19, 2021 at 7:12:20 AM EST, (b)(6)@state.gov> wrote:

(b)(6)

I made a few administrative edits and added Mike's suggested revision to Q6.

Thanks

(b)(6)  
Director, Verification, Planning, and Outreach  
Currently Teleworking

---

**From:** (b)(6)@state.gov>  
**Sent:** Monday, January 18, 2021 10:14 PM  
**To:** (b)(6)@state.gov>; (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>; Turner, Bruce I (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; Westphal, Michael A (b)(6)@state.gov>; Billingslea, Marshall S (b)(6)@state.gov>  
**Subject:** Re: Draft China Cable

One small proposed edit:

(b)(5)

---

**From:** (b)(6)@state.gov>  
**Sent:** Monday, January 18, 2021 7:41 PM  
**To:** (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>; Turner, Bruce I (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; Billingslea, Marshall S (b)(6)@state.gov>

**Subject:** Re: Draft China Cable

Please add (b)(6) and T to any edits or comments you have.

(b)(6)  
 Senior Adviser AVC  
 SSD/AVC  
 c: (b)(6)

---

**From:** (b)(6)@state.gov>  
**Sent:** Monday, January 18, 2021 7:32 PM  
**To:** (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>; Turner, Bruce I (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** Re: Draft China Cable

Messrs et Mdmes:

Here is the demarche cable with elements of both the S statement and the fact sheet incorporated (in bold). (b)(5)  
 (b)(5)

Feel free to "adjust" as you see fit but I would not start editing as if this was a "clean sheet." (b)(6)  
 (b)(5)

(b)(6)  
 Senior Adviser AVC  
 SSD/AVC  
 c: (b)(6)

---

**From:** (b)(6)@state.gov>  
**Sent:** Monday, January 18, 2021 6:25 PM

To: (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>; Turner, Bruce (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** Re: Draft China Cable

FYI - This is going take a little while and Mike W mentioned that Marshall will not get to it until the morning. Expect to be in tomorrow at O'Dark Thirty. Assuming I can escape and evade through the roadblocks.

(b)(6)  
 Senior Adviser AVC  
 SSD/AVC  
 c: (b)(6)

---

**From:** (b)(6)@state.gov>  
**Sent:** Monday, January 18, 2021 5:43 PM  
**To:** (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>; Turner, Bruce I (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** Re: Draft China Cable

(b)(6) (b)(5)  
 (b)(5) I will give that a shot but it is very difficult given the excessive limitations of WORD on this GO Browser. If that is not the preferred approach, call me and let me know ASAP.

(b)(6)  
 Senior Adviser AVC  
 SSD/AVC  
 c: (b)(6)

---

**From:** (b)(6)@state.gov>  
**Sent:** Wednesday, January 13, 2021 11:06 AM  
**To:** DiNanno, Thomas G (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** Draft China Cable

Please see this version of the cable. (b)(5)  
 (b)(5)

Thanks,



(b)(6)



(b)(6)

Director, Office of Verification, Planning, and Outreach  
Bureau of Arms Control, Verification and Compliance  
U.S. Department of State

(b)(6)

(b)(6) @state.gov

SENSITIVE BUT UNCLASSIFIED

<Demarche w S stat and FS.docx>

**Sender:** "Stilwell, David R" (b)(6)@state.gov>

**Recipient:** peter.berkowitz@stanford.edu (b)(6)

**From:** "Biegun, Stephen E" [REDACTED]@state.gov>  
**To:** Bulatao, Brian J [REDACTED]@state.gov>;  
[REDACTED]@state.gov>  
**Subject:** FW: CORONA COVID 19 complete holistic assessment from Bill Ross  
**Date:** Wed, 8 Apr 2020 14:57:23 +0000

FYSA

**From:** William Ross <Bill.Ross@infosecforce.com>  
**Sent:** Wednesday, April 8, 2020 10:36 AM  
**To:** Biegun, Stephen E [REDACTED]@state.gov>  
**Subject:** CORONA COVID 19 complete holistic assessment from Bill Ross

Sir

Sent to Dr Birx. Please bring me back to Sate to help

Thank you for your leadership during this crises.

Bill Ross

---

**From:** William Ross <Bill.Ross@infosecforce.com>  
**Sent:** Wednesday, April 8, 2020 10:24 AM  
**To:** [REDACTED]@state.gov [REDACTED]@state.gov>  
**Subject:** CORONA COVID 19 complete holistic assessment from Bill Ross

Dr Birx

Please accept my absolute greatest gratitude for you and the COVID Task Force work. Words can not express !!

I have attached my holistic and comprehensive COVID 19 study. I could not find comprehensive situational report on internet so I created it. Also, attached my Neurological Disorder paper. I created it because nothing like it existed. These papers are scientifically and spiritually linked. Since I am not a trained medical scientist and only a cyber warfare scientist, i do no have skills to link all the science but, I am about to give it my best effort.

One of my greatest skills is I ma an enterprise savant of sorts. I believe I can really help you guys and as I am tireless and have great fortitude. Please consider me to go back to DC to help.

Have attached resume. FYI, I am a retired Air Force Officer and just finished a job at State.

Otherwise ... God Bless you and the entire team

Bill Ross

---

**From:** William Ross <[Bill.Ross@infosecforce.com](mailto:Bill.Ross@infosecforce.com)>  
**Sent:** Sunday, April 5, 2020 1:25 PM  
**To:** (b)(6)@nih.gov (b)(6)@nih.gov  
**Subject:** CORONA COVID 19 complete holistic assessment from Bill Ross

Dear Dr Collins

Please read and forward my extensive study of all things COVID 19. I am forwarding the attached paper that I cobbled together last week as a single source element for all things COVID. It is not my best work but, it is something I think people could use. Some parts are already becoming dated but, in a COVID architecture sense, it is a good baseline. I will release version 2 in two weeks. Note how I played out the White House Risk Management approach. If you think it is worthy, feel free to share with everyone and anyone.

Dr Collins ... as you know, I am a Cyber Scientist and not a medical researcher but given my enterprise talents and insights, I passionately know humanity could use a study like the one I have attached. The COVID data is all over the place such as the CDC, WHO, NIH ... there is not a single source that does what i have done in the attached paper.

Can your team compose the singly source? I have attached my letter to Washington Post that I am sending to news agencies one at a time.

You might remember me as some months ago, I sent my research paper "Neurological Disorders and Some Cancers Common Causes, Treatments, and Possible Cures.

Thank you and your team for your awesome ongoing work.

Very respectfully

Bill Ross

---

**From:** William Ross <[Bill.Ross@infosecforce.com](mailto:Bill.Ross@infosecforce.com)>  
**Sent:** Sunday, April 5, 2020 10:25 AM  
**To:** [letters@washpost.com](mailto:letters@washpost.com) <[letters@washpost.com](mailto:letters@washpost.com)>  
**Subject:** Complete COVID 19 Holistic Analyses


Please let all your readers know this one of a kind complete COVID study is available at the below link and in softcopy if they want to email me at "bill.ross@infosecforce.com.

I know this is not a "normal" post for this group. But, the topic of the attached paper is a critical issue for us all. Here is the email and text I am sending to world wide groups and friends.

"Well, after 5 days of intense writing, I finished CORONA Comprehensive Holistic Review. Please send link or document to whomever you think could use the CORONA soup to nuts study. Stay Healthy my friends.

Please review this document at the below link and or on my Linked In Page. I started the document to explain what the COVID White House Task Force meant by "mitigation" in relationship to risk management and the document has become a complete go to source concerning COVID causes and treatments. It also dives into the science of viruses and etc. If you want, I can send a soft copy to you if you email me at [bill.ross@infosecforce.com](mailto:bill.ross@infosecforce.com). Stay well my friends."

[https://www.academia.edu/42605531/COVID\\_19\\_Causes\\_Treatments\\_and\\_Possible\\_Cures\\_Ver  
sion\\_1\\_04\\_02\\_2020\\_war](https://www.academia.edu/42605531/COVID_19_Causes_Treatments_and_Possible_Cures_Version_1_04_02_2020_war)



COVID 19 Causes, Treatments and Possible Cures  
Version 1 04 02 2020 war

This paper is designed to provide a comprehensive current story as of 3 April 2020 to all our fellow global citizens as we fight the COVID 19 Beast together. The paper will provide links and answers to critically asked questions, define the White

[www.academia.edu](http://www.academia.edu)

Bill Ross  
[Bill.ross@infosecforce.com](mailto:Bill.ross@infosecforce.com)

(b)(6)

"Have a Great Day"

Bill Ross  
[Bill.ross@infosecforce.com](mailto:Bill.ross@infosecforce.com)

(b)(6)

**Sender:** "Biegun, Stephen E" (b)(6)@state.gov>

**Recipient:** Bulatao, Brian J (b)(6)@state.gov>; (b)(6)@state.gov>



**From:** "Park, Christopher J" (b)(6)@state.gov>  
(b)(6)@state.gov>;  
**To:** (b)(6)@state.gov>;  
Mikulak, Robert P (b)(6)@state.gov>;  
(b)(6)@state.gov>  
**Subject:** FW: Congratulations on the nomination — hope you have read this report  
**Date:** Mon, 19 Apr 2021 14:04:58 +0000

I should probably read the attached paper, though since it's 144 pages long and not peer reviewed, I'm not sure when I'll have time.

I assume that I am one of the imbeciles nominated for a purge . . .

---

**From:** Kang, Eliot (b)(6)@state.gov>  
**Sent:** Saturday, April 17, 2021 8:52 PM  
**To:** Park, Christopher J (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** FW: Congratulations on the nomination — hope you have read this report

---

**From:** David Asher <dasher@hudson.org>  
**Sent:** Saturday, April 17, 2021 7:57 PM  
**To:** Kang, Eliot (b)(6)@state.gov>  
**Subject:** Congratulations on the nomination — hope you have read this report

Sort of vindicates what we were pursuing until you cancelled it. Bad decision. There was zero partisanship. You should bring everyone back. People would forgive and forget. FYI- I didn't vote for Trump.

Interesting that "According to the National Intelligence Council (1999), China declared the Wuhan Institute of Biological Products to be 1 of its 8 biological warfare research facilities under the Biological Weapons Convention which China signed up to in 1985. China stated in its declaration to the BWC that WIBP formed part of its "national defensive biological warfare R&D program", listing WIBP as a "Dual Use/BW Defense Research Facility" (Verma, 2020). Croddy (2002) also named the "Wuhan Biological Products Factory" in Wuhan's Wuchang District as an alleged PRC biological warfare research organization that focused on "research and cultivation of various BW agents"."

The WIVP is owned by the WIV and located across the street in the Golden industrial park—apparently linked by a tunnel. You need to purge the imbeciles in charge of BW. They no nothing about advanced biology or warfare, let alone China doctrine and strategy.

Have your expert briefers do a report on Dr. Yuan Zhiming, the WIV Communist Party Secretary and Deputy for all of Wuhan Academy of Sciences....Dr. Evil....

David L. Asher, Ph.D

Senior Fellow

Hudson Institute

1201 Pennsylvania Avenue, NW

Fourth Floor

Washington, DC 20004

o. | c. (b)(6)

<https://www.hudson.org/experts/1299-david-asher>

**Sender:** "Park, Christopher J" (b)(6) @state.gov>

(b)(6) @state.gov>;

**Recipient:** (b)(6) @state.gov>;

Mikulak, Robert P | (b)(6) @state.gov>;

(b)(6) @state.gov>

**From:** [REDACTED]@state.gov>  
**To:** Yu, Miles [REDACTED]@state.gov>  
**Subject:** FW: 45 Deaths, 329 Wrongful Imprisonments, 2,014 Arrests So Far in 2019  
**Date:** Sun, 5 Apr 2020 20:57:08 +0000

Lots of interesting things in here. . . check out the Zoom / China angle.

SENSITIVE BUT UNCLASSIFIED

**From:** [REDACTED] (b)(6)  
**Sent:** Saturday, April 4, 2020 4:56 PM  
**To:** [REDACTED] (b)(6)@state.gov>  
**Subject:** Re: 45 Deaths, 329 Wrongful Imprisonments, 2,014 Arrests So Far in 2019

Dear [REDACTED] (b)(6)

While I research for my own papers on the CCP virus. I found some interesting info via the following web links - these links might be of some interest to you.

1) According to some sources on Twitter, the CCP has this plan to produce huge amount of counterfeit U.S. currency to destroy U.S. economy and consequently our country. As someone with a little training in economics, I found this strategy quite deadly, if true, for us if we don't take precaution ahead of time. This morning, I found this under-reported story--apparently, the CCP is already starting this project this January and this particular shipment was found at the Minneapolis Airport: >[https://www.cbp.gov/newsroom/local-media-release/cbp-officers-seize-900k-worth-counterfeit-us-currency?fbclid=IwAR2MH\\_4jkoaRbKX3UTtWdZRc8\\_YYovXylC1lh16ej1MjAMmChtQFzqt pYlg](https://www.cbp.gov/newsroom/local-media-release/cbp-officers-seize-900k-worth-counterfeit-us-currency?fbclid=IwAR2MH_4jkoaRbKX3UTtWdZRc8_YYovXylC1lh16ej1MjAMmChtQFzqt pYlg)<

2) The well-known Citizen Lab at Univ of Toronto has just released its test on ZOOM this Friday that this app is sending encrypted info to servers in Beijing, China. The founder of ZOOM is from China and has some 700 tech people working behind ZOOM inside China. This is a national security threat: >[https://citizenlab.ca/2020/04/move-fast-roll-your-own-crypto-a-quick-look-at-the-confidentiality-of-zoom-meetings/?fbclid=IwAR2hM7\\_xaYIJ3P4C64e1qbcLoMRQSm0DG5ycnFRWdbXViBx9aatQBa dHmow](https://citizenlab.ca/2020/04/move-fast-roll-your-own-crypto-a-quick-look-at-the-confidentiality-of-zoom-meetings/?fbclid=IwAR2hM7_xaYIJ3P4C64e1qbcLoMRQSm0DG5ycnFRWdbXViBx9aatQBa dHmow)<

3) Perhaps the most interesting link is this publication by four Chinese medical researchers. This article "Bats Coronaviruses in China" was submitted to this international medical journal on January 29, 2019, but was published on March 2, 2019. Apparently, these guys from Wuhan Institute of Virology under China Academy of Sciences knew something back then: ><https://www.mdpi.com/1999-4915/11/3/210?fbclid=IwAR0F5S1nfBFVO315JiA0S8HGWzdjNsKG6gZpshlWY73Ix1BEWE8 Bh7PbVJo><



Stay safe and have a great weekend!

(b)(6)

On 11/27/19 5:11 PM, (b)(6) (S) wrote:  
Thank you (b)(6) happy Thanksgiving.

Sent from my iPhone

On Nov 27, 2019, at 12:50 PM, (b)(6) wrote:

Dear (b)(6) Happy Thanksgiving and best wishes! (b)(6)

On 8/29/19 9:18 AM, (b)(6) (S) wrote:  
Peter, thank you for these link it's very helpful, and appreciated.

SBU

From: (b)(6)

Sent: Wednesday, August 28, 2019 6:49 PM

To: (b)(6)@state.gov>

Cc: (b)(6)

Subject: Re: 45 Deaths, 329 Wrongful Imprisonments, 2,014 Arrests So Far in 2019

Dear (b)(6)

Again, it was great to see you with my colleague (b)(6)

I did a little research on the overseas Chinese students and wrote this piece: The Shadow that Haunts Chinese Students in America: [https://www.theepochtimes.com/the-shadow-haunting-chinese-students-in-america\\_2639207.html](https://www.theepochtimes.com/the-shadow-haunting-chinese-students-in-america_2639207.html) and wrote about the impact of Cultural Revolution on today's China: The Lingering Ghost of the Cultural Revolution: [https://www.theepochtimes.com/the-lingering-ghost-of-the-cultural-revolution\\_2678489.html](https://www.theepochtimes.com/the-lingering-ghost-of-the-cultural-revolution_2678489.html)

Keep in touch and

Kindest regards,

(b)(6)  
(b)(6)

=====

On 8/28/19 11:11 AM, (b)(6) (S) wrote:  
PS terrific WSJ oped this morning!

SBU

---

**From:** (b)(6) (S)  
**Sent:** Wednesday, August 28, 2019 9:27 AM  
**To:** (b)(6)  
**Cc:** (b)(6)  
**Subject:** RE: 45 Deaths, 329 Wrongful Imprisonments, 2,014 Arrests So Far in 2019

(b)(6)

Thanks for adding me to your mailing list. Re: the broken promises idea, here's one take:  
<https://twitter.com/trump020/status/1166502336409174016?s=20>.

Best,

(b)(6)

SBU

---

**From:** (b)(6)  
**Sent:** Wednesday, August 28, 2019 12:01 AM  
**To:** (b)(6)@state.gov>  
**Cc:** (b)(6)  
**Subject:** Fwd: 45 Deaths, 329 Wrongful Imprisonments, 2,014 Arrests So Far in 2019

(b)(6)

Regarding our mailing list, we can add you to our e-newsletter mailing list, which is sent once every 2-3 weeks, mostly to congressional staffers, journalists, and NGOs.

I have included a recent edition of this newsletter below as an example.

Regarding the broken promises idea, both (b)(6) and I felt this is an excellent angle. We will put some time and attention on this, and certainly update you with anything that might help illustrate this phenomenon.

Regards,

(b)(6)

---

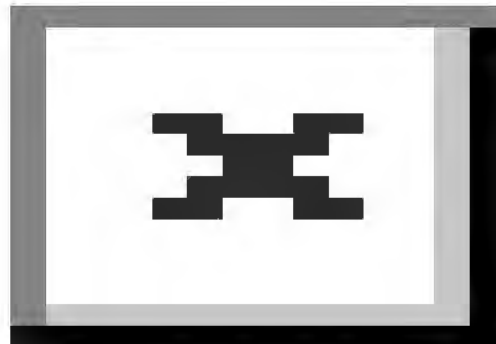
Having trouble reading this email? [View in Browser](#)

Monday, July 29, 2019



TOP STORY

## 45 Deaths, 329 Wrongful Imprisonments, 2,014 Arrests So Far in 2019

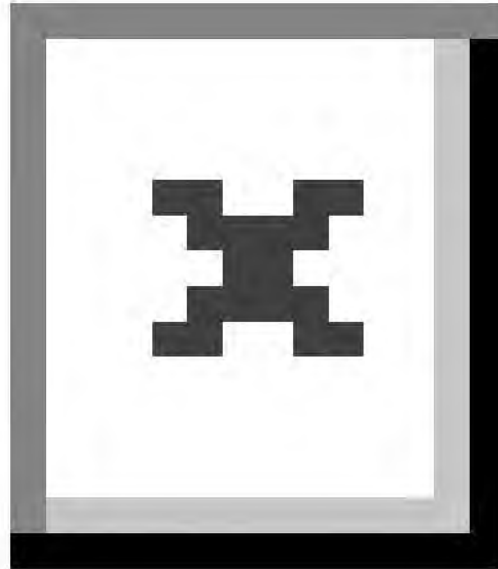


In the first half of 2019, Minghui.org has published 45 cases of Falun Gong practitioners who died after suffering persecution for their faith in China. Also in the same time period, Minghui.org reports that 329 Falun Gong practitioners were wrongfully sent to prison and 2,014 were arrested. While Minghui.org does receive first-hand accounts of persecution from throughout China on a daily basis, the number of reported cases is well below the real number of cases because so many instances of persecution go unreported. Among the 45 newly-confirmed death cases, former martial arts champion Mr. Zhang Hongwei (pictured above, at left before the persecution and at right after he was released from prison) was emaciated,

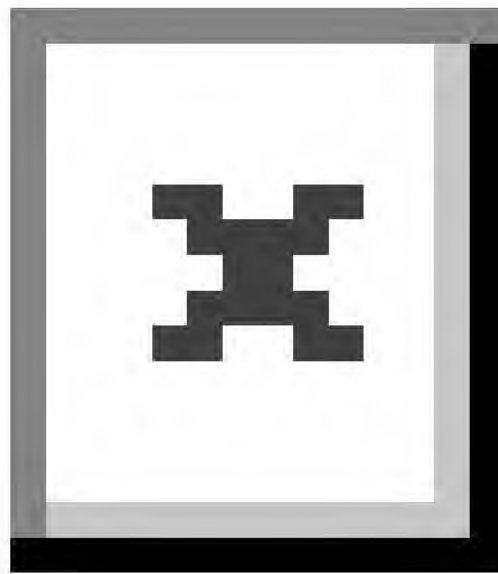
almost blind, and could barely walk when he was released after a 13-year prison sentence. He never fully recovered and died from his injuries on May 3, 2019. [READ MORE](#)

US GOVERNMENT

## Chairsi ½ Statement on 20th Anniversary of the Crackdown on Falun Gong



For the past twenty years, Falun Gong practitioners have experienced appalling and unacceptable human rights abuses in China. Banned by the Chinese government in July 1999, many Falun Gong practitioners have been subjected to arbitrary detention, torture, forced labor, and constant harassment. On this sad anniversary, the Chinese government should end the persecution of Falun Gong and allow an independent and transparent U.N. investigation into the human rights abuses suffered by Falun Gong over the past two decades. [READ MORE](#)

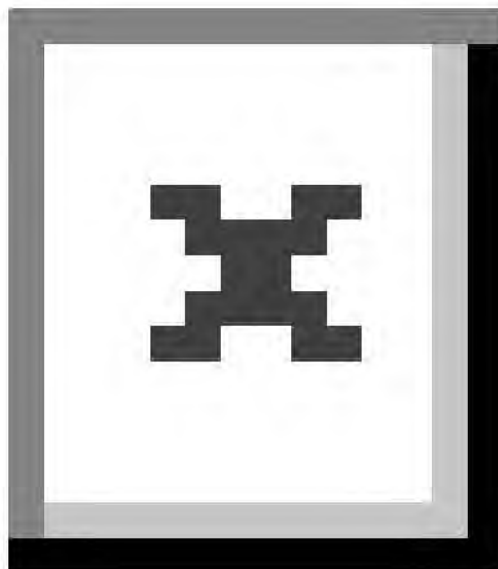
***Wall Street Journal Opinion:*****How I Learned to Stop Hating Falun Gong**

I was a Chinese Communist youth leader when I was in middle school. I was assigned to organize class screenings and discussions of films denouncing the party's enemies. One target was Falun Gong... But when I was 14, a year after I'd emigrated to Canada with my mother, she gave me a flier written by a practitioner. That uncensored information opened my eyes... I felt appalled to learn my entire belief system was a lie. I felt indignant about being made complicit in spreading hatred and demonizing innocent people. [READ MORE](#)

---

ANALYSIS

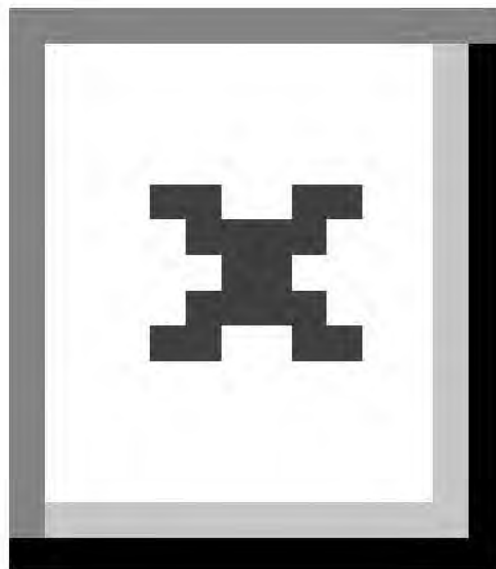
## Falun Gong's secrets for surviving in China



Twenty years ago this week, on July 20, 1999, the Chinese Communist Party (CCP) banned the Falun Gong meditation and spiritual practice, unleashing a vicious campaign of persecution against tens of millions of innocent Chinese. Falun Gong practitioners across China have since been subjected to widespread surveillance, arbitrary detention, horrific

torture and extrajudicial killings, abuses which continue today.

Given the force of the CCP's crackdown, few observers would have expected Falun Gong to survive. But a 2017 study by Freedom House concluded that 7-20 million people in China continue to practice Falun Gong, including many who took up the discipline after the repression began. Moreover, Falun Gong believers in China have responded to CCP persecution with tenacity, nonviolence and creativity. This represents a striking failure for the party. [READ MORE](#)





Want to change how you receive these emails?

You can [update your preferences](#) or [unsubscribe from this list](#)

Falun Dafa Information Center

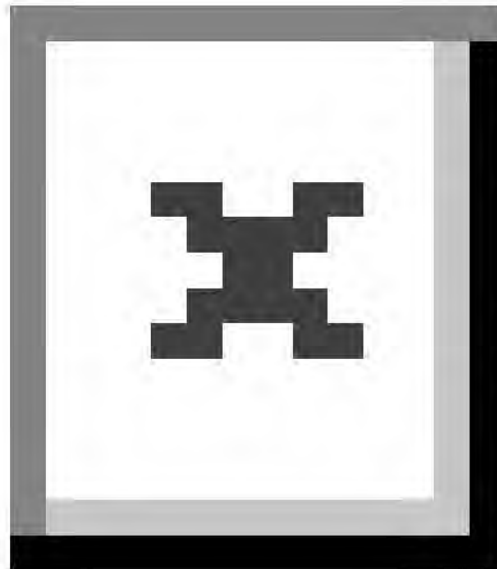
P.O. Box 294

Otisville, NY 10963

Email: [contact@faluninfo.net](mailto:contact@faluninfo.net)

Website: <http://www.faluninfo.net/>

To view past editions of this newsletter, click [here](#)



<happy-thanksgiving.jpg>

**Sender:** [redacted] (b)(6) @state.gov>

**Recipient:** Yu, Miles [redacted] (b)(6) @state.gov>

**From:** "Feith, David"  
**To:** Ortagus, Morgan D (b)(6)@state.gov>  
**CC:** Stilwell, David R (b)(6)@state.gov>  
**Subject:** FW: 11am meeting in 7312  
**Date:** Tue, 12 Jan 2021 00:16:33 +0000

Just bringing this to the top of your inbox, if it's a quieter moment.

Gather tomorrow's S meeting still isn't scheduled, but that's pending with Lisa. To include you two, (b)(6) and Miles.

I'm wheels up to Taiwan at 9am.

Thanks --

**From:** (b)(6)@state.gov>  
**Sent:** Monday, January 11, 2021 5:49 PM  
**To:** Feith, David (b)(6)@state.gov>; Yu, Miles (b)(6)@state.gov>; Brown, Cale (b)(6)@state.gov>; Ortagus, Morgan D (b)(6)@state.gov>; Buangan, Richard L (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>  
**Cc:** Fritz, Jonathan D (b)(6)@state.gov>; Stilwell, David R (b)(6)@state.gov>; Keshap, Atul (b)(6)@state.gov>  
**Subject:** RE: 11am meeting in 7312

This looks great to AVC.

Thank you!!

(b)(6)



(b)(6)

Chief of Staff  
Bureau of Arms Control, Verification and Compliance  
U.S. Department of State  
HST Room 5950

Office: (b)(6)  
Cell:

OpenNet: (b)(6)@state.gov  
ClassNet: (b)(6)@state.sgov.gov  
JWICS: (b)(6)@state.ic.gov

**From:** Feith, David (b)(6)@state.gov>  
**Sent:** Monday, January 11, 2021 5:19 PM  
**To:** Yu, Miles (b)(6)@state.gov>; Brown, Cale (b)(6)@state.gov>; Ortagus, Morgan D (b)(6)@state.gov>; Buangan, Richard L (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>  
**Cc:** Fritz, Jonathan D (b)(6)@state.gov>; Stilwell, David R (b)(6)@state.gov>; Keshap, Atul (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** RE: 11am meeting in 7312

Miles, many thanks. Keen to see responses to the S speech.

On COVID declass, attached is an updated doc reflecting a compromise edit. (b)(5)  
(b)(5)

Welcome views on moving this forward. Thanks all.

--  
David Feith  
Deputy Assistant Secretary  
Bureau of East Asian and Pacific Affairs (EAP)  
U.S. Department of State  
(b)(6) (o)  
(b)(6) (c)  
(b)(6)@state.gov

**From:** Yu, Miles (b)(6)@state.gov>  
**Sent:** Monday, January 11, 2021 2:03 PM  
**To:** Feith, David (b)(6)@state.gov>; Brown, Cale (b)(6)@state.gov>; Ortagus, Morgan D (b)(6)@state.gov>; Buangan, Richard L (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>  
**Cc:** Fritz, Jonathan D (b)(6)@state.gov>; Stilwell, David R (b)(6)@state.gov>; Keshap, Atul (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** RE: 11am meeting in 7312

See my edits.  
I will be gone for about three hours at the VOA and be back around 5pm.  
Cheers!

Miles

**Dr. M. Miles Yu**

Policy Planning Staff (S/P)  
Office of the Secretary of State

(b)(6) (o)  
(b)(6) (c)

Unclass: (b)(6)@state.gov

Class: (b)(6)@state.gov.gov

JWICS: (b)(6)@state.ic.gov

**From:** Feith, David (b)(6)@state.gov>

**Sent:** Monday, January 11, 2021 1:35 PM

**To:** Yu, Miles (b)(6)@state.gov>; Brown, Cale (b)(6)@state.gov>; Ortagus, Morgan D (b)(6)@state.gov>; Buangan, Richard L (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>

**Cc:** Fritz, Jonathan D (b)(6)@state.gov>; Stilwell, David R (b)(6)@state.gov>; Keshap, Atul (b)(6)@state.gov>; (b)(6)@state.gov>

**Subject:** RE: 11am meeting in 7312

Miles and team –

Many thanks for the valuable meeting earlier. Please see edited statement attached. It's cut to 949 words and incorporates the edits we discussed – (b)(5)

(b)(5)  
(b)(5)

The one tweak I couldn't make was Cale's (b)(5), but Cale kindly said he will do some spinning on that.

Appreciate urgent reads.

Thanks.

--

David Feith  
Deputy Assistant Secretary  
Bureau of East Asian and Pacific Affairs (EAP)  
U.S. Department of State

(b)(6) (o)  
(b)(6) (c)

(b)(6)@state.gov

**From:** Brown, Cale (b)(6)@state.gov>

**Sent:** Monday, January 11, 2021 10:58 AM

**To:** Feith, David (b)(6)@state.gov>; Ortagus, Morgan D (b)(6)@state.gov>; Buangan, Richard L

(b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>  
Cc: Fritz, Jonathan D (b)(6)@state.gov>; Stilwell, David R (b)(6)@state.gov>; Keshap, Atul  
(b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** RE: 11am meeting in 7312

I'll be there.

**From:** Feith, David (b)(6)@state.gov>  
**Sent:** Monday, January 11, 2021 10:55 AM  
**To:** Ortagus, Morgan D (b)(6)@state.gov>; Buangan, Richard L (b)(6)@state.gov>; Brown, Cale (b)(6)@state.gov>; DiNanno, Thomas G (b)(6)@state.gov>  
**Cc:** Fritz, Jonathan D (b)(6)@state.gov>; Stilwell, David R (b)(6)@state.gov>; Keshap, Atul (b)(6)@state.gov>; (b)(6)@state.gov>  
**Subject:** 11am meeting in 7312

+ Cale, thanks. And confirming Dinanno (cc'ed).

EAP will be there a little late, around 1105. Thanks all.

**From:** Feith, David  
**Sent:** Monday, January 11, 2021 10:20 AM  
**To:** Ortagus, Morgan D (b)(6)@state.gov>; Buangan, Richard L (b)(6)@state.gov>  
**Cc:** Fritz, Jonathan D (b)(6)@state.gov>; Stilwell, David R (b)(6)@state.gov>; Keshap, Atul (b)(6)@state.gov>  
**Subject:** RE: WSJ: China Allows WHO Experts in to Investigate Covid-19 Origins

All – I'm meeting Miles at 11am in his office, 7312.

AVC Tom Dinanno will join too.

Morgan – any chance you can join?

Thanks.

---

**From:** PA Press Clips <PAPressMediaMonitors@state.gov>  
**Sent:** Monday, January 11, 2021 9:02:01 AM  
**To:** PA Monitoring Group <PAMonitoringGroup@state.gov>  
**Subject:** WSJ: China Allows WHO Experts in to Investigate Covid-19 Origins

China Allows WHO Experts in to Investigate Covid-19 Origins

U.N. agency's top official earlier criticized Beijing for holding up mission

By Chun Han Wong

Updated Jan. 11, 2021

HONG KONG—China has agreed to allow a team of World Health Organization experts to enter the country to investigate the origins of the coronavirus pandemic, days after the United Nations agency's top official criticized Beijing for holding up the mission.

The WHO experts are scheduled to start their mission on Thursday and will be working with Chinese scientists in studying the contagion's origins, China's National Health Commission said in a brief statement on Monday.

A health commission official earlier said the WHO team would be traveling to the central Chinese city of Wuhan, where the coronavirus was first detected and which became the first Covid-19 hot spot.

A WHO spokeswoman said the agency welcomed China's announcement. "We look forward to working closely with our Chinese counterparts on this critical mission to identify the source of the virus and its route of introduction to the human population," she said in an emailed response to queries.

Last week, in a rare rebuke against Beijing, WHO Director-General Tedros Adhanom Ghebreyesus voiced disappointment that China still hadn't given permission to the U.N. agency's investigators to enter the country—an unusual sign of tensions between the WHO and one of its most important members.

The WHO has been negotiating with China's government over the past year to get information on how the coronavirus might have first crossed into humans, as well as access to sites in Wuhan.

Answers could help prevent another virus lurking in animals from making a similar leap, epidemiologists say, as well as help clear up questions over how long the virus had been circulating, or which early mutations enabled it to spread and kill more than 1.9 million people world-wide as of Monday.

At a news briefing last week, Dr. Tedros said several scientists on the WHO team started traveling from their home countries last week after Beijing had agreed to allow entry, but the agency was then told Chinese officials hadn't completed the necessary permissions for the team's arrival. Dr. Tedros said Chinese officials have assured him that "China is speeding up the internal procedure" that would allow the mission to begin.

China's Foreign Ministry said last week that Beijing and the WHO were still discussing details such as when the scientists would visit the country.

The WHO rarely criticizes the national governments that fund its budget and elect its leaders, though the agency has at times struggled to get Beijing's cooperation on issues related to the Covid-19 pandemic. In late January of last year, the WHO panel tasked with declaring a public health emergency expressed frustration that epidemiological data sent from China was too imprecise and paltry to act upon.

**Sender:** "Feith, David"

**Recipient:** Ortagus, Morgan D [REDACTED] (b)(6) @state.gov>;  
Stilwell, David R [REDACTED] (b)(6) @state.gov>

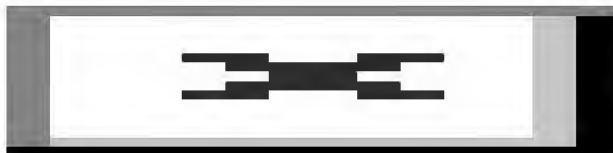


**From:** "FIC Info (NIH/FIC)" <ficinfo@subscriptions.nih.gov>

**To:** <park[redacted]@state.gov>

**Subject:** Funding News for global health researchers from the Fogarty International Center at NIH

**Date:** Tue, 9 Feb 2021 07:23:14 -0600



On behalf of the [Fogarty International Center](#) at the U.S. National Institutes of Health (NIH), the following funding opportunities, notices and announcements *may be of interest to those working in the field of global health research*. Updates are typically distributed once a week.

## COVID-19 Grants and Funding News

Important news from NIH for grantees and grant applicants on the novel coronavirus SARS-CoV-2 and coronavirus disease 2019 (COVID-19).

- [Reminder Requesting Extensions for Early Career Scientists Whose Career Trajectories Have Been Significantly Impacted by COVID-19 \(NOT-OD-21-052\)](#)  
NIH is providing an opportunity for recipients of NIH Fellowship ("F") and NIH Career Development ("K") awards who have been impacted by COVID-19 to request extensions.
- [Notice of Special Interest \(NOSI\): Administrative Supplement Opportunity to Study the Impact of COVID-19 on Global Cancer Prevention and Control \(NOT-CA-21-033\)](#) to support NCI-funded investigators who have existing relationships/partnerships in low- and middle-income countries (LMICs).  
Application Due Date: March 31, 2021
- [Notices of Special Interest \(NOSIs\):](#)  
[Medical Consequences of Smoking and Vaping Drugs of Abuse in Individuals with HIV and COVID-19 \(NOT-DA-21-017\)](#)  
[Long-Term Neurocognitive Consequences of COVID-19 in Individuals Living with HIV and Substance Use Disorders \(NOT-DA-21-018\)](#)  
Applies to due dates on or after May 5, 2021 and subsequent receipt dates through September 7, 2024.

## Featured Fogarty News and Information

- [Fogarty Fellow Dr Matchecane Cossa studied surgical quality in Mozambique](#)
- [View all Fogarty news](#)
- [View and subscribe to Fogarty's \*Global Health Matters\* e-newsletter](#)

- Funding opportunities specific to COVID-19 from the NIH Office of Extramural Research (OER)
- Coronavirus Disease 2019 (COVID-19) information for NIH grant applicants and grant recipients, including NIH funding opportunities specific to COVID-19 from the NIH Office of Extramural Research (OER)
- Coronavirus news, funding and resources for global health researchers compiled by Fogarty

## Funding Opportunities

NIH funding opportunities for which foreign organizations, foreign components of U.S. organizations and/or other foreign components may apply.

- Research on Biopsychosocial Factors of Social Connectedness and Isolation on Health, Wellbeing, Illness, and Recovery (R01 Basic Experimental Studies with Humans Required) (PAR-21-144) and (R01 Clinical Trials Not Allowed) (PAR-21-145)  
Application Receipt Date(s): March 17, 2021
- Exploratory studies to investigate mechanisms of HIV infection, replication, latency, and/or pathogenesis in the context of substance use disorders (R61/R33 - Clinical Trial Not Allowed) (RFA-DA-22-004)  
Application Receipt Date(s): July 14, 2021
- High-throughput Discovery and Validation of Novel Signal Transducers or Small Molecules that Modulate Opioid or other Substance Use Disorder Relevant Pathways (R01 - Clinical Trials Not Allowed) (RFA-DA-22-006)  
Application Receipt Date(s): September 15, 2021
- Using Innovative Digital Healthcare Solutions to Improve Quality at the Point of Care (R21/R33 - Clinical Trial Optional) (PA-21-158) from the Agency for Healthcare Research and Quality  
Application Receipt Date(s): Standard dates apply  
Note: Foreign institutions may participate in projects as members of consortia or as subcontractors.

NIH Notices of Special Interest (NOSIs) that may be of interest to global health researchers.

- Notice of Special Interest (NOSI): Complement in Basic Immunology (CIBI) (NOT-AI-21-008)

Information related to opportunities from other organizations focusing on global health and foreign collaboration.

- EcoHealth Alliance is accepting applications to participate in EcoHealthNet, a virtual undergraduate and graduate-level global

research coordination network funded by the National Science Foundation. The network brings together world-class research scientists from medical, ecology, veterinary, epidemiology, virology, anthropology, climate science, data science, and economics fields that will advance One Health research and education.

Application deadline: February 19, 2021

- The International Development Research Centre (IDRC/CRDI) plans to issue a funding call for One Health research on emerging epidemic threats with a focus on Southeast Asia, Latin America, and sub-Saharan Africa.

Call opens: early March 2021

## Funding News

NIH funding news that may be relevant to global health researchers.

- UPDATE Implementation of Requirement to Submit the Federal Financial Report (FFR) in the Payment Management System (NOT-OD-21-060)
- Reminder Requesting Extensions for Early Career Scientists Whose Career Trajectories Have Been Significantly Impacted by COVID-19 (NOT-OD-21-052)
- Request for Information on the 2021-2026 National Institute of Neurological Disorders and Stroke Strategic Plan (NOT-NS-21-021)  
NINDS is now seeking input from the biomedical community and the public on our draft strategic plan. To ensure full consideration, your responses must be received by March 15, 2021.

## Upcoming Deadlines

- International Research Scientist Development Award (IRSDA)  
Application deadline: March 9, 2021
- Japan Society for the Promotion of Science (JSPS) Fellowships  
Application deadline: March 31, 2021
- International Bioethics Training  
Application deadline: June 4, 2021
- Global Infectious Disease Research Training  
Application deadline, D43 only: August 3, 2021
- HIV Research Training  
Application deadline: August 20, 2021
- Upcoming deadlines for all Fogarty funding opportunities

## More Information

- [View all Fogarty funding opportunities](#)
- [Search all NIH funding opportunities and notices](#)
- [Subscribe to NIH Guide for Grants and Contracts weekly emails](#)



STAY CONNECTED:



SUBSCRIBER SERVICES: [Manage Preferences](#) | [Unsubscribe](#)

You are subscribed to receive Fogarty Funding Opportunities email updates at parkch2@state.gov.

The [Fogarty International Center](#), the international component of the U.S. National Institutes of Health, addresses global health challenges through innovative and collaborative research and training programs and supports and advances the NIH mission through international partnerships. We encourage you to forward this to colleagues who may find it of interest.

---

This email was sent to parkch2@state.gov using GovDelivery Communications Cloud on behalf of: Fogarty International Center at NIH · National Institutes of Health · Bethesda, MD 20892 · (301) 496-2075 · ficinfo@mail.nih.gov



(b)(6)

**Sender:** "FIC Info (NIH/FIC)" <ficinfo@subscriptions.nih.gov>

**Recipient:** <park[redacted]@state.gov>

**From:** (b)(6)@hudson.org>  
**To:** Rich Muller (b)(6)  
DiNanno, Thomas G (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
**CC:** Christopher Yeaw <cyeaw@nsri.nebraskaresearch.gov>;  
Joshua Santarpia <jsantarpia@nsri.nebraskaresearch.gov>;  
Neal Woollen <nwoollen@nsri.nebraskaresearch.gov>;  
(b)(6)@state.gov>;  
Yu, Miles (b)(6)@state.gov>;  
Feith, David (b)(6)@state.gov>  
**Subject:** For tomorrow, Let's not forget —A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence ( Dr. Baric and Dr. Shi)  
**Date:** Thu, 7 Jan 2021 04:40:27 +0000

Rich,

Having Dr. Baric join us is a welcome development since he was in the "room where it happened." As a reminder, a lot of clues can be found in this well known, perhaps well intentioned, and certainly revealing Nature letter describing, but not peer reviewing, Dr. Shi and Baric's gain of function work virological work on batborn Corona viruses as of 2015.

Best regards,

David

David L. Asher, Ph.D

Senior Fellow

Hudson Institute

1201 Pennsylvania Avenue, NW

Fourth Floor

Washington, DC 20004

o. | c. (b)(6)

<https://www.hudson.org/experts/1299-david-asher>

**Sender:** (b)(6)@hudson.org>  
Rich Muller (b)(6)  
DiNanno, Thomas G (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
**Recipient:** (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
Christopher Yeaw <cyeaw@nsri.nebraskaresearch.gov>;  
Joshua Santarpia <jsantarpia@nsri.nebraskaresearch.gov>;  
Neal Woollen <nwoollen@nsri.nebraskaresearch.gov>;

(b)(6)@state.gov>;  
Yu, Miles <(b)(6)@state.gov>;  
Feith, David <(b)(6)@state.gov>

**From:** "Stilwell, David R"  
**To:** SES\_FO Paper <SES\_FOPaper@state.gov>  
**Subject:** For S Scan prior to 1600 5EYES Call  
**Date:** Mon, 4 Jan 2021 20:01:19 +0000

<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>

From NY Mag today: "Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however."

(<https://nymag.com/intelligencer/article/coronavirus-lab-escape-theory.html>)

DAVID R. STILWELL  
Assistant Secretary, East Asia Pacific

(b)(6)

**Sender:** "Stilwell, David R"  
**Recipient:** SES\_FO Paper <SES\_FOPaper@state.gov>

**From:** (b)(6)@state.gov  
 EAP-P-Office-DL <EAP-P-Office-DL@state.gov>;  
 (b)(6)@state.gov>;  
**To:** (b)(6)@state.gov>;  
 Yu, Miles <(b)(6)@state.gov>;  
 R\_Clearances <R\_Clearances@state.gov>;  
 (b)(6)@state.gov>  
 EAP-CM-Unit Chiefs-DL <EAP-CM-UnitChiefs-DL@state.gov>;  
**CC:** (b)(6)@state.gov>;  
 (b)(6)@state.gov>;  
 (b)(6)@state.gov>  
**Subject:** For Flash Clearance (Due 4:30 PM) : AM to S to (b)(5)  
 (b)(5)  
**Date:** Sun, 5 Apr 2020 19:44:49 +0000

(b)(6) has shared OneDrive for Business files with you. To view them, click the links below.

- 18-WUHAN-38.eml.pdf
- 18-BEIJING-138.eml.pdf
- 2020.04.05. AM to S to Declassify WIV Cables.docx

Colleagues,

Apologies for the flash clearance request, but for your review, please see attached an AM

(b)(5)

(b)(5) This information will be provided to Josh Rogin at the Washington Post for a piece he is writing on COVID-19. Please let me know if you have any concerns. Thank you!

Best regards,

(b)(6)

**Sender:** (b)(6)@state.gov  
 EAP-P-Office-DL <EAP-P-Office-DL@state.gov>;  
 (b)(6)@state.gov>;  
 (b)(6)@state.gov>;  
 Yu, Miles <(b)(6)@state.gov>;  
 R\_Clearances <R\_Clearances@state.gov>;  
**Recipient:** (b)(6)@state.gov>;  
 EAP-CM-Unit Chiefs-DL <EAP-CM-UnitChiefs-DL@state.gov>;  
 (b)(6)@state.gov>;  
 (b)(6)@state.gov>;  
 (b)(6)@state.gov>



**From:** "Yu, Miles" (b)(6)@state.gov>  
**To:** H\_Staffers <H\_Staffers@state.gov>;  
(h)(6)@state.gov>  
**CC:** (b)(6)@state.gov>  
**Subject:** FLASH Clearance requested  
**Date:** Tue, 26 May 2020 18:57:52 +0000

Colleagues at H and (b)(6) at L,

A/S Stilwell and I will be briefing a Congressional China Task Force Thursday at a secure level. I am seeking your clearance on this white paper I wrote for the Secretary a few weeks back for distribution to the Members at the briefing. This paper is unclassified and is exclusively open sourced.

A/S Stilwell suggested this and is okay with the distribution.

I would much appreciate your response by 1000 tomorrow, Wednesday, 5/27/2020.

Cheers!

Miles

Dr. M. Miles Yu  
Policy Planning Staff (S/P)  
Office of the Secretary  
Department of State

(b)(6) (o)  
(c)

~~SENSITIVE BUT UNCLASSIFIED~~

**Sender:** "Yu, Miles" (b)(6)@state.gov>  
H\_Staffers <H\_Staffers@state.gov>;  
**Recipient:** (b)(6)@state.gov>;  
(b)(6)@state.gov>

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

**From:** Nature Briefing <briefing@nature.com>  
**To:** (h)(6)@state.gov>  
**Subject:** First new treatment that benefits some people with severe COVID-19  
**Date:** Wed, 16 Jun 2021 18:15:11 +0000

[View this email in your browser](#)

Wednesday 16 June 2021



Hello *Nature* readers,

Today we consider how COVID-19 will leave its mark on global science and learn that monoclonal antibodies seem to help people with severe COVID-19 who don't produce natural antibodies.

x]

An artist's impression of a quantum microscope. (The University of Queensland)

## Quantum microscope squeezes out noise

A microscope that harnesses quantum entanglement can image biological structures with unprecedented sharpness. The technique 'squeezes' light to produce correlations between photons in one of the lasers used by an optical imaging method called stimulated Raman scattering gain microscopy. The squeezed light suppresses noise in the microscope's signal, improving the sensitivity. "In order to achieve this kind of measurement without quantum correlations, you'd have to turn the intensity up," says physicist Warwick Bowen. "But if you turned up the intensity enough to match these results, you'd destroy the sample, so we're able to examine things that previously would have been impossible to see."

New Scientist | 3 min read

Go deeper with optical imaging researcher Eric Potma in the *Nature News & Views* article

Reference: *Nature* paper

## TAKE OUR SALARY AND JOB-SATISFACTION SURVEY

Please contribute to *Nature*'s sixth salary and job-satisfaction survey — available in English, Chinese, French, Portuguese and Spanish.

“This year is a crucial time in the lives and careers of many researchers,” says Karen Kaplan, senior editor of *Nature* Careers. “With so much uncertainty in the wake of the pandemic and other issues, we want to learn how our readers are faring.” Survey results will be made available in an online database later this year, and *Nature* will cover them in a series of stories starting in September. Find out more and take the survey here.

## COVID-19 coronavirus update

### How COVID could change global science

The pandemic could leave its mark on research collaborations for years to come. Many scientists strengthened existing connections and forged new ones. But the pandemic interrupted projects and curtailed travel. And it might have intensified the challenges to international cooperation arising from long-standing political tensions, particularly between the United States and China. There is also growing concern, heightened during the pandemic, about making collaborations equitable for — and beneficial to — all partners.

Nature | 15 min read

---

## **Antibodies help those without their own**

A combination of monoclonal antibodies could be the first new treatment proven to benefit at least some people with severe COVID-19: 24% of treated hospitalized people who did not produce natural antibodies to the disease died within 28 days. Among the control group of people without their own antibodies, 30% died within 28 days. The treatments were studied as part of the large UK RECOVERY trial. The research has been announced but not yet published as a preprint or peer reviewed.

Monoclonal antibodies are designer versions of disease-fighting molecules in the immune system. (They differ from ‘convalescent plasma’ – taken directly from the blood of people recovering from COVID-19 and used to treat others – which has not proven to be beneficial for people hospitalized with disease.) A downside of monoclonal antibodies is that they are expensive to make, and it’s unclear how many people would benefit from them.

Science | 5 min read

Read more: Antibody therapies could be a bridge to a coronavirus vaccine — but will the world benefit? (Nature | 6 min read, from 2020)

Reference: RECOVERY trial press release

### **NOTABLE QUOTABLE**

“How on earth can I offer up evidence for something where there is no evidence?”

---

Virologist Shi Zhengli responds to questions about the hypothesis that the emergence of SARS-CoV-2 is linked to her work at the Wuhan Institute of Virology. (The New York Times | 3 min read)

Read more: The COVID lab-leak hypothesis: what scientists do and don't know (Nature | 11 min read)

---

## Features & opinion

### Ways to save collaborations

Research collaborations are the lifeblood of science. But if trust breaks down or respect is lost, partnerships can be difficult to resuscitate. To keep cooperation alive, team members should identify potential pressure points in advance and promote open discussions to ensure that everyone is still on board. For example, each of the thousands of researchers involved in the Human Cell Atlas project must explain how they will approach well-defined policies and principles on data sharing and publishing.

Nature | 6 min read

### The partnership that helped Flint

Flint, Michigan, is infamous for its water crisis — but it should be known for more than this public-health tragedy, write public-health researchers

E. Yvonne Lewis and Richard Sadler. “Flint is a working example of how community members and academics can collaborate on problems — such as how to collect data or develop robust models of health risks and injustices — and on finding solutions,” they write.

Nature | 10 min read

## **Funding giant Wellcome is tackling racism**

The global antiracism movement sparked by the murder of George Floyd and the pandemic also spurred Wellcome, one of the world’s largest biomedical-research funders. “It was like the door I had been pushing had fallen open,” says Kalaiyashni Puvanendran, who is a diversity and inclusion project manager at the charity. “Suddenly, I was allowed — encouraged! — to progress anti-racism work that I’d wanted to do for years.” She lays out the five principles that Wellcome is using to help turn intentions into actions.

Nature | 5 min read

## **QUOTE OF THE DAY**

“He has already proven that he is very deserving of the degree; we only completed the last requirement.”

The University of Chicago has awarded a posthumous PhD to Yiran Fan, who was murdered during a random shooting spree in Chicago in January. His supervisor Zhiguo He and a colleague defended Fan’s dissertation on his behalf, based on papers they discovered in his Dropbox. (Quartz | 4 min read)

Dig out those AstraZeneca paperweights and Pfizer pens: apparently people are snapping up old merch and conference swag from companies that make COVID-19 vaccines to commemorate their jabs. I think I'll stick with just the antibodies.

This newsletter is always evolving — tell us what you think! Please send your feedback to [briefing@nature.com](mailto:briefing@nature.com).

*Flora Graham, senior editor, Nature Briefing*



Join our community



You received this newsletter because you subscribed with the email address:

(b)(6)@state.gov

Please add **[briefing@nature.com](mailto:briefing@nature.com)** to your address book.

Enjoying this newsletter? You can use this form to recommend it to a friend or colleague — thank you!

Want to switch to the weekly edition or change your email address? Update your preferences.

Had enough? Unsubscribe from the *Nature Briefing*.

Fancy a bit of a read? View our privacy policy.

Forwarded by a friend? Get the Briefing straight to your inbox: subscribe for free.

Would you like to read the Briefing in Arabic? Sign up for the weekly round-up e-mail, curated and translated by the editors of *Nature Arabic Edition*.

هل تود أن تقرأ هذا الموجز باللغة العربية؟ سجّل الآن لتصلك نشرة العلوم الموجزة أسبوعياً، التي يختار محتواها ويترجمه فريق محرري "نبتشر الطبعة العربية".

Nature | The Springer Nature Campus, 4 Crinan Street, London, N1 9XW, United Kingdom



Nature Research, part of Springer Nature.

© 2021 Springer Nature Limited. All rights reserved.

**Sender:** Nature Briefing <briefing@nature.com>

**Recipient:** (b)(6)@state.gov>

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

**From:** Joshua Segal (b)(6)@tier-tech.com>

**To:**

(b)(6)

(b)(6)@cisa.dhs.gov>;  
(b)(6)@cisa.dhs.gov>;

(b)(6)

(b)(6)

(b)(6)

**CC:**

(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6);  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6);  
(b)(6);  
(b)(6)

(b)(6)

(b)(6)@tier-tech.com>;  
(b)(6)

(b)(6)  
(b)(6) @tier-tech.com>;  
(b)(6) @tier-tech.com>;  
(b)(6) @tier-tech.com>;  
(b)(6)

(b)(6) @state.gov>;  
(b)(6) @state.gov>;  
(b)(6) @state.gov>;  
Dolliff, Phillip R (b)(6) @state.gov>;  
(b)(6)

(b)(6) @state.gov>;  
(b)(6) @mcia.osis.gov>;  
(b)(6)  
(b)(6)

(b)(6) @stanford.edu>;  
(b)(6)

park(h)@state.gov (b)(6)  
(b)(6)

(b)(6)

park/(b)@state.gov (b)(6)

(b)(6)

(b)(6)@ndu.edu>;

(b)(6)@dni.gov>;

(b)(6)

ISN-BPS-DL@state.gov <ISN-BPS-DL@state.gov>;

(b)(6)@state.gov>

**Subject:** Disinfo 31 Aug-1 Sept-Convergence on Biological Weapons Convention

**Date:** Wed, 1 Sep 2021 22:55:49 +0000

All,

As predicted in earlier emails, the Chinese/Russian narratives are taking a path to undermine the US in the lead-up to the Ninth BWC Review Conference. Starting about 10 days ago, the “drum-beat” of references to U.S. opposition to a verification protocol started taking a much more prominent role in Chinese narratives., somehow suggesting American hypocrisy in asking for WHO investigation of Wuhan, while allegedly “refusing” to open USAMRIID and other overseas labs that received DoD support. One reason for the current BWC focus could be the intercessional experts group currently meeting in Geneva to discuss measures to strengthen the Convention.

While spread throughout the attached articles, I also attached a quick overview of some of the specific BWC references (which even call out AVC). That is in the document BWC titled attachment. Also recommend reading the Voice of America (polygraph.info) article: “From Beijing, Wrath and Conspiracies After U.S. Virus Report” at following link: [From Beijing, Wrath and Conspiracies After U.S. Virus Report \(polygraph.info\)](#).

Stay safe,

Very Respectfully,

(b)(6)

\*\*\*\*The views expressed in this product are my own, and do not necessarily reflect those of any US Government agency or entity\*\*\*

**Sender:** (b)(6)@tier-tech.com>

**Recipient:** (b)(6)

(b)(6)

(b)(6) @cisa.dhs.gov>;  
(b)(6) @cisa.dhs.gov>;

(b)(6)

(b)(6) @arl.psu.edu>;

(b)(6)

(b)(6) @state.gov>;

(b)(6) @state.gov>;

(b)(6)

(b)(6) @state.gov>;

(b)(6) @state.gov>;

(b)(6) @state.gov>;

(b)(6) @state.gov>;

(b)(6) @state.gov>;

(b)(6) @state.gov>;

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6) @arl.psu.edu>;

(b)(6)

(b)(6) @tier-tech.com>;

(b)(6)

(b)(6)

(b)(6) @tier-tech.com>;

(b)(6) @tier-tech.com>;

(b)(6) @tier-tech.com>;

(b)(6)

(b)(6)



(b)(6)@state.gov>;

(b)(6)@state.gov>;

(b)(6)@state.gov>;

Dolliff, Phillip R (b)(6)@state.gov>;

(b)(6)

(b)(6)@state.gov>;

(b)(6)@mcia.osis.gov>;

(b)(6)

(b)(6) >;

(b)(6)@stanford.edu>;

(h)(6)@str.us>;

(b)(6)

(b)(6)

park(h)@state.gov (b)(6)

(b)(6)

park(h)@state.gov (b)(6)

(b)(6);  
(b)(6)@ndu.edu (b)(6)  
(b)(6)@dni.gov (b)(6)  
(b)(6)  
ISN-BPS-DL@state.gov <ISN-BPS-DL@state.gov>;  
(b)(6)

Biological Convention Quick overview-Excerpts

China/3. News & Social Media/Ta Kung Pao/2021/09

He pointed out that AVC skipped the traceability of the virus itself and directly shifted the focus of its investigation to "China is suspected of violating the **Biological Weapons Convention**." It seems to have determined that the virus came from a Wuhan laboratory, but could not produce any evidence, and intends to evade expert evaluation.

The "**Biological Weapons Convention**" meeting was held on August 30. U.S. politicians have groundlessly accused China of violating the **convention**, but the irony is that as early as 2001, the United States exclusively withdrew from the negotiated process of an agreed multilateral **biological weapons** verification mechanism, and has so far exclusively opposed the resumption of negotiations. Wang Wenbin said bluntly that if the United States hadn't gotten in the way, this mechanism would have been established long ago, and the **biological** activities of various countries, including laboratory activities, could be placed under multilateral supervision and verification.

#### **ta-kung-pao-626874**

0400Z 1Sep2021

China/3. News & Social Media/Ta Kung Pao/2021/09

•AVC bypassed experts and accused China of "violating the **Biological Weapons Convention** and manufacturing the new crown virus." Asher even claimed that the new crown virus was a "**biological weapon**" specifically targeted at the United States. serious.

#### **scio-1711623**

0400Z 31Aug2021

China/1. National State Entities/State Council Information Office/2021/08

" However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has

repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US.

### **china-daily-WS612ecdffa3101e7ce976151a**

0400Z 31Aug2021

China/1. National State Entities/China Daily/2021/08

" However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US.

### **huanqiu-world-44aA47WdlaL**

1850Z 31Aug2021

China/1. National State Entities/Huanqiu/world

" However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US.

### **fmprc-t1903401**

0400Z 31Aug2021

China/1. National State Entities/Ministry of Foreign Affairs/2021/08

" However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to

the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US.

### xinhua-20210831-1310159586

0400Z 31Aug2021

China/3. News & Social Media/Xinhua/2021/08

At the regular press conference that day, a reporter asked: It is understood that the "**Biological Weapons Convention**" meeting will be held on the 30th. The United States exclusively withdrew from the already reached in 2001

Wang Wenbin said that the "**Biological Weapons Convention**" meeting will be held on the 30th. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. with

### fmprc-t1903401

0400Z 31Aug2021

China/1. National State Entities/Ministry of Foreign Affairs/2021/08

In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 students worldwide

### huanqiu-world-44a1m8ebNEj

1458Z 31Aug2021

China/1. National State Entities/Huanqiu/world

" However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has

repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US.

### **chinanews-9555131**

0400Z 31Aug2021

China/3. News & Social Media/China News Service/2021/08

Wang Wenbin said that the United States has always advocated "openness" and "transparency," but the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide.

### **huanqiu-world-44Zwhoitn4i**

1236Z 31Aug2021

China/1. National State Entities/Huanqiu/world

" However, in terms of biomilitarization activities and the safety of **biological** laboratories, the United States is the least open and most opaque country. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide.

### **huaxia-6768624**

1329Z 31Aug2021

China/3. News & Social Media/Huaxia/2021/08

Wang Wenbin said that the "**Biological Weapons Convention**" meeting will be held on the 30th. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

### **huaxia-6768349**

1210Z 31Aug2021

China/3. News & Social Media/Huaxia/2021/08

China News Service, Beijing, August 30 (Reporter Huang Yuqin) Chinese Foreign Ministry spokesman Wang Wenbin said at a regular press conference on the 30th that the United States has repeatedly advocated investigations into Chinese laboratories, which is the same as the United States' efforts to verify **biological** laboratories so far. The insisted position contradicts. In terms of traceability and the establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is the least open and most opaque. A reporter asked questions. It is understood that the "**Biological Weapons Convention**" meeting will be held on August 30. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What's China's comment on this? Wang Wenbin said that China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition. He pointed out that, in fact, the United States is the country with the most biomilitarization activities and the most opaque in the world. If it were not for the United States' exclusive withdrawal from the negotiated process that had been agreed in 2001, and its exclusive opposition to the resumption of negotiations so far, this mechanism would have been established long ago, and the **biological** activities of various countries, including laboratory activities, could be placed under multilateral supervision and verification. Down. Wang Wenbin said that it is worth noting that recently, the United States has repeatedly advocated investigations into Chinese laboratories on the issue of the traceability of the new crown virus. This is contrary to the position the United States has so far adhered to on the issue of **biological** laboratory verification. Since the United States previously claimed that activities in the **biological** field are technically unverifiable, the request to investigate the Wuhan laboratory is purely political blackmail. Conversely, if the United States believes that it is feasible to investigate the Wuhan laboratory, there is no reason to oppose the establishment of a multilateral bio-verification mechanism, and there is no reason to refuse to open the Fort Detrick base and more than 200 **biological** laboratories around the world to accept the international community's approval. survey. Wang Wenbin emphasized that this self-contradictory practice of the US shows that the so-called openness and transparency claimed by the US are nothing but fooling rhetoric. In terms of traceability and the establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is the least open and most opaque.

**PLACN2021083104**

0400Z 31Aug2021

China/1. National State Entities/PLA Daily/2021/08/31

Wang Wenbin said that the "**Biological Weapons Convention**" meeting will be held on the 30th. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**.

Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to conduct supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

### PeoplesDailyOverseas2021083102

0400Z 31Aug2021

China/1. National State Entities/People's Daily Overseas/2021/08/31

At the regular press conference that day, a reporter asked: It is understood that the "**Biological Weapons Convention**" will be held on the 30th. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What is China's comment?

Wang Wenbin said that the "**Biological Weapons Convention**" meeting will be held on the 30th. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

### Weibo-Straight-News

1317Z 31Aug2021

China/3. News & Social Media/Weibo

#Foreign Affairs Department's response to South Korea's associations against 德特里克堡# [A South Korean agency sues the United States for its "Jupiter" plan for **biological** and chemical **weapons** in South Korea. Ministry of Foreign Affairs: The United States should truthfully explain] August 31, Spokesperson Wang Wenbin presided over diplomacy Ministry regular press conference. A reporter asked: According to reports, the Korean Fire Safety Education and Culture Association recently filed a lawsuit requesting the court to find that the US military in South Korea repeatedly transported highly toxic and hazardous substances to South Korea from 2017 to 2019 in violation of relevant South Korean laws. The defendant One is the Fort Detrick **Biological** Laboratory of the US Army. What is the spokesperson's comment on this? Foreign Ministry spokesperson Wang Wenbin said that I have noticed relevant reports. The report mentioned that the U.S. military had established a Bacillus anthracis laboratory at a U.S. military base in South Korea as early as September 1998. Since June 2013, it has secretly carried out a **biological** and chemical **weapons** research program in South Korea, the "Jupiter" program. After the "Jupiter" plan was exposed, not only did the U.S. military fail to disclose the real situation of the **biological** and chemical **weapons** experiments conducted at the



U.S. military bases in South Korea, but the number of biochemical **weapons** samples sent by the U.S. military to South Korea increased year by year. There are many laws in South Korea regarding the transportation and related matters of the above-mentioned substances. Experiments are strictly limited. However, the US military stationed in South Korea ignored South Korean laws and secretly transported these substances and conducted biochemical experiments in South Korea without any notification procedures, endangering the lives and health of the people. The United States has always advocated "openness" and "transparency." However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US. Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort Detrick base, and on the other hand, it requires investigation of the Wuhan laboratory. On the issue of whether American laboratories have engaged in research on the enhancement of virus functions, the United States has so far failed to provide truthful explanations to the international community. All this shows that if it conflicts with the US's own interests, the US will not consider any openness and transparency at all. The so-called "openness" and "transparency" by the United States are just like "democracy" and "human rights," but they are just a cover used by the United States to deceive the international community and suppress other countries.

### **Weibo-Moon-my-home**

1643Z 31Aug2021

China/3. News & Social Media/Weibo

Ironically, more than sixty years ago, the Fort Detrick **Biological** Laboratory of the US Army bought part of the data of the Japanese invaders 731 Unit for only 250,000 yen, and gradually approached the truth in Detburg. Xinhua News Agency reporter Huang Aiping calmly and sharply issued three "soul" questions to Fort Detrick: What did Fort Detrick get from Unit 731? Is there a potential connection between the new coronavirus and the US **biological** laboratory? Fort Detrick, what are you afraid of? When each question is raised, Ai Ping lists a series of related materials in an orderly manner. The suspicion behind Debord was thought-provoking. After the video was released, it was immediately discussed by overseas netizens. In less than two days, more than 500,000 views on YouTube, Facebook, and Twitter, and more than 2,000 comments were forwarded. strip. Some netizens "stand up and applaud": "Good job! Continue to investigate and uncover the Germanborg scandal for the benefit of mankind. The whole world wants to know the truth, including the American people." Some netizens also suggested: "WHO should organize A professional team digs deep and reveals the truth to the world." Some netizens couldn't help but praise the reporter sister: "When she likes this little sister and tells the sinful American lies, she is calm and decent." Recently, an international project Polls show that among the participating Internet users, more than 83% want the WHO to investigate the United States. Don't forget that the United States has the largest number of **biological** laboratories in the world, and is the only country blocking the negotiation of the

verification protocol of the **Biological Weapons Convention**. It is time for the United States to stand up and explain it clearly to the world.

### **Weibo-Global-Times**

1241Z 31Aug2021

China/3. News & Social Media/Weibo

[Korea Association sued the US Army Fort Detrick **Biological** Laboratory, the Ministry of Foreign Affairs responded] On August 31, the spokesperson of the Ministry of Foreign Affairs Wang Wenbin hosted a regular press conference. The following is part of the content. Q: It is reported that the Korean Fire Safety Education and Culture Association recently filed a lawsuit requesting the court to find that the US military in South Korea has repeatedly transported highly toxic and hazardous substances to South Korea from 2017 to 2019 in violation of relevant South Korean laws. One of the defendants For the US Army Fort Detrick **Biological** Laboratory. Does the spokesman have any comment on this? A: I have noticed the relevant report. The report mentioned that the U.S. military established a Bacillus anthracis laboratory at the base of the U.S. Army in South Korea as early as September 1998. Since June 2013, it has secretly carried out a biochemical research program in South Korea, the "Jupiter" program. After the "Jupiter" plan was exposed, not only did the U.S. military fail to disclose the real situation of the **biological** and chemical **weapons** experiments conducted at the U.S. military bases in South Korea, but the number of biochemical **weapons** samples sent by the U.S. military to South Korea increased year by year. There are many laws in South Korea regarding the transportation and related matters of the above-mentioned substances. Experiments are strictly limited. However, the US military in South Korea ignored South Korean laws and secretly transported these substances to South Korea and conducted biochemical experiments without any notification procedures. Endanger people's lives, health and safety. The United States has always advocated "openness" and "transparency." However, in terms of biomilitarization activities and the safety of **biological** laboratories, the United States is the least open and most opaque country. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US. Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort Detrick base, and on the other hand, it requires investigation of the Wuhan laboratory. On the issue of whether American laboratories have engaged in research on the enhancement of virus functions, the United States has so far failed to provide truthful explanations to the international community. All this shows that if it conflicts with the US's own interests, the US will not consider any openness and transparency at all. The so-called "openness" and "transparency" by the United States are just like "democracy" and "human rights."

### **Weibo-Spokespersons-Office-Ministry-Foreign-Affairs**

1528Z 31Aug2021

China/3. News & Social Media/Weibo

One of the defendants was the Fort Detrick **Biological** Laboratory of the US Army. What is the spokesperson's comment on this? Wang Wenbin: I have noticed relevant reports. The report mentioned that the US military established a Bacillus anthracis laboratory at a US military base in South Korea as early as September 1998. Since June 2013, it has secretly carried out a **biological** and chemical **weapons** research project in South Korea, the "Jupiter" project. After the "Jupiter" plan was exposed, not only did the U.S. military fail to disclose the real situation of the **biological** and chemical **weapons** experiments conducted at the bases of the U.S. military in South Korea, the number of biochemical **weapons** samples sent to South Korea by the U.S. military has also increased year by year. Many laws in South Korea have strict restrictions on the transportation of the above-mentioned substances and related experiments. However, the US military stationed in South Korea ignored South Korean laws and secretly transported these substances and conducted biochemical experiments in South Korea without any notification procedures, endangering the lives and health of the people. The United States has always advocated "openness" and "transparency." However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological** laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the **Biological Weapons Convention**. The United States has more than 200 **biological** laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US. Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort Detrick base, and on the other hand, it requires investigation of the Wuhan laboratory. On the issue of whether American laboratories have engaged in research on the enhancement of virus functions, the United States has so far failed to provide truthful explanations to the international community. All this shows that if it conflicts with the US's own interests, the US will not consider any openness and transparency at all. The so-called "openness" and "transparency" that the United States often talks about are just like "democracy" and "human rights." They are nothing but a cover used by the United States to deceive the international community and suppress other countries. #跟我看校园# #与夏天相约蓝厅# @人民视频L Weibo video of the Spokesperson's Office of the Ministry of Foreign Affairs

1. 2021
2. August
3. 30

**scio-1711577**

0400Z 30Aug2021

China/1. National State Entities/State Council Information Office/2021/08

Wang Wenbin: As you mentioned, the "**Biological Weapons Convention**" meeting will be held today. China has always firmly upheld the purposes and objectives of

the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

China News Agency reporter: It is understood that the "**Biological Weapons Convention**" meeting will be held today. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What is China's comment?

### **ria-ru-khabarovskiy-1747867991**

2131Z 30Aug2021

Russia/Pro-Kremlin News/RIA Novosti/2021/08

In 1972, the **Convention** on the Prohibition of the Development, Production and Stockpiling of Bacteriological (**Biological**) and Toxin **Weapons** and on Their Destruction (BTWC) was opened for signature. It came into force in 1975.

### **global-times-1232845**

2302Z 30Aug2021

China/1. National State Entities/Global Times/2021/08

During the ongoing meeting of **Biological Weapons Convention**, China will urge again to relaunch the supervision mechanism negotiation, which is believed to be echoed by many other countries.

In fact, the US has the most bioweapon-related activities in the world but the least transparency, Wang said, as a **Biological Weapons Convention** meeting took place on Monday. The US also rejected the protocol negotiations in 2001 while still refusing the relaunch of the talks in setting up multilateral supervision of **biological** activities and labs of each country.

### **huaxia-6768313**

2030Z 30Aug2021

China/3. News & Social Media/Huaxia/2021/08

A: As you said, the "**Biological Weapons Convention**" meeting will be held today. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most

countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

Q: It is understood that the "**Convention** on the Prohibition of **Biological** Devices" meeting will be held today. The United States exclusively withdrew from the negotiated process of the multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What's China's comment on this?

**caixin-20210830-101763979**

0400Z 30Aug2021

China/3. News & Social Media/Caixin/2021/08

Wang Wenbin: As you mentioned, the "**Biological Weapons Convention**" meeting will be held today. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

China News Agency reporter: It is understood that the "**Biological Weapons Convention**" meeting will be held today. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What is China's comment?

**fmprc-t1903132**

0400Z 30Aug2021

China/1. National State Entities/Ministry of Foreign Affairs/2021/08

Wang Wenbin: As you mentioned, the "**Biological Weapons Convention**" meeting will be held today. China has always firmly upheld the "Prohibition of **Biological Weapons**

China News Agency reporter: It is understood that the "**Biological Weapons Convention**" meeting will be held today. The United States exclusively withdrew from the agreed-upon

**fmprc-t1903132**

0400Z 30Aug2021

China/1. National State Entities/Ministry of Foreign Affairs/2021/08

China News Agency reporter: It is understood that the "**Biological Weapons Convention**" meeting will be held today. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What is China's comment?

Wang Wenbin: As you mentioned, the "**Biological Weapons Convention**" meeting will be held today. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

**Weibo-New-Video**

1707Z 30Aug2021

China/3. News &amp; Social Media/Weibo

[Ministry of Foreign Affairs: China once again calls for the resumption of negotiations on the **biological weapons** verification mechanism] On August 30, a reporter asked: It is understood that the "**Convention on the Prohibition of Biological Weapons**" meeting will be held today. In 2001, the United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed upon, and has so far exclusively opposed the resumption of negotiations. What is China's comment? Foreign Ministry spokesman Wang Wenbin said in response that China will once again call for the resumption of negotiations on the verification mechanism. Wang Wenbin introduced that, in fact, the United States is the country with the most biomilitarization activities and the most opaque in the world. Had it not been for the United States to exclusively withdraw from the agreed negotiation process in 2001, and has so far exclusively opposed the resumption of negotiations, this mechanism should have been established long ago, and the **biological** activities of various countries, including laboratory activities, could be placed under multilateral supervision and verification. Wang Wenbin emphasized that this self-contradictory practice of the United States shows that the so-called "openness and transparency" claimed by the United States is nothing but a foolish rhetoric. It is the United States itself that is the least open and most opaque in terms of traceability and establishment of **biological** and multilateral verification mechanisms. Weibo video of new video in L

**Weibo-CCTV-Military**

1312Z 30Aug2021

China/3. News &amp; Social Media/Weibo

[#中方 appeals to restart **biological weapons** verification negotiations#] The "**Convention** on the Prohibition of **Biological Weapons**" meeting was held today. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. Foreign Ministry spokesperson Wang Wenbin said that at this meeting, China once again called for the resumption of negotiations on the verification mechanism. In terms of virus traceability and the establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is most opaque. (Shen Yang, headquarter reporter) L CCTV military Weibo video

### **Weibo-Xinhua-Net**

1735Z 30Aug2021

China/3. News & Social Media/Weibo

#United States is the most opaque country with the most bio-militarization activities# [Ministry of Foreign Affairs: The United States is the most opaque country in the world with the most bio-militarization activities]# The United States is the most opaque country in terms of traceability and establishment of a multilateral **biological weapons** verification mechanism# Spokesperson of the Ministry of Foreign Affairs Wang Wenbin said on the 30th that recently, the United States has repeatedly advocated investigations into Chinese laboratories on the issue of the traceability of the new crown virus, which is contrary to the US's position so far on the verification of **biological** laboratories. In fact, the United States has the most **biological** militarization activities and the most opaque country in the world. In terms of traceability and the establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is the least open and most opaque. At the regular press conference that day, a reporter asked: It is understood that the "**Biological Weapons Convention**" meeting will be held on the 30th. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. Does China have any comment on this? Wang Wenbin said that the "**Biological Weapons Convention**" meeting will be held on the 30th. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition. "In fact, the United States is the most opaque country in the world with the most **biological** militarization activities. If it were not for the United States to exclusively withdraw from the negotiated process that had been agreed in 2001, and has exclusively opposed the resumption of negotiations so far, this mechanism would have been established long ago. **Biological** activities of various countries, including laboratory activities, can be placed under multilateral supervision and verification." Wang Wenbin said. He said that it is worth noting that recently, the United States has repeatedly advocated investigations of Chinese laboratories on the issue of the traceability of the new crown virus, which is contrary to the position the United States has so far insisted on on the issue of **biological** laboratory verification. Since the United States previously claimed that activities in the **biological** field are technically unverifiable, the request to investigate the Wuhan laboratory is purely political blackmail. Conversely, if the United States

believes that it is feasible to investigate the Wuhan laboratory, there is no reason to oppose the establishment of a multilateral bio-verification mechanism, and there is no reason to refuse to open the Fort Detrick base and more than 200 **biological** laboratories around the world to accept the international community's approval. survey. "This paradoxical practice of the United States shows that the so-called openness and transparency claimed by the United States is nothing but a fool. In terms of traceability and the establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is the least open and most opaque." Wang Wenbin said . L Xinhua Net's Weibo Video

### **Weibo-Global-Times**

1237Z 30Aug2021

China/3. News & Social Media/Weibo

[Ministry of Foreign Affairs: In terms of traceability and establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is the least open and most opaque.] On August 30, Foreign Ministry Spokesperson Wang Wenbin presided over a regular press conference. The following is part of the content. Q: It is understood that the "**Biological Weapons Convention**" meeting will be held today. The United States exclusively withdrew from the negotiated process of the multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What's China's comment on this? A: As you said, the "**Biological Weapons Convention**" meeting will be held today. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition. In fact, the United States has the most **biological** militarization activities and the most opaque country in the world. If it were not for the United States' exclusive withdrawal from the negotiated process that had been agreed in 2001, and its exclusive opposition to the resumption of negotiations so far, this mechanism would have been established long ago, and the **biological** activities of various countries, including laboratory activities, could be placed under multilateral supervision and verification. Down. It is worth noting that recently, the United States has repeatedly advocated investigations of Chinese laboratories on the issue of the traceability of the new crown virus. This is contrary to the position that the US has so far insisted on the verification of **biological** laboratories. Since the United States previously claimed that activities in the **biological** field are technically unverifiable, the request to investigate the Wuhan laboratory is purely political blackmail. Conversely, if the United States believes that it is feasible to investigate the Wuhan laboratory, there is no reason to oppose the establishment of a multilateral bio-verification mechanism, and there is no reason to refuse to open the Fort Detrick base and more than 200 **biological** laboratories around the world to accept the international community's approval. survey. This self-contradictory practice of the United States shows that the so-called openness and transparency claimed by the United States are nothing but fooling rhetoric. In terms of traceability and the establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is the least open and most opaque.



## Weibo-Spokespersons-Office-Ministry-Foreign-Affairs

1613Z 30Aug2021

China/3. News & Social Media/Weibo

[Wang Wenbin: #In terms of tracing the source and establishing a multilateral **biological weapons** verification mechanism, the least open and most opaque is the United States#] "The Spokesperson's Office of the Ministry of Foreign Affairs" news, at the regular press conference of the Ministry of Foreign Affairs on August 30, China News Agency reporter asked: It is understood that the "**Convention** on the Prohibition of **Biological Weapons**" meeting will be held today. The United States exclusively withdrew from the negotiated process of a multilateral **biological weapons** verification mechanism that had been agreed in 2001, and has so far exclusively opposed the resumption of negotiations. What is China's comment? Wang Wenbin: As you mentioned, the "**Biological Weapons Convention**" meeting will be held today. China has always firmly upheld the purposes and objectives of the **Biological Weapons Convention**. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the **Convention** to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition. In fact, the United States has the most **biological** militarization activities and the most opaque country in the world. If it were not for the United States' exclusive withdrawal from the negotiated process that had been agreed in 2001, and its exclusive opposition to the resumption of negotiations so far, this mechanism would have been established long ago, and the **biological** activities of various countries, including laboratory activities, could be placed under multilateral supervision and verification. Down. It is worth noting that recently, the United States has repeatedly advocated investigations of Chinese laboratories on the issue of the traceability of the new crown virus, which is contrary to the position the United States has so far insisted on on the issue of **biological** laboratory verification. Since the United States previously claimed that activities in the **biological** field are technically unverifiable, the request to investigate the Wuhan laboratory is purely political blackmail. Conversely, if the United States believes that it is feasible to investigate the Wuhan laboratory, there is no reason to oppose the establishment of a multilateral bio-verification mechanism, and there is no reason to refuse to open the Fort Detrick base and more than 200 **biological** laboratories around the world to accept the international community's approval. survey. This self-contradictory practice of the United States shows that the so-called openness and transparency claimed by the United States are nothing but fooling rhetoric. In terms of traceability and the establishment of a multilateral **biological weapons** verification mechanism, it is the United States itself that is the least open and most opaque. #跟我看校园# #与夏天相约蓝厅# @人民视频L Weibo video of the Spokesperson's Office of the Ministry of Foreign Affairs

**Foreign Ministry Spokesperson Wang Wenbin's Regular Press Conference on September 1, 2021**

NSTR

**Chinese Foreign Ministry Spokesman Remarks August 31, 2021**

People's Daily: A dozen of international experts who were on the joint China-WHO mission have recently published an article in Nature, proposing priorities for the next phase of origins study, including looking for early COVID-19 cases in all regions in and outside China that have the earliest evidence for SARS-CoV-2 circulation, and conducting antibody surveys in these regions to identify places with infections unobserved through disease reporting. Does the foreign ministry have any comment on this?

Wang Wenbin: We agree with the views of these international experts. China holds that international cooperation should be earnestly conducted in pursuing the next phase of science-based origins study in countries and regions across the globe guided by scientific evidence. In March this year, the joint report released by Chinese and WHO experts clearly states that a global perspective is needed to carry out future origins tracing work in multiple countries and regions instead of just one area.

With continued research on the novel coronavirus by scientists in many countries, test results have shown that the virus emerged in many localities earlier than dates previously known.

Openly-available information shows that a urine sample collected on September 12, 2019 from a measles patient in Italy tested positive for SARS-CoV-2. The sequencing result has been uploaded to open databases.

A SARS-CoV-2 in situ hybridization reaction was detected at multiple parts on the skin biopsy of an Italian female patient who reported dermatosis disease in November 2019.

Fragments of genetic material from the virus were found in a sewage sample collected on November 27, 2019 in the Brazilian city of Florianopolis.

Altogether 106 blood samples taken in nine US states between December 13, 2019 and January 17, 2020 tested positive for antibodies.

Seroprevalence of neutralizing antibodies in France increased in mid-December 2019.

A throat swab of a French patient with hemoptysis from December 2019 tested positive for novel coronavirus RNA.

Waste water samples collected in Barcelona of Spain from January 2020 tested positive for the novel coronavirus.

Nine out of 24,079 blood samples from 50 US states taken between January 2 and March 18, 2020 were seropositive.

Testing of 624 white-tailed deer blood samples collected in northeastern US states between 2019 and March 2021 turned up antibodies in one sample from 2019, three samples from 2020, and 152 from 2021. All infected deer showed no sign of sickness.

The list goes on. It shows strongly that there is every reason to conduct origins study in multiple localities, a point that must be given full emphasis in the following origins research.

China has been conducting continuous origins research at home based on the recommendations in the joint report. We hope countries where earlier evidence has been found will take prompt actions, and follow China's example by inviting WHO experts for scientific research on the ground so that together we can solve the mystery of the origins of the virus.

**Beijing Youth Daily:** We noted that many people have criticized the report on COVID-19 origins compiled by the US intelligence community. Do you have any comment on that?

Wang Wenbin: I made China's position clear yesterday. The so-called assessment on COVID-19 origins made by the US intelligence community is a political report, a scapegoating report and a false report. This truth is crystal clear to all perceptive people in the international community.

Cuban Foreign Minister Bruno Rodriguez said on his Twitter account that the political manipulation of the US government by trying to blame China for the origins of SARS-CoV-2 is irresponsible and unacceptable. As the US is used to, it lies to achieve its political objectives. The Venezuelan government pointed out in its statement that the US practice of politicizing origins study is very dangerous, and called on the international community to condemn this. Vladimir Petrovsky, Chief Researcher Fellow at the Center for Russian-Chinese Relations Studies and Forecasting, the Institute of Far Eastern Studies,

the Russian Academy of Sciences, said the US accusations against China without any evidence and politicization of origins tracing are unacceptable, and that the US is aimed to shift blame on China. Officials and scholars from Pakistan, Cambodia, Egypt, Brazil, Syria and other countries have also published articles to slam the US intelligence community's so-called report on origins study and lab leak theory, pointing out that political motivation can by no means replace scientific evidence, and that the US should better focus on its own domestic epidemic response and uphold international cooperation rather than pin blames on other countries.

China always believes that origins tracing is a complex scientific issue which should and can only be studied by global scientists through cooperation. Early this year, a WHO-China joint study team of leading international and Chinese experts conducted a 28-day research in China, and released a joint report containing authoritative, professional and science-based conclusions. This is a good foundation for international cooperation on origins tracing, and must be respected and followed through upon by all parties including WHO. The future origins tracing work should and can only be conducted on this basis instead of starting anew. The US politicizing of origins tracing only poisons the atmosphere of international cooperation on origins tracing and undermines global solidarity in fighting the epidemic, which will lead nowhere.

**Xinhua News Agency:** According reports, the Korea Fire Safety Education Culture Association (KFSECA) filed a complaint with the court against a US Army biolab in Fort Detrick, among others. It claimed that the US Forces Korea (USFK) violated the ROK law and imported lethal toxic substances into the country multiple times between 2017 and 2019. Do you have any comment on that?

Wang Wenbin: I noted relevant reports. It is also reported that the US army set up anthrax labs at its bases in the ROK as early as September 1998. It has also secretly conducted a biological weapons research program in the ROK since June 2013, which is known as the JUPITR program. Despite the exposure of JUPITR program, the US army did not disclose the actual situation of biochemical weapons experiments conducted at USFK bases. Instead, it has been shipping an increasing number of biological weapons samples to the ROK over the years, indicating that the US biochemical weapons experiments in the ROK are also expanding and reinforced. The ROK has strict restrictions on the shipping and experiments of the above-mentioned substances under various laws. However, the USFK, in disregard of the ROK law, secretly transported these substances to the ROK and conducted biochemical experiments without undergoing any declaration procedures, which endangers the lives and health of the people.

The US has been stressing openness and transparency, but it is the least open and transparent in terms of bio-military activities and bio-lab safety. The US is the only country that has been obstructing the negotiations on the BWC verification mechanisms for 20 consecutive years. The US has established over 200 bio-labs around the world. The distribution of these labs reportedly correlates well with the sites where some dangerous diseases and viruses were first identified, such as SARS, EBHF and Zika virus. The

international community has repeatedly called for an detailed explanation from the US side, but the latter has not made any serious response.

Besides, the US is blatantly applying double standards. On the one hand, it refuses to open the Fort Detrick base; on the other hand, it demanded an investigation into the lab in Wuhan. The US side has yet to give an honest answer to the international community as to whether its labs are conducting gain-of-function studies on coronavirus.

All this shows that the US does not care a whit for openness and transparency if the issue conflicts with its own interests. The so-called openness and transparency the US claims to seek, like democracy and human rights, is nothing but a cover for the US to deceive the international community and oppress other countries.

## COVID Created in American Lab, Chinese Media Outlets Suggest

<https://nationalinterest.org/blog/coronavirus/covid-created-american-lab-chinese-media-outlets-suggest-192842>

Investigating the virus's origins could be key to preventing a future pandemic, but tensions between the United States and China, which long predate the COVID-19 pandemic, have made cooperation between the two nations in the area of disease control difficult.

by [Trevor Filseth](#) [L](#)

It is now nearly universally accepted that the first cases of the global COVID-19 virus emerged in Wuhan, China. While a minority, including some officials in the administration of President Donald Trump, has suggested that the virus escaped from a lab at the Wuhan Institute of Virology, the conventional explanation has been that the virus emerged in a "wet market" selling fresh meat and produce, as they are often breeding grounds for disease. Other epidemics, including China's SARS outbreak in November 2002, have been traced to similar markets.

Either explanation—a man-made virus escape or natural evolution from an unhygienic wet market—means that the Chinese government is to some extent responsible for the global pandemic. In disputing this characterization, Chinese press outlets have provided theories of their own—including that the virus secretly escaped from a U.S. military facility in Fort Detrick, Maryland. A spokesman at China's Foreign Ministry suggested that the facility could have housed the virus, given its alleged security lapses in the past.

The *Global Times*, a Chinese state-owned newspaper, amplified the spokesman's claim. According to the outlet, more than 25 million Chinese citizens have signed an online petition calling for an investigation into Fort Detrick.

To be clear, there is absolutely no evidence that Fort Detrick has anything to do with the virus's emergence in Wuhan. Other conspiracy theories regarding the virus's origin have been amplified on the Chinese internet in the past, although they have generally not been taken seriously outside the country.

It is also interesting that in the past, the Chinese government has vigorously denied the lab-leak theory, claiming that the virus's genome indicated it had evolved naturally rather than artificially. In this sense, the spokesman's call for an investigation may not be in good faith; instead, it could be understood as encouraging a redirection from investigating the Wuhan Institute of Virology to investigating a U.S. lab.

Investigating the virus's origins could be key to preventing a future pandemic, but tensions between the United States and China, which long predate the COVID-19 pandemic, have made cooperation between the two nations in the area of disease control difficult. Beijing has largely not allowed the World Health Organization to investigate inside China, insisting that it will conduct its own internal investigation into the emergence and spread of the virus.

*Trevor Filseth is a current and foreign affairs writer for the National Interest*

ARGUMENT.RU

<https://argumenti.ru/espionage/2021/09/736647>

From Russian: Arguments of the Week → Espionage 13+  
COVID-19 could arise in a laboratory at the US military base Fort Detrick in Maryland

September 1, 2021, 18:49

COVID-19 could arise in a laboratory at the US military base Fort Detrick in Maryland

If this is the case, then the American investigators had to try very hard not to get out on themselves.

On August 27, the US intelligence community published a declassified version of the report on the origins of the coronavirus. Eighteen American intelligence agencies were unable to agree on this issue. However, they reported to Joe Biden that COVID-19 was not designed as a biological weapon

For three months, as many as eighteen American special services with a multi-billion dollar budget, as they say, dug the earth, but could not fulfill the task of their president and get on the Chinese trail of the coronavirus.

The Wuhan Institute of Virology said it has not had a single employee infection since the COVID-19 outbreak. So-called US "intelligence" is a vicious political fraud, according to an editorial from a Chinese English-language publication: "Wherever WHO goes to trace the origins of COVID-19, it must enlist the frank cooperation of local academics and government officials. The WHO Expert Group expressed satisfaction and appreciation for China's cooperation. The US wants the presumption of guilt and intends to conduct a "Holmes-style" investigation. This is completely impossible in science and is a political insult to Chinese scientists and administration. "

Beijing now claims the virus may have originated outside of China, including in a laboratory at Fort Detrick military base in Maryland, and has called on WHO to investigate early coronavirus outbreaks in other countries.

Biden gave intelligence an impossible mission. Conclusions about the origin of the coronavirus and its classification (whether it is a biological weapon) should be made by scientists, not spies.

### **Star Daily (In Russian)**

Sept 1, 2021

What American intelligence did not report The pandemic scenario was written at the Democratic campaign headquarters under the leadership of Barack Obama Alexander Sadovnikov September 01, 2021 10:59 am What American intelligence did not report © dni.gov Summary of US intelligence report on the source of the coronavirus. Read us on: Despite a large-scale PR campaign, the expected sensation with the publication of an American intelligence report on the source of the coronavirus did not happen. The CIA, together with the other 16 US intelligence communities, not only did not find at least some distinct "Chinese trace" in the pandemic, but also thoroughly confused the world community in this matter, which after this "investigation" wanted more clarity with the US biological weapons development programs ... The Russian convoy politely asked the Americans "why are they following us" January 8, 17:42 The Russian convoy politely asked the Americans "why are they following us?" The main conclusion of the report Judge for yourself: the main conclusion of the classified report on the origin of COVID-19: "the virus was not the result of the development of biological weapons." The question immediately arises - and on what basis was this unprofessional conclusion made, because it is known that the largest programs of synthetic biology to enhance the infectious and pathogenic properties of viruses are implemented in laboratories in the USA and Great Britain. And the line between the deadly chimeras created in this way and combat viruses is simply absent. This is a real biological weapon. Obviously, the "main conclusion" of the report is a clear attempt to whitewash oneself. The main theses of the report mirrored what the intelligence community announced back in May, after Biden's instructions to finally deal with the source of COVID-19: Translated from Russian to English - [www.onlinedoctranslator.com](http://www.onlinedoctranslator.com) - after studying all available intelligence reports and other information, The intelligence community remains divided over the most likely origins of COVID-19; -

among the main versions are human contact with an infected animal or leak from laboratories. After such "sensational" conclusions, another logical question arises - guys, what were you looking for at all? .. And where, and by what methods? After all, you previously stated that you managed to hack the server of the Wuhan Institute of Virology and steal the genome database of all viruses investigated there. And if any specimen you stole has a 100 percent match with the COVID-19 genome, then blame China for the pandemic, and if not, then declare that the Wuhan laboratory has nothing to do with it! Apparently, the United States has no real facts against China, and the genomes do not match. Almost true, but not quite. And then in the document there are arguments, in essence and style, clearly borrowed from the novel "The Master and Margarita" when describing Woland. Here are Bulgakov's immortal lines:

"Subsequently, when, frankly speaking, it was too late, various institutions presented their summaries describing this person. Comparing them cannot but cause amazement. So, in the first of them it is said that this man was small in stature, had golden teeth and limped on his right leg. In the second - that the man was enormous, had platinum crowns, limped on his left leg. The third laconically informs that the person did not have any special signs. " But from the report: "US intelligence services consider the most plausible two hypotheses of the origin of COVID-19. The first is natural human contact with an animal infected with this virus or a virus that is 99% similar to SARS-CoV-2. The second is a laboratory leak. Four intelligence agencies and the National Intelligence Council are "with little confidence" in the first version. One intelligence agency believes "with moderate confidence" that the first human infection with the coronavirus may have occurred as a result of an incident in a laboratory conducting animal experiments at the Institute of Virology in Wuhan. Three special services could not determine an explanation of the possible origin of the coronavirus without additional information. " One intelligence agency believes that the first human infection with coronavirus may have occurred as a result of an incident in the laboratory of the Wuhan Institute of Virology. © globallookpress.com One intelligence agency believes that the first human infection with coronavirus may have occurred as a result of an incident in the laboratory of the Wuhan Institute of Virology. In terms of such multidirectional conclusions, an analogy with Krylov's fable "The Swan, Cancer and the Pike" is appropriate. The terminology used is interesting: "low degree of confidence". "Medium confidence." The first is probably "a very small half-truth", and the second is "almost true, but not quite." Lost profit December 29, 11:28 Lost profit According to US media reports, this investigation was conducted by the same people who previously investigated the accusation against our country for allegedly hacking the server of the US Democratic Party. We remember that the accusation turned out to be an absolutely unsubstantiated bluff. As we can see, these "experts" have a hand full of using their own assumptions as evidence in the style: "almost true, but not quite" ... Here is an example from the report: "Most of the US intelligence services also concluded that the virus probably was not created with the help of genetic engineering. " It could just as well be argued that it was probably brought from Mars. But the main complaint here is not even the probabilistic nature of judgments, which is unacceptable in such documents, where conclusions must be unambiguous. To draw a conclusion about genetic engineering, you must have the appropriate qualifications of a specialist in synthetic biology. Only the military medical intelligence and the FBI have their own microbiologists, with one amendment - a microbiologist is still not a genetic engineer, whose specialization is much more subtle. The rest of the intelligence services generally had to involve outside independent experts. If so, give them a list and their signatures under the conclusions! They won't, because not a single sane specialist in synthetic biology will sign this "report", as this guarantees the destruction of the professional reputation. The Obama-Fauci Crown Collusion But these were "paper" studies of the source of the pandemic, and now you will find out the undercover truth -



why the report of the US intelligence community on a super hot topic suddenly turned out to be so useless and did not answer the main question - who is behind the pandemic? In June, the chief US infectious disease specialist, Anthony Fauci, came under fire from American politicians, the media and social networks because of his connections with the Wuhan Institute of Virology, to which he allocated funding. His e-mail was hacked, apparently by American special services, and his correspondence was exposed to the public. He himself only confessed to allocating \$ 600,000 to Chinese laboratories. In 2015, Barack Obama, at the request of Fauci, authorized the allocation of \$ 3.5 million to the Wuhan Institute of Virology. © niaid.nih.gov In 2015, Barack Obama, at the request of Fauci, authorized the allocation of \$ 3.5 million to the Wuhan Institute of Virology. Politicians, journalists and bloggers demanded his resignation, prosecution and compared him with the notorious Dr. Mengele and even with Hitler. Moreover, Fauci was publicly scourged by representatives of both leading parties in America. And now, for some reason, only the Republicans anathematize him ... So what happened? One unpleasant truth for the US Democratic Party came to light - back in 2015, Barack Obama, at the request of Fauci, authorized the allocation of \$ 3.5 million to the Wuhan Institute of Virology. Despite the fact that a year earlier, Obama formally imposed a ban on experiments related to enhancing the functions of viruses. That is, with one hand, he imposed a ban, and with the other, he allocated money for forbidden experiments. Fauci, as it turned out from the correspondence, did not pay attention to the ban imposed by Obama at all, since experiments on strengthening the functions were carried out with the money of the American budget not only in Wuhan, but also in many research centers in America and also in Western Europe. Formally, Obama's ban related to funding the experiments, but here Fauci got around it easily by sending funding not directly, but through the EcoHealth Alliance non-profit organization, which received funds from the United States Agency for International Development (USAID). Alone in the field against COVID-19 is not a warrior December 29, 6:08 One in the field against COVID-19 is not a warrior And now the main intrigue. After Donald Trump came to power, the Democrats, the globalists behind them and their focal point in the face of the deep state, felt a threat to all their plans to reorganize the planet in accordance with their professed "Values", where there is no place for a normal family or states as such, and corporations run everything. Realizing that Trump is very popular in America and will remain for a second term, in order to overthrow him, it took them a catastrophe of an all-American scale, which would directly affect tens and hundreds of millions of people and undermine the economy. And here Fauci came in handy with his viral developments. Fauci distorted the facts and figures on morbidity and artificially overestimated the case fatality rate. © clinicbarcelona.org Fauci distorted the facts and figures on morbidity and artificially overestimated the case fatality rate. In fact, the pandemic scenario was written in the Democratic campaign headquarters under the leadership of Obama. Here are the facts to support this. After the outbreak of the pandemic, Fauci publicly urged not to wear protective masks, and Trump told Trump that there was no cause for concern at all. The purpose of such "advice" is understandable - to ensure the maximum number of infected. After Covid-19 escalated to pandemic proportions, he changed his rhetoric and told Trump that Covid-19 would completely devastate the country unless martial law-like measures were immediately taken to contain the spread. To be convincing, Fauci skewed facts and figures on morbidity and artificially inflated the case fatality rate by instructing the Centers for Disease Control (CDC) to label all deaths associated with respiratory distress as Covid-19 deaths, even if the person had never been tested for Covid-19. Cases have surfaced in the media As America's top infectious disease specialist, thus leading the "response" to the pandemic, Fauci dealt a devastating blow to both people and the economy. And all this time he maintained a close relationship, which is more correct to call coordination, with Obama ... Intercepted

phone calls and emails showed that Obama and Fauci conspired to undermine Trump's credibility by giving the president unsubstantiated medical advice on the pandemic. As a result, the United States turned out to be an unattainable "champion" in terms of the number of cases and deaths. And this is an election year ... Fauci gave President Trump unsubstantiated medical advice on the pandemic to undermine his credibility. © trumplibrary.gov Fauci gave President Trump unsubstantiated medical advice on the pandemic to undermine his credibility. Trump was framed When Trump was informed of the essence of the contacts between Fauci and Obama, he realized that he had been rudely and openly framed, and simply fell into a rage. At his direction, the US Department of Justice, on behalf of President Donald J. Trump, investigated and issued an indictment in which Dr. Anthony Fauci, as director of the National Institute of Allergy and Infectious Diseases and a member of the coronavirus task force, in fact committed treason against America. The document accused Fauci of numerous serious crimes and misdemeanors that would have resulted in Fauci being stripped of his medical license and imprisoned for life. The charges included treason, collusion with an enemy, and fraud. It was planned to try him as a civil servant by a military tribunal under Article 2 of Section 4 of the Constitution of the United States, which reads: "The President, the Vice President and all civilian officials of the United States must be removed from office following impeachment or conviction for treason, bribery, or other serious crimes or misconduct. " It is clear how Fauci was threatened by Trump's victory in the 2020 elections ... The CIA back in 2008 "scenario" planned COVID-19 May 6, 6:55 The CIA back in 2008 "scenario" planned COVID-19 And more facts suggesting that preparations for the pandemic were not only conducted in the Fort Detrick laboratories, but were also a political multi-move. Preparing for a pandemic, in December 2017, Fauci persuaded Trump to lift the ban on "strengthening functions", thereby whitewashing Obama and substituting Trump himself if the truth about the creation of the Covid-19 virus in American laboratories was revealed. And in September 2018, he persuaded Trump to sign a memorandum on the establishment of a special coordinating committee to counter biological threats, which will be led by the Department of Health and Human Services. Such is the "premonition of a pandemic" from Anthony Fauci.

From VANNEVAR LABS DECRYPT TOOL

## Ministry of Foreign Affairs: The United States should respond to the concerns of the international community about biomilitarization

Source: CCTV News Client

Wang Wenbin pointed out that the United States has always advocated "openness" and "transparency." However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of biological laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the Biological Weapons Convention. The United States has more than 200 biological laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US.

2021-08-31 22:50

11/11/2021  
The U.S. bears major responsibility for the politicization of the epidemic  
The U.S. says it has reduced its embassy staff in Belarus  
I also say a few words  
Editor in charge: Zhao Jiaodong  
Report

Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort Detrick base, and on the other hand, it requires investigation of the Wuhan laboratory. On the issue of whether American laboratories have engaged in research on the enhancement of virus functions, the United States has so far failed to provide truthful explanations to the international community. All this shows that if it conflicts with the US's own interests, the US will not consider any openness and transparency at all. The so-called "openness" and "transparency" of the United States are just like "democracy" and "human rights," but they are only a cover used by the United States to deceive the international community and suppress other countries. (CCTV reporter Shen Yang)

**huanqiu-world-44aA47WdlaL**

6 page(s) | DIRECT-INFERENCE-BOXES

---

#### Source Details

##### Huanqiu

Huanqiu is a Mandarin-language version of the Global Times. Global Times is a daily commercial publication that focuses on international affairs and features a nationalist, hawkish, editorial line. Though wholly owned by People's Daily, it is not authoritative and has more latitude in expressing opinions, including editorials that are not in sync with party leadership.

##### Published

1450Z 31Aug2021

##### Collected

1514Z 31Aug2021

##### Source URL

<https://world.huanqiu.com/article/44aA47WdlaL>

WEIBO—C/O VANNEVAR Labs

Weibo-Reference-News

1700Z 1Sep2021

China/3. News & Social Media/Weibo

# This old photo tells you 德堡与731队的勾连# [This old photo tells you about the connection between Fort Detrick and 731 troops] #德堡Get 731队菌战等大资料# 德特里克堡Why did Alvor Thompson, a veterinarian lieutenant colonel and proficient in bacterial warfare research, appear in the home of Shiro Ishii, the leader of Unit 731? What did they talk about? In 1946, Thompson investigated the germ warfare in Japan and interrogated Ishii Shiro and others. Shiro Ishii avoided talking about the germ warfare at the beginning to actively cooperate with the investigation, and finally escaped the Tokyo trial. Fort Detrick obtained a large amount of materials such as the germ warfare of Unit 731 and living experiments. Later, Thompson wrote the "Report on Japan's Bacterial Weapons", the "Thompson Report." In 1948, Thompson died strangely. L Xinhua Net's Weibo Video

Weibo-Central-Broad-Military

1458Z 1Sep2021

China/3. News & Social Media/Weibo

【#老图片記你德堡与731队的勾连#】 Why did Alvo Thompson, a veterinarian of Fort Detrick, who is proficient in bacterial warfare research, appear in the home of Shiro Ishii, the leader of Unit 731? What did they talk about? In 1946, Thompson investigated the germ warfare in Japan and interrogated Ishii Shiro and others. Shiro Ishii avoided talking about the germ warfare at the beginning to actively cooperate with the investigation, and finally escaped the Tokyo trial. Fort Detrick obtained a large amount of information about the germ warfare and living experiments of Unit 731. Later, Thompson wrote the "Report on Japan's Bacterial Weapons", the "Thompson Report." In 1948, Thompson died strangely. (Xinhuanet) L Xinhuanet's Weibo Video

*Weibo-Global-Talk*

2010Z 31Aug2021

China/3. News & Social Media/Weibo

Rather than keeping a secret about its own "tracing", and never mentioning what name is being studied in "Fort Detrick", it closes the door of traceability tightly, but asks China to open its door to the world's scrutiny? What is the reason for this? The U.S. intelligence agency did not give an exact answer, which disappointed the U.S. side. From the beginning of the epidemic, the United States hoped to trace the origin of the epidemic to China, so that the United States could use the losses caused by the epidemic to open a big mouth to China and wantonly ask for so-called "compensation and loss." In 2020, U.S. Republican lawmakers publicly clamored for compensation against China, but because there was no definite evidence to prove that the epidemic originated in China, such absurd remarks lacked widespread support, and eventually became irresistible after China's strong criticism and refutation. Of. During this period, the United States encouraged its domestic lawyers to claim compensation from China and publicized China as the "source" of the epidemic. With no factual support, no matter how loud the US voice is, it cannot cause the slightest loss to China. As a result, the U.S. single-handedly planned a "tracing" report of the epidemic, hoping to obtain the site and launch a more violent attack on China, demanding compensation from China, suppressing China's international reputation, and throwing the domestic epidemic out of control. It is a pity that all the plans of the United States have failed as the report was released, and those minions who were prepared to criticize China on a large scale had to dormant again and wait for an opportunity to move. #军新闻##环球奇谈#

*Weibo-Straight-News*

1317Z 31Aug2021

### China/3. News & Social Media/Weibo

The defendant One is the Fort Detrick **Biological Laboratory** of the US Army. What is the spokesperson's comment on this? Foreign Ministry spokesperson Wang Wenbin said that I have noticed relevant reports. The report mentioned that the U.S. military had established a Bacillus anthracis laboratory at a U.S. military base in South Korea as early as September 1998. Since June 2013, it has secretly carried out a biological and chemical weapons research program in South Korea, the "Jupiter" program. After the "Jupiter" plan was exposed, not only did the U.S. military fail to disclose the real situation of the biological and chemical weapons experiments conducted at the U.S. military bases in South Korea, but the number of biochemical weapons samples sent by the U.S. military to South Korea increased year by year. There are many laws in South Korea regarding the transportation and related matters of the above-mentioned substances. Experiments are strictly limited. However, the US military stationed in South Korea ignored South Korean laws and secretly transported these substances and conducted biochemical experiments in South Korea without any notification procedures, endangering the lives and health of the people. The United States has always advocated "openness" and "transparency." However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological laboratories**. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the Biological Weapons Convention. The United States has more than 200 **biological laboratories** worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-

mentioned issues, but has not seen any serious response from the US. Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort **Detrick** base, and on the other hand, it requires investigation of the Wuhan laboratory. On the issue of whether American laboratories have engaged in research on the enhancement of virus functions, the United States has so far failed to provide truthful explanations to the international community. All this shows that if it conflicts with the US's own interests, the US will not consider any openness and transparency at all. The so-called "openness" and "transparency" by the United States are just like "democracy" and "human rights," but they are just a cover used by the United States to deceive the international community and suppress other countries.

*Weibo-CCTV-Military*

1440Z 31Aug2021

China/3. News & Social Media/Weibo

[#外部批美军向韩运重毒taking#] #The US military defendant illegally transported highly toxins to South Korea#, one of the defendants was the US military Fort **Detrick Biolab**. Foreign Ministry spokesperson Wang Wenbin pointed out that the United States has always advocated "openness" and "transparency", but in terms of biomilitarization activities and **biolab** safety, the United States is the least open and opaque country. (Headquarters reporter Shen Yang)

*Weibo-Moon-my-home*

1643Z 31Aug2021

China/3. News & Social Media/Weibo

Ironically, more than sixty years ago, the Fort **Detrick Biological Laboratory** of the US Army bought part of the data of the Japanese invaders 731 Unit for only 250,000 yen, and gradually approached the truth in Detburg. Xinhua News Agency reporter Huang Aiping calmly and sharply issued three "soul" questions to Fort **Detrick**: What did Fort **Detrick** get from Unit 731? Is there a potential connection between the new coronavirus and the US **biological laboratory**? Fort **Detrick**, what are you afraid of? When each question is raised, Ai Ping lists a series of related materials in an orderly manner. The suspicion behind Debord was thought-provoking. After the video was released, it was immediately discussed by overseas netizens. In less than two days, more than 500,000 views on YouTube, Facebook, and Twitter, and more than 2,000 comments were forwarded. strip. Some netizens "stand up and applaud": "Good job! Continue to investigate and uncover the Germanborg scandal for the benefit of mankind. The whole world wants to know the truth, including the American people." Some netizens also suggested: "WHO should organize A professional team digs deep and reveals the truth to the world." Some netizens couldn't help but praise the reporter sister: "When she likes this little sister and tells the sinful American lies, she is calm and decent." Recently, an international project Polls show that among the participating Internet users, more than 83% want the WHO to investigate the United States. Don't forget that the

United States has the largest number of **biological laboratories** in the world, and is the only country blocking the negotiation of the verification protocol of the Biological Weapons Convention. It is time for the United States to stand up and explain it clearly to the world.

*Weibo-Clarion-call*

2008Z 31Aug2021

China/3. News & Social Media/Weibo

It was the United States that had similar infectious diseases before the new **crown** epidemic. 5. The US government has long provided funding for biological warfare research. 6. Shiro Ishii, Unit 731 of Japan, is the biological weapon consultant of Fort **Detrick**.

*Weibo-Qiushi*

1818Z 31Aug2021

China/3. News & Social Media/Weibo

["The United States is the real suspect country of the source of the new **crown virus**"] Recently, the United States released the main points of a so-called "new **crown virus** traceability investigation report". This traceability report led by the US intelligence agency nakedly politicized the issue of virus traceability. As the international scientific community and the media community had anticipated in advance, the report was nothing new. It was just repeating the platitudes of some US politicians to discredit China. , In an attempt to bring the focus of traceability to China, and to raise the flag for the kidnapping of the WHO to carry out the so-called "second traceability" against China. What is even more ironic is that the US government, which is keen to act as a "tracer" of virus traceability, has always pretended to be deaf and dumb about its own suspicions of the epidemic. The United States has the **worst safety record for biological laboratories** in the world. People can't help asking: Since the US "tracing investigation report" is ambiguous in the "laboratory leak theory", why not open the **Fort Detrick Biological Laboratory**, which is seriously concerned by the international community, and the University of North Carolina, which has artificially modified the coronavirus, Openly accept the WHO traceability investigation? In the face of the doubts and voices of international public opinion, the US government has tightly locked its own traceability door, but has repeatedly pointed the finger at China, which has further exposed its guilty conscience and its true intention to politicize traceability only for China. In fact, more and more studies and evidence show that the new coronavirus may have appeared in the United States before the end of 2019, and "the United States is the real suspect country of the new coronavirus." For details, see ↓↓ O "The United States is the real suspect country of the source of the new **crown virus**"

*Weibo-Spokespersons-Office-Ministry-Foreign-Affairs*

1528Z 31Aug2021

China/3. News & Social Media/Weibo

One of the defendants was the Fort **Detrick Biological Laboratory** of the US Army. What is the spokesperson's comment on this? Wang Wenbin: I have noticed relevant reports. The report mentioned that the US military established a Bacillus anthracis laboratory at a US military base in South Korea as early as September 1998. Since June 2013, it has secretly carried out a biological and chemical weapons research project in South Korea, the "Jupiter" project. After the "Jupiter" plan was exposed, not only did the U.S. military fail to disclose the real situation of the biological and chemical weapons experiments conducted at the bases of the U.S. military in South Korea, the number of biochemical weapons samples sent to South Korea by the U.S. military has also increased year by year. Many laws in South Korea have strict restrictions on the transportation of the above-mentioned substances and related experiments. However, the US military stationed in South Korea ignored South Korean laws and secretly transported these substances and conducted biochemical experiments in South Korea without any notification procedures, endangering the lives and health of the people. The United States has always advocated "openness" and "transparency." However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of **biological laboratories**. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the Biological Weapons Convention. The United States has more than 200 **biological laboratories** worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US. Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort **Detrick** base, and on the other hand, it requires investigation of the Wuhan laboratory. On the issue of whether American laboratories have engaged in research on the enhancement of virus functions, the United States has so far failed to provide truthful explanations to the international community. All this shows that if it conflicts with the US's own interests, the US will not consider any openness and transparency at all. The so-called "openness" and "transparency" that the United States often talks about are just like "democracy" and "human rights." They are nothing but a cover used by the United States to deceive the international community and suppress other countries. #跟我看校园# #与夏天相约蓝厅# @人民视频L Weibo video of the Spokesperson's Office of the Ministry of Foreign Affairs



*Weibo-Global-Talk*

1256Z 31Aug2021

### China/3. News & Social Media/Weibo

According to a domestic media report on August 30, the Korean Association for Fire Safety Education and Culture has ordered the US Army Fort **Detrick Biological Laboratory** and the US Army Commander Paul Paul La Carmela went to court. The reason was that between 2017 and 2019, the US military in South Korea repeatedly transported highly toxic substances to South Korea, which seriously violated South Korea's relevant laws. According to data from the South Korean Ministry of Defense at the end of 2015, Between 2009 and 2015, the U.S. military transported Bacillus anthracis specimens to South Korea several times, and conducted 16 experiments at U.S. military bases in South Korea. In addition, Yersinia pestis was transported in 2015. From Korean military experts in South Korea What the media said during interviews learned that the U.S. military had established a Bacillus anthracis laboratory at a US military base in South Korea as early as September 1998. In addition to Bacillus anthracis, there is also a type of botulinum toxin called botulinum toxin. The poison is 100,000 times more toxic than Bacillus anthracis. Not only that, since June 2013, the U.S. military has also secretly launched a biological and chemical weapons research program in South Korea. After the program was exposed by the Korean media, the U.S. military continued to report to South Korea. The Korean Fire Safety Education and Culture Association pointed out that the US military in South Korea has also illegally transported botulinum toxin, staphylococcal toxins, ricin and other highly toxic and harmful substances to South Korea. These substances have been used for biochemical experiments. The association also stated that according to South Korea's "Biochemical Weapons Act" and "Infectious Disease Prevention Act" and other laws, the transportation and related experiments of these substances have violated the relevant provisions of Korean law. However. Not only did the US military in South Korea ignore South Korean laws and regulations, it also secretly transported these substances for biochemical experiments without permission, endangering the lives of the people, and the association condemned this. With the US military in Korea conducting biochemical experiments With the continuous exposure of the news, the dissatisfaction and anger of the Korean people on this issue are also increasing. There are even a number of civil organizations who went to protest outside the US military base. A few days ago, Busan citizens and social groups also established a Resident Voting Promotion Committee to urge the city The government agreed to vote by residents to decide whether to close the U.S. military biochemical laboratory in Busan Port. It is understood that this request has been signed and supported by nearly 200,000 Busan citizens. The committee personnel stated that there are 5 in the vicinity of Busan Port's eighth terminal. Schools and more than 10 residential communities are very densely populated, and the existence of US military biochemical laboratory facilities poses a threat to the health and safety of Busan citizens, so the US military must close the biochemical laboratory in Busan Port and withdraw biochemical weapons from South Korea. In addition to transporting highly toxic substances to South Korea, the U.S. military has also recently discharged poisonous water containing fluoride to Japan. According to Japanese media reports, on August 26, local time, the U.S. Marine Corps stationed in Okinawa treated sewage containing fluoride. , It was discharged into the sewer from Futenma Airport, and about 64,000 liters were discharged on the same day. In this regard, on August 27, local time, Japan's environmental minister Shinjiro Koizumi said that Japan and the United States are still discussing disposal methods, but the United States is only Was discharged. He said, It has strongly protested the US approach. The irony is that Japan's approach to the Fukushima nuclear wastewater treatment is very

similar to that of the United States. According to earlier reports by Japanese media, Tokyo Electric Power Company and the Japanese government have reached an agreement. The two sides have formally determined the Fukushima nuclear sewage discharge plan, which is to discharge the sewage into the offshore water about 1 kilometer away from the nuclear power station, so as not to damage the image. The cost of transportation is inverted. #国际军情##环球奇谈#

*Weibo-China-News-Network*

0852Z 31Aug2021

China/3. News & Social Media/Weibo

#Pay attention to new **crown** pneumonia# [What credibility can the new **crown** "trace to the source" report concocted by the US intelligence agencies have any credibility! ] #蒋黎讲理# On August 27, the Office of the Director of National Intelligence of the United States released the main points of the so-called "New Coronavirus Traceability Investigation Report", slandering China for obstructing international investigations, refusing to share information, and accusing other countries. The report stated that a conclusive assessment of the origin of the new coronavirus requires China's cooperation, but China "has been obstructing global investigations, refusing to share information, and blaming other countries". What kind of weird logic is this? The reason why the report cannot be concluded is that China did not "recognize" the so-called conclusive assessment? Isn't it the same as if you stepped on my foot, but you should blame me for sticking my foot under your shoes? Virus tracing is a serious scientific problem from beginning to end. What credibility can a "trace to the source" report concocted by American intelligence agencies lacking relevant scientific investigation experience! #Strongly appeal to a thorough investigation of the Fort **Detrick** Laboratory in the United States# (Jiang Li)

*Weibo-Moon-my-home*

1135Z 31Aug2021

China/3. News & Social Media/Weibo

When will the US **biological laboratory** make information public? Since the outbreak of the new **crown** pneumonia epidemic, the United States has been making a big fuss on the issue of virus traceability, trying to politicize the issue of virus traceability in order to divert the public and the international community's accountability for the failure of the United States in its own fight against the epidemic. At the same time, the United States has evaded and concealed its own doubts on multiple core issues of virus traceability. At present, the United States has more than 200 **biological laboratories** around the world, and has formed the largest number of "**biological laboratory** networks" covering key regions around the world. Many secret laboratories are engaged in research on dangerous pathogens. Moreover, the management of these laboratories is chaotic, and accidents occur frequently. Under various doubts and doubts about the true purpose of the United States in setting up laboratories around the world, the international community's call for the

United States to disclose relevant information has become increasingly strong. Earlier this year, a research report published on the official website of the Russian Ministry of Defense pointed out that the US Army has funded more than 200 **biological laboratories** in many countries around the world and commissioned them to conduct research on viruses and their transmission media. . These laboratories are distributed in countries around Russia, Southeast Asia, South Asia, Africa and other regions. In Ukraine alone, the United States has set up 16 **biological laboratories**. According to previous reports by Russian media, the United States has stored "particularly dangerous infectious disease viruses" in eight laboratories established in Ukraine. Among them, the "Ukrainian Institute of Epidemiology and Hygiene" and the "Publicity Research Institute" located in the southern city of Odessa The technology, pathogens, and scientific knowledge mastered by units such as the Institute "may be used in the development of biological weapons." South Korean media have also reported that the biochemical weapons laboratories of the US military in South Korea are located at the four US military bases in Yongsan, Busan, Gunsan and Pyeongtaek in Seoul. From 2009 to 2014, these laboratories conducted at least 15 dangerous anthrax bacilli. test. Disaster management overseas **biological laboratories** become the source of the disaster. The United States is not only deploying **biological laboratories** for researching high-risk substances around the world, but also the management of these laboratories is also very chaotic, with frequent security incidents, which is a problem for the country concerned and its neighboring countries and even the whole world. The world brings disasters. In 2015, a biochemical center in the United States sent samples of Bacillus anthracis to South Korea when sending samples of Bacillus anthracis to a US military base in South Korea, and a delivery accident occurred. In addition, according to South Korean media reports, the US military stationed in South Korea has secretly transported "a variety of high-dangerous substances" into South Korea on many occasions without going through legal permission and reporting procedures. In December last year, the US military in South Korea, without the knowledge of nearby residents, processed botulinum, staphylococcal toxin, and ricin, which are highly toxic substances that can appear in bacterial warfare. In 2018, there was also an accident at the Lugar Laboratory in Georgia. Two Filipinos who worked there died of "gas poisoning". Previously, the Russian Ministry of Defense had suspected that the US military was conducting biological weapons tests at the Lugar Laboratory. Fires in the backyard are frequent laboratory accidents in the United States. The safety of **biological laboratories** in the United States is also full of loopholes. According to US media reports, from 2006 to 2013, laboratories across the United States notified federal regulatory agencies of more than 1,500 pathogen-related accidents, including: the loss of pathogens that can be made into biological weapons; laboratory experiments infected with deadly viruses The white mice fled; the cattle injected with the test vaccine were slaughtered and sold, and finally even served to the table; there were also accidental contact with the anthrax virus, Ebola virus and avian influenza virus by the laboratory personnel of the US Centers for Disease Control and Prevention. These accidents are very likely to cause direct contacts to be infected by the deadly virus, and the virus will then spread to the community through these individuals, forming an epidemic. The United States owes the world a clear answer. Some studies have found that the distribution of more than 200 **biological laboratories** in the world in the United States is "surprisingly similar" to the regional distribution that has become the origin of dangerous diseases and virus spread in recent years. It is really difficult to use "Coincidence" to explain. Some countries and people have repeatedly asked the United States to investigate local biochemical tests and disclose relevant information, and strongly demand that these **biological laboratories** be closed. However, the United States has always turned a deaf ear to these calls. What exactly are these **biological laboratories** in the United States researching? What is the

purpose of studying these? Why is the United States unwilling to close these laboratories? These questions need to be answered by the United States one by one!

Because many countries have detected the new crown virus in these cases, and they are all earlier than Wuhan! For example, the WHO specifically mentioned Italy in its statement, but there is more than one! Italy: There has been a wave of infection peaks around October 2019. In early 2020, the rapid spread of the new coronavirus in Italy, the rapid growth of confirmed cases, and the early emergence of local cases all made local scientists suspect that the new coronavirus had formed at least a few months ago. The local spread was just undetected. For example, Italy entered a state of emergency at the end of January 2020 and adopted preventive and control measures, but 20 days later, the epidemic in northern Italy still suddenly began to spread rapidly. It can be seen that the new crown virus was secretly prevalent earlier, and it was treated as another disease. In the beginning, HIV infection was regarded as Kaposi's sarcoma, and poliovirus infection was regarded as a congenital disability... Scholars have promoted the tracing of the new coronavirus from the retained samples of other types of patients. In November 2020, "Oncology" published the study "Unexpected!" by scholars of the Italian National Cancer Research Center. Antibodies to the new coronavirus were detected before the Italian pandemic. Researchers found antibodies to the new coronavirus in the blood samples of lung cancer patients retained. What's more convincing is that in the neutralization experiment with live viruses, multiple antibodies from October 2019 showed the ability to destroy live viruses. The researchers also analyzed the infection trends and distribution areas of positive patients. The data showed that there was a wave of infection peaks in Italy around October 2019, and more than one-tenth of the samples showed antibodies in the early stages of infection. Most of the patients who showed positive came from the Lombardy region of Italy, which coincided with the most severely affected area in Italy. It may be that the impact factor of publications is not high, or it may be difficult for people to change their preconceived opinions. This research was not paid enough attention at the time, and thus did not play a role in the "milestone" of virus traceability. Italy once again proves that the new crown virus will be popular in the summer of 2019. Unearthing the truth will often have twists and turns, as long as you don't give up. A heavier real hammer appeared a few months later-the study of "the molecular evidence that the new crown virus was prevalent in Lombardy, Italy in the late summer of 2019 in skin rash samples" was sent to The Lancet earlier this month. The study tested samples including oropharyngeal swabs, urine, and serum, and the results showed that the new coronavirus had appeared in the late summer of 2019 and then spread. What's more powerful is that it gives "iron proof"! "Nucleic acid testing is very important. It intuitively gives a positive result, and at the same time, it is supported by antibodies. It is a large cohort study, not a sporadic case. The evidence is very solid." Domestic virus traceability expert, Life Science and Technology of Beijing University of Chemical Technology Tong Yigang, the dean of the college and the Chinese leader of the Animal and Environment Group of the China-World Health Organization New Coronavirus Traceability Joint Research Expert Group, told Science and Technology Daily that this research may lead to a change in the cognition of the traceability of the new coronavirus in the future and also expand the scope of traceability. Due to the highly degradable nature of RNA, samples that can be tested for nucleic acid are very rare. They are all stored in the -80°C sample library of the University of Milan **Biological Laboratory** in Italy, only to be "still in the shelf life" two years later. And for people infected with the new coronavirus, the oropharyngeal swab

can only be tested positive for nucleic acid at the early stage of infectious virus infection. All these make it harder to find the "iron proof" of nucleic acid than to find a needle in a haystack, but this research has done it, and the industry believes that it has obtained strong scientific evidence. WHO: Let a third-party team review whether it is time period or epidemic area. The conclusions of two independent studies are highly consistent: in the late summer of 2019, the new **crow**n virus has been secretly circulating in Italy. The heavyweight "real hammer" discovered and repeatedly verified in scientific research also shocked the World Health Organization. In the statement, the WHO stated that it has carried out a third-party evaluation of the Italian research results, and the international experimental team will conduct a blind test on the samples. The research experience of the Italian research team has inspired research teams all over the world: There will be amazing discoveries in the biological sample bank at -80°C! To this end, the WHO specifically calls on scientists around the world to have a new understanding of the traceability of the new coronavirus in more early cases in 2019. Because the data obtained by scientific research is the "real hammer" for virus traceability. The WHO stated that it has cooperated with many countries that previously reported the early results of virus traceability, and Italy is one of them. In fact, more and more evidence from scientific research shows that in the months before the discovery of the new coronavirus in Wuhan, it had spread outside of China. In November 2019, skin samples with viral RNA detected in Italy. In the same month, the virus was detected in Brazilian wastewater samples. From December 13, 2019 to January 17, 2020, 106 samples of routine blood donations in the United States were tested positive for antibodies to the new coronavirus. France has also used antibodies to detect indirect evidence of infection in 2019... WHO has called for finding the origin of a new virus to be a time-consuming and difficult scientific task that requires the cooperation of all countries.

"We lie, we deceive, we steal" The beginning of the black history of the US intelligence services (in-depth observation) Since the outbreak of the new **crow**n pneumonia, the US government has used a series of lies from its own political self-interest, from watching the fire from the shore to waiting for the so-called "herd immunity". Paralyze the people of the country. When it was difficult to cover up the spread of the epidemic, the U.S. government began to blame it again, constantly criticizing and questioning China, and fabricating a series of lies including "the virus is leaking from the Wuhan virus laboratory". In May of this year, U.S. President Biden even asked the U.S. intelligence services to "intensify their efforts" to investigate the source of the new **crow**n virus and submit an investigation report within 90 days. The scientific problem of tracing the virus to the source is handed over to the US intelligence services, which are known for assassinations, coups, monitoring, and lying. This approach is tantamount to treating science as a child's play. Using false intelligence to invade Iraq "We lie, we deceive, we steal. We also have a course dedicated to teaching these. This is the glory of the United States' continuous exploration and enterprising." When Pompeo gave a speech at Texas A&M University in April 2019, he explained the "thick black science" of American intelligence agencies. In recent years, the most classic case in which the United States relied on false intelligence to instigate wars is the 2003 Iraq War. On February 5, 2003, the then US Secretary of State Powell took out a test tube containing white powder at a UN Security Council meeting, claiming to be evidence that Iraq was developing chemical weapons. After that, the US-British coalition forces brazenly invaded Iraq on this ground. However, the United States has so far failed to produce conclusive evidence of the existence of weapons of mass destruction in Iraq. A 2019 article by Vox News compiled the main timeline of the U.S.

government's lie on the issue of the Iraq War. In August 2002, the then-U.S. Vice President Cheney stated: "There is no doubt that the current Iraqi regime possesses weapons of mass destruction." In September of that year, the then-U.S. President's National Security Affairs Assistant Rice was on CNN. CNN claimed that the aluminum tubes purchased by Iraq were "only suitable for nuclear weapons programs." In October of that year, the then-U.S. President Bush stated that Iraqi President Saddam Hussein had "a large stock of biological weapons." Until February 2003, Powell publicly misled the world with false information in the UN Security Council. Vox News commented that the then U.S. government repeatedly exaggerated or completely fabricated intelligence conclusions, and many people died in the war because of these lies. From 2003 to the present, one of the most distressing things is that none of the main decision makers, or even the auxiliary decision makers, have apologized for the war they chose to launch that killed hundreds of thousands of people. The invisible black hand behind the American hegemony For many years, the US intelligence services have been the invisible black hand behind the American hegemony. The United States has instigated one after another war, coup d'etat, and assassination, all of which are unavoidable for the intelligence agencies to fabricate lies and fabricate accusations. In the middle of the 20th century, the CIA launched the "Mockingbird Project" with the aim of using this project to buy over journalists and agencies from around the world to gather intelligence. Philip Graham, one of the project leaders, was the publisher of the Washington Post at the time. The CIA has admitted that the Robin Project has bought at least 400 journalists and 25 large organizations around the world. To this day, the CIA is still keen to intimidate and lure media people in order to grasp information and manipulate public opinion. On August 4, 1964, the then-U.S. President Johnson delivered a speech, claiming that two U.S. warships were attacked by North Vietnamese torpedo boats that night. Only 3 days later, the U.S. Congress passed the "Tokyo Bay Resolution", approving the president to take all necessary measures to resist any armed attacks against the U.S. military. Since then, the Vietnam War has broken out. However, the declassified information confirmed that on August 4, no North Vietnamese torpedo boats attacked US warships. Instead, two destroyers of the US military launched hundreds of shells and bombs against the open water. In October 1990, the HBO television network in the United States broadcasted a news item provided by CNN: a "Kuwaiti volunteer" testified in tears before the U.S. Congress that Iraqi soldiers rushed into a hospital in Kuwait and delivered a premature baby in the incubator. Throwing on the ground caused the death of more than 300 babies. This news aroused the anger of the American people against Iraq. On January 12, 1991, the U.S. Congress passed a resolution to declare war on Iraq, and the Gulf War broke out on January 17. It was not until a year later that the US media broke the news that the "incubator incident" was a lie concocted by the United States, and Kuwaiti medical staff had long pointed out that the "Kuwaiti volunteer" did not exist. In 1999, the US Federal Bureau of Investigation (FBI), in collaboration with the New York Times and other US media, spread rumors that Chinese-American nuclear weapons expert Li Wenhe, who works at Los Alamos National Laboratory, was a Chinese spy and used this as a reason Li Wenhe initiated as many as 59 charges. After 9 months of solitary confinement, no evidence was found. In order to induce Li Wenhe to plead guilty, the FBI even "fishing law enforcement", relying on various charges to force Li Wenhe to "confess minor crimes" in exchange for "exemption from major crimes." It was not until September 13, 2000 that the court released Li Wenhe under a plea agreement. U.S. Federal Judge Parker stated in court that the actions of relevant U.S. agencies in this case "embrace the entire country and every citizen." In April 2018, the United States, Britain and France launched air strikes against Syria on the grounds that "the Syrian government used chemical weapons." But the facts have proved that the so-called "evidence" is only a posing video of the Syrian Civil Defense Organization (also known as

the "White Helmet"). The "White Helmets" seem to be neutral and objective non-governmental organizations, but they are actually funded by the United States and the West, colluding with terrorist forces, shooting false videos, and planting the Syrian government. During the interview, the local people even stated that the "White Helmets" had looted all the relief food for the locals. In 2018, without any evidence, the FBI accused Hu Anming, an associate professor at the University of Tennessee, of guilty of wire fraud and misrepresentation. It conducted a series of investigations on Hu Anming and included him on the federal no-fly list. The Washington Post pointed out that FBI agent Kujim Sadik found a Chinese press release with a picture of Hu Anming through a Google search and accused him of being a Chinese spy. The allegations later proved to be completely false. In June of this year, three U.S. House of Representatives sent a letter to Michael Horowitz, Inspector General of the Department of Justice, expressing deep concern that the FBI used false information to falsely accuse Hu Anming and requested a reinvestigation of the case. Lies and behaviors make people outrageous. In addition to fabricating facts and creating unjust cases, US intelligence agencies are also unscrupulous in abuse of torture and prisoners. The U.S. Senate Intelligence Committee began investigating the CIA's torture of detainees during interrogations in 2009, and formed a report of more than 6,000 pages. In December 2014, it released a summary of the investigation report of approximately 500 pages. According to the declassified summary of the investigation report, in order to obtain intelligence, the CIA has tortured suspects from terrorist and extremist organizations, including sleep prohibition, imprisonment in small spaces, personal humiliation, and the use of "water boarding." The CIA leadership also exaggerated the results of the interrogation and deceived the White House and Congress for a long time "systematic". In 2016, the American Civil Liberties Union, based on the Freedom of Information Act, required the Senate Intelligence Committee to publish the full text of the prisoner abuse report and brought the lawsuit to the District of Columbia Court of Appeals for the Federal Circuit, but did not win. The court stated in its judgment that the Freedom of Information Act only applies to the administrative agencies of the federal government and does not apply to Congress. Ashley Gorsky, a senior attorney for the National Security Project of the American Civil Liberties Union, said that the summary of the prisoner abuse report recorded a large number of deceptions by the CIA, from false statements about the "effectiveness" of torture to detainees held by the CIA. Misrepresentation of quantity. The extent of the agency's deception of the White House, the Department of Justice, Congress, and the public is shocking. "Its lies and behavior are so outrageous....In 2019, why did the US Army suddenly close the **biological laboratory** in Fort Detrick? What is the purpose of more than 200 overseas **biological laboratories** in the United States? Will the White House invite WHO experts to carry out traceability work in laboratories in the United States? In violation of the basic conscience and justice of mankind, the US government launched a political gamble and used intelligence agencies to investigate the origin of the new **crown** virus. The imitators of this "washing powder lie" would only bring shame and scandal.

Should we continue to push back the global call to obstruct the investigation of the Fort Detrick base and other places? On the issue of traceability, I would rather catch the wind and catch the shadows, but selectively lose sight of my own doubts. I am afraid that this is not what a "responsible big country" should be responsible for?

On May 26 this year, the White House issued a statement stating that US President Biden has asked intelligence agencies to "double-check" information on the origin of the new crown pneumonia virus to confirm whether the virus has leaked from the laboratory. Chinese is taught by biology teachers, freedom and democracy are spread by war, and traceability reports are made by intelligence personnel staying up late. This wave of operation is 666! Thanks to the "honesty" of the United States for letting intelligence personnel go out without concealment, disproving scientific traceability and slapped them in the face, disproving that the United States is the enemy of science, disproving the impropriety and illegality of the traceability of this politicized virus. , Anti-scientific, full of ridiculous paper, a piece of waste paper. Let intelligence personnel trace the source of the virus. What does this mysterious operation and absurd joke show? It shows that the United States has used all means to get rid of the pot and trap China. It shows that the United States has torn away the layer of the "free beacon model" that used to pretend to maintain its beauty and opened up the "rogue hegemony model" that unscrupulously bullied others. It also shows that the U.S. is already weak, so many scientists around the world oppose it, the scientific community has made a clear judgment, and the WHO traceability report has made it clear. What should be done? In order to get the desired conclusion, the intelligence personnel can only compile it. Scientists want face, tell evidence, can't lie, can't reverse black and white, all have to speak with facts. But American intelligence personnel can not, they said openly, "We lie, we deceive, we steal..." This is the former US Secretary of State Pompeo who was not ashamed but proud of US intelligence. The "definition" set by the department, you can imagine what the traceability report they wrote will look like. This heinous "honesty" is the greatest enemy threatening global security today. Kick away science and scientists, let intelligence personnel trace the source of the virus, so that it is convenient for the thief to call and catch the thief. Why is the Fort **Detrick Biolab** kept silent when it comes to mentioning it? What exactly did the US military do during the Wuhan Military Games? How many ulterior secrets are hidden in the US military laboratory with a dark history? Tens of millions of netizens have called on the WHO to investigate the Fort **Detrick Biological Laboratory** in the United States. Will the US intelligence agencies investigate the laboratory? Will the US military's behavior during the Wuhan Military Games be investigated? Of course not, they can selectively cut the information, refer to the facts as a horse, act as a cover for the laboratory, presumption of innocence in their own country, and then call out the thief to catch the thief and presumption of guilt against other countries. Let the intelligence personnel trace the source of the virus and say "No comment" when questioned. Science is about evidence, and it must be on the table, reducible, repeatable, legally obtained, and scientifically recognized evidence. According to this standard, the traceability of the first stage of WHO has been reported long ago, but it is not the conclusion that the United States wants. Let the intelligence personnel trace the source, play conspiracy, lie, and engage in small actions. There are excuses. Everything can be covered up under the name "no comment". Don't ask where the "intelligence" comes from, don't ask what evidence is there, don't Ask if science is not scientific, you just believe it. Haha, they laid the groundwork for "Don't ask me for evidence," "Don't ask me why," and "Don't talk about science." It is also convenient for intelligence personnel to trace the source. Get some information from unknown sources, add some specious rumors, mix up some fabricated information in key areas, pretend to be scientific, and then "get" the prepared conclusions, and the unwarranted charges will come out. People are very familiar with the American routine. Back then, they used white particles that were suspected of washing powder to accuse Iraq of having weapons of mass destruction,



bypassing the United Nations and launching military strikes against accidental injuries and bombings. China! The intelligence agencies are always allowed to do this dirty work, and that's how the US intelligence agencies are destroyed. Even if the United States is so "honest", it slaps itself in the face and proves itself a piece of waste paper.

Chen Xu, the permanent representative of China in Geneva, wrote to the Director-General of the WHO on the issue of the traceability of the new **crow**n virus on the 24th, and submitted the "About Fort **Detrick** ( U.S. Army Institute of Infectious Diseases) Two non-documents, "About the University of North Carolina Barrick's Research on Coronavirus," and an open letter from more than 25 million Chinese Internet users requesting an investigation of the Fort **Detrick** base. In response to this, Foreign Ministry spokesperson Wang Wenbin said in a regular press conference on the 25th that China's position on the global traceability of the new **crow**n virus is consistent and clear. Traceability is a scientific issue, and China always supports and will continue to participate in scientific traceability. The China-WHO joint research report has drawn conclusions and recommendations recognized by the international community and the scientific community, which must be respected and implemented. In the future, global traceability work should and can only be carried out on this basis. "Wuhan Institute of Virology has received the WHO expert team twice. It is extremely unlikely that the new coronavirus originated from the Wuhan Institute of Virology and the leakage. This is a clear conclusion drawn by the China-WHO joint research report. If the relevant parties insist on the experiment Laboratory leaks cannot be ruled out. It should be based on the principles of fairness and justice to conduct investigations on the Fort **Detrick** base in the United States and the University of North Carolina," he said. Wang Wenbin said that the international community and the American people have long been seriously concerned about the illegal, opaque, and insecure activities of Fort **Detrick** Base. This base is the base camp for US biomilitarization activities, and the US Army Institute of Infectious Disease Medicine is the main entity among them. The institute has been engaged in research and transformation of coronavirus for a long time. In 2019, a serious safety accident occurred and was shut down, and then a disease similar to the symptoms of new coronary pneumonia broke out in the United States. Regarding these issues, the US has never explained to the international community and the American people. He said that the United States has been slandering the coronavirus research conducted by Wuhan Virus Research Institute for causing new coronary pneumonia. In fact, the United States is the world's largest funder and implementer of such research. "In particular, the Barrick team at the University of North Carolina is an authority on this type of research. It has long possessed extremely mature capabilities for the synthesis and transformation of coronaviruses. As long as the investigation of the Barrick team and its laboratory, it is possible to clarify whether there is any research on the coronavirus, Will there be a new **crow**n virus." "We urge the United States to stop using the traceability issue for political manipulation. If the United States stubbornly insists on the laboratory leak theory, it should first invite the WHO to Fort **Detrick** and the University of North Carolina to conduct traceability investigations. At the same time, we hope that the international community will work together to resist the upstream politicization of the traceability issue and push the traceability issue back to the right track of scientific cooperation." Wang Wenbin said.

Reporter: For example, Fort Detrick Laboratory in the United States. China-Veracruz Research Center Director Sotreh: Yes, the United States is unwilling to allow its own laboratories to be investigated. The United States should respect basic scientific facts and investigation results. Regrettably, I think the United States has not done anything at all. arrive. Professor Sotreh believes that the various practices of the United States on the issue of virus traceability are like getting a "political disease", ignoring real scientific investigations, looking for targets to throw away the pot, and making excuses for the failure of the United States' own domestic epidemic prevention. China-Veracruz Research Center Director Sotreh: When I say that the United States has a "political disease", I actually mean that the United States is trying to cover up its failure in fighting the epidemic through various means. Given any real scientific basis, the United States is desperately looking for someone who can get rid of the pot. The United States is completely unaware that what they really should do is to unite with other countries in the world to face the epidemic and fight the epidemic together. Mexican scholar: The United States failed to fight the epidemic because of its own reasons. No wonder Professor Sotreh pointed out that the United States failed to fight the epidemic has its own deep reasons. The underlying logic of the politicization of the origin of the virus in the United States is that it cannot accept the rise of China. Sotreh, director of the China-Veracruz Research Center: Although many other countries, including the United States, claim to be developed countries, their prevention and control measures and measures are completely inadequate. Not only is the epidemic prevention and control ineffective, the United States is also unable to deal with other social problems that have emerged due to the spread of the epidemic. The reason for all this is not the lack of epidemic prevention and control methods, but because these countries do not pay attention to prevention and control, because of internal conflicts and conflicts. It was because of ideological and political interests that he ignored the suggestions of his own domestic infectious disease scientists. Professor Sotreh said that the United States does not pay much attention to its own domestic epidemic prevention and control, but requires China to be responsible for the US epidemic. This is totally illogical, and the US media continue to push the flames behind it. China-Veracruz Research Center Director Sotreh: Now turning around, the United States has instead held China responsible for the more than 600,000 deaths in the United States. Such an approach is illogical. First, it ignores China. After that, China was responsible for it. To this day, many American media, including television media, still deny the existence of the epidemic. All the spearheads of these media are looking for the "source of the virus" to be backed up. They claim that this "source" is China. The United States stigmatizes China because it cannot accept the rise of China. Professor Sotreh pointed out that the United States, from the government to the media, has been aggressively politicizing the origin of the virus, attacking and stigmatizing China. The underlying logic behind this is that the United States cannot accept the rise of China. China-Veracruz Research Center Director Sotreh: Actually the US suppression and stigmatization of China is not limited to the epidemic and virus traceability issues. We also understand that China has made progress beyond the United States in 5G communication technology. The United States immediately began to suppress these Chinese companies under the pretext of so-called national security. In fact, they were all groundless accusations. The underlying logic behind all this is that the United States is unwilling to accept the rise of China, but this is the course of history, and the rise of China is unstoppable. As long as it is in an area where the United States has an advantage, the United States cannot accept China's participation. This is the reason why the United States has attacked China.

But since the United States is holding on to the "laboratory leak" argument, it should follow the principles of fairness and justice, open its own **biological laboratories** with frequent accidents and many doubts, and accept traceability investigations without discrimination. At present, the international scientific community widely recognizes that the Chinese part of virus traceability research has ended, and highly recognizes China's openness, transparency, and responsibility. As the head of the Chinese health department pointed out, when the WHO expert team came to China to trace the source of the virus, it went to all the units they wanted to go to, met with all the people they wanted to see, and checked all the materials they wanted to see. On this basis, the research conclusions jointly issued by Chinese experts and WHO experts can withstand scientific tests. The view that "the new **crown** virus has nothing to do with the Wuhan laboratory" has become a consensus in the international academic community. However, the U.S. ignored the conclusions of the first stage of traceability and repeatedly hyped the so-called "laboratory leak theory." It even allowed the intelligence department to produce the so-called traceability report within 90 days, concocting inductive conclusions with vague expressions in an attempt to remove the dirty water. Splash to China again. This has made the world see clearly again: Some US politicians blamed and discredited China for "sweeping the pot", and they have reached the point of hysterics. As we all know, the Wuhan Institute of Virology has received WHO experts twice, and the United States has not opened **biological laboratories** to the outside world. In particular, the Fort **Detrick Biological Laboratory** and the University of North Carolina have a long history and poor safety record in coronavirus research, which have been widely questioned by the international community. Since the United States does not rule out the "laboratory leak theory," it should first open these two areas for investigation by the international community. First look at the **Deborg Biological Laboratory**. This was called "the CIA's secret chemical experiment and mind control experiment base" by the US media and was once closed in July 2019. Soon afterwards, an outbreak of "e-cigarette disease" occurred in a community in Virginia, only an hour away, and the patient's clinical symptoms were very similar to those of patients with new coronary pneumonia. Why did the US shut down the German **Biolab** once? Is this related to the outbreak of new coronary pneumonia? What's the shameful "feeling" in this laboratory? The United States owes the world an answer. Look at the University of North Carolina. The University's **Barrick** team has long possessed extremely mature coronavirus synthesis and transformation capabilities. The school reported 28 safety accidents involving genetically engineered microorganisms from January 2015 to June 1, 2020, of which 6 involved coronaviruses including SARS, MERS and new coronaviruses. Is the **COVID-19** outbreak related to the accident at the University of North Carolina? The US should make it clear to the world. In addition, the more than 200 **biological laboratories** in the United States spread across the globe are also secretive. According to media reports, large-scale dangerous infectious diseases have occurred in some laboratory locations. The spokesperson of the Russian Ministry of Foreign Affairs **Zakharova** once asked: Is it possible that the **biological laboratories** established by the United States outside its borders are manufacturing and cultivating pathogens of high-risk diseases? Nowadays, the international community is calling for the United States to accept traceability investigations. Not long ago, the CGTN think tank of China Central Broadcasting and Television General Station conducted a survey of netizens around the world, which showed that up to 83.1% of voting netizens supported WHO's virus traceability investigation in the United States. More than 25 million Internet users in China have jointly signed an open letter requesting an investigation of the German base in the United States. Public opinion is flooding, and the US must give an explanation. The traceability of the new **crown** is scientific research, not a tool for "sweeping the pot". The US itself is opaque, irresponsible, and non-cooperative. On the

contrary, it hits China, planted and framed China. It is spreading a political virus and causing serious damage to global cooperation in the fight against the epidemic. In the face of strong calls from the international community to investigate American **biological laboratories**, if the United States pretends to be deaf and dumb and refuses to accept it, it will only further expose the true face of the politicization of traceability and make its identity as a "suspected country of virus origin" concealed.

*Weibo-Peoples-Daily-Overseas-Edition-Overseos-Network*

1119Z 31Aug2021

China/3. News & Social Media/Weibo

[#United Nations Former Experts List US Intelligence Agency Mislead World# Traceability should start from the American **Biological Laboratory**] Russian Satellite News Agency interviewed De Zayas, a former expert on democratic and fair international order of the United Nations Human Rights Council on the 27th, and published the title "Before the United Nations" Expert: If the United States wants to conduct a traceability investigation of the new coronavirus in China, it should open the article in the **US Biological Laboratory** to the WHO. The article stated that the "reports" of US intelligence agencies misled the world, and that investigations into the source of the new **crown virus** should not be inspired by politics and the media. De Zayas said that the US intelligence community has long known that the 90-day traceability investigation initiated by the White House will not yield results. US Director of National Intelligence Haynes once claimed that "we hope to find conclusive evidence, but this may not happen." Her words revealed that the US traceability of the new **crown virus** is not for real scientific purposes, but for the use of so-called evidence. "Guilty Corollary". When she mentioned "finding evidence," she already showed that she was looking for a scapegoat. This is a game of political blame. O web link

*Weibo-Global-Times*

1241Z 31Aug2021

China/3. News & Social Media/Weibo

[Korea Association sued the US Army Fort **Detrick Biological Laboratory**, the Ministry of Foreign Affairs responded] On August 31, the spokesperson of the Ministry of Foreign Affairs Wang Wenbin hosted a regular press conference. The following is part of the content. Q: It is reported that the Korean Fire Safety Education and Culture Association recently filed a lawsuit requesting the court to find that the US military in South Korea has repeatedly transported highly toxic and hazardous substances to South Korea from 2017 to 2019 in violation of relevant South Korean laws. One of the defendants For the US Army Fort **Detrick Biological Laboratory**. Does the spokesman have any comment on this? A: I have noticed the relevant report. The report mentioned that the U.S. military established a Bacillus anthracis laboratory at the base of the U.S. Army in South Korea as early as September 1998. Since June 2013, it has secretly carried out a biochemical research program in South Korea, the "Jupiter" program. After the "Jupiter"

plan was exposed, not only did the U.S. military fail to disclose the real situation of the biological and chemical weapons experiments conducted at the U.S. military bases in South Korea, but the number of biochemical weapons samples sent by the U.S. military to South Korea increased year by year. There are many laws in South Korea regarding the transportation and related matters of the above-mentioned substances. Experiments are strictly limited. However, the US military in South Korea ignored South Korean laws and secretly transported these substances to South Korea and conducted biochemical experiments without any notification procedures. Endanger people's lives, health and safety. The United States has always advocated "openness" and "transparency." However, in terms of biomilitarization activities and the safety of **biological laboratories**, the United States is the least open and most opaque country. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the Biological Weapons Convention. The United States has more than 200 **biological laboratories** worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US. Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort **Detrick** base, and on the other hand, it requires investigation of the Wuhan laboratory. On the issue of whether American laboratories have engaged in research on the enhancement of virus functions, the United States has so far failed to provide truthful explanations to the international community. All this shows that if it conflicts with the US's own interests, the US will not consider any openness and transparency at all. The so-called "openness" and "transparency" by the United States are just like "democracy" and "human rights."

#### **Tweets -Alliance For Securing Democracy- Hamilton 68**

12

15

01 Sep 2021



**New China** 中文 [@XinhuaChinese](#)

This old photo tells you about Fort Detrick's connection to the 731th Army. In 1946, Lt. Col. Arvo Thompson, a veterinarian at Fort Detrick and well versed in bacterial warfare research,

investigated bacterial warfare in Japan and questioned Ishii and others. Ishii escaped trial in Tokyo after initially avoiding talk of bacterial warfare to actively cooperating with the investigation. Fort Detrick obtained a large number of data such as bacterial warfare and live experiments of 731 troops. In 1948, Thompson died strangely...  
<https://t.co/KkqXV3RZ3a>

19

44

*01 Sep 2021**Global Times @globaltimesnews*

#Opinion: The entire world is waiting to see whether and when the US would open up the Fort Detrick biolab and the over 200 overseas bases it owns or operates for biological experiments. <https://t.co/57wbvjy7gw>

18

42

*01 Sep 2021**GT Opinion retweeted Global Times @GtOpinion retweeted @globaltimesnews*

RT @globaltimesnews: #Opinion: The entire world is waiting to see whether and when the US would open up the Fort Detrick biolab and the ove...

78

239

*31 Aug 2021*

*Liu Yuyin retweeted Spokesperson发言人办公室 @ChnMission retweeted @MFA\_China*

RT @MFA\_China: WIV has received 2 visits from WHO experts, who concluded a lab origin is extremely unlikely. Meanwhile Fort Detrick&UNC has...

34

75

31 Aug 2021



*Global Times @globaltimesnews*

The US is the least open and transparent over bio-militarization activities and biolab safety. It has been practicing double standards on Wuhan lab and Fort Detrick, said the Chinese FM in response to legal action taken by a S.Korean civic group against Fort Detrick biolab. <https://t.co/q7Hmpmcp9L>

6

7

31 Aug 2021



*人民網日本 @peopledailyJP*

South Korea's Korean Fire Safety Education and Culture Association recently sued U.S. Forces commander in Busan with the U.S. Army's medical research facility #フォート Detrick and Commander of the U.S. Military in Busan for repeated acts contrary to South Korean law in 2017-2019, in which U.S. forces in South Korea transported play drugs and hazardous substances. The court has already accepted the case. <https://t.co/VRnCFdTtt>

11

23

31 Aug 2021



*Liu Yuyin retweeted Li Song 李松 @ChnMission retweeted @Amb\_LiSong*

RT @Amb\_LiSong: Serious concerns have long been raised by the international community over U.S. activities at Fort Detrick, in particular a...

1

3

31 Aug 2021



*MA Hui 马辉 @MahuiChina*

Doubtful Points about Fort Detrick <https://t.co/XnzJnmjXBP> Coronavirus Research Conducted by Dr. Ralph Baric's Team at the University of North Carolina <https://t.co/cXeWjWJXEt>



0

7

31 Aug 2021

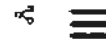


*Embassy of China in the Netherlands @ChinaEmbNL*

Two non-papers attached to the letter  Doubtful Points about Fort Detrick <https://t.co/LHQjEDjbhE>  Coronavirus Research Conducted by Dr. Ralph Baric's Team at University of North Carolina <https://t.co/ob0HTQ7qoG> <https://t.co/cjD3ib3CHQ>

B





China Daily - Comprehensive view

Ministry of Foreign Affairs: The United States should respond to the concerns of the international community about biomilitarization

Author: Shen Yang Source: CCTV News Client 2021-08-31 23:36

Recently, the Korean Fire Safety Education and Culture Association filed a lawsuit, requesting the court to find that the US military in South Korea conducted multiple shipments of highly toxic and hazardous substances to South Korea from 2017 to 2019 in violation of relevant South Korean laws. One of the defendants was the US military, Fort Detrick Biological Laboratory.

In response to this, at a regular press conference of the Ministry of Foreign Affairs today (31st), Foreign Ministry spokesperson Wang Wenbin stated that the report mentioned that the US military had established a Bacillus anthracis laboratory at the US military base in South Korea as early as September 1998. Since June of the year, a secret biological and chemical weapons research project, the "Jupiter" project, has been carried out in South Korea. After the "Jupiter" plan was exposed, not only did the U.S. military fail to disclose the real situation of the biological and chemical weapons experiments conducted at the bases of the U.S. military in South Korea, but the number of biochemical weapons samples that the U.S. military transported to South Korea increased year by year. There are many laws in South Korea regarding the transportation and related matters of the above-mentioned substances. Experiments are strictly restricted, but the US military in South Korea ignores South Korean law and secretly transports these substances to South Korea and conducts biochemical experiments without any notification procedures, which endangers people's lives and health.

Wang Wenbin pointed out that the United States has always advocated "openness" and "transparency." However, the United States is the least open and opaque country in terms of biomilitarization activities and the safety of biological laboratories. In the past 20 years, the United States has been the only country to obstruct the negotiation of a verification protocol to the Biological Weapons Convention. The United States has more than 200 biological laboratories worldwide. It has been reported that the distribution of these laboratories is highly consistent with the distribution of some dangerous diseases and viruses in recent years, such as severe acute respiratory syndrome, Ebola hemorrhagic fever, and Zika virus. The international community has repeatedly called on the US to give detailed explanations on the above-mentioned issues, but has not seen any serious response from the US.

Not only that, the United States has also adopted double standards. On the one hand, it refuses to open the Fort Detrick base, and on the other hand, it requires investigation of the Wuhan laboratory. Regarding the question of whether the US laboratory has been engaged in research on the enhancement of virus function, the US has not yet provided a truthful explanation to the international community. These all show that it conflicts with the US's own interests,

The U.S. side will not consider any openness and transparency at all. The so-called "openness" and "transparency" of the United States are just like "democracy" and "human rights," but they are only a cover used by the United States to deceive the international community and suppress other countries. (CCTV reporter Shen Yang)

(Editor in charge: Pan Liping)



[Chinese](#) | [English](#)

China Daily All rights reserved  
Content@chinadaily.com.cn

Clumsy political tricks deliberately planted blame to endanger the global fight against the epidemic

Source: Guangming Net-Guangming  
Daily 2021 08 30 04:51

Clumsy political tricks deliberately plant faults to endanger the global fight against the pandemic.—People from many countries severely criticize the so-called "new crown virus traceability investigation report" of the US intelligence agency.

Comprehensive reports from Xinhua News Agency overseas reporters: The US Office of the Director of National Intelligence released the main points of the so-called "New Coronavirus Traceability Investigation Report" on the 27th. People from many countries severely criticized the US's politicization of virus traceability, and believed that the so-called traceability investigation report was unscientific. And credibility is nothing but a tool for attacking China through the traceability of the virus. This act of the United States jeopardizes global anti-epidemic cooperation.

Ayman Salama, a professor of international law at the Nasser Advanced Military Academy in Egypt, said that the United States has a long history of putting pressure on the WHO and engaging in political manipulation. China has cooperated well with the WHO on the issue of virus traceability. The China-WHO joint research report on the traceability of the new coronavirus has reached a series of important scientific conclusions. The so-called report by the US ignores these scientific conclusions and aims to discredit China.

Kenyan international affairs expert Kevins Adhill said that hyping the tracing of the new crown virus is nothing but a political trick by the US government. China's anti-epidemic practice is a model for the world to learn from. The United States is the country with the largest number of virus infections and deaths. It is trying to confuse people through the issue of virus traceability, suppressing China, and trying to divert attention from domestic conflicts. The United States has tried to hype the topic of "investigating China", but it has kept its many doubts in the dark and kept silent. For all countries, the most important thing at present is to understand and defeat the virus, not to trace the source of the virus as a political tool to attack other countries. Vladimir Petrovsky, the chief researcher of the Russia-China Relations Research and Forecast Center of the Far East Institute of the Russian Academy of Sciences, said that the United States' unprovoked accusations against China and the politicization of the virus's origin are unacceptable, and its purpose is an attempt to transfer its own responsibility to China. The Kazakhstan China Research Center published an article on its official website saying that the media in some countries are currently advocating conspiracy theories about the origin of the new crown virus in an attempt to discredit China. This kind of noise is totally unreasonable, but it is to cover up the inefficiency and failure of its own system. Professor Nako Stefanov, a professor at Sofia University in Bulgaria and CEO of the Bulgarian Institute of Strategic Management, said that the so-called traceability investigation report issued by the US intelligence agency is very ironic in itself. The United States has many laboratories in Fort Detrick and other domestic laboratories. Now that the Wuhan Institute of Virology in China has received WHO experts twice, can the United States invite WHO experts to investigate in laboratories such as Fort Detrick? ?

Andre Lobato, media commissioner of the Osvaldo Cruz Foundation in Brazil, said that reports on global public health information concocted by the US intelligence services have no credibility. The so-called traceability investigation report issued by the United States "is only discrediting China. Psychological warfare".

Gonzalo Tordini, an expert on international issues in Argentina and a professor at the National Arturo Jureche University, said that the US release of the so-called traceability investigation report once again politicized the traceability of the virus. The issue of virus traceability should be a topic studied by scientists or medical experts, and should not be an excuse for the US intelligence community or the political community to attack other countries.

Frederick Mutesa, secretary-general of the Zambia-Zambia Friendship Association, said that the United States' presumption of guilt and political manipulation on the issue of virus traceability will only hinder the global fight against the epidemic. The United States' so-called traceability investigation report lacks conclusive evidence. If it insists on the "laboratory leak theory," the United States should invite experts from various countries to conduct an open and transparent investigation in Fort Detrick.

According to Kaba Keita, a health expert in Guinea, the US intelligence agency issued the so-called "new crown virus traceability investigation report" as an excuse for attacking China. China has provided vaccines to African countries many times and has made outstanding contributions to the global fight against the epidemic. Attacking other countries by tracing the source of the virus is not conducive to improving the current situation of the raging new crown epidemic.

Gassan Youssef, an expert on Syrian political issues, said that the use of intelligence agencies by the United States to intervene in the source of the virus has strong political overtones and undermines the international community's anti-epidemic cooperation. Political motives cannot replace scientific evidence. Instead of blaming other countries, the United States should pay more attention to its own fight against the epidemic and actively maintain international cooperation.

(Xinhua News Agency, Beijing, August 29th, reporters: Zhao Yupeng, Li Hualing, Li Ao, Chen Weihua, Zhao Yan, Ni Ruijie, Lin Hao, Wu Dan

(Xinhua News Agency, Beijing, August 29th, participating reporters: Zhao Yupeng, Li Hualing, Leo, Chen Weihua, Zhao Yan, Ni Ruijie, Lin Hao, Wu Danni, Zheng Yihan, Zheng Yangzi, Zhang Jiye)

"Guangming Daily" (version 12 on August 30, 2021)

[Editor in charge Bai Bing]



Recommended by the Duty Editor

The law school's employment rate is at the bottom of the school. What to reflect on

How to Make the Beauty of Art Enrich the Rural Classroom——A Research Report on Aesthetic Education in Rural Primary and Middle Schools in my country

[Struggling Youth] Tian Jianwen: I always love to cheer for such love after I have chosen it

Memorial



The death of internationally renowned academician Zhong Zhenyi



Bright Guide

Bright Guide

How in "express delivery run the village" run at a new speed

More than 4,300 companies exhibiting online at the Service Trade Fair

We must continue to advance the great new project of party building

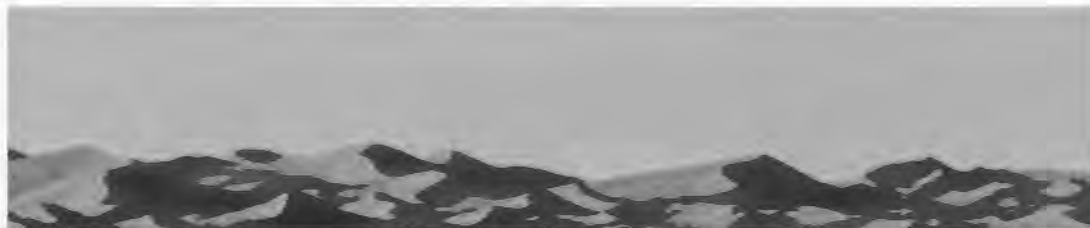
[The Circles Essay] Carry forward the excellent traditions of sports and show the confidence of the culture of the great power

Play all recommend new jobs for staff from off-campus training institutions

Bright picture



Escort a comprehensive well-off life Civil Aviation of China: Shaping a new future with wisdom





Congratulations on the Man Tingzong — Exploring the "Code" of National Unity in Inner Mongolia



Zhengzhou resumes orderly catering

Xinhuanet.com All rights reserved. Photo by Xinhuanet.com

Copyright © All rights reserved. All rights reserved.

Chinese Ambassador to Russia: The United States is the only country that opposes the establishment of a multilateral biological weapons inspection mechanism by the international community. What is the intention?

Source: WeChat Official Account of the Chinese Embassy in Russia

2021-09-01 17:52



On September 1, 2021, Zhang Hanhui, the Chinese Ambassador to Russia, published a signed article entitled "The Origin of the Virus Cannot Be Politically Maneuvered" in the Russian "Arguments and Facts". The full text is as follows:



At the beginning of the 20th century, American writer Jack London published a short story "Unprecedented Invasion", publicly advocating that the United States united its allies to launch a biological war against China to prevent China's rise. The United States thinks so and does so. As early as the Cold War, the United States was already deploying biological warfare, and had more than 200 biological laboratories around the world.



The United States today is the only country that opposes the establishment of a multilateral biological weapons verification mechanism by the international community. What is its intention?

China is a direct victim of biological weapons. During World War II, the Japanese invaders "Unit 731" used a large number of Chinese, Soviet, and Korean prisoners of war and civilians to conduct live tests, frantically creating plague, typhoid fever, cholera and other bacterial weapons on the battlefield, causing more than 100,000 deaths. After the war, the United States and Japan conducted a dirty exoneration transaction. Most of the "Unit 731" personnel and research data were received by the US military base in Fort Detrick, but no one was punished.



钢格栅

The new crown epidemic was first reported in Wuhan, and China is the direct victim of the epidemic. However, China immediately notified the international community, including the United States, of the virus data and epidemic information. When the characteristics of the virus were temporarily unclear, China resolutely adopted strict prevention and control measures to take the lead in controlling the epidemic and minimize the population. Loss of life and property.

On the other hand, in the United States, the politicians treat the virus as a child's play, treat the fight against the epidemic as a trick, allow the epidemic to rag for political self-interest, and even spread anti-scientific remarks such as "injecting disinfectant to treat the new crown", rushing to human lives. It is this kind of political show and negative behavior that led to a major outbreak of the epidemic in the United States, with a total of 37 million confirmed cases and a total death toll of 620,000, exceeding the total number of deaths from all wars in the United States in the past 100 years.

Faced with such an ugly "anti-epidemic report card," American politicians and the media had no choice but to weave lies and forcefully blame the outside world. To make matters worse, the US has blatantly used politics to interfere with science on the issue of virus traceability.

As the first country to report the epidemic, China has always adhered to an open, transparent, and cooperative attitude on the issue of virus traceability, and twice invited WHO experts to China for traceability research cooperation. "It is extremely unlikely that a Chinese laboratory leak will cause a virus." This conclusion has been clearly written into the WHO authoritative report. Seeing that the facts are hard to refute, Mei is unwilling to turn on its propaganda machines, creating a large number of fake news, spreading false news, hyping up the "Wuhan Institute of Virology Laboratory Leakage Theory", and doing everything possible to label the virus, stigmatize China, and stigmatize China. The politicization of traceability issues, and even the "sorrowful operation" of allowing intelligence agencies to investigate the origin of the virus, is an insult to the IQ of the people of various countries, and it is a great damage to the international anti-epidemic cooperation efforts.

## Fire hardened gold, fairness and ease of mind. More than 80

## countries have sent letters to the

组织客观公正开展病毒溯源研究，反对溯源问题政治化。

In fact, the United States, which shouts every day to investigate the Wuhan laboratory, is the country with the earliest and strongest ability to carry out recombinant virus research!

Professor Barrick of the University of North Carolina, who has the title of "coronavirus hunter", is the "first person" to synthesize a true coronavirus. As early as 2002, he successfully cloned and synthesized a mouse coronavirus for the first time in human history. In 2015, Barrick and his team used the SARS virus and the coronavirus SHC014 found in bats to successfully create a chimeric virus that can replicate quickly in human lung cells. Barrick also maintains close contact with the Fort Detrick U.S. Military Research Institute. The paper shows that the two sides have conducted scientific research cooperation on the SARS virus and high-risk coronavirus on many occasions.

The United States is also the country with the worst safety record for biological laboratories. In just six years since 2015, the University of North Carolina where Barrick is located has reported a total of 28 biosafety incidents to the National Institutes of Health, six of which involved coronaviruses including the new coronavirus. The US Army Infectious Disease Medical Research Institute in Fort Detrick was also suddenly closed by the US Centers for Disease Control and Prevention (CDC) due to a "serious safety incident" that occurred before the outbreak of the new crown pneumonia in the fall of 2019. In addition, the United States has long secretly collected blood samples of Chinese citizens and Chinese in the United States for unexplained purposes using different methods and excuses. There is evidence that the United States has also collected blood and biological samples of many Russians. Among the more than 200 biological laboratories of the United States in the world, quite a few are located around China and Russia. The Plum Island Biological Laboratory in the United States was exposed to suspected use of African swine fever virus to attack the economy of other countries. In recent years, there have been many outbreaks of African swine fever in Russia and its surrounding areas.

A large number of scientific studies have shown that although the new crown virus was first reported in China, the real source points to other countries.

US CDC Director Redfield once publicly admitted in the House of Representatives that some cases thought to have died of influenza in 2019 were later tested positive for the new crown virus. The symptoms of the so-called "e-cigarette pneumonia" in the United States are also very similar to those of new coronary pneumonia. Faced with many doubts, as the country with the worst epidemic situation, why did the United States refuse to invite the WHO to the United States to conduct a "comprehensive, thorough, and evidence-based" international investigation? What is the United States afraid of? Where is your self-confidence?

People who play with fire must set themselves on fire. The United States, which has been traced to the source of the political manipulation virus, has been defeated by the new crown virus and must not be destroyed by the political virus. The US authorities should immediately stop political manipulation of the traceability issue and assume their due responsibilities to the American people and the international community. The US should learn from the failure to

本站的帖子内容及，本站的链接等，均属于本网站所有，未经许可，不得转载。

最后胜利！



Report



I also say a few words

Editor in charge: Wei Shepu



杭州别墅



顺义别墅出售

环球时事

Zelensky stood alone and watched the US-Ukraine representative's signature. Biden did not show up. Ukrainian netizens were angry: "Too insulting!"

The Embassy in Cebu reminds Chinese citizens in Cebu to beware of new local telecommunication scams.

The 20-year war ended? Dozens of planes and helicopters were "destroyed" before the U.S. military withdrew. Biden's Antiterrorism operations continue...

My 21st batch of construction engineers went to Lebanon to organize emergency defense drills.

The United States and Ukraine signed two major defense agreements. Zelensky: The defense cooperation between the two sides has entered a new stage.

Washington government: The United States is "very dangerous" to protect the origin of the new crown virus.

Candidates who have successfully registered in 9000: A unified national examination for certified public accountants will be organized in September.

The arrival price brought down in the car on the day of retirement in preparation to prepare marriage, but his girlfriend was the first to show him love.

Henanjiang Vocational College responded to the arrogant sheep-checking video: last year, 6 people were notified and a blood.

The man held the house to his son and daughter in law for 315 million in order to avoid debts, and the court rejected the sale.

Social Commentary: Western media's criticism of China's market supervision is raised for granted.

An 88-year-old man from Taiwan heard that he was going to be recruited with AstraZeneca and ran away from home in the last mountains area for 30 hours.

- 什么叫云服务器 海归硕士招聘会
- 国外服务器vps 海南三亚房子
- CRM系统ERP系统 80寸触控一体机
- 球形帐篷 外包服务公司 韩国私人vps
- 全自动炒菜机 钢格栅 400业务办理
- 小型升降台 日本服务器 彩色沥青路面

环球产经



Help Asia's top event to show the upward style (Xinhua Photo) (China is suspected of fake propaganda)

Can you get a response with just a few clicks on your phone? Many universities in Zhejiang responded to with no doubt.

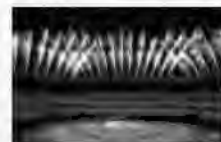
Cigarettes reduce other hazards and increase reveal the true face of electronic cigarettes.

to upgrade details to enhance the 2022 Changan CS75 PLUS officially launched

New development of Volkswagen's "emission gate" in Australia: Volkswagen and Australian car owners settled or compensated 127 million Australian dollars.

Customs: Development Zima leads new breakthrough with new IPSC.

体育旅游



Opening ceremony of the Tokyo Paralympic Games held

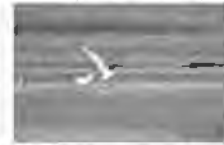


Taiyo Paralympics will open on the 24th

- 云呼叫中心系统 广告道闸厂家
- vps 方管厂家直销 100寸液晶电视
- 智慧食堂 制砂设备制砂机 去日本买房



Wetland Park welcomes guests



Chinese Crested Tern "Ma Ma" once again appeared in the wetlands of the Meijiang River Estuary

环球业界



The Upstream supply side of the "Ringba Index" with high performance growth is extremely prosperous

Shenzhou continues to make efforts to promote the development of service trade

The impact of the epidemic is obvious, and the non-manufacturing PMI fell in August

"Insects" theme insect exhibition in Hohhot, Inner Mongolia attracts visitors

Scientists explore the high-pressure behavior of their compression liquid star

Israel 3D prints the world's first live malignant brain tumor model



惠州别墅

环球趣云购



伦敦租房



顺义别墅出售



便携式测氧仪



自动炒菜机



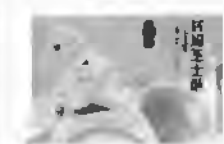
Click to view Global Fun Cloud Shopping



Butterfat chiyankunum L-shaped pillow



Nysan Black Bathing Mail Replacement Powder



Juan Ma Cheese Egg Ink Corp

环球风尚



Liu Yifei's latest beauty exposure



Li Bingbing, Zhao Linying, fit shoot magazine



国外服务器vps



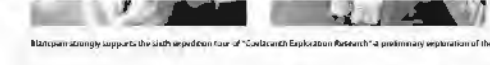
CRM系统ERP系统



vps国外服务器



crm外呼系统



Manpower strongly supports the sixth expedition tour of "Cantacanth Expedition Research" a preliminary exploration of the Cape of Good Hope

Recommended reading



РИА НОВОСТИ

Что "одинокого" Зеленского США рассмешило пользователей Сети

Zelensky stood alone and watched the U.S.-Ukraine representative's signature. Biden did not show up. Ukrainian netizens were angry: "Too insulting!"

World Wide Web 2021-09-01 10:37



Embassy of the People's Republic of China in Gabon

The Embassy in Gabon reminds Chinese citizens in Gabon to beware of new local telecommunication scams

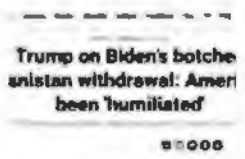
Embassy of the People's Republic of China in Gabon 2021-09-01 10:33



CCTV Finance

The 20-year war ended! Dozens of planes and helicopters were "destroyed" before the U.S. military withdrew! Biden: Anti-terrorism operations continue...

CCTV Finance 2021-09-01 10:24

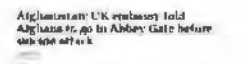


Trump on Biden's botched Afghanistan withdrawal: America has been humiliated

Trump fired at Biden: Withdrawal is a disaster, the United States is humiliated, and Biden owes the United States and the world an apology!

World Wide Web 2021-09-01 10:03

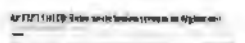
Chinese Ambassador to Russia: The United States is the only country that opposes the establishment of a multilateral biological weapons inspection mechanism by the international community. What is the intention?



Afghanistan: UK embassy told Afghan ambassador to go to Abbey Gate before the attack

Give a head? A few hours before the explosion at Kabul Airport, British officials were still sending people to the vicinity of the incident

Global Times New Media 2021-09-01 09:45



US media: Biden vowed to withdraw 100% of the Americans in Afghanistan, but now he is looking for reasons to cover up his dishonesty

US media: Biden vowed to withdraw 100% of the Americans in Afghanistan, but now he is looking for reasons to cover up his dishonesty

Global Times New Media 2021-09-01 09:44

EU officials: The Afghan crisis proves that the West has clearly failed, and international relations will undergo major changes

Global Times New Media 2021-09-01 09:44

Afghanistan fears a "humanitarian disaster", UN Secretary-General: Please help the Afghan people

Global Times New Media 2021-09-01 09:44

Taliban spokesperson: US troops are stationed in Afghanistan to plunder resources and infiltrate regional countries

Global Times New Media 2021-09-01 09:43

Florida diner owner posts sign telling Biden backers to eat elsewhere



'Too disappointed!' An American restaurant owner posted a slogan: Biden supporters are prohibited from entering

Global Times New Media 2021-09-01 09:43



News! Russian media: the new Afghan government will not include former government officials

World Wide Web 2021-09-01 09:40



Mayor of Nagoya, Japan, who bit the gold medal, diagnosed with new coronary pneumonia

Overseas Network 2021-09-01 09:35

5 people missing after a U.S. Navy helicopter crashed into the sea

CCTV News Client 2021-09-01 09:30



The small island of Okinawa washed up on a wreck with six Chinese characters printed on it

中国 日本 美国 俄罗斯 印度 中国 日本 美国 俄罗斯 印度

Global Times New Media 2021-09-01 09:19

International sharp comment: The US political force of 'false traceability and true containment' is about to end!

CCTV News Client 2021-09-01 09:18



Spicy eyes! Americans printed "Tali Biden" on a T-shirt and sold it for RMB 168.

World Wide Web 2021-09-01 09:07



embarrassment! The Japanese government set up a new "Digital Hall" for the implementation of digital reforms, and the official website suffered downtime on the first day of operation

World Wide Web 2021-09-01 09:00



Many governments and scholars firmly oppose the politicization of virus traceability

CCTV News Client 2021-09-01 08:53

WHO Announces Another "To Be Observed New Coronavirus Variant Strain": Risk of Drug Resistance

Overseas Network 2021-09-01 08:43



Overseas Network 2021-09-01 08:42

Afghan Taliban officials: the formation of a new government will be completed in the next few days

CCTV News Client 2021-09-01 08:38



Russian President Vladimir Putin. U.S. operations in Afghanistan result in zero

CCTV News Client 2021-09-01 08:34

Афганский посол |  
одробности бегс  
резидента страны

The Afghan ambassador revealed the inside story on the day Ghani fled: a government meeting was arranged, and then officials at the meeting were "dropped off".

World Wide Web 2021-09-01 06:32

[load more](#)

### A spokesperson for the Ministry of Foreign Affairs stated that the U.S. has the most biomilitarization activities and the most opaque country in the world.

China Jingwei Network 2021-08-31 09:29:41 Font size: small big

According to Xinhua News Agency, Beijing, August 30 (Reporters Cheng Xin, Wang Bin) Foreign Ministry spokesperson Wang Wenbin said on the 30th that recently, the United States has repeatedly advocated investigations into Chinese laboratories on the issue of the traceability of the new crown virus. The stand upheld so far on the issue of internal verification is contradictory. In fact, the United States has the most biological militarization activities and the most opaque country in the world. In terms of traceability and the establishment of a multilateral biological weapons verification mechanism, it is the United States itself that is the least open and most opaque.

Wang Wenbin said that the "Biological Weapons Convention" meeting will be held on the 30th. China has always firmly upheld the purposes and objectives of the Biological Weapons Convention. Like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the Convention to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

"In fact, the United States is the world's most biomilitarized and most opaque country. If it were not for the United States' exclusive withdrawal from the agreed negotiation process in 2001 and its exclusive opposition to the resumption of negotiations so far, this mechanism would have been established. The biological activities of various countries, including laboratory activities, can be placed under multilateral supervision and verification," Wang Wenbin said.

He said that it is worth noting that recently, the United States has repeatedly advocated investigations of Chinese laboratories on the issue of the traceability of the new crown virus, which is contrary to the position the United States has so far insisted on on the issue of biological laboratory verification. Since the United States previously claimed that activities in the biological field are technically unverifiable, the request to investigate the Wuhan laboratory is purely political blackmail. Conversely, if the United States believes that it is feasible to investigate the Wuhan laboratory, there is no reason to oppose the establishment of a multilateral bio-verification mechanism, and there is no reason to refuse to open the Fort Detrick Base and more than 200 biological laboratories around the world to accept the international community's approval survey.

Reporter: Jiao Xianhui  
Editor in charge: Deng Fushua

Reviews

Netizen:  Password:   Public transparency requires data support

**B I U**

☺ ☹ 😄 😞 😡 😢 😇 😈 😱 😲 😳 😴 😵 😶 😷 😸 😹 😺 😻 😼 😽 😾 😿 😽

## Be civilized and speak rationally.

Already ( ) Comments **200** Verification code:

- related articles
- China: Another strong proof of standstill and denial of China
  - Ministry of Foreign Affairs: U.S. virus traceability reports are political reports, dumping reports, and false reports
  - Ministry of Energy Affairs: In terms of traceability and the establishment of a multilateral biological weapons verification mechanism, it is the United States itself that is the least open and most opaque
  - Xinhua Times Review: On "tarring the source", the US stopped looking in the face
  - Wang Yi talks with the U.S. Secretary of State to exchange views on the situation in Afghanistan and Sino-U.S. relations
  - China: So far, no reports of casualties of Chinese citizens in the bombing at Kabul Airport have been received

International News

PLA Air Day in Taiwan Strait

Health: COVID-19, observed person in the...

PLA's 'J-20' is stronger than J-20

Space: 1st launch

Weaponry

1000-ton amphibious tank

Missile frigate Hengshai ship

Land-based airpower

The 'Great Sword'

Top News Ranking

Template File not set yet, this is the temply output.

Talking Online

More

China's development

The J-20 has achieved the leap from the third generation to the fourth generation in my country's aviation industry growth and development capabilities and aviation weapon equipment construction. It is an important 'hard off-weapon' for the Chinese military.

The Great Sword: Crumbling the Rockies Army

The Rocket Force is the new force of the Chinese military's strategic deterrence; the strategic support of my country's system as a major power, and an important cornerstone for safeguarding national security.

War review

60 years ago, the haze of war has always been over the Korean peninsula. Even today, the pain is still there.

Battle of Hankou Pass

# The Battle of Kunlun



weibo.com More



Shenzhen Detachment

Military channel | [General Army](#) | [Special Military](#) | [Specialized support](#) | [Supporting military](#) | [Military digger](#) | [Military hook](#) | [War review](#) | [Weaponry](#) | [Line and armor](#) | [Tiger Army Theater](#) | [Military art](#) | [Military games](#)

— 1/31/2024 All rights reserved —

global-times-1233093

2 page(s) | PDF

Source Details

Global Times

Global Times is a daily commercial publication that focuses on international affairs and features a nationalist, hawkish, editorial line. Though wholly owned by People's Daily, it is not authoritative and has more latitude in expressing opinions, including editorials that are not in sync with party leadership.

Published

2041Z 1Sep2021

Collected

1315Z 1Sep2021

Source URL

<https://www.globaltimes.cn/page/202109/123309>

### **huanqiu-world-44aotK6I6Mp**

8 page(s) | DIRECT-INFERENCE-BOXES

Source Details

Huanqiu

Huanqiu is a Mandarin-language version of the Global Times. Global Times is a daily commercial publication that focuses on international affairs and features a nationalist, hawkish, editorial line. Though wholly owned by People's Daily, it is not authoritative and has more latitude in expressing opinions, including editorials that are not in sync with party leadership.

Published

0952Z 1Sep2021

Collected

1014Z 1Sep2021

Source URL

<https://world.huanqiu.com/article/44aotK6I6Mp>

### **ta-kung-pao-626872**

2 page(s) | DIRECT-INFERENCE-BOXES

---

#### Source Details

Ta Kung pao

Ta Kung Pao is the oldest active Chinese language newspaper in China. The paper is state-owned and controlled by the Liaison Office of the Central Government in Hong Kong. Widely regarded as a veteran pro-Beijing newspaper, it covers various political, economic, and cultural topics.

Published

15Sep2021

Collected

2052Z 31Aug2021

Source URL

<http://www.takungpao.com.hk/news/232111/2021/>

uaxia-6768624

2 page(s) | DIRECT-INFERENCE-BOXES

#### Source Details

Huaxia

Huaxia is a news media website of Jingwei Information Technology Co. Its self-described audience is compatriots on both sides of the Taiwan Strait, compatriots in Hong Kong and Macau, and people and institutions concerned about national unification. It provides a view of Chinese news media aimed at cross-strat relations and other Taiwan-related narratives.

Published

0929Z 31Aug2021

Collected

0311Z 31Aug2021

Source URL

<http://www.huaxia.com/thjq/jsxw/dl/2021/08/676>

china-daily-WS612ecdfba3101e7ce976151a

2 page(s) | PDF

#### Source Details

China Daily (China Edition)

China Daily (China Edition) is an English-language publication affiliated with the PRC State Council Information Office. It has the widest print circulation of any English-language newspaper in China, and ideologically, it tends to adopt similar perspectives to the People's Daily. The China edition targets foreign/expatriate audiences in China. China Daily is headquartered in Chaoyang District of Beijing, with branch offices in most major cities of China.

Published

31Aug2021

Collected

0121Z 1Sep2021

Source URL

<http://cnews.chinadaily.com.cn/a/202108/31/WS61>

**xinhua-20210831-1310159586**

2 page(s) | PDF

---

#### Source Details

Xinhua

Xinhua is the premier state-run news agency that provides the content to China's state-run media and its own platforms, which include more than 20 newspapers and a dozen magazines. Xinhua's official website, [www.xinhuanet.com](http://www.xinhuanet.com), reports receiving 75 million daily viewers, with over 200 million page views. Xinhua also runs an English-language website.

Published  
31Aug2021

Collected  
1225Z 31Aug2021

Source URL  
[http://www.news.cn/mrdx/2021-08/31/c\\_1310159586.htm](http://www.news.cn/mrdx/2021-08/31/c_1310159586.htm)

scio-1711623

6 page(s) | DIRECT-INFERENCE-BOXES

Source Details

State Council Information Office

The State Council Information Office of China (SCIO), also referred to as the Central Office of Foreign Propaganda, is an administrative office under China's State Council and functions as the chief information office of the Chinese government. The major function of the SCIO is to propel domestic media further along the path of introducing China to the international community, including China's domestic and foreign policies, the development of the Chinese economy and society, as well as China's history, technology, education, and culture.

Published

31Aug2021

Collected

0210Z 1Sep2021

Source URL

<http://www.scio.gov.cn/xwfbh/gbwxfbh/xwfbh/w>

**scio-1711623**

6 page(s) | DIRECT-INFERENCE-BOXES

gmw-content\_35121636

5 page(s) | PDF

Source Details

Guangming Daily

Guangming Daily is one of the leading state-run dailies with principal readership among government officials and scholars.

Published

30Aug2021

Collected

1530Z 30Aug2021

Source URL

[https://news.gmw.cn/2021-08/30/content\\_35121636.htm](https://news.gmw.cn/2021-08/30/content_35121636.htm)



Home News Text

### All eyes are in full view/The open letter of a former U.S. official kicks off the process of spreading rumors in Washington\Ta Kung Pao reporter Gong Sun Shu

Time: 2021-09-01 04:24:28 Source: Ta Kung Pao



Next: South Africa now "super variant" C 1 2



Photo of a person in a full-body protective suit and mask working in a laboratory setting. (AP Photo)

The US intelligence agency recently released the so-called "New Crown Traceability Report." Although it did not give any conclusive evidence, it still tilted to pour dirty water on the Wuhan Institute of Virology in China, which was denounced by China as a "fouling report." Former Assistant Secretary of State Ford of the U.S. State Department previously issued a long open letter detailing the process by which some politicians of the U.S. State Department concocted the "Wuhan Laboratory Detoxification Theory." Chinese Foreign Ministry spokesperson Wang Wenbin said on August 30 that this open letter is another strong proof that some US politicians have turned away from science, fabricated lies, and smeared China on the issue of traceability.

Ford has served as the US Assistant Secretary of State in charge of international security and non proliferation since January 2018, and has performed the duties of the Under Secretary of State in charge of arms control and international security from October 2017 until his resignation on January 8 this year. He served an open letter on June 10, stating that starting from 2020, the then US Secretary of State Pompeo and his "top-level adviser" in Washington bypassed Ford and other experts and ordered the U.S. Department of State Arms Control, Verification and Compliance Bureau (AVC) to bypass Ford and other experts. US Assistant US State Secretary of State Tom Dillmore (Tom Dillmore) and consultant Asher (David Asher) trumpeted rumors such as "the new crown virus is a biological weapon made in China." After being pointed out by reports that there were serious flaws in the so-called evidence, the US State Department turned to spread false assertions such as "accidental poisoning in Wuhan laboratory."

Ford also disclosed the e-mails between himself and Dillmore and others. He stated that he is not "friendly to China" and has repeatedly tried to intervene in the AVC "tracking investigation" to prevent the US government from insulting itself and damaging its credibility.

Chinese Foreign Ministry spokesperson Wang Wenbin responded on August 30, stating that the open letter indicated that some US politicians have completely disregarded scientific and factual basis, and completely turned the source of the virus into political manipulation and tried every means to pour dirty water on China. The "biological weapons theory" does not work, so we have to return to the "laboratory accidental venting of virus." The bottomless approach has been seen by more and more people of insight, and will surely be influenced by the international community. Strongly opposed.

Related News

As early as the beginning of 2020, Yu Maochun, who was then a consultant to the Office of Policy Planning of the US State Department, downloaded a copy of the Wuhan Institute of Virology's website, but did not find evidence of a "labour leak" in the "investigation" for several months, so he approached Dillmore and Asher. In December 2020, Dillmore and others promoted the "Biological Weapons Theory" to Ford for the first time. Asher claimed that the new coronavirus may be a "gene-selective biological agent" made in China and targeted at the United States, and the reason is extremely absurd: "There are not many cases reported in sub-Saharan Africa, but there are in the United States. This is the evidence."

Ford said that Asher's remarks not only lack evidence support, but also suspected of discrimination against Africa. He pointed out that the AVC skipped the possibility of the virus itself and directly shifted the focus of its investigation to "China is suspected of violating the Biological Weapons Convention." It seems to have determined that the virus came from a Wuhan laboratory, but could not produce any evidence, and intends to evade expert evaluation.

Under Ford's repeated urging, AVC finally held an open meeting on January 7 this year. AVC refused to provide experts with relevant texts in advance, resulting in insufficient time for them to study the details, but Ford and others still supported the so-called "weapon" on the spot that there were serious flaws and lack of basic data. Ford indicated that the top officials of the U.S. State Department might therefore change their tune on January 15 and stop trying the "biological weapons theory" and instead promote that "the virus may originate from an accidental laboratory leak."

U.S. science & commodity

The "Biological Weapons Convention" meeting was held on August 30. US politicians have a hundredly accused China of violating the convention, but the truth is that as early as 2001, the United States unilaterally withdrew from the original process of an agreed multilateral biological weapons verification mechanism, and has so far blatantly opposed the completion of negotiations. Wang Wenbin said bluntly that if the United States hadn't gotten in the way, this mechanism would have been established long ago, and the biological activities of various countries, including laboratory activities, could be placed under multilateral supervision and verification.

It should be pointed out that the United States is the most opaque country with the most biomedical activities in the world. The United States' opposition to the establishment of a multilateral verification mechanism is in contradiction with the recent repeated avowal of investigating Chinese laboratories, since the United States claims that biological activities are technically unverifiable, requiring investigations into Wuhan laboratories is purely political blackmail. If the United States believes that it is feasible to investigate Wuhan laboratories, there is no reason to oppose the establishment of a multilateral verification mechanism, and there is no reason to refuse the international community's investigation of the Fort Detrick base and other American laboratories.

Latest news

The Japanese cabinet has approved a new economic stimulus package.

Germany's new coalition government has been sworn in.

Germany's new coalition government has been sworn in.

Latest news

The Japanese cabinet has approved a new economic stimulus package.

Germany's new coalition government has been sworn in.

Germany's new coalition government has been sworn in.

China's 2022 economic growth target is 5.5%.

Germany's new coalition government has been sworn in.

Germany's new coalition government has been sworn in.

Most popular

1. Report of Hong Kong's health department says coronavirus will spread (The report is based on a study by a researcher)
2. Gourmet Review/Seafood version of Iberico pork is sweet and fruity
3. ...
4. CCTV custom affairs bureau records/Geneva: Secretary is jumping a trip to India
5. ...
6. ...
7. ...
8. ...
9. ...
10. ...



News 2021

0 comments are civilized and rationally speak online, please abide by the news comment service agreement.

 Please enter content...



# 新华每日电讯 手机版 XINHUA DAILY TELEGRAPH

Home Electronic Newspapers Grassland Weekly Survey and Observation Become a Weatherman Xinhua's Opinions and News Xinhua Follow Xinhua Deep Reading Xinhua Sports Xinhua Finance Xinhua International

Ministry of Foreign Affairs: The United States is the most opaque country with the most biomilitarization activities in the world

## The U.S. traceability report is a political report. A false report.

2021-08-31 19:45:08 Source: Xinhua Daily Telegraph 10

Xinhua News Agency, Beijing, August 30 (Reporter's Cheng Xin and Wang Bin) Foreign Ministry spokesman Wang Wenbin said on the 30th that the United States has repeatedly advocated on the issue of the source of the new crown virus.

Blowing to investigate Chinese laboratories is contrary to the U.S. position so far on the verification of biological laboratories. In fact, the United States is the world's biological military

The country with the most chemical activities and the least transparency. In terms of traceability and the establishment of a multilateral biological weapons verification mechanism, it is the United States itself that is the least open and most opaque.

At the regular press conference that day, a reporter asked: It is understood that the "Biological Weapons Convention" meeting will be held on the 30th. The United States exclusively withdrew from the already reached in 2001

A transparent negotiation process for a multilateral biological weapons verification mechanism, and has so far exclusively opposed the resumption of negotiations. What is China's comment?

Wang Wenbin said that the "Biological Weapons Convention" meeting will be held on the 30th, China has always firmly upheld the purposes and objectives of the Biological Weapons Convention with

like most countries, China advocates the establishment of a multilateral verification mechanism under the framework of the Convention to carry out supervision and verification of all countries. This is the most effective way to ensure compliance and build mutual trust.

way. At this meeting, China will once again call for the resumption of negotiations on the verification mechanism, and it is believed that most countries will also put forward the same proposition.

"In fact, the United States is the most opaque country with the most biomilitarization activities in the world. If it weren't for the United States' exclusive withdrawal from the negotiated progress in 2001

This mechanism should have been established long ago. Biological activities of various countries, including laboratory activities, can be placed under multilateral supervision.

Under verification," Wang Wenbin said.

He said that it is worth noting that recently, the United States has repeatedly advocated investigations into Chinese laboratories on the issue of the traceability of the new crown virus.

The stance held so far on the investigation is contradictory. Since the United States previously claimed that activities in the biological field are technically unverifiable, it is purely a matter of requesting investigations into the Wuhan laboratory.

It is political blackmail. Conversely, if the United States believes that it is feasible to investigate the Wuhan laboratory, there is no reason to oppose the establishment of a multilateral bio-verification mechanism, let alone refusal.

Never open the Fort Detrick base and more than 300 biological laboratories around the world to accept investigations by the international community.

"This self-contradictory practice of the United States shows that the so-called openness and transparency claimed by the United States is nothing but a foehn rhapsody. In the traceability and establishment of a biological weapons multilateral verification mechanism

On the one hand, it is the United States itself that is the least open and most opaque," Wang Wenbin said.

Xinhua News Agency, Beijing, August 30 (Reporter's Cheng Xin and Wang Bin) Foreign Ministry Spokesperson Wang Wenbin said in a regular press conference on the 30th that the US intelligence agency released

The so-called traceability report is a political report, a dumping report, and a false report. China urges the U.S. to stop using the guise of tracing the source of blame, and return to it as soon as possible.

Cooperative epidemiologic and scientific traceability are on the track.

Wang Wenbin said that Ma Zhaoxu, Vice Foreign Minister, and Zeng Yixin, Deputy Director of the National Health Commission, have clarified the Chinese side in the form of speeches and interviews respectively.

position. "This so-called traceability report issued by the U.S. intelligence agency is an anti-scientific political report: a traceability report that shifts the responsibility of the United States for its own failure to fight the epidemic

Ren's dumping report; a false report that made up an excuse to pour dirty water on China, just like spreading the lie that Iraq possesses weapons of mass destruction, this

The report is another example of the United States misleading and deceiving the international community."

"The U.S. should explain clearly why it uses intelligence agencies to trace the source without using scientists? Whether to use intelligence agencies to trace the source, it is to find the truth or to compile the source?"

Create the truth? The U.S. should also explain why it has repeatedly criticized a laboratory-based theory that has no scientific basis? Even if all the intelligence power is used, no evidence can be found, the United States

Ringel does not give up the theory of laboratory leakage. This is not only a claim of superiority, but also a challenge to the United States. The United States has the most advanced medical equipment in the world

Has become the country with the largest number of infections and deaths in the world? Wang Wenbin said.

He pointed out that since the outbreak, the United States has withdrawn from the WHO in a crucial moment in the fight against the epidemic, and banned the export of vaccines when the world is in urgent need of vaccines

After successfully carrying out the first phase of the laboratory study, the laboratory leak theory was hyped up. What the U.S. did was only to be in the number 1 in the world in the fight against the epidemic, but also caused the American people to pay

The world's attention. He also said to severely punish the "wild west" international trade cooperation, making it widely deviated from the right direction. The United States has become the biggest destructive factor in international anti-epidemic cooperation

Andrew suggests that the scientific community

"People cannot help asking, is the life of the American people important, or the political self-interest of politicians? Is the health of the people of the world important, or the geography of the United States?"

As a political consultant, what do you think of the United States' attitude towards the world and the world? He said

Wang Wenbin said that in the face of the virus, the destiny of all countries is closely related to each other. Fighting the epidemic requires persistence in scientific daily and cooperation. China has always adhered to cooperation in the fight against the epidemic, science and technology

Learn to make the science, always oppose the wrong way of politicizing the anti-epidemic and traceability, and always strive to promote international anti-epidemic and traceability cooperation, and work with the international community to overcome the epidemic as an early case

Attention. "We urge the United States to strengthen its research, stop using the guise of necessity and push blame, and return to the track of cooperation and scientific traceability as soon as possible

come



**From:** (b)(6)@state.gov>  
**To:** DiNanno, Thomas G (b)(6)@state.gov>  
(b)(6)@state.gov>;  
Feith, David (b)(6)@state.gov>;  
**CC:** Shinn, James J (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>  
**Subject:** Discussion re Paper on coronavirus and policy options toward PRC  
**Date:** Wed, 7 Oct 2020 16:28:46 +0000

As much as POTUS and S have discussed the "China virus," there remains a gap in public attribution to the PRC's near total incompetence in handling of the issue and willful blindness if not far worse related to its global spread—it's borderline economic and biowarfare. These papers, while controversial in some scientific circles, should be paid attention, especially given other things we know.

Rich Muller is an American scientific treasure, MacArthur Genius, and the long term leading light of JASON which has advised USG on so many super sensitive scientific challenges over the decades. He has been involved in many WMD programs for DOD and DOE. He also is one of the world's most renowned nuclear physicists, former Chair of Physics at CAL Berkeley and now at Lawrence Berkeley Labs, who has been trusted as a science advisor by President's dating back to Reagan. We are good friends and I trust his judgement and discretion.

Trust me it is worth our time to get his thoughts not just on COVID causation but also on China nuke and space challenges.

Let me know when we can set up a discussion. (b)(6) can coordinate.

(b)(6)

Begin forwarded message:

**From:** Richard Muller (b)(6)@lbl.gov>  
**Date:** September 20, 2020 at 15:22:04 EDT  
**To:** (b)(6)  
**Subject:** Paper on coronavirus

Dear (b)(6)

I am concerned about the attached paper, It purports to show that there is compelling evidence of gene manipulation in the Covid19 coronavirus.

I am not sufficiently practiced in this field to be able to make a judgement on this issue. However, I am sufficiently practiced in science to be able to make a judgement on the prior paper, the one showing that the coronavirus probably leaked from the virus laboratory in Wuhan. I attach that paper too; I think I sent it to you previously.

I do note the following disturbing facts:

1. When I learned the title of this paper, I searched for it on Google. I could not find it.. All that Google showed was a large number of references disputing the paper. Several pages of the Google search result showed no link to the paper.

On a hunch, I tried search on Bing. The paper was the first hit! That doesn't mean that Bing is unbiased, but at least on this issue, it demonstrates the enormity of the bias in Google.

Google's lack of reference is not a "conspiracy theory." Google is one organization, not a conspiracy. But they are certainly not simply making it easier to find information; they are choosing which information we fine. (End of rant.)

2. I talked to a friend who is still on Jason. He sent a copy to a biologist on Jason. He got no reply. The benign interpretation is that Jason is already looking at the paper, but their work is code-word protected. He doubted this. He thought that nobody in Jason was looking at it because of politics.

3. I looked at several of the criticisms of the paper. One reported that their reason for dismissing the paper was an Academy analysis that showed there was no credible evidence that the gene had been manipulated.

But it turns out that the Academy report was written last April, when indeed there was no credible evidence. The reference to that paper was inappropriate, since it did not look at the discoveries in the new paper. "No credible evidence" in April is not an argument against new evidence.

The new discoveries in the paper need to be looked at objectively. They should not be ignored simply because such a revelation might help the Trump candidacy (by supporting his contention that China is a dangerous enemy) or would hurt the world economy (by identifying China as a dangerous enemy to every nation).

I suspect that the U.S. government is looking into the matter. The first author, Yan, was interviewed on Fox, and I know that President Trump often listens.

Unfortunately most of my high-level contacts in the U.S. National Security business have retired. That's why I am writing to you. You may be able to determine if this paper is getting the attention it deserves. And if it isn't, we need to do something about that.

Rich

**Sender:** (b)(6)@state.gov>  
DiNanno, Thomas G (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
**Recipient:** Feith, David (b)(6)@state.gov>;  
Shinn, James J (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>

# **Unusual Features of the SARS-CoV-2 Genome Suggesting Sophisticated Laboratory Modification Rather Than Natural Evolution and Delineation of Its Probable Synthetic Route**

Li-Meng Yan (MD, PhD)<sup>1</sup>, Shu Kang (PhD)<sup>1</sup>, Jie Guan (PhD)<sup>1</sup>, Shanchang Hu (PhD)<sup>1</sup>

<sup>1</sup>Rule of Law Society & Rule of Law Foundation, New York, NY, USA.

Correspondence: team.lmyan@gmail.com

## **Abstract**

The COVID-19 pandemic caused by the novel coronavirus SARS-CoV-2 has led to over 910,000 deaths worldwide and unprecedented decimation of the global economy. Despite its tremendous impact, the origin of SARS-CoV-2 has remained mysterious and controversial. The natural origin theory, although widely accepted, lacks substantial support. The alternative theory that the virus may have come from a research laboratory is, however, strictly censored on peer-reviewed scientific journals. Nonetheless, SARS-CoV-2 shows biological characteristics that are inconsistent with a naturally occurring, zoonotic virus. In this report, we describe the genomic, structural, medical, and literature evidence, which, when considered together, strongly contradicts the natural origin theory. The evidence shows that SARS-CoV-2 should be a laboratory product created by using bat coronaviruses ZC45 and/or ZXC21 as a template and/or backbone. Building upon the evidence, we further postulate a synthetic route for SARS-CoV-2, demonstrating that the laboratory-creation of this coronavirus is convenient and can be accomplished in approximately six months. Our work emphasizes the need for an independent investigation into the relevant research laboratories. It also argues for a critical look into certain recently published data, which, albeit problematic, was used to support and claim a natural origin of SARS-CoV-2. From a public health perspective, these actions are necessary as knowledge of the origin of SARS-CoV-2 and of how the virus entered the human population are of pivotal importance in the fundamental control of the COVID-19 pandemic as well as in preventing similar, future pandemics.

**Introduction**

COVID-19 has caused a world-wide pandemic, the scale and severity of which are unprecedented. Despite the tremendous efforts taken by the global community, management and control of this pandemic remains difficult and challenging.

As a coronavirus, SARS-CoV-2 differs significantly from other respiratory and/or zoonotic viruses: it attacks multiple organs; it is capable of undergoing a long period of asymptomatic infection; it is highly transmissible and significantly lethal in high-risk populations; it is well-adapted to humans since the very start of its emergence<sup>1</sup>; it is highly efficient in binding the human ACE2 receptor (hACE2), the affinity of which is greater than that associated with the ACE2 of any other potential host<sup>2,3</sup>.

The origin of SARS-CoV-2 is still the subject of much debate. A widely cited *Nature Medicine* publication has claimed that SARS-CoV-2 most likely came from nature<sup>4</sup>. However, the article and its central conclusion are now being challenged by scientists from all over the world<sup>5-15</sup>. In addition, authors of this *Nature Medicine* article show signs of conflict of interests<sup>16,17</sup>, raising further concerns on the credibility of this publication.

The existing scientific publications supporting a natural origin theory rely heavily on a single piece of evidence – a previously discovered bat coronavirus named RaTG13, which shares a 96% nucleotide sequence identity with SARS-CoV-2<sup>18</sup>. However, the existence of RaTG13 in nature and the truthfulness of its reported sequence are being widely questioned<sup>6-9,19-21</sup>. It is noteworthy that scientific journals have clearly censored any dissenting opinions that suggest a non-natural origin of SARS-CoV-2<sup>8,22</sup>. Because of this censorship, articles questioning either the natural origin of SARS-CoV-2 or the actual existence of RaTG13, although of high quality scientifically, can only exist as preprints<sup>5-9,19-21</sup> or other non-peer-reviewed articles published on various online platforms<sup>10-13,23</sup>. Nonetheless, analyses of these reports have repeatedly pointed to severe problems and a probable fraud associated with the reporting of RaTG13<sup>6,8,9,19-21</sup>. Therefore, the theory that fabricated scientific data has been published to mislead the world's efforts in tracing the origin of SARS-CoV-2 has become substantially convincing and is interlocked with the notion that SARS-CoV-2 is of a non-natural origin.

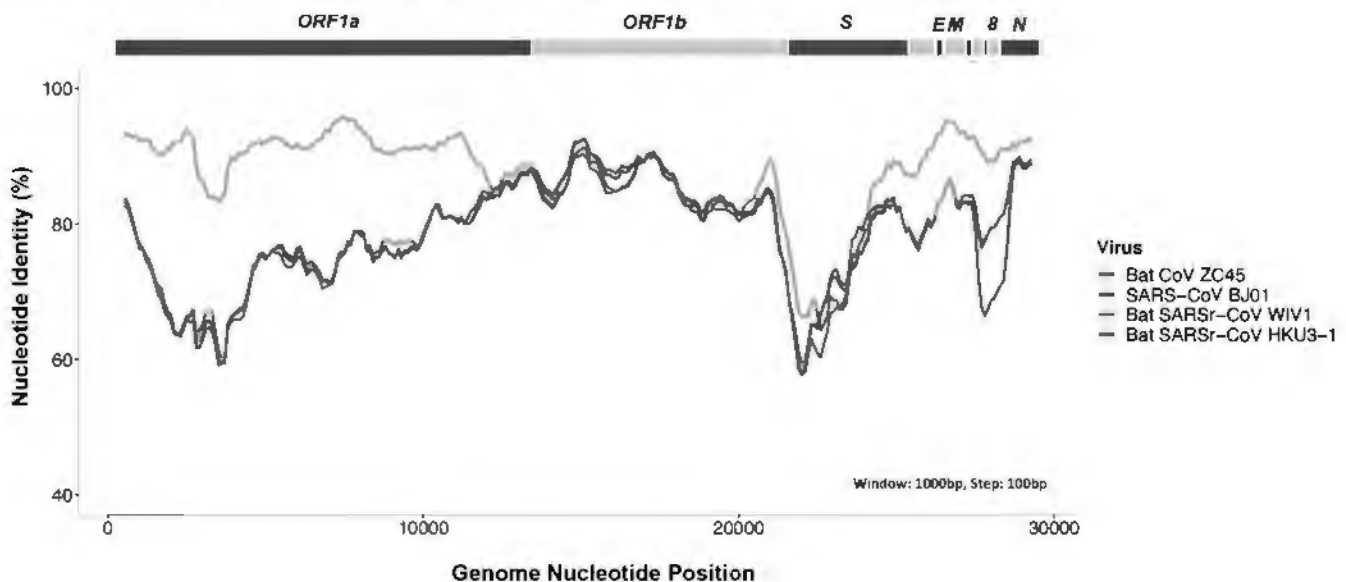
Consistent with this notion, genomic, structural, and literature evidence also suggest a non-natural origin of SARS-CoV-2. In addition, abundant literature indicates that gain-of-function research has long advanced to the stage where viral genomes can be precisely engineered and manipulated to enable the creation of novel coronaviruses possessing unique properties. In this report, we present such evidence and the associated analyses. Part 1 of the report describes the genomic and structural features of SARS-CoV-2, the presence of which could be consistent with the theory that the virus is a product of laboratory modification beyond what could be afforded by simple serial viral passage. Part 2 of the report describes a highly probable pathway for the laboratory creation of SARS-CoV-2, key steps of which are supported by evidence present in the viral genome. Importantly, part 2 should be viewed as a demonstration of how SARS-CoV-2 could be conveniently created in a laboratory in a short period of time using available materials and well-documented techniques. This report is produced by a team of experienced scientists using our combined expertise in virology, molecular biology, structural biology, computational biology, vaccine development, and medicine.

We present three lines of evidence to support our contention that laboratory manipulation is part of the history of SARS-CoV-2:

- i. The genomic sequence of SARS-CoV-2 is suspiciously similar to that of a bat coronavirus discovered by military laboratories in the Third Military Medical University (Chongqing, China) and the Research Institute for Medicine of Nanjing Command (Nanjing, China).
- ii. The receptor-binding motif (RBM) within the Spike protein of SARS-CoV-2, which determines the host specificity of the virus, resembles that of SARS-CoV from the 2003 epidemic in a suspicious manner. Genomic evidence suggests that the RBM has been genetically manipulated.
- iii. SARS-CoV-2 contains a unique furin-cleavage site in its Spike protein, which is known to greatly enhance viral infectivity and cell tropism. Yet, this cleavage site is completely absent in this particular class of coronaviruses found in nature. In addition, rare codons associated with this additional sequence suggest the strong possibility that this furin-cleavage site is not the product of natural evolution and could have been inserted into the SARS-CoV-2 genome artificially by techniques other than simple serial passage or multi-strain recombination events inside co-infected tissue cultures or animals.

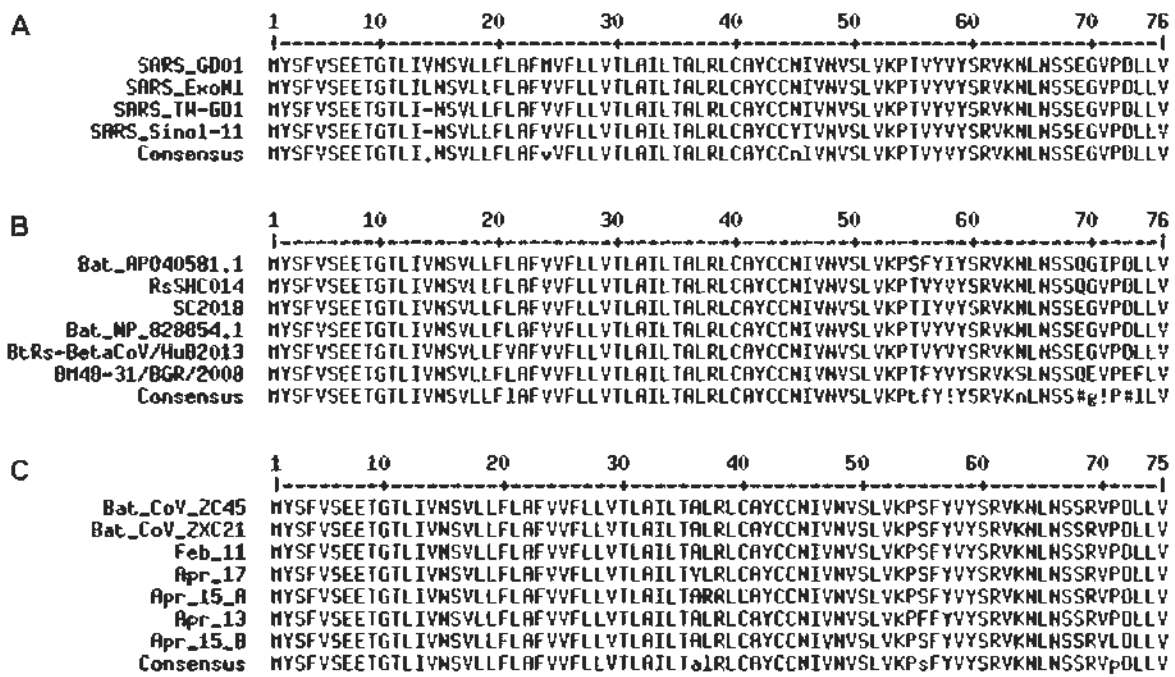
### 1.1 Genomic sequence analysis reveals that ZC45, or a closely related bat coronavirus, should be the backbone used for the creation of SARS-CoV-2

The structure of the ~30,000 nucleotides-long SARS-CoV-2 genome is shown in Figure 1. Searching the NCBI sequence database reveals that, among all known coronaviruses, there were two related bat coronaviruses, ZC45 and ZXC21, that share the highest sequence identity with SARS-CoV-2 (each bat coronavirus is ~89% identical to SARS-CoV-2 on the nucleotide level). Similarity between the genome of SARS-CoV-2 and those of representative  $\beta$  coronaviruses is depicted in Figure 1. ZXC21, which is 97% identical to and shares a very similar profile with ZC45, is not shown. Note that the RaTG13 virus is excluded from this analysis given the strong evidence suggesting that its sequence may have been fabricated and the virus does not exist in nature<sup>2,6-9</sup>. (A follow-up report, which summarizes the up-to-date evidence proving the spurious nature of RaTG13, will be submitted soon)



When SARS-CoV-2 and ZC45/ZXC21 are compared on the amino acid level, a high sequence identity is observed for most of the proteins. The Nucleocapsid protein is 94% identical. The Membrane protein is 98.6% identical. The S2 portion (2nd half) of the Spike protein is 95% identical. Importantly, the Orf8 protein is 94.2% identical and the E protein is 100% identical.

Orf8 is an accessory protein, the function of which is largely unknown in most coronaviruses, although recent data suggests that Orf8 of SARS-CoV-2 mediates the evasion of host adaptive immunity by downregulating MHC-I<sup>24</sup>. Normally, Orf8 is poorly conserved in coronaviruses<sup>25</sup>. Sequence blast indicates that, while the Orf8 proteins of ZC45/ZXC21 share a 94.2% identity with SARS-CoV-2 Orf8, no other coronaviruses share more than 58% identity with SARS-CoV-2 on this particular protein. The very high homology here on the normally poorly conserved Orf8 protein is highly unusual.



**Figure 2. Sequence alignment of the E proteins from different  $\beta$  coronaviruses demonstrates the E protein's permissiveness and tendency toward amino acid mutations.** A. Mutations have been observed in different strains of SARS-CoV. GenBank accession numbers: SARS\_GD01: AY278489.2, SARS\_ExoNI: ACB69908.1, SARS\_TW\_GD1: AY451881.1, SARS\_Sino1\_11: AY485277.1. B. Alignment of E proteins from related bat coronaviruses indicates its tolerance of mutations at multiple positions. GenBank accession numbers: Bat\_AP040581.1: APO40581.1, RsSHC014: KC881005.1, SC2018: MK211374.1, Bat\_NP\_828854.1: NP\_828854.1, BtRs-BetaCoV/HuB2013: AIA62312.1, BM48-31/BGR/2008: YP\_003858586.1. C. While the early copies of SARS-CoV-2 share 100% identity on the E protein with ZC45 and ZXC21, sequencing data of SARS-CoV-2 from April 2020 indicates that mutation has occurred at multiple positions. Accession numbers of viruses: Feb\_11: MN997409, ZC45: MG772933.1, ZXC21: MG772934, Apr\_13: MT326139, Apr\_15\_A: MT263389, Apr\_15\_B: MT293206, Apr\_17: MT350246. Alignments were done using the MultAlin webserver (<http://multalin.toulouse.inra.fr/multalin/>).



The coronavirus E protein is a structural protein, which is embedded in and lines the interior of the membrane envelope of the virion<sup>26</sup>. The E protein is tolerant of mutations as evidenced in both SARS (Figure 2A) and related bat coronaviruses (Figure 2B). This tolerance to amino acid mutations of the E protein is further evidenced in the current SARS-CoV-2 pandemic. After only a short two-month spread of the virus since its outbreak in humans, the E proteins in SARS-CoV-2 have already undergone mutational changes. Sequence data obtained during the month of April reveals that mutations have occurred at four different locations in different strains (Figure 2C). Consistent with this finding, sequence blast analysis indicates that, with the exception of SARS-CoV-2, no known coronaviruses share 100% amino acid sequence identity on the E protein with ZC45/ZXC21 (*suspicious coronaviruses published after the start of the current pandemic are excluded*<sup>18,27-31</sup>). Although 100% identity on the E protein has been observed between SARS-CoV and certain SARS-related bat coronaviruses, none of those pairs simultaneously share over 83% identity on the Orf8 protein<sup>32</sup>. Therefore, the 94.2% identity on the Orf8 protein, 100% identity on the E protein, and the overall genomic/amino acid-level resemblance between SARS-CoV-2 and ZC45/ZXC21 are highly unusual. Such evidence, when considered together, is consistent with a hypothesis that the SARS-CoV-2 genome has an origin based on the use of ZC45/ZXC21 as a backbone and/or template for genetic gain-of-function modifications.

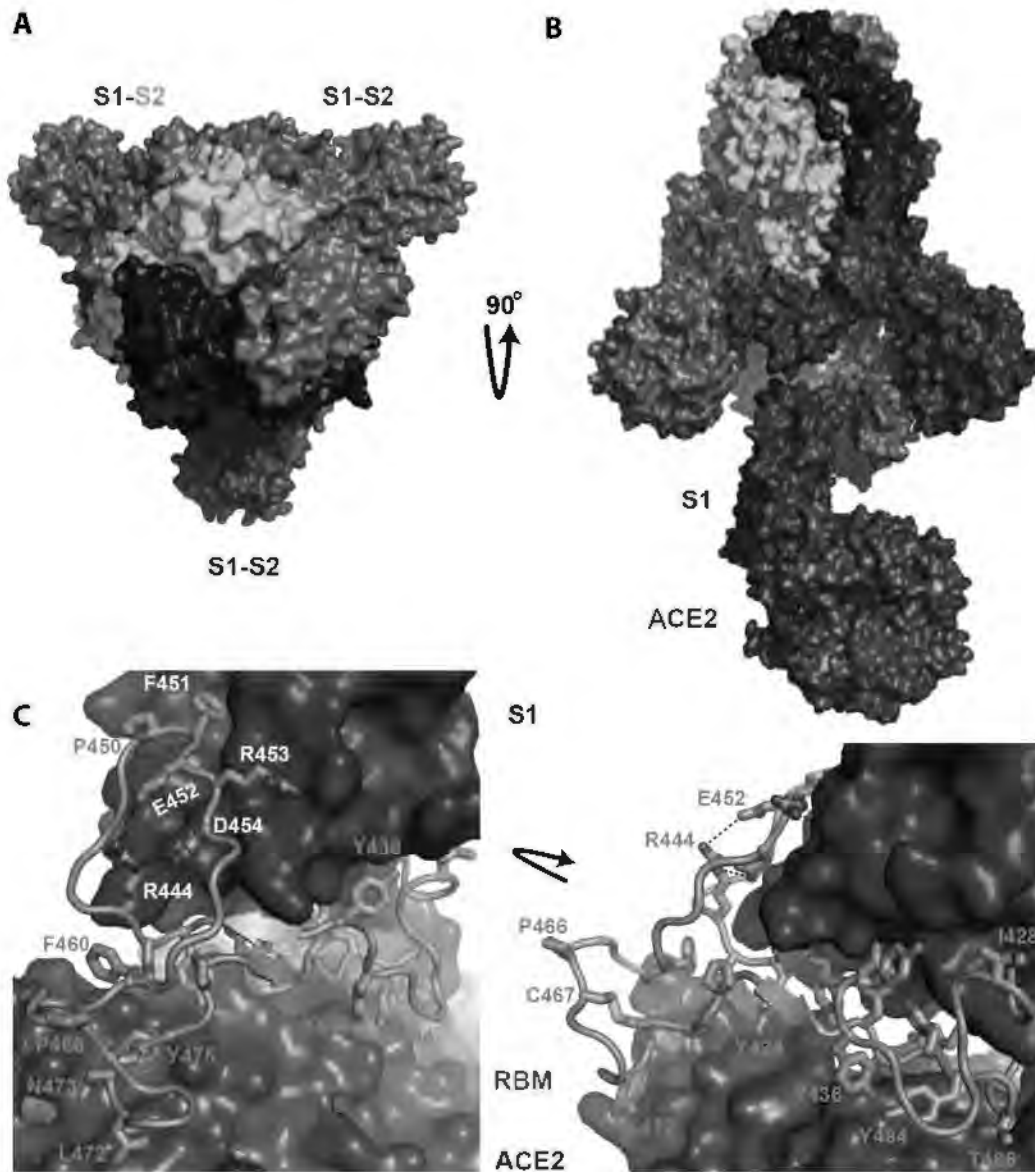
Importantly, ZC45 and ZXC21 are bat coronaviruses that were discovered (between July 2015 and February 2017), isolated, and characterized by military research laboratories in the Third Military Medical University (Chongqing, China) and the Research Institute for Medicine of Nanjing Command (Nanjing, China). The data and associated work were published in 2018<sup>33,34</sup>. Clearly, this backbone/template, which is essential for the creation of SARS-CoV-2, exists in these and other related research laboratories.

What strengthens our contention further is the published RaTG13 virus<sup>18</sup>, the genomic sequence of which is reportedly 96% identical to that of SARS-CoV-2. While suggesting a natural origin of SARS-CoV-2, the RaTG13 virus also diverted the attention of both the scientific field and the general public away from ZC45/ZXC21<sup>4,18</sup>. In fact, a Chinese BSL-3 lab (the Shanghai Public Health Clinical Centre), which published a *Nature* article reporting a conflicting close phylogenetic relationship between SARS-CoV-2 and ZC45/ZXC21 rather than with RaTG13<sup>35</sup>, was quickly shut down for “rectification”<sup>36</sup>. It is believed that the researchers of that laboratory were being punished for having disclosed the SARS-CoV-2—ZC45/ZXC21 connection. On the other hand, substantial evidence has accumulated, pointing to severe problems associated with the reported sequence of RaTG13 as well as questioning the actual existence of this bat virus in nature<sup>6,7,19-21</sup>. A very recent publication also indicated that the receptor-binding domain (RBD) of the RaTG13’s Spike protein could not bind ACE2 of two different types of horseshoe bats (they closely relate to the horseshoe bat *R. affinis*, RaTG13’s alleged natural host)<sup>2</sup>, implicating the inability of RaTG13 to infect horseshoe bats. This finding further substantiates the suspicion that the reported sequence of RaTG13 could have been fabricated as the Spike protein encoded by this sequence does not seem to carry the claimed function. The fact that a virus has been fabricated to shift the attention away from ZC45/ZXC21 speaks for an actual role of ZC45/ZXC21 in the creation of SARS-CoV-2.

## **1.2 The receptor-binding motif of SARS-CoV-2 Spike cannot be born from nature and should have been created through genetic engineering**

The Spike proteins decorate the exterior of the coronavirus particles. They play an important role in infection as they mediate the interaction with host cell receptors and thereby help determine the host range and tissue tropism of the virus. The Spike protein is split into two halves (Figure 3). The front or N-terminal half is named S1, which is fully responsible for binding the host receptor. In both SARS-CoV

FL-2022-00076 A-00000572574 "UNCLASSIFIED" [1/31/2024] Page 350  
 and SARS-CoV-2 infections, the host cell receptor is hACE2. Within S1, a segment of around 70 amino acids makes direct contacts with hACE2 and is correspondingly named the receptor-binding motif (RBM) (Figure 3C). In SARS-CoV and SARS-CoV-2, the RBM fully determines the interaction with hACE2. The C-terminal half of the Spike protein is named S2. The main function of S2 includes maintaining trimer formation and, upon successive protease cleavages at the S1/S2 junction and a downstream S2' position, mediating membrane fusion to enable cellular entry of the virus.



**Figure 3. Structure of the SARS Spike protein and how it binds to the hACE2 receptor.** Pictures were generated based on PDB ID: 6acj<sup>37</sup>. A) Three spike proteins, each consisting of a S1 half and a S2 half, form a trimer. B) The S2 halves (shades of blue) are responsible for trimer formation, while the S1 portion (shades of red) is responsible for binding hACE2 (dark gray). C) Details of the binding between S1 and hACE2. The RBM of S1, which is important and sufficient for binding, is colored in orange. Residues within the RBM that are important for either hACE2 interaction or protein folding are shown as sticks (residue numbers follow the SARS Spike sequence).

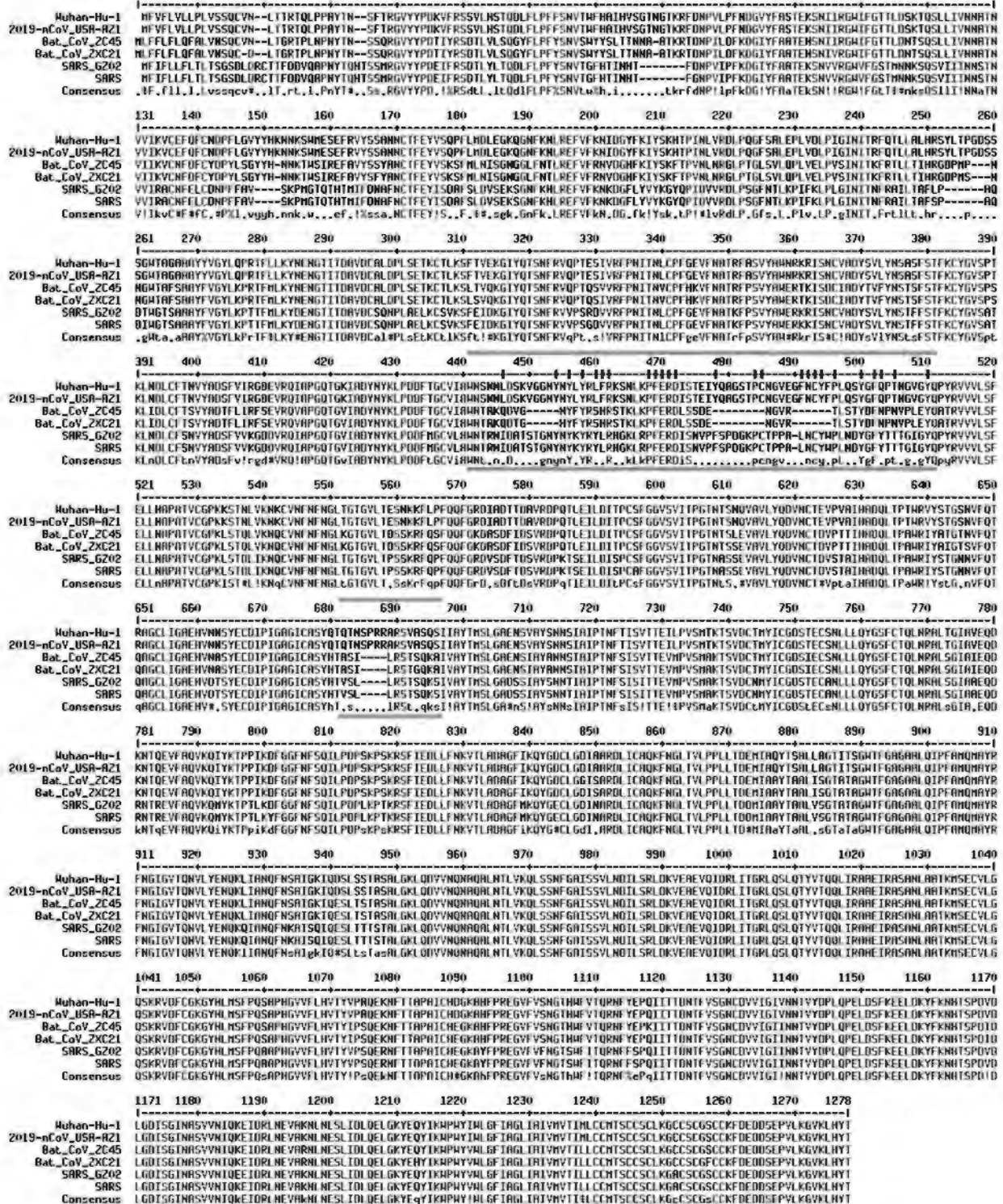


Figure 4. Sequence alignment of the spike proteins from relevant coronaviruses. Viruses being compared include SARS-CoV-2 (Wuhan-Hu-1: NC\_045512, 2019-nCoV\_USA-A21: MN997409), bat coronaviruses (Bat\_CoV\_ZC45: MG772933, Bat\_CoV\_ZXC21: MG772934), and SARS coronaviruses (SARS\_G202: AY390556, SARS: NC\_004718.3). Region marked by two orange lines is the receptor-binding motif (RBM), which is important for interaction with the ACE2 receptor. Essential residues are additionally highlighted by red sticks on top. Region marked by two green lines is a furin-cleavage site that exists only in SARS-CoV-2 but not in any other lineage B β coronavirus.

Similar to what is observed for other viral proteins, S2 of SARS-CoV-2 shares a high sequence identity (95%) with S2 of ZC45/ZXC21. In stark contrast, between SARS-CoV-2 and ZC45/ZXC21, the S1 protein, which dictates which host (human or bat) the virus can infect, is much less conserved with the amino acid sequence identity being only 69%.

Figure 4 shows the sequence alignment of the Spike proteins from six  $\beta$  coronaviruses. Two are viruses isolated from the current pandemic (Wuhan-Hu-1, 2019-nCoV\_USA-AZ1); two are the suspected template viruses (Bat\_CoV\_ZC45, Bat\_CoV\_ZXC21); two are SARS coronaviruses (SARS\_GZ02, SARS). The RBM is highlighted in between two orange lines. Clearly, despite the high sequence identity for the overall genomes, the RBM of SARS-CoV-2 differs significantly from those of ZC45 and ZXC21. Intriguingly, the RBM of SARS-CoV-2 resembles, on a great deal, the RBM of SARS Spike. Although this is not an exact “copy and paste”, careful examination of the Spike-hACE2 structures<sup>37,38</sup> reveals that all residues essential for either hACE2 binding or protein folding (orange sticks in Figure 3C and what is highlighted by red short lines in Figure 4) are “kept”. Most of these essential residues are precisely preserved, including those involved in disulfide bond formation (C467, C474) and electrostatic interactions (R444, E452, R453, D454), which are pivotal for the structural integrity of the RBM (Figure 3C and 4). The few changes within the group of essential residues are almost exclusively hydrophobic “substitutions” (I428→L, L443→F, F460→Y, L472→F, Y484→Q), which should not affect either protein folding or the hACE2-interaction. At the same time, majority of the amino acid residues that are non-essential have “mutated” (Figure 4, RBM residues not labeled with short red lines). Judging from this sequence analysis alone, we were convinced early on that not only would the SARS-CoV-2 Spike protein bind hACE2 but also the binding would resemble, precisely, that between the original SARS Spike protein and hACE2<sup>23</sup>. Recent structural work has confirmed our prediction<sup>39</sup>.

As elaborated below, the way that SARS-CoV-2 RBM resembles SARS-CoV RBM and the overall sequence conservation pattern between SARS-CoV-2 and ZC45/ZXC21 are highly unusual. Collectively, this suggests that portions of the SARS-CoV-2 genome have not been derived from natural quasi-species viral particle evolution.

If SARS-CoV-2 does indeed come from natural evolution, its RBM could have only been acquired in one of the two possible routes: 1) an ancient recombination event followed by convergent evolution or 2) a natural recombination event that occurred fairly recently.

In the first scenario, the ancestor of SARS-CoV-2, a ZC45/ZXC21-like bat coronavirus would have recombined and “swapped” its RBM with a coronavirus carrying a relatively “complete” RBM (in reference to SARS). This recombination would result in a novel ZC45/ZXC21-like coronavirus with all the gaps in its RBM “filled” (Figure 4). Subsequently, the virus would have to adapt extensively in its new host, where the ACE2 protein is highly homologous to hACE2. Random mutations across the genome would have to have occurred to eventually shape the RBM to its current form – resembling SARS-CoV RBM in a highly intelligent manner. However, this convergent evolution process would also result in the accumulation of a large amount of mutations in other parts of the genome, rendering the overall sequence identity relatively low. The high sequence identity between SARS-CoV-2 and ZC45/ZXC21 on various proteins (94-100% identity) do not support this scenario and, therefore, clearly indicates that SARS-CoV-2 carrying such an RBM cannot come from a ZC45/ZXC21-like bat coronavirus through this convergent evolutionary route.

In the second scenario, the ZC45/ZXC21-like coronavirus would have to have recently recombined and swapped its RBM with another coronavirus that had successfully adapted to bind an animal ACE2

FL-2022-00076 A-00000572574 "UNCLASSIFIED" [1/31/2024] Page 353  
highly homologous to hACE2. The likelihood of such an event depends, in part, on the general requirements of natural recombination: 1) that the two different viruses share significant sequence similarity; 2) that they must co-infect and be present in the same cell of the same animal; 3) that the recombinant virus would not be cleared by the host or make the host extinct; 4) that the recombinant virus eventually would have to become stable and transmissible within the host species.

In regard to this recent recombination scenario, the animal reservoir could not be bats because the ACE2 proteins in bats are not homologous enough to hACE2 and therefore the adaption would not be able to yield an RBM sequence as seen in SARS-CoV-2. This animal reservoir also could not be humans as the ZC45/ZXC21-like coronavirus would not be able to infect humans. In addition, there has been no evidence of any SARS-CoV-2 or SARS-CoV-2-like virus circulating in the human population prior to late 2019. Intriguingly, according to a recent bioinformatics study, SARS-CoV-2 was well-adapted for humans since the start of the outbreak<sup>1</sup>.

Only one other possibility of natural evolution remains, which is that the ZC45/ZXC21-like virus and a coronavirus containing a SARS-like RBM could have recombined in an intermediate host where the ACE2 protein is homologous to hACE2. Several laboratories have reported that some of the Sunda pangolins smuggled into China from Malaysia carried coronaviruses, the receptor-binding domain (RBD) of which is almost identical to that of SARS-CoV-2<sup>27-29,31</sup>. They then went on to suggest that pangolins are the likely intermediate host for SARS-CoV-2<sup>27-29,31</sup>. However, recent independent reports have found significant flaws in this data<sup>40-42</sup>. Furthermore, contrary to these reports<sup>27-29,31</sup>, no coronaviruses have been detected in Sunda pangolin samples collected for over a decade in Malaysia and Sabah between 2009 and 2019<sup>43</sup>. A recent study also showed that the RBD, which is shared between SARS-CoV-2 and the reported pangolin coronaviruses, binds to hACE2 ten times stronger than to the pangolin ACE2<sup>2</sup>, further dismissing pangolins as the possible intermediate host. Finally, an *in silico* study, while echoing the notion that pangolins are not likely an intermediate host, also indicated that none of the animal ACE2 proteins examined in their study exhibited more favorable binding potential to the SARS-CoV-2 Spike protein than hACE2 did<sup>3</sup>. This last study virtually exempted all animals from their suspected roles as an intermediate host<sup>3</sup>, which is consistent with the observation that SARS-CoV-2 was well-adapted for humans from the start of the outbreak<sup>1</sup>. This is significant because these findings collectively suggest that no intermediate host seems to exist for SARS-CoV-2, which at the very least diminishes the possibility of a recombinant event occurring in an intermediate host.

Even if we ignore the above evidence that no proper host exists for the recombination to take place and instead assume that such a host does exist, it is still highly unlikely that such a recombination event could occur in nature.

As we have described above, if natural recombination event is responsible for the appearance of SARS-CoV-2, then the ZC45/ZXC21-like virus and a coronavirus containing a SARS-like RBM would have to recombine in the same cell by swapping the S1/RBM, which is a rare form of recombination. Furthermore, since SARS has occurred only once in human history, it would be at least equally rare for nature to produce a virus that resembles SARS in such an intelligent manner – having an RBM that differs from the SARS RBM only at a few non-essential sites (Figure 4). The possibility that this unique SARS-like coronavirus would reside in the same cell with the ZC45/ZXC21-like ancestor virus and the two viruses would recombine in the “RBM-swapping” fashion is extremely low. Importantly, this, and the other recombination event described below in section 1.3 (even more impossible to occur in nature), would both have to happen to produce a Spike as seen in SARS-CoV-2.



Strikingly, consistent with the RBM engineering theory, we have identified two unique restriction sites, EcoRI and BstEII, at either end of the *RBM* of the SARS-CoV-2 genome, respectively (Figure 5A). These two sites, which are popular choices of everyday molecular cloning, do not exist in the rest of this *spike* gene. This particular setting makes it extremely convenient to swap the *RBM* within *spike*, providing a quick way to test different RBMs and the corresponding Spike proteins.

Such EcoRI and BstEII sites do not exist in the *spike* genes of other  $\beta$  coronaviruses, which strongly indicates that they were unnatural and were specifically introduced into this *spike* gene of SARS-CoV-2 for the convenience of manipulating the critical RBM. Although ZC45 *spike* also does not have these two sites (Figure 5B), they can be introduced very easily as described in part 2 of this report.

It is noteworthy that introduction of the EcoRI site here would change the corresponding amino acids from *-WNT-* to *-WNS-* (Figure 5AB). As far as we know, all SARS and SARS-like bat coronaviruses exclusively carry a *T* (threonine) residue at this location. SARS-CoV-2 is the only exception in that this *T* has mutated to an *S* (serine), save the suspicious RaTG13 and pangolin coronaviruses published after the outbreak<sup>48</sup>.

Once the restriction sites were successfully introduced, the *RBM* segment could be swapped conveniently using routine restriction enzyme digestion and ligation. Although alternative cloning techniques may leave no trace of genetic manipulation (Gibson assembly as one example), this old-fashioned approach could be chosen because it offers a great level of convenience in swapping this critical *RBM*.

Given that RBM fully dictates hACE2-binding and that the SARS RBM-hACE2 binding was fully characterized by high-resolution structures (Figure 3)<sup>37,38</sup>, this RBM-only swap would not be any riskier than the full Spike swap. In fact, the feasibility of this RBM-swap strategy has been proven<sup>39,47</sup>. In 2008, Dr. Zhengli Shi's group swapped a SARS RBM into the Spike proteins of several SARS-like bat coronaviruses after introducing a restriction site into a codon-optimized *spike* gene (Figure 5C)<sup>47</sup>. They then validated the binding of the resulted chimeric Spike proteins with hACE2. Furthermore, in a recent publication, the RBM of SARS-CoV-2 was swapped into the receptor-binding domain (RBD) of SARS-CoV, resulting in a chimeric RBD fully functional in binding hACE2 (Figure 5C)<sup>39</sup>. Strikingly, in both cases, the manipulated RBM segments resemble almost exactly the RBM defined by the positions of the EcoRI and BstEII sites (Figure 5C). Although cloning details are lacking in both publications<sup>39,47</sup>, it is conceivable that the actual restriction sites may vary depending on the *spike* gene receiving the RBM insertion as well as the convenience in introducing unique restriction site(s) in regions of interest. It is noteworthy that the corresponding author of this recent publication<sup>39</sup>, Dr. Fang Li, has been an active collaborator of Dr. Zhengli Shi since 2010<sup>49-53</sup>. Dr. Li was the first person in the world to have structurally elucidated the binding between SARS-CoV RBD and hACE2<sup>38</sup> and has been the leading expert in the structural understanding of Spike-ACE2 interactions<sup>38,39,53-56</sup>. The striking finding of EcoRI and BstEII restriction sites at either end of the SARS-CoV-2 RBM, respectively, and the fact that the same RBM region has been swapped both by Dr. Shi and by her long-term collaborator, respectively, using restriction enzyme digestion methods are unlikely a coincidence. **Rather, it is the smoking gun proving that the RBM/Spike of SARS-CoV-2 is a product of genetic manipulation.**

Although it may be convenient to copy the exact sequence of SARS RBM, it would be too clear a sign of artificial design and manipulation. The more deceiving approach would be to change a few non-essential residues, while preserving the ones critical for binding. This design could be well-guided by the high-resolution structures (Figure 3)<sup>37,38</sup>. This way, when the overall sequence of the RBM would appear

to be more distinct from that of the SARS RBM, the hACE2-binding ability would be well-preserved. We believe that all of the crucial residues (residues labeled with red sticks in Figure 4, which are the same residues shown in sticks in Figure 3C) should have been “kept”. As described earlier, while some should be direct preservation, some should have been switched to residues with similar properties, which would not disrupt hACE2-binding and may even strengthen the association further. Importantly, changes might have been made intentionally at non-essential sites, making it less like a “copy and paste” of the SARS RBM.

### 1.3 An unusual furin-cleavage site is present in the Spike protein of SARS-CoV-2 and is associated with the augmented virulence of the virus

Another unique motif in the Spike protein of SARS-CoV-2 is a polybasic furin-cleavage site located at the S1/S2 junction (Figure 4, segment in between two green lines). Such a site can be recognized and cleaved by the furin protease. Within the lineage B of  $\beta$  coronaviruses and with the exception of SARS-CoV-2, no viruses contain a furin-cleavage site at the S1/S2 junction (Figure 6)<sup>57</sup>. In contrast, furin-cleavage site at this location has been observed in other groups of coronaviruses<sup>57,58</sup>. Certain selective pressure seems to be in place that prevents the lineage B of  $\beta$  coronaviruses from acquiring or maintaining such a site in nature.

Human SARS-CoV BJ01	655 - GICASYHTVSSL----RSTS - 670
Human SARS-CoV CUHK-W1	655 - GICASYHTVSSL----RSTS - 670
Human SARS-CoV Tor2	655 - GICASYHTVSSL----RSTS - 670
Human SARS-CoV Frankfurt-1	655 - GICASYHTVSSL----RSTS - 670
Human SARS-CoV Urbani	655 - GICASYHTVSSL----RSTS - 670
Civet SARS-CoV civet020	655 - GICASYHTVSSL----RSTS - 670
Civet SARS-CoV sz16	655 - GICASYHTVSSL----RSTS - 670
Raccoon dog SARS-CoV A030	655 - GICASYHTVSSL----RSTS - 670
SARS-CoV-2	669 - GICASYQTQNSIFRARSVA - 688
Pangolin CoV MP789	n/a - GICASYQTQNS----RSVS - n/a
Bat SARSr-CoV RaTG13	669 - GICASYQTQNS----RSVA - 684
Bat SARSr-CoV LYRa11	659 - GICASYHTASLL----RNTD - 674
Bat SARSr-CoV LYRa3	659 - GICASYHTASLL----RNTG - 674
Bat SARSr-CoV RaSHC014	656 - GICASYHTVSSL----RSTS - 671
Bat SARSr-CoV Ra4084	656 - GICASYHTVSSL----RSTS - 671
Bat SARSr-CoV WIV1	656 - GICASYHTVSSL----RSTS - 671
Bat SARSr-CoV Rs3367	656 - GICASYHTVSSL----RSTS - 671
Bat SARSr-CoV Rs7327	656 - GICASYHTVSSL----RSTS - 671
Bat SARSr-CoV Rs9401	656 - GICASYHTVSSL----RSTS - 671
Bat SARSr-CoV Ra4231	655 - GICASYHTVSSL----RSTS - 670
Bat SARSr-CoV WIV16	655 - GICASYHTVSSL----RSTS - 670
Bat SARSr-CoV Ra4874	655 - GICASYHTVSSL----RSTS - 670
Bat SARSr-CoV ZC45	646 - GICASYHTASLL----RSTS - 661
Bat SARSr-CoV ZXC21	645 - GICASYHTASLL----RBTG - 660
Bat SARSr-CoV RE4092	634 - GICASYHTASTL----RQVG - 649
Bat SARSr-CoV RE/JL2012	636 - GICASYHTASLL----RBTG - 651
Bat SARSr-CoV JTM15	636 - GICASYHTASLL----RBTG - 651
Bat SARSr-CoV 16B0133	636 - GICASYHTASLL----RBTG - 651
Bat SARSr-CoV B15-21	636 - GICASYHTASLL----RBTG - 651
Bat SARSr-CoV YN2013	633 - GICASYHTASTL----RSTG - 648
Bat SARSr-CoV Anlong-103	633 - GICASYHTASTL----RSTG - 648
Bat SARSr-CoV Rp/Shaanxi2011	640 - GICASYHTASVL----RSTG - 655
Bat SARSr-CoV Rs/HuB2013	641 - GICASYHTASVL----RSTG - 656
Bat SARSr-CoV YNLF/34C	641 - GICASYHTASVL----RBTG - 656
Bat SARSr-CoV YNLF/31C	641 - GICASYHTASVL----RSTG - 656
Bat SARSr-CoV RE1	641 - GICASYHTASHL----RSTG - 656
Bat SARSr-CoV 273	641 - GICASYHTASHL----RSTG - 656
Bat SARSr-CoV RE/SX2013	639 - GICASYHTASLL----RSTG - 654
Bat SARSr-CoV RE/HeB2013	641 - GICASYHTASLL----RSTG - 656
Bat SARSr-CoV Cp/Yunnan2011	641 - GICASYHTASLL----RNTG - 656
Bat SARSr-CoV Ra672	641 - GICASYHTASTL----RSVG - 656
Bat SARSr-CoV Ra4255	641 - GICASYHTASTL----RSVG - 656
Bat SARSr-CoV 4081	641 - GICASYHTASTL----RSVG - 656
Bat SARSr-CoV Rm1	641 - GICASYHTASVL----RBTG - 656
Bat SARSr-CoV 279	641 - GICASYHTASVL----RBTG - 656
Bat SARSr-CoV Ra/GX2013	642 - GICASYHTASVL----RBTG - 657
Bat SARSr-CoV Ra806	641 - GICASYHTASLL----RSTG - 656
Bat SARSr-CoV MRU3-1	642 - GICASYHTASVL----RSTG - 657
Bat SARSr-CoV Longquan-140	642 - GICASYHTASVL----RSTG - 657
Bat SARSr-CoV Rp3	641 - GICASYHTASTL----RSVG - 656
Bat SARSr-CoV Ra4247	642 - GICASYHTASTL----RSVG - 657
Bat SARSr-CoV Ra4237	641 - GICASYHTASTL----RSVG - 656
Bat SARSr-CoV As6526	641 - GICASYHTASTL----RSVG - 656

Figure 6. Furin-cleavage site found at the S1/S2 junction of Spike is unique to SARS-CoV-2 and absent in other lineage B  $\beta$  coronaviruses. Figure reproduced from Hoffmann, et al<sup>57</sup>.



As previously described, during the cell entry process, the Spike protein is first cleaved at the S1/S2 junction. This step, and a subsequent cleavage downstream that exposes the fusion peptide, are both mediated by host proteases. The presence or absence of these proteases in different cell types greatly affects the cell tropism and presumably the pathogenicity of the viral infection. Unlike other proteases, furin protease is widely expressed in many types of cells and is present at multiple cellular and extracellular locations. Importantly, the introduction of a furin-cleavage site at the S1/S2 junction could significantly enhance the infectivity of a virus as well as greatly expand its cell tropism — a phenomenon well-documented in both influenza viruses and other coronaviruses<sup>59-65</sup>.

If we leave aside the fact that no furin-cleavage site is found in any lineage B β coronavirus in nature and instead assume that this site in SARS-CoV-2 is a result of natural evolution, then only one evolutionary pathway is possible, which is that the furin-cleavage site has to be derived from a homologous recombination event. Specifically, an ancestor β coronavirus containing no furin-cleavage site would have to recombine with a closely related coronavirus that does contain a furin-cleavage site.

However, two facts disfavor this possibility. First, although some coronaviruses from other groups or lineages do contain polybasic furin-cleavage sites, none of them contains the exact polybasic sequence present in SARS-CoV-2 (-PRRAR/SVA-). Second, between SARS-CoV-2 and any coronavirus containing a legitimate furin-cleavage site, the sequence identity on Spike is no more than 40%<sup>66</sup>. Such a low level of sequence identity rules out the possibility of a successful homologous recombination ever occurring between the ancestors of these viruses. Therefore, the furin-cleavage site within the SARS-CoV-2 Spike protein is unlikely to be of natural origin and instead should be a result of laboratory modification.

Consistent with this claim, a close examination of the nucleotide sequence of the furin-cleavage site in SARS-CoV-2 *spike* has revealed that the two consecutive Arg residues within the inserted sequence (-PRRA-) are both coded by the rare codon CGG (least used codon for Arg in SARS-CoV-2) (Figure 7)<sup>8</sup>. In fact, this CGGCGG arrangement is the only instance found in the SARS-CoV-2 genome where this rare codon is used in tandem. This observation strongly suggests that this furin-cleavage site should be a result of genetic engineering. Adding to the suspicion, a *FauI* restriction site is formulated by the codon choices here, suggesting the possibility that the *restriction fragment length polymorphism*, a technique that a WIV lab is proficient at<sup>67</sup>, could have been involved. There, the fragmentation pattern resulted from *FauI* digestion could be used to monitor the preservation of the furin-cleavage site in Spike as this furin-cleavage site is prone to deletions *in vitro*<sup>68,69</sup>. Specifically, RT-PCR on the *spike* gene of the recovered viruses from cell cultures or laboratory animals could be carried out, the product of which would be subjected to *FauI* digestion. Viruses retaining or losing the furin-cleavage site would then yield distinct patterns, allowing convenient tracking of the virus(es) of interest.

*FauI*

tat	cag	act	cag	act	aat	tct	cct	cgg	cgg	gca	cgt	agt	gta	gct	agt	caa	tcc	atc	att
Y	Q	T	Q	T	N	S	P	R	R	A	R	S	V	A	S	Q	S	I	I

**Figure 7. Two consecutive Arg residues in the -PRRA- insertion at the S1/S2 junction of SARS-CoV-2 Spike are both coded by a rare codon, CGG. A *FauI* restriction site, 5'-(N)<sub>6</sub>GCGGG-3', is embedded in the coding sequence of the "inserted" PRRA segment, which may be used as a marker to monitor the preservation of the introduced furin-cleavage site.**

In addition, although no known coronaviruses contain the exact sequence of -PRRAR/SVA- that is present in the SARS-CoV-2 Spike protein, a similar -RRAR/AR- sequence has been observed at the S1/S2 junction of the Spike protein in a rodent coronavirus, AcCoV-JC34, which was published by Dr. Zhengli

The evidence collectively suggests that the furin-cleavage site in the SARS-CoV-2 Spike protein may not have come from nature and could be the result of genetic manipulation. The purpose of this manipulation could have been to assess any potential enhancement of the infectivity and pathogenicity of the laboratory-made coronavirus<sup>59-64</sup>. Indeed, recent studies have confirmed that the furin-cleavage site does confer significant pathogenic advantages to SARS-CoV-2<sup>57,68</sup>.

#### **1.4 Summary**

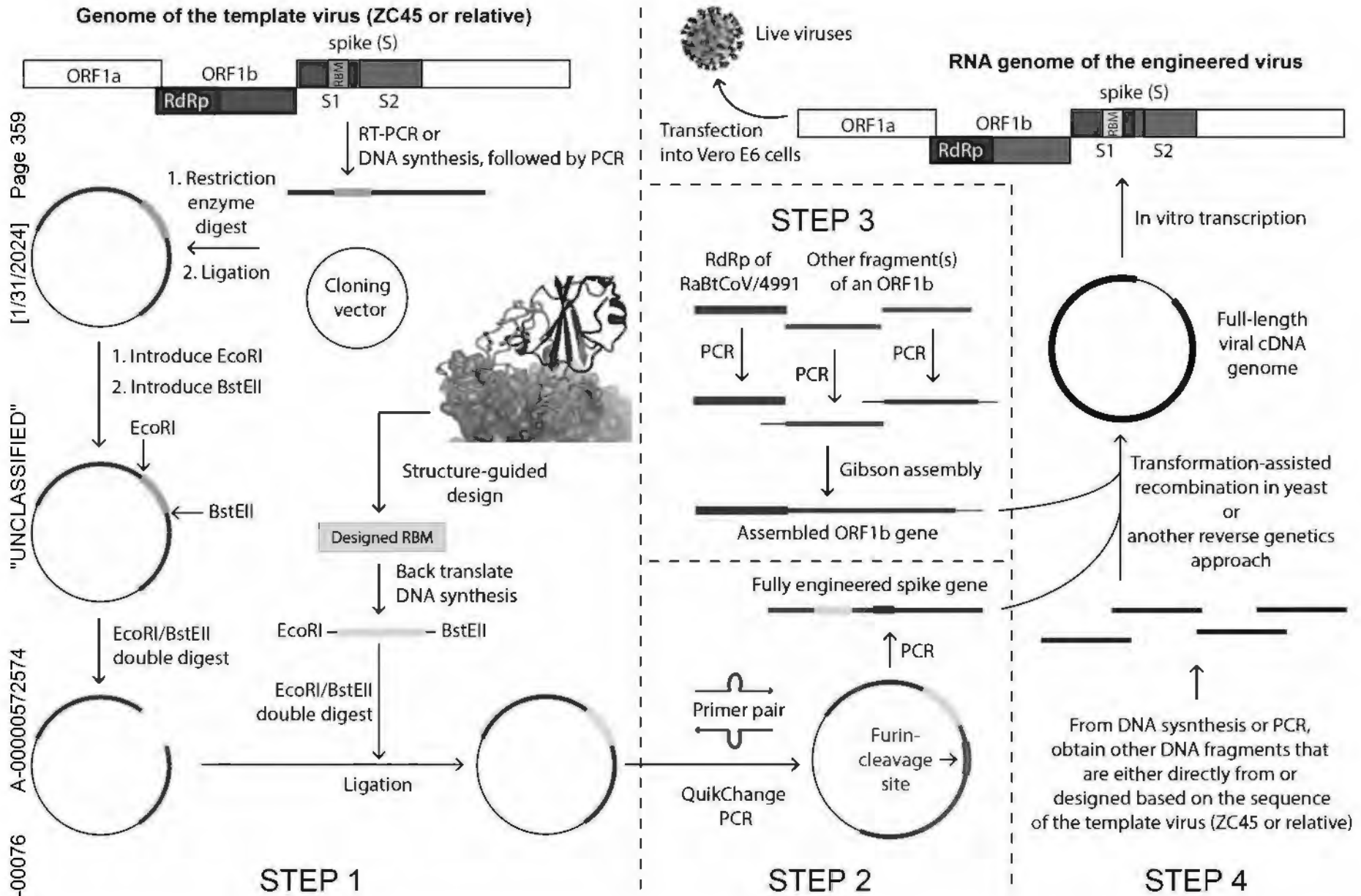
Evidence presented in this part reveals that certain aspects of the SARS-CoV-2 genome are extremely difficult to reconcile to being a result of natural evolution. The alternative theory we suggest is that the virus may have been created by using ZC45/ZXC21 bat coronavirus(es) as the backbone and/or template. The Spike protein, especially the RBM within it, should have been artificially manipulated, upon which the virus has acquired the ability to bind hACE2 and infect humans. This is supported by the finding of a unique restriction enzyme digestion site at either end of the RBM. An unusual furin-cleavage site may have been introduced and inserted at the S1/S2 junction of the Spike protein, which contributes to the increased virulence and pathogenicity of the virus. These transformations have then staged the SARS-CoV-2 virus to eventually become a highly-transmissible, onset-hidden, lethal, sequelae-unclear, and massively disruptive pathogen.

Evidently, the possibility that SARS-CoV-2 could have been created through gain-of-function manipulations at the WIV is significant and should be investigated thoroughly and independently.

## **2. Delineation of a synthetic route of SARS-CoV-2**

In the second part of this report, we describe a synthetic route of creating SARS-CoV-2 in a laboratory setting. It is postulated based on substantial literature support as well as genetic evidence present in the SARS-CoV-2 genome. Although steps presented herein should not be viewed as exactly those taken, we believe that key processes should not be much different. Importantly, our work here should serve as a demonstration of how SARS-CoV-2 can be designed and created conveniently in research laboratories by following proven concepts and using well-established techniques.

Importantly, research labs, both in Hong Kong and in mainland China, are leading the world in coronavirus research, both in terms of resources and on the research outputs. The latter is evidenced not only by the large number of publications that they have produced over the past two decades but also by their milestone achievements in the field: they were the first to identify civets as the intermediate host for SARS-CoV and isolated the first strain of the virus<sup>71</sup>; they were the first to uncover that SARS-CoV originated from bats<sup>72,73</sup>; they revealed for the first time the antibody-dependent enhancement (ADE) of SARS-CoV infections<sup>74</sup>; they have contributed significantly in understanding MERS in all domains (zoonosis, virology, and clinical studies)<sup>75-79</sup>; they made several breakthroughs in SARS-CoV-2 research<sup>18,35,80</sup>. Last but not least, they have the world's largest collection of coronaviruses (genomic sequences and live viruses). The knowledge, expertise, and resources are all readily available within the Hong Kong and mainland research laboratories (they collaborate extensively) to carry out and accomplish the work described below.



Page 359

[1/31/2024]

"UNCLASSIFIED"

A-00000572574

FL-2022-00076

Figure 8. Diagram of a possible synthetic route of the laboratory-creation of SARS-CoV-2.

## 2.1 Possible scheme in designing the laboratory-creation of the novel coronavirus

In this sub-section, we outline the possible overall strategy and major considerations that may have been formulated at the designing stage of the project.

To engineer and create a human-targeting coronavirus, they would have to pick a bat coronavirus as the template/backbone. This can be conveniently done because many research labs have been actively collecting bat coronaviruses over the past two decades<sup>32,33,70,72,81-85</sup>. However, this template virus ideally should not be one from Dr. Zhengli Shi's collections, considering that she is widely known to have been engaged in gain-of-function studies on coronaviruses. Therefore, ZC45 and/or ZXC21, novel bat coronaviruses discovered and owned by military laboratories<sup>33</sup>, would be suitable as the template/backbone. It is also possible that these military laboratories had discovered other closely related viruses from the same location and kept some unpublished. Therefore, the actual template could be ZC45, or ZXC21, or a close relative of them. The postulated pathway described below would be the same regardless of which one of the three was the actual template.

Once they have chosen a template virus, they would first need to engineer, through molecular cloning, the Spike protein so that it can bind hACE2. The concept and cloning techniques involved in this manipulation have been well-documented in the literature<sup>44-46,84,86</sup>. With almost no risk of failing, the template bat virus could then be converted to a coronavirus that can bind hACE2 and infect humans<sup>44-46</sup>.

Second, they would use molecular cloning to introduce a furin-cleavage site at the S1/S2 junction of Spike. This manipulation, based on known knowledge<sup>60,61,65</sup>, would likely produce a strain of coronavirus that is a more infectious and pathogenic.

Third, they would produce an ORF1b gene construct. The *ORF1b* gene encodes the polyprotein Orf1b, which is processed post-translationally to produce individual viral proteins: RNA-dependent RNA polymerase (RdRp), helicase, guanidine-N7 methyltransferase, uridylylate-specific endoribonuclease, and 2'-O-methyltransferase. All of these proteins are parts of the replication machinery of the virus. Among them, the RdRp protein is the most crucial one and is highly conserved among coronaviruses. Importantly, Dr. Zhengli Shi's laboratory uses a PCR protocol, which amplifies a particular fragment of the *RdRp* gene, as their primary method to detect the presence of coronaviruses in raw samples (bat fecal swap, feces, etc). As a result of this practice, the Shi group has documented the sequence information of this short segment of *RdRp* for all coronaviruses that they have successfully detected and/or collected.

Here, the genetic manipulation is less demanding or complicated because Orf1b is conserved and likely Orf1b from any  $\beta$  coronavirus would be competent enough to do the work. However, we believe that they would want to introduce a particular Orf1b into the virus for one of the two possible reasons:

1. Since many phylogenetic analyses categorize coronaviruses based on the sequence similarity of the *RdRp* gene only<sup>18,31,35,83,87</sup>, having a different *RdRp* in the genome therefore could ensure that SARS-CoV-2 and ZC45/ZXC21 are separated into different groups/sub-lineages in phylogenetic studies. Choosing an *RdRp* gene, however, is convenient because the short *RdRp* segment sequence has been recorded for all coronaviruses ever collected/detected. Their final choice was the *RdRp* sequence from bat coronavirus RaBtCoV/4991, which was discovered in 2013. For RaBtCoV/4991, the only information ever published was the sequence of its short *RdRp* segment<sup>83</sup>, while neither its full genomic sequence nor virus isolation were ever reported. After amplifying the *RdRp* segment (or the whole *ORF1b* gene) of RaBatCoV/4991, they would have then used it for subsequent assembly and creation of the genome of SARS-CoV-2. Small changes in the *RdRp*

sequence could either be introduced at the beginning (through DNA synthesis) or be generated *via* passages later on. On a separate track, when they were engaged in the fabrication of the RaTG13 sequence, they could have started with the short *RdRp* segment of RaBtCoV/4991 without introducing any changes to its sequence, resulting in a 100% nucleotide sequence identity between the two viruses on this short *RdRp* segment<sup>83</sup>. This RaTG13 virus could then be claimed to have been discovered back in 2013.

2. The RdRp protein from RaBatCoV/4991 is unique in that it is superior than RdRp from any other  $\beta$  coronavirus for developing antiviral drugs. RdRp has no homologs in human cells, which makes this essential viral enzyme a highly desirable target for antiviral development. As an example, *Remdesivir*, which is currently undergoing clinical trials, targets RdRp. When creating a novel and human-targeting virus, they would be interested in developing the antidote as well. Even though drug discovery like this may not be easily achieved, it is reasonable for them to intentionally incorporate a RdRp that is more amenable for antiviral drug development.

Fourth, they would use reverse genetics to assemble the gene fragments of *spike*, *ORF1b*, and the rest of the template ZC45 into a cDNA version of the viral genome. They would then carry out *in vitro* transcription to obtain the viral RNA genome. Transfection of the RNA genome into cells would allow the recovery of live and infectious viruses with the desired artificial genome.

Fifth, they would carry out characterization and optimization of the virus strain(s) to improve the fitness, infectivity, and overall adaptation using serial passage *in vivo*. One or several viral strains that meet certain criteria would then be obtained as the final product(s).

## 2.2 A postulated synthetic route for the creation of SARS-CoV-2

In this sub-section, we describe in more details how each step could be carried out in a laboratory setting using available materials and routine molecular, cellular, and virologic techniques. A diagram of this process is shown in Figure 8. We estimate that the whole process could be completed in approximately 6 months.

### Step 1: Engineering the RBM of the Spike for hACE2-binding (1.5 months)

The Spike protein of a bat coronavirus is either incapable of or inefficient in binding hACE2 due to the missing of important residues within its RBM. This can be exemplified by the RBM of the template virus ZC45 (Figure 4). The first and most critical step in the creation of SARS-CoV-2 is to engineer the Spike so that it acquires the ability to bind hACE2. As evidenced in the literature, such manipulations have been carried out repeatedly in research laboratories since 2008<sup>44</sup>, which successfully yielded engineered coronaviruses with the ability to infect human cells<sup>44-46,88,89</sup>. Although there are many possible ways that one can engineer the Spike protein, we believe that what was actually undertaken was that they replaced the original RBM with a designed and possibly optimized RBM using SARS' RBM as a guide. As described in part 1, this theory is supported by our observation that two unique restriction sites, EcoRI and BstEII, exist at either end of the *RBM* in the SARS-CoV-2 genome (Figure 5A) and by the fact that such RBM-swap has been successfully carried out by Dr. Zhengli Shi and by her long-term collaborator and structure biology expert, Dr. Fang Li<sup>39,47</sup>.

Although ZC45 *spike* does not contain these two restriction sites (Figure 5B), they can be introduced very easily. The original *spike* gene would be either amplified with RT-PCR or obtained through DNA synthesis (some changes could be safely introduced to certain variable regions of the sequence) followed by PCR. The gene would then be cloned into a plasmid using restriction sites other than EcoRI and BstEII.

FL-2022-00076 A-00000572574 "UNCLASSIFIED" [1/31/2024] Page 362  
Once in the plasmid, the *spike* gene can be modified easily. First, an EcoRI site can be introduced by converting the highlighted “gaacac” sequence (Figure 5B) to the desired “gaattc” (Figure 5A). The difference between them are two consecutive nucleotides. Using the commercially available QuikChange Site-Directed Mutagenesis kit, such a di-nucleotide mutation can be generated in no more than one week. Subsequently, the BstEII site could be similarly introduced at the other end of the *RBM*. Specifically, the “gaatacc” sequence (Figure 5B) would be converted to the desired “gggtacc” (Figure 5A), which would similarly require a week of time.

Once these restriction sites, which are unique within the *spike* gene of SARS-CoV-2, were successfully introduced, different *RBM* segments could be swapped in conveniently and the resulting Spike protein subsequently evaluated using established assays.

As described in part 1, the design of an *RBM* segment could be well-guided by the high-resolution structures (Figure 3)<sup>37,38</sup>, yielding a sequence that resembles the SARS *RBM* in an intelligent manner. When carrying out the structure-guided design of the *RBM*, they would have followed the routine and generated a few (for example a dozen) such *RBM*s with the hope that some specific variant(s) may be superior than others in binding hACE2. Once the design was finished, they could have each of the designed *RBM* genes commercially synthesized (quick and very affordable) with an EcoRI site at the 5'-end and a BstEII site at the 3'-end. These novel *RBM* genes could then be cloned into the *spike* gene, respectively. The gene synthesis and subsequent cloning, which could be done in a batch mode for the small library of designed *RBM*s, would take approximately one month.

These engineered Spike proteins might then be tested for hACE2-binding using the established pseudotype virus infection assays<sup>45,49,50</sup>. The engineered Spike with good to exceptional binding affinities would be selected. (Although not necessary, directed evolution could be involved here (error-prone PCR on the *RBM* gene), coupled with either an *in vitro* binding assay<sup>39,90</sup> or a pseudotype virus infection assay<sup>45,49,50</sup>, to obtain an *RBM* that binds hACE2 with exceptional affinity.)

Given the abundance of literature on Spike engineering<sup>44-46,84,86</sup> and the available high-resolution structures of the Spike-hACE2 complex<sup>37,38</sup>, the success of this step would be very much guaranteed. By the end of this step, as desired, a novel *spike* gene would be obtained, which encodes a novel Spike protein capable of binding hACE2 with high affinity.

#### Step 2: Engineering a furin-cleavage site at the S1/S2 junction (0.5 month)

The product from Step 1, a plasmid containing the engineered *spike*, would be further modified to include a furin-cleavage site (segment indicated by green lines in Figure 4) at the S1/S2 junction. This short stretch of gene sequence can be conveniently inserted using several routine cloning techniques, including QuikChange Site-Directed PCR<sup>60</sup>, overlap PCR followed by restriction enzyme digestion and ligation<sup>91</sup>, or Gibson assembly. None of these techniques would leave any trace in the sequence. Whichever cloning method was the choice, the inserted gene piece would be included in the primers, which would be designed, synthesized, and used in the cloning. This step, leading to a further modified Spike with the furin-cleavage site added at the S1/S2 junction, could be completed in no more than two weeks.

#### Step 3: Obtain an *ORF1b* gene that contains the sequence of the short *RdRp* segment from RaBtCoV/4991 (1 month, yet can be carried out concurrently with Steps 1 and 2)

Unlike the engineering of Spike, no complicated design is needed here, except that the *RdRp* gene segment from RaBtCoV/4991 would need to be included. Gibson assembly could have been used here. In this technique, several fragments, each adjacent pair sharing 20–40 bp overlap, are combined together in one simple reaction to assemble a long DNA product. Two or three fragments, each covering a significant section of the *ORF1b* gene, would be selected based on known bat coronavirus sequences. One of these fragments would be the *RdRp* segment of RaBtCoV/4991<sup>83</sup>. Each fragment would be PCR amplified with proper overlap regions introduced in the primers. Finally, all purified fragments would be pooled in equimolar concentrations and added to the Gibson reaction mixture, which, after a short incubation, would yield the desired *ORF1b* gene in whole.

#### Step 4: Produce the designed viral genome using reverse genetics and recover live viruses (0.5 month)

Reverse genetics have been frequently used in assembling whole viral genomes, including coronavirus genomes<sup>67,92-96</sup>. The most recent example is the reconstruction of the SARS-CoV-2 genome using the *transformation-assisted recombination in yeast*<sup>97</sup>. Using this method, the Swiss group assembled the entire viral genome and produced live viruses in just one week<sup>97</sup>. This efficient technique, which would not leave any trace of artificial manipulation in the created viral genome, has been available since 2017<sup>98,99</sup>. In addition to the engineered *spike* gene (from steps 1 and 2) and the *ORF1b* gene (from step 3), other fragments covering the rest of the genome would be obtained either through RT-PCR amplification from the template virus or through DNA synthesis by following a sequence slightly altered from that of the template virus. We believe that the latter approach was more likely as it would allow sequence changes introduced into the variable regions of less conserved proteins, the process of which could be easily guided by multiple sequence alignments. The amino acid sequences of more conserved functions, such as that of the E protein, might have been left unchanged. All DNA fragments would then be pooled together and transformed into yeast, where the cDNA version of the SARS-CoV-2 genome would be assembled *via* transformation-assisted recombination. Of course, an alternative method of reverse genetics, one of which the WIV has successfully used in the past<sup>67</sup>, could also be employed<sup>67,92-96,100</sup>. Although some earlier reverse genetics approaches may leave restriction sites at where different fragments would be joined, these traces would be hard to detect as the exact site of ligation can be anywhere in the ~30kb genome. Either way, a cDNA version of the viral genome would be obtained from the reverse genetics experiment. Subsequently, *in vitro* transcription using the cDNA as the template would yield the viral RNA genome, which upon transfection into Vero E6 cells would allow the production of live viruses bearing all of the designed properties.

#### Step 5: Optimize the virus for fitness and improve its hACE2-binding affinity *in vivo* (2.5-3 months)

Virus recovered from step 4 needs to be further adapted undergoing the classic experiment – serial passage in laboratory animals<sup>101</sup>. This final step would validate the virus' fitness and ensure its receptor-oriented adaptation toward its intended host, which, according to the analyses above, should be human. Importantly, the RBM and the furin-cleavage site, which were introduced into the Spike protein separately, would now be optimized together as one functional unit. Among various available animal models (e.g. mice, hamsters, ferrets, and monkeys) for coronaviruses, hACE2 transgenic mice (hACE2-mice) should be the most proper and convenient choice here. This animal model has been established during the study of SARS-CoV and has been available in the Jackson Laboratory for many years<sup>102-104</sup>.

The procedure of serial passage is straightforward. Briefly, the selected viral strain from step 4, a precursor of SARS-CoV-2, would be intranasally inoculated into a group of anaesthetized hACE2-mice. Around 2-3 days post infection, the virus in lungs would usually amplify to a peak titer. The mice would

FL-2022-00076 A-00000572574 "UNCLASSIFIED" [1/31/2024] Page 364  
then be sacrificed and the lungs homogenized. Usually, the mouse-lung supernatant, which carries the highest viral load, would be used to extract the candidate virus for the next round of passage. After approximately 10~15 rounds of passage, the hACE2-binding affinity, the infection efficiency, and the lethality of the viral strain would be sufficiently enhanced and the viral genome stabilized<sup>101</sup>. Finally, after a series of characterization experiments (e.g. viral kinetics assay, antibodies response assay, symptom observation and pathology examination), the final product, SARS-CoV-2, would be obtained, concluding the whole creation process. From this point on, this viral pathogen could be amplified (most probably using Vero E6 cells) and produced routinely.

It is noteworthy that, based on the work done on SARS-CoV, the hACE2-mice, although suitable for SARS-CoV-2 adaptation, is not a good model to reflect the virus' transmissibility and associated clinical symptoms in humans. We believe that those scientists might not have used a proper animal model (such as the golden Syrian hamster) for testing the transmissibility of SARS-CoV-2 before the outbreak of COVID-19. If they had done this experiment with a proper animal model, the highly contagious nature of SARS-CoV-2 would be extremely evident and consequently SARS-CoV-2 would not have been described as "not causing human-to-human transmission" at the start of the outbreak.

We also speculate that the extensive laboratory-adaptation, which is oriented toward enhanced transmissibility and lethality, may have driven the virus too far. As a result, SARS-CoV-2 might have lost the capacity to attenuate on both transmissibility and lethality during its current adaptation in the human population. This hypothesis is consistent with the lack of apparent attenuation of SARS-CoV-2 so far despite its great prevalence and with the observation that a recently emerged, predominant variant only shows improved transmissibility<sup>105-108</sup>.

Serial passage is a quick and intensive process, where the adaptation of the virus is accelerated. Although intended to mimic natural evolution, serial passage is much more limited in both time and scale. As a result, less random mutations would be expected in serial passage than in natural evolution. This is particularly true for conserved viral proteins, such as the E protein. Critical in viral replication, the E protein is a determinant of virulence and engineering of it may render SARS-CoV-2 attenuated<sup>109-111</sup>. Therefore, at the initial assembly stage, these scientists might have decided to keep the amino acid sequence of the E protein unchanged from that of ZC45/ZXC21. Due to the conserved nature of the E protein and the limitations of serial passage, no amino acid mutation actually occurred, resulting in a 100% sequence identity on the E protein between SARS-CoV-2 and ZC45/ZXC21. The same could have happened to the marks of molecular cloning (restriction sites flanking the RBM). Serial passage, which should have partially naturalized the SARS-CoV-2 genome, might not have removed all signs of artificial manipulation.

### 3. Final remarks

Many questions remain unanswered about the origin of SARS-CoV-2. Prominent virologists have implicated in a *Nature Medicine* letter that laboratory escape, while not being entirely ruled out, was unlikely and that no sign of genetic manipulation is present in the SARS-CoV-2 genome<sup>4</sup>. However, here we show that genetic evidence within the *spike* gene of SARS-CoV-2 genome (restriction sites flanking the *RBM*; tandem rare codons used at the inserted furin-cleavage site) does exist and suggests that the SARS-CoV-2 genome should be a product of genetic manipulation. Furthermore, the proven concepts, well-established techniques, and knowledge and expertise are all in place for the convenient creation of this novel coronavirus in a short period of time.



1. If it was a laboratory product, the most critical element in its creation, the backbone/template virus (ZC45/ZXC21), is owned by military research laboratories.
2. The genome sequence of SARS-CoV-2 has likely undergone genetic engineering, through which the virus has gained the ability to target humans with enhanced virulence and infectivity.
3. The characteristics and pathogenic effects of SARS-CoV-2 are unprecedented. The virus is highly transmissible, onset-hidden, multi-organ targeting, sequelae-unclear, lethal, and associated with various symptoms and complications.
4. SARS-CoV-2 caused a world-wide pandemic, taking hundreds of thousands of lives and shutting down the global economy. It has a destructive power like no other.

Judging from the evidence that we and others have gathered, we believe that finding the origin of SARS-CoV-2 should involve an independent audit of the WIV P4 laboratories and the laboratories of their close collaborators. Such an investigation should have taken place long ago and should not be delayed any further.

We also note that in the publication of the chimeric virus SHC015-MA15 in 2015, the attribution of funding of Zhengli Shi by the NIAID was initially left out. It was reinstated in the publication in 2016 in a corrigendum, perhaps after the meeting in January 2016 to reinstate NIH funding for gain-of-function research on viruses. This is an unusual scientific behavior, which needs an explanation for.

What is not thoroughly described in this report is the various evidence indicating that several coronaviruses recently published (RaTG13<sup>18</sup>, RmYN02<sup>30</sup>, and several pangolin coronaviruses<sup>27-29,31</sup>) are highly suspicious and likely fraudulent. These fabrications would serve no purpose other than to deceive the scientific community and the general public so that the true identity of SARS-CoV-2 is hidden. Although exclusion of details of such evidence does not alter the conclusion of the current report, we do believe that these details would provide additional support for our contention that SARS-CoV-2 is a laboratory-enhanced virus and a product of gain-of-function research. A follow-up report focusing on such additional evidence is now being prepared and will be submitted shortly.

## Acknowledgements

We would like to thank Daoyu Zhang for sharing with us the findings of mutations in the E proteins in different sub-groups of  $\beta$  coronaviruses. We also thank all the anonymous scientists and other individuals, who have contributed in uncovering various facts associated with the origin of SARS-CoV-2.

## References:

1. Zhan, S.H., Deverman, B.E. & Chan, Y.A. SARS-CoV-2 is well adapted for humans. What does this mean for re-emergence? *bioRxiv*, <https://doi.org/10.1101/2020.05.01.073262> (2020).
2. Mou, H. et al. Mutations from bat ACE2 orthologs markedly enhance ACE2-Fc neutralization of SARS-CoV-2. *bioRxiv*, <https://doi.org/10.1101/2020.06.29.178459> (2020).
3. Piplani, S., Singh, P.K., Winkler, D.A. & Petrovsky, N. In silico comparison of spike protein-ACE2 binding affinities across species; significance for the possible origin of the SARS-CoV-2 virus. *arXiv*, arXiv:2005.06199 (2020).
4. Andersen, K.G., Rambaut, A., Lipkin, W.I., Holmes, E.C. & Garry, R.F. The proximal origin of SARS-CoV-2. *Nat Med* **26**, 450-452 (2020).

5. Maiti, A.K. On The Origin of SARS-CoV-2 Virus. *Preprint (authorea.com)*, DOI: 10.22541/au.159355977.76503625 (2020).
6. Lin, X. & Chen, S. Major Concerns on the Identification of Bat Coronavirus Strain RaTG13 and Quality of Related Nature Paper. *Preprints*, 2020060044 (2020).
7. Bengston, D. All journal articles evaluating the origin or epidemiology of SARS-CoV-2 that utilize the RaTG13 bat strain genomics are potentially flawed and should be retracted. *OSFPreprints*, DOI: 10.31219/osf.io/wy89d (2020).
8. Segreto, R. & Deigin, Y. Is considering a genetic-manipulation origin for SARS-CoV-2 a conspiracy theory that must be censored? *Preprint (Researchgate)* DOI: 10.13140/RG.2.2.31358.13129/I (2020).
9. Rahalkar, M.C. & Bahulikar, R.A. Understanding the Origin of 'BatCoV-RaTG13', a Virus Closest to SARS-CoV-2. *Preprints*, 2020050322 (2020).
10. Robinson, C. Was the COVID-19 virus genetically engineered? (<https://gmwatch.org/en/news/latest-news/19383>, 2020).
11. Robinson, C. Another expert challenges assertions that SARS-CoV-2 was not genetically engineered. (<https://gmwatch.org/en/news/latest-news/19383>, 2020).
12. Sørensen, B., Dalgleish, A. & Susrud, A. The Evidence which Suggests that This Is No Naturally Evolved Virus. *Preprint*, <https://www.minervanett.no/files/2020/07/13/TheEvidenceNoNaturalEvol.pdf> (2020).
13. Zhang, B. SARS-CoV-2 Could Come from a Lab - A Critique of "The Proximal Origin of SARS-CoV-2" Published in Nature Medicine. ([https://www.linkedin.com/pulse/sars-cov-2-could-come-from-lab-critique-proximal-origin-billy-zhang?articleId=6651628681431175168#comments-6651628681431175168&trk=public\\_profile\\_article\\_view](https://www.linkedin.com/pulse/sars-cov-2-could-come-from-lab-critique-proximal-origin-billy-zhang?articleId=6651628681431175168#comments-6651628681431175168&trk=public_profile_article_view), 2020).
14. Sirotkin, K. & Sirotkin, D. Might SARS - CoV - 2 Have Arisen via Serial Passage through an Animal Host or Cell Culture? *BioEssays*, <https://doi.org/10.1002/bies.202000091> (2020).
15. Seyran, M. et al. Questions concerning the proximal origin of SARS-CoV-2. *J Med Virol* (2020).
16. China Honors Ian Lipkin. (<https://www.publichealth.columbia.edu/public-health-now/news/china-honors-ian-lipkin>, 2020).
17. Holmes, E. Academic CV. (<https://www.sydney.edu.au/AcademicProfiles/profile/resource?urlid=edward.holmes&type=cv>, 2020).
18. Zhou, P. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* (2020).
19. Rahalkar, M. & Bahulikar, R. The Abnormal Nature of the Fecal Swab Sample used for NGS Analysis of RaTG13 Genome Sequence Imposes a Question on the Correctness of the RaTG13 Sequence. *Preprints.org*, 2020080205 (2020).
20. Singla, M., Ahmad, S., Gupta, C. & Sethi, T. De-novo Assembly of RaTG13 Genome Reveals Inconsistencies Further Obscuring SARS-CoV-2 Origins. *Preprints*, 2020080595 (doi: 10.20944/preprints202008.0595.v1) (2020).
21. Zhang, D. Anomalies in BatCoV/RaTG13 sequencing and provenance. *Preprint (zenodo.org)*, <https://zenodo.org/record/3987503#.Xz9GzC-z3GI> (2020).
22. Robinson, C. Journals censor lab origin theory for SARS-CoV-2. (<https://www.gmwatch.org/en/news/latest-news/19475-journals-censor-lab-origin-theory-for-sars-cov-2>, 2020).
23. Scientific evidence and logic behind the claim that the Wuhan coronavirus is man-made. <https://nerdhaspower.weebly.com> (2020).
24. Zhang, Y. et al. The ORF8 Protein of SARS-CoV-2 Mediates Immune Evasion through Potently Downregulating MHC-I. *bioRxiv*, <https://doi.org/10.1101/2020.05.24.111823> (2020).
25. Muth, D. et al. Attenuation of replication by a 29 nucleotide deletion in SARS-coronavirus acquired during the early stages of human-to-human transmission. *Sci Rep* **8**, 15177 (2018).
26. Schoeman, D. & Fielding, B.C. Coronavirus envelope protein: current knowledge. *Virology* **16**, 69 (2019).
27. Lam, T.T. et al. Identifying SARS-CoV-2-related coronaviruses in Malayan pangolins. *Nature* (2020).
28. Liu, P. et al. Are pangolins the intermediate host of the 2019 novel coronavirus (SARS-CoV-2)? *PLoS Pathog* **16**, e1008421 (2020).
29. Xiao, K. et al. Isolation of SARS-CoV-2-related coronavirus from Malayan pangolins. *Nature* (2020).

- FL-2022-00076 A-00000572574 "UNCLASSIFIED" [1/31/2024] Page 367
30. Zhou, H. et al. A Novel Bat Coronavirus Closely Related to SARS-CoV-2 Contains Natural Insertions at the S1/S2 Cleavage Site of the Spike Protein. *Curr Biol* **30**, 2196-2203 e3 (2020).
  31. Zhang, T., Wu, Q. & Zhang, Z. Probable Pangolin Origin of SARS-CoV-2 Associated with the COVID-19 Outbreak. *Curr Biol* **30**, 1578 (2020).
  32. Yang, X.L. et al. Isolation and Characterization of a Novel Bat Coronavirus Closely Related to the Direct Progenitor of Severe Acute Respiratory Syndrome Coronavirus. *J Virol* **90**, 3253-6 (2015).
  33. Hu, D. et al. Genomic characterization and infectivity of a novel SARS-like coronavirus in Chinese bats. *Emerg Microbes Infect* **7**, 154 (2018).
  34. Wang, Y. Preliminary investigation of viruses carried by bats on the southeast coastal area (东南沿海地区蝙蝠携带病毒的初步调查研究). *Master Thesis* (2017).
  35. Wu, F. et al. A new coronavirus associated with human respiratory disease in China. *Nature* **579**, 265-269 (2020).
  36. Lab That First Shared Novel Coronavirus Genome Still Shut Down by Chinese Government. *Global Biodefense*, <https://globalbiodefense.com/headlines/chinese-lab-that-first-shared-novel-coronavirus-genome-shut-down/> (2020).
  37. Song, W., Gui, M., Wang, X. & Xiang, Y. Cryo-EM structure of the SARS coronavirus spike glycoprotein in complex with its host cell receptor ACE2. *PLoS Pathog* **14**, e1007236 (2018).
  38. Li, F., Li, W., Farzan, M. & Harrison, S.C. Structure of SARS coronavirus spike receptor-binding domain complexed with receptor. *Science* **309**, 1864-8 (2005).
  39. Shang, J. et al. Structural basis of receptor recognition by SARS-CoV-2. *Nature* (2020).
  40. Hassanin, A. The SARS-CoV-2-like virus found in captive pangolins from Guangdong should be better sequenced. *bioRxiv*, <https://doi.org/10.1101/2020.05.07.077016> (2020).
  41. Zhang, D. The Pan-SL-CoV/GD sequences may be from contamination. *Preprint (zenodo.org)*, DOI: 10.5281/zenodo.3885333 (2020).
  42. Chan, Y.A. & Zhan, S.H. Single source of pangolin CoVs with a near identical Spike RBD to SARS-CoV-2. *bioRxiv*, <https://doi.org/10.1101/2020.07.07.184374> (2020).
  43. Lee, J. et al. No evidence of coronaviruses or other potentially zoonotic viruses in Sunda pangolins (*Manis javanica*) entering the wildlife trade via Malaysia. *bioRxiv*, <https://doi.org/10.1101/2020.06.19.158717> (2020).
  44. Becker, M.M. et al. Synthetic recombinant bat SARS-like coronavirus is infectious in cultured cells and in mice. *Proc Natl Acad Sci U S A* **105**, 19944-9 (2008).
  45. Menachery, V.D. et al. A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence. *Nat Med* **21**, 1508-13 (2015).
  46. Menachery, V.D. et al. SARS-like WIV1-CoV poised for human emergence. *Proc Natl Acad Sci U S A* **113**, 3048-53 (2016).
  47. Ren, W. et al. Difference in receptor usage between severe acute respiratory syndrome (SARS) coronavirus and SARS-like coronavirus of bat origin. *J Virol* **82**, 1899-907 (2008).
  48. Li, X. et al. Emergence of SARS-CoV-2 through Recombination and Strong Purifying Selection. *bioRxiv* (2020).
  49. Hou, Y. et al. Angiotensin-converting enzyme 2 (ACE2) proteins of different bat species confer variable susceptibility to SARS-CoV entry. *Arch Virol* **155**, 1563-9 (2010).
  50. Yang, Y. et al. Two Mutations Were Critical for Bat-to-Human Transmission of Middle East Respiratory Syndrome Coronavirus. *J Virol* **89**, 9119-23 (2015).
  51. Luo, C.M. et al. Discovery of Novel Bat Coronaviruses in South China That Use the Same Receptor as Middle East Respiratory Syndrome Coronavirus. *J Virol* **92**(2018).
  52. Cui, J., Li, F. & Shi, Z.L. Origin and evolution of pathogenic coronaviruses. *Nat Rev Microbiol* **17**, 181-192 (2019).
  53. Wan, Y. et al. Molecular Mechanism for Antibody-Dependent Enhancement of Coronavirus Entry. *J Virol* **94**(2020).
  54. Li, F. Receptor recognition mechanisms of coronaviruses: a decade of structural studies. *J Virol* **89**, 1954-64 (2015).
  55. Li, F. Structure, Function, and Evolution of Coronavirus Spike Proteins. *Annu Rev Virol* **3**, 237-261 (2016).

- FL-2022-00076 A-00000572574 "UNCLASSIFIED" [1/31/2024] Page 368
56. Shang, J. et al. Cell entry mechanisms of SARS-CoV-2. *Proc Natl Acad Sci U S A* **117**, 11727-11734 (2020).
  57. Hoffmann, M., Kleine-Weber, H. & Pohlmann, S. A Multibasic Cleavage Site in the Spike Protein of SARS-CoV-2 Is Essential for Infection of Human Lung Cells. *Mol Cell* **78**, 779-784 e5 (2020).
  58. Coutard, B. et al. The spike glycoprotein of the new coronavirus 2019-nCoV contains a furin-like cleavage site absent in CoV of the same clade. *Antiviral Res* **176**, 104742 (2020).
  59. Claas, E.C. et al. Human influenza A H5N1 virus related to a highly pathogenic avian influenza virus. *Lancet* **351**, 472-7 (1998).
  60. Watanabe, R. et al. Entry from the cell surface of severe acute respiratory syndrome coronavirus with cleaved S protein as revealed by pseudotype virus bearing cleaved S protein. *J Virol* **82**, 11985-91 (2008).
  61. Belouzard, S., Chu, V.C. & Whittaker, G.R. Activation of the SARS coronavirus spike protein via sequential proteolytic cleavage at two distinct sites. *Proc Natl Acad Sci U S A* **106**, 5871-6 (2009).
  62. Kido, H. et al. Role of host cellular proteases in the pathogenesis of influenza and influenza-induced multiple organ failure. *Biochim Biophys Acta* **1824**, 186-94 (2012).
  63. Sun, X., Tse, L.V., Ferguson, A.D. & Whittaker, G.R. Modifications to the hemagglutinin cleavage site control the virulence of a neurotropic H1N1 influenza virus. *J Virol* **84**, 8683-90 (2010).
  64. Cheng, J. et al. The S2 Subunit of QX-type Infectious Bronchitis Coronavirus Spike Protein Is an Essential Determinant of Neurotropism. *Viruses* **11**(2019).
  65. Ito, T. et al. Generation of a highly pathogenic avian influenza A virus from an avirulent field isolate by passaging in chickens. *J Virol* **75**, 4439-43 (2001).
  66. Canrong Wu, Y.Y., Yang Liu, Peng Zhang, Yali Wang, Hua Li, Qiqi Wang, Yang Xu, Mingxue Li, Mengzhu Zheng, Lixia Chen. Furin, a potential therapeutic target for COVID-19. *Preprint (chinaXiv)*, <http://www.chinaxiv.org/abs/202002.00062> (2020).
  67. Zeng, L.P. et al. Bat Severe Acute Respiratory Syndrome-Like Coronavirus WIV1 Encodes an Extra Accessory Protein, ORFX, Involved in Modulation of the Host Immune Response. *J Virol* **90**, 6573-6582 (2016).
  68. Lau, S.Y. et al. Attenuated SARS-CoV-2 variants with deletions at the S1/S2 junction. *Emerg Microbes Infect* **9**, 837-842 (2020).
  69. Liu, Z. et al. Identification of common deletions in the spike protein of SARS-CoV-2. *J Virol* (2020).
  70. Ge, X.Y. et al. Detection of alpha- and betacoronaviruses in rodents from Yunnan, China. *Virol J* **14**, 98 (2017).
  71. Guan, Y. et al. Isolation and characterization of viruses related to the SARS coronavirus from animals in southern China. *Science* **302**, 276-8 (2003).
  72. Ge, X.Y. et al. Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor. *Nature* **503**, 535-8 (2013).
  73. Lau, S.K. et al. Severe acute respiratory syndrome coronavirus-like virus in Chinese horseshoe bats. *Proc Natl Acad Sci U S A* **102**, 14040-5 (2005).
  74. Kam, Y.W. et al. Antibodies against trimeric S glycoprotein protect hamsters against SARS-CoV challenge despite their capacity to mediate FcγRII-dependent entry into B cells in vitro. *Vaccine* **25**, 729-40 (2007).
  75. Chan, J.F. et al. Middle East respiratory syndrome coronavirus: another zoonotic betacoronavirus causing SARS-like disease. *Clin Microbiol Rev* **28**, 465-522 (2015).
  76. Zhou, J., Chu, H., Chan, J.F. & Yuen, K.Y. Middle East respiratory syndrome coronavirus infection: virus-host cell interactions and implications on pathogenesis. *Virol J* **12**, 218 (2015).
  77. Yeung, M.L. et al. MERS coronavirus induces apoptosis in kidney and lung by upregulating Smad7 and FGF2. *Nat Microbiol* **1**, 16004 (2016).
  78. Chu, D.K.W. et al. MERS coronaviruses from camels in Africa exhibit region-dependent genetic diversity. *Proc Natl Acad Sci U S A* **115**, 3144-3149 (2018).
  79. Ommeh, S. et al. Genetic Evidence of Middle East Respiratory Syndrome Coronavirus (MERS-Cov) and Widespread Seroprevalence among Camels in Kenya. *Virol Sin* **33**, 484-492 (2018).
  80. Sia, S.F. et al. Pathogenesis and transmission of SARS-CoV-2 in golden hamsters. *Nature* (2020).
  81. Ren, W. et al. Full-length genome sequences of two SARS-like coronaviruses in horseshoe bats and genetic variation analysis. *J Gen Virol* **87**, 3355-9 (2006).

- FL-2022-00076 A-00000572574 "UNCLASSIFIED" [1/31/2024] Page 369
82. Yuan, J. et al. Intraspecies diversity of SARS-like coronaviruses in *Rhinolophus sinicus* and its implications for the origin of SARS coronaviruses in humans. *J Gen Virol* **91**, 1058-62 (2010).
  83. Ge, X.Y. et al. Coexistence of multiple coronaviruses in several bat colonies in an abandoned mineshaft. *Viol Sin* **31**, 31-40 (2016).
  84. Hu, B. et al. Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus. *PLoS Pathog* **13**, e1006698 (2017).
  85. Luo, Y. et al. Longitudinal Surveillance of Betacoronaviruses in Fruit Bats in Yunnan Province, China During 2009-2016. *Viol Sin* **33**, 87-95 (2018).
  86. Kuo, L., Godeke, G.J., Raamsman, M.J., Masters, P.S. & Rottier, P.J. Retargeting of coronavirus by substitution of the spike glycoprotein ectodomain: crossing the host cell species barrier. *J Virol* **74**, 1393-406 (2000).
  87. Drexler, J.F. et al. Genomic characterization of severe acute respiratory syndrome-related coronavirus in European bats and classification of coronaviruses based on partial RNA-dependent RNA polymerase gene sequences. *J Virol* **84**, 11336-49 (2010).
  88. Agnihothram, S. et al. A mouse model for Betacoronavirus subgroup 2c using a bat coronavirus strain HKU5 variant. *mBio* **5**, e00047-14 (2014).
  89. Johnson, B.A., Graham, R.L. & Menachery, V.D. Viral metagenomics, protein structure, and reverse genetics: Key strategies for investigating coronaviruses. *Virology* **517**, 30-37 (2018).
  90. Wu, K., Peng, G., Wilken, M., Geraghty, R.J. & Li, F. Mechanisms of host receptor adaptation by severe acute respiratory syndrome coronavirus. *J Biol Chem* **287**, 8904-11 (2012).
  91. Follis, K.E., York, J. & Nunberg, J.H. Furin cleavage of the SARS coronavirus spike glycoprotein enhances cell-cell fusion but does not affect virion entry. *Virology* **350**, 358-69 (2006).
  92. Yount, B., Denison, M.R., Weiss, S.R. & Baric, R.S. Systematic assembly of a full-length infectious cDNA of mouse hepatitis virus strain A59. *J Virol* **76**, 11065-78 (2002).
  93. Yount, B. et al. Reverse genetics with a full-length infectious cDNA of severe acute respiratory syndrome coronavirus. *Proc Natl Acad Sci U S A* **100**, 12995-3000 (2003).
  94. Almazan, F. et al. Construction of a severe acute respiratory syndrome coronavirus infectious cDNA clone and a replicon to study coronavirus RNA synthesis. *J Virol* **80**, 10900-6 (2006).
  95. Scobey, T. et al. Reverse genetics with a full-length infectious cDNA of the Middle East respiratory syndrome coronavirus. *Proc Natl Acad Sci U S A* **110**, 16157-62 (2013).
  96. Almazan, F., Marquez-Jurado, S., Nogales, A. & Enjuanes, L. Engineering infectious cDNAs of coronavirus as bacterial artificial chromosomes. *Methods Mol Biol* **1282**, 135-52 (2015).
  97. Thao, T.T.N. et al. Rapid reconstruction of SARS-CoV-2 using a synthetic genomics platform. *Nature* (2020).
  98. Oldfield, L.M. et al. Genome-wide engineering of an infectious clone of herpes simplex virus type 1 using synthetic genomics assembly methods. *Proc Natl Acad Sci U S A* **114**, E8885-E8894 (2017).
  99. Vashee, S. et al. Cloning, Assembly, and Modification of the Primary Human Cytomegalovirus Isolate Toledo by Yeast-Based Transformation-Associated Recombination. *mSphere* **2**(2017).
  100. Xie, X. et al. An Infectious cDNA Clone of SARS-CoV-2. *Cell Host Microbe* **27**, 841-848 e3 (2020).
  101. Roberts, A. et al. A mouse-adapted SARS-coronavirus causes disease and mortality in BALB/c mice. *PLoS Pathog* **3**, e5 (2007).
  102. Roberts, A. et al. Animal models and vaccines for SARS-CoV infection. *Virus Res* **133**, 20-32 (2008).
  103. Takayama, K. In Vitro and Animal Models for SARS-CoV-2 research. *Trends Pharmacol Sci* **41**, 513-517 (2020).
  104. Wang, Q. hACE2 Transgenic Mouse Model For Coronavirus (COVID-19) Research. *The Jackson Laboratory Research Highlight*, <https://www.jax.org/news-and-insights/2020/february/introducing-mouse-model-for-corona-virus#> (2020).
  105. Zhang, L. et al. The D614G mutation in the SARS-CoV-2 spike protein reduces S1 shedding and increases infectivity. *bioRxiv*, <https://doi.org/10.1101/2020.06.12.148726> (2020).
  106. Yurkovetskiy, L. et al. Structural and Functional Analysis of the D614G SARS-CoV-2 Spike Protein Variant. *bioRxiv*, <https://doi.org/10.1101/2020.07.04.187757> (2020).
  107. Korber, B. et al. Tracking Changes in SARS-CoV-2 Spike: Evidence that D614G Increases Infectivity of the COVID-19 Virus. *Cell* **182**, 812-827 e19 (2020).

108. Plante, J.A. et al. Spike mutation D614G alters SARS-CoV-2 fitness and neutralization susceptibility. *bioRxiv*, <https://doi.org/10.1101/2020.09.01.278689> (2020).
109. Poon, L.L. et al. Recurrent mutations associated with isolation and passage of SARS coronavirus in cells from non-human primates. *J Med Virol* **76**, 435-40 (2005).
110. Pervushin, K. et al. Structure and inhibition of the SARS coronavirus envelope protein ion channel. *PLoS Pathog* **5**, e1000511 (2009).
111. Nieto-Torres, J.L. et al. Severe acute respiratory syndrome coronavirus envelope protein ion channel activity promotes virus fitness and pathogenesis. *PLoS Pathog* **10**, e1004077 (2014).

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/339070128>

# The possible origins of 2019-nCoV coronavirus

Preprint · February 2020

DOI: 10.13140/RG.2.2.21799.21601

CITATIONS

0

READS

849

2 authors, including:



Botao Xiao  
South China University of Technology

26 PUBLICATIONS 265 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



National Natural Science Foundation of China (11372116) [View project](#)



National Natural Science Foundation of China (11772133) [View project](#)

## **The possible origins of 2019-nCoV coronavirus**

Botao Xiao<sup>1,2\*</sup> and Lei Xiao<sup>3</sup>

<sup>1</sup> Joint International Research Laboratory of Synthetic Biology and Medicine, School of Biology and Biological Engineering, South China University of Technology, Guangzhou 510006, China

<sup>2</sup> School of Physics, Huazhong University of Science and Technology, Wuhan 430074, China

<sup>3</sup> Tian You Hospital, Wuhan University of Science and Technology, Wuhan 430064, China

\* Corresponding author: [xiaob@scut.edu.cn](mailto:xiaob@scut.edu.cn)

Tel / Fax: 86-20-3938-0631



The 2019-nCoV coronavirus has caused an epidemic of 28,060 laboratory-confirmed infections in human including 564 deaths in China by February 6, 2020. Two descriptions of the virus published on Nature this week indicated that the genome sequences from patients were 96% or 89% identical to the Bat CoV ZC45 coronavirus originally found in *Rhinolophus affinis*<sup>1,2</sup>. It was critical to study where the pathogen came from and how it passed onto human.

An article published on The Lancet reported that 41 people in Wuhan were found to have the acute respiratory syndrome and 27 of them had contact with Huanan Seafood Market<sup>3</sup>. The 2019-nCoV was found in 33 out of 585 samples collected in the market after the outbreak. The market was suspicious to be the origin of the epidemic, and was shut down according to the rule of quarantine the source during an epidemic.

The bats carrying CoV ZC45 were originally found in Yunnan or Zhejiang province, both of which were more than 900 kilometers away from the seafood market. Bats were normally found to live in caves and trees. But the seafood market is in a densely-populated district of Wuhan, a metropolitan of ~15 million people. The probability was very low for the bats to fly to the market. According to municipal reports and the testimonies of 31 residents and 28 visitors, the bat was never a food source in the city, and no bat was traded in the market. There was possible natural recombination or intermediate host of the coronavirus, yet little proof has been reported.

Was there any other possible pathway? We screened the area around the seafood market and identified two laboratories conducting research on bat coronavirus. Within ~280 meters from the market, there was the Wuhan Center for Disease Control & Prevention (WHCDC) (Figure 1, from Baidu and Google maps). WHCDC hosted animals in laboratories for research purpose, one of which was specialized in pathogens collection and identification<sup>4-6</sup>. In one of their studies, 155 bats including *Rhinolophus affinis* were captured in Hubei province, and other 450 bats were captured in Zhejiang province<sup>4</sup>. The expert in collection was noted in the Author Contributions (JHT). Moreover, he was broadcasted for collecting viruses on nation-wide newspapers and websites in 2017 and 2019<sup>7,8</sup>. He described that he was once by attacked by bats and the blood of a bat shot on his skin. He knew the extreme danger of the infection so he quarantined himself for 14 days<sup>7</sup>. In another accident, he quarantined himself again because bats peed on him. He was once thrilled for capturing a bat carrying a live tick<sup>8</sup>.

Surgery was performed on the caged animals and the tissue samples were collected for DNA and RNA extraction and sequencing<sup>4,5</sup>. The tissue samples and contaminated trashes were source of pathogens. They were only ~280 meters from the seafood market. The WHCDC was also adjacent to the Union Hospital (Figure 1, bottom) where the first group of doctors were infected during this epidemic. It is plausible that the virus leaked around and some of them contaminated the initial patients in this epidemic, though solid proofs are needed in future study.

The second laboratory was ~12 kilometers from the seafood market and belonged to Wuhan Institute of Virology, Chinese Academy of Sciences<sup>1,9,10</sup>. This laboratory reported that the Chinese horseshoe bats were natural reservoirs for the severe acute respiratory syndrome coronavirus (SARS-CoV) which caused the 2002-3 pandemic<sup>9</sup>. The principle investigator participated in a project which generated a chimeric virus using

the SARS-CoV reverse genetics system, and reported the potential for human emergence<sup>10</sup>. A direct speculation was that SARS-CoV or its derivative might leak from the laboratory.

In summary, somebody was entangled with the evolution of 2019-nCoV coronavirus. In addition to origins of natural recombination and intermediate host, the killer coronavirus probably originated from a laboratory in Wuhan. Safety level may need to be reinforced in high risk biohazardous laboratories. Regulations may be taken to relocate these laboratories far away from city center and other densely populated places.

### Contributors

BX designed the comment and performed literature search. All authors performed data acquisition and analysis, collected documents, draw the figure, and wrote the papers.

### Acknowledgements

This work is supported by the National Natural Science Foundation of China (11772133, 11372116).

### Declaration of interests

All authors declare no competing interests.

### References

1. Zhou P, Yang X-L, Wang X-G, et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 2020. <https://doi.org/10.1038/s41586-020-2012-7>.
2. Wu F, Zhao S, Yu B, et al. A new coronavirus associated with human respiratory disease in China. *Nature* 2020. <https://doi.org/10.1038/s41586-020-2008-3>.
3. Huang C, Wang Y, Li X, et al. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet* 2019. [https://doi.org/10.1016/S0140-6736\(20\)30183-5](https://doi.org/10.1016/S0140-6736(20)30183-5).
4. Guo WP, Lin XD, Wang W, et al. Phylogeny and origins of hantaviruses harbored by bats, insectivores, and rodents. *PLoS pathogens* 2013; **9**(2): e1003159.
5. Lu M, Tian JH, Yu B, Guo WP, Holmes EC, Zhang YZ. Extensive diversity of rickettsiales bacteria in ticks from Wuhan, China. *Ticks and tick-borne diseases* 2017; **8**(4): 574-80.
6. Shi M, Lin XD, Chen X, et al. The evolutionary history of vertebrate RNA viruses. *Nature* 2018; **556**(7700): 197-202.
7. Tao P. Expert in Wuhan collected ten thousands animals: capture bats in mountain at night. *Changjiang Times* 2017.
8. Li QX, Zhanyao. Playing with elephant dung, fishing for sea bottom mud: the work that will change China's future. *thepaper* 2019.
9. Ge XY, Li JL, Yang XL, et al. Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor. *Nature* 2013; **503**(7477): 535-8.
10. Menachery VD, Yount BL, Jr., Debbink K, et al. A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence. *Nature medicine* 2015; **21**(12): 1508-13.



Figure 1. The Huanan Seafood Market is close to the WHCDC (from Baidu and Google maps).

**From:** "Keisha Sedlacek" <ksedlacek@hslf.org>  
**To:** Biegun, Stephen E (b)(6)@state.gov>  
**Subject:** COVID-19 – White Paper on Wildlife Markets and COVID-1 9  
**Date:** Tue, 7 Apr 2020 18:20:56 +0000

Dear Deputy Secretary Biegun:

First, thank you for your dedication to the COVID-19 pandemic and your work to ensure that the American public stays as safe and healthy as possible during this crisis. Second, on this World Health Day, I wanted to share the attached Humane Society International (HSI) white paper released today that is particularly relevant to the work you are doing on COVID-19. Titled "Wildlife Markets and COVID-19," it documents the integral connection between live animal markets and the spread of diseases, focusing on COVID-19. As Dr. Anthony Fauci called for in an interview with Fox News last week, live wildlife markets should be permanently banned. Live wildlife markets are considered ground zero by many for the transfer of diseases to humans, including COVID-19 and Severe Acute Respiratory Syndrome (SARS).

The United States is a major importer of wildlife, including live animals, parts and products, and there is a robust domestic trade of these animal parts and products within the United States. We are calling on all federal and state agencies and legislatures to exercise their legal authorities to ensure that they are minimizing the likelihood of another zoonotic disease pandemic. The United States federal government has robust regulatory oversight over wildlife trade, both to protect human and animal health and to conserve imperiled species, and we urge the U.S. to be a global leader on strictly regulating wildlife trade domestically and abroad.

Thank you for your continued efforts to ensure both the immediate and future safety of the American people.

Sincerely,  
Keisha Sedlacek

**Keisha Sedlacek**

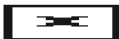
Director of Regulatory Affairs, Federal Affairs

ksedlacek@hslf.org

P 202-955-3661

hslf.org

(b)(6)



To support our work, please make a [monthly donation](#) or [take action](#).

x] x] x]

**Sender:** "Keisha Sedlacek" <ksedlacek@hslf.org>

**Recipient:** Biegun, Stephen E (b)(6)@state.gov>

**From:** "Feith, David" (b)(6)@state.gov>  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
**To:** DiNanno, Thomas G (b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>;  
(b)(6)@state.gov>  
**Subject:** Articles on COVID origins  
**Date:** Wed, 16 Dec 2020 21:26:27 +0000

Team – what are your quick favorite open-source references on COVID origins? Looking for a collection of 5-6 to have on hand to share with others.

Initial ideas:

1. Boston Magazine: "Could COVID-19 Have Escaped from a Lab? The world's preeminent scientists say a theory from the Broad Institute's Alina Chan is too wild to be believed. But when the theory is about the possibility of COVID being man-made, is this science or censorship?" (<https://www.bostonmagazine.com/news/2020/09/09/alina-chan-broad-institute-coronavirus/>)
2. BioEssays Wiley (attached): The genetic structure of SARS-CoV-2 does not rule out a laboratory origin: SARS-COV-2 chimeric structure and furin cleavage site might be the result of genetic manipulation.
3. NYT: "As it praised Beijing, the World Health Organization concealed concessions to China and may have sacrificed the best chance to unravel the virus's origins. Now it's a favorite Trump attack line." (<https://www.nytimes.com/2020/11/02/world/who-china-coronavirus.html>)

But otherwise I'm drawing blanks. There must be other good reporting out there on basics of WIV suspicions, gain of function risks, etc...

Thanks.

--

David Feith  
Deputy Assistant Secretary  
Bureau of East Asian and Pacific Affairs (EAP)  
U.S. Department of State

(b)(6) (o)  
(b)(6) (c)

(b)(6)@state.gov

SENSITIVE BUT UNCLASSIFIED

**Sender:** "Feith, David" (b)(6)@state.gov>  
(b)(6)@state.gov>;  
**Recipient:** (b)(6)@state.gov>;  
DiNanno, Thomas G (b)(6)@state.gov>;

(b)(6)@state.gov>  
(b)(6)@state.gov>  
(b)(6)@state.gov>

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)



Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)



Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5)

Withheld pursuant to exemption

(b)(5); (b)(6)

Withheld pursuant to exemption

(b)(5); (b)(6)