

The Pandemic – What Caused It and How Will It Impact East-West Relations?

“Oh, East is East, and West is West, and never the twain shall meet, Till Earth and Sky stand presently at God’s great judgment seat” –
Rudyard Kipling’s *Ballad of East and West*

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Preface

"When I use a word," Humpty Dumpty said, in rather a scornful tone, "it means just what I choose it to mean—neither more nor less."
– Lewis Carroll, *Through the Looking-Glass*

Words have meaning. It is critically important, particularly in the scientific field, to use words and construct sentences with precision, if one's intent is to accurately convey information or ideas.

For example, take the two words 'theory' and 'hypothesis'. In scientific circles, a hypothesis is an assumption made in advance of research being performed. It is an idea that appears to be worthy of investigation. Should testing of a hypothesis provide substantial evidence that it is correct, it can be elevated to the status of theory. In other words, a theory is a scientific principle that is well-supported by data. It provides an explanation of a phenomenon. It is a model that is consistent with known facts. Scientists begin with a hypothesis – an expert's hunch - and then conduct research in the hope of elevating it to the status of theory. A necessary condition for a hypothesis to be accepted as established theory is that any experiments used to justify the theory's validity must be independently reproducible.

Accepted theories are not proven fact. They are useful explanations. They are models demonstrated to be accurate within a defined level of measurement precision. As scientific understanding and technology progress, a well-established theory may be superseded by a new, superior theory that is even more accurate. For instance, in Newtonian dynamics, gravity is a force, time is invariant, and a single inertial frame of reference can be universally applied. Newton's description depends on 'absolute space and time'. Some 219 years later, Einstein demonstrated that Newton was wrong. Gravity is the result of curvature of 4-dimensional space-time, time is not invariant, and inertial frames of reference have to be related by Lorentz transformations rather than Galilean symmetries. Under Newtonian mechanics, the speed of light should vary. Under Einstein's relativity, the speed of light is a constant. So, Einstein taught us Newton was wrong. However, that realization did not diminish the usefulness of Newton's theories. They continue to this day to provide just as accurate answers to engineering problems as they did in 1686. Application of Newtonian dynamics, not general relativity, got Apollo 11 to the moon in 1979. On the other hand, we could not have built an accurate space-based global positioning system without taking account of relativistic factors.

It is important to note that disproving a hypothesis is also a useful finding, as it narrows the field towards identifying a hypothesis that may prove to be more fruitful. When a reporter asked Thomas Edison, "How did it feel to fail 1000 times?" he replied, "I didn't fail 1,000 times. The light bulb was an invention with 1,000 steps". He might have added as an afterthought that those steps were not random. He worked systematically to narrow the field of possibilities.

In general discourse, the word 'theory' is often used and interpreted incorrectly. There are two primary aspects to this sloppiness. First, 'theory' gets inaccurately used to describe what is actually a hypothesis. Then, over time, precisely because this descriptive error occurs so regularly, the general public comes to associate the word 'theory' with mere speculation. Such abuse of vocabulary causes interpretation – the processing of thought – to become error prone. As a result, the word has acquired a negative connotation. For example, over the last year, the hypothesis that the COVID-19 pandemic may have resulted from a laboratory accident has generally been reported as "an unfounded conspiracy theory" or a "debunked conspiracy theory" by the media. Yet it is nothing of the sort. It has never been 'debunked' since no real evidence, no hard data, has been provided to disprove the hypothesis. A press release by Shi Zhengli or Peter Daszak is not scientific proof. Nor is the hypothesis 'unfounded'. The post-war record of accidents in top laboratories around the world provides hundreds of empirical examples, many of which led to the death of scientists and several of which escaped the lab and caused deadly outbreaks amongst the general population. At least one of those accidents caused a global pandemic. That was in 1977, when H1N1 was released from a lab. The outbreak was called "the Russian flu" but it likely originated on the Chinese side of the Siberian border. Thankfully, that pathogen was not nearly as dangerous as SARS-CoV-2. Thus history demonstrates a lab leak in Wuhan is a reasonable hypothesis, so worthy of research.

Should the lab hypothesis be marginalized as highly unlikely? No, quite the contrary. If an investigating team were to apply logic, statistics, and optimization theory in a sound, scientific manner to devise its plan of action, it surely would have to conclude that the lab source hypothesis should be prioritized first. The world's largest collection of bat coronaviruses is housed at the Wuhan Institute of Virology. All experiments are monitored from the control room and documented in detail. All 16,000+ bat samples are inventoried. A team of 39 researchers, dozens of students, and numerous support staff handle and experiment with those viruses on a daily basis. It is what they do for a living. Sometimes they have accidents. This is where Thomas Edison would have started his investigation. Once an open, transparent, forensic investigation by an international team of scientists (without conflicting interests) has concluded that the virus (or a close cousin) was never inventoried at any of the Wuhan-based laboratories, then the field is narrowed. The investigation is then left with just the far more complex and likely protracted hunt for a zoonotic source in the wild. That might take a decade or more. Unlike the Wuhan Institute of Virology, bat caves in Yunnan do not have a virus inventory posted at the entrance.

A Google search on the lab leak being a debunked, unfounded, or discredited conspiracy theory returns several million hits. The NY Times, CNN, and pretty much the entirety of left leaning MSM ran with variations of this terminology for 18 months. Why did the press choose to refer to the lab hypothesis as a conspiracy? A hypothesis – which is simply a possible explanation for a phenomenon – is not a conspiracy. A conspiracy is a secret agreement between two or more persons to accomplish some ends through illegal or unethical means. Calling a lab leak hypothesis a conspiracy is dissembling. What has the press been playing at? They should know better. They do know better. Why risk their reputation in this manner?

On the other hand, it would be grammatically correct to call a claim that the MSM have been co-conspirators in a massive propaganda effort to suppress public anger towards Xi Jinping and the CCP a conspiracy theory. It should not yet be described as 'debunked' or 'discredited', since publishers have not provided evidence to prove they acted independently. Nor can it be described as 'unfounded' since they marched in lockstep; regimentation implies coordination. No one broke ranks until five months into the Biden presidency. Could that level of discipline be maintained absent a controlling or directing influence with significant power? After all, they were spouting unsubstantiated nonsense. They had to know that if the façade crumbled, their collective reputation would be badly tarnished. Look at CNN's collapsing viewership - a litany of such errors has seriously eroded its credibility. MSM outlets were taking a substantial risk. Unless pressure was being applied from above, why would they do that? It is public knowledge that the LA Times, NY Times, WSJ, Seattle Times, and Washington Post were paid \$19 million by CCP owned China Daily during the Trump presidency to publish supplements called 'China Watch', which appeared to be genuine news articles but were really CCP propaganda. Twitter also received payments. Would such major outlets have allowed themselves to be controlled by the CCP in exchange for so small a bribe? The financial relationships do run much deeper. Carlos Slim owns over 17% of the NY Times. America Movil is working with Huawei on a major 5G project. Jeff Bezos owns the Washington Post. Amazon products are manufactured in China. WarnerMedia owns CNN. It has also invested in China Media Capital. CEO Jeff Bewkes has stated "China is one of the most attractive territories in which we operate". NBC has an agreement with Xinhua for international news broadcasting. ABC is a division of Walt Disney. Disney has a theme park in Shanghai, and both produces and distributes films in China.

The purpose of this work is to try to make sense of the lies we have all been fed by establishment figures worldwide since January 2020, illuminate what appears to be much closer to the truth of what has transpired, and consider the implications for both domestic and international political relations of what I have come to consider the most serious breach of trust by government in my lifetime.

What is unique about this political scandal is its global dimension. Britain had the Profumo Affair and the Cambridge Spies in the early 1960s. The US had Watergate. The French and Italians expect a new scandal pretty every year or two. Such scandals were localized to a single country and resulted primarily in domestic fallout. For example, the Profumo Affair contributed to the Conservative Party's loss in the 1964 election. The

UK ended up with Harold Wilson's Labour Party dominant for the next 15 years. However, Profumo did not influence French or American elections. The brewing scandals generated by this pandemic, by contrast, are much more global and far reaching in scope. Civil unrest has been cropping up in numerous countries and on every continent. It is not just the US MSM that has been reading from a single, politically motivated playbook. Media across the entire Western world have marched in lockstep. It is not just US three-letter agencies that have obstructed research into cheap and readily available prophylactics and treatments for COVID-19, discouraged their off-label use, or even banned them. South Africa and India both banned Ivermectin for a period, before being forced to rescind their decision by the overwhelming weight of evidence justifying its use. Government sponsored scientists from top universities in both the US and Britain have produced what I judge to be appalling junk science to aid in the effort to suppress treatments that might have interfered with the rollout and public acceptance of COVID vaccines. Physical science has been supplanted by political science. With few exceptions – Sweden being one such - Western governments have acted from the same playbook.

Sixty-years ago, President Eisenhower warned Americans of the dangers we now face in his farewell address. Here are his statements that I believe are most apropos for our current situation:

"Our people expect their President and the Congress to find essential agreement on issues of great moment, the wise resolution of which will better shape the future of the Nation.... We face a hostile ideology - global in scope, atheistic in character, ruthless in purpose, and insidious in method. Unhappily, the danger it poses promises to be of indefinite duration. To meet it successfully, there is called for, not so much the emotional and transitory sacrifices of crisis, but rather those which enable us to carry forward steadily, surely, and without complaint the burdens of a prolonged and complex struggle - with liberty at stake (...) In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist (..) In this revolution, research has become central; it also becomes more formalized, complex, and costly. A steadily increasing share is conducted for, by, or at the direction of, the Federal government (..) The prospect of domination of the nation's scholars by Federal employment, project allocations, and the power of money is ever present and is gravely to be regarded".

His fears have come to pass.

Scientists Too Are Fallible Humans

"Men under stress are fools, and fool themselves" – Michael Crichton, *The Andromeda Strain*

By August 1945, the Manhattan Project had produced just four plutonium cores. The first was tested on July 16, 1945, at a sight in the middle of the New Mexico desert, 210 miles south of Los Alamos. Robert Oppenheimer named the test "Trinity", and the bomb was referred to as the "Trinity Gadget". The second, known as Little Boy, was detonated over Hiroshima on August 6 and the third, Fat Man, was detonated over Nagasaki three days later. Six days after the destruction of Nagasaki, Emperor Hirohito agreed to the allies' demand that Japan unconditionally surrender. That left a fourth and final plutonium core at the Los Alamos laboratory unused and available for further experimentation.

One "gain of function" experiment the Los Alamos team believed was worth its inherent risk was nicknamed "tickling the dragon's tail". This was a test where the team added successive tungsten carbide bricks around the plutonium core. The bricks reflected neutrons, which enhanced fission in the core. The object was to discover exactly what density of neutron flux was required to reach criticality. Of course, they needed to stop adding bricks just below that point, otherwise the core would enter supercriticality and explode. Although an accident might render their lab the site of the world's fourth nuclear explosion, they needed to conduct practical experiments to confirm theoretical physics. The reward was deemed worth the associated risk.



On August 25, 1945, one of those physicists, Harry Daghljan, decided to head back to the lab after dinner for a bit of late-night experimentation. Against regulations, he entered the lab alone but for a security guard who was on duty. As usual, he added bricks around the core until it reached close to the critical stage. At that point he needed to remove one brick to reduce the neutron count. It slipped from his hand and dropped on top of the core, which instantly went supercritical. Daghljan quickly reached in and removed the brick before the core could explode but in those few seconds he had been exposed to a massive dose of radiation. All he had felt was a tingling sensation in his hand but he died a horrible death just 25 days later.

Daghljan's accident precipitated an official review, followed by a tightening of safety and security procedures. Presumably, the experts involved believed their new standards would prevent a repeat fatal error. Yet just a year later a second physicist, Louis Slotin, was killed by an even higher dose of radiation in a similar experiment with the same core. In place of the bricks, the team was using a beryllium dome that they lowered over the core. The core itself sat cupped inside a second, inverted dome. The key safety issue was to ensure the two hemispheres never completely encased the core; a gap had to be maintained to allow some neutrons to escape. For this critical safety function, the physicists employed what they must have believed was a totally reliable, failsafe mechanism. They used a screwdriver placed on top of the core's housing to ensure never the twain shall meet. The resulting gap between the two domes they calculated would be sufficient. What could go wrong with that? Sure enough, the screwdriver worked perfectly, time and time again - until May 21, 1946, when it didn't. On that day, as Slotin lowered the dome, the screwdriver slipped out. The two domes met, encasing the core. For a second time the core went supercritical. Slotin grabbed the upper dome and lifted it clear by hand, breaking the chain reaction before it could precipitate an explosion. With the emergency over, he made a few back of the envelope calculations and concluded that the other seven occupants of the room had been far enough from the core to survive. Proving the maxim that "every cloud has a silver lining", his exposure did provide doctors a rare opportunity to study the nasty effects of radiation poisoning in the nine days it took for him to die. After this second accident, the plutonium acquired the nickname "the Demon Core".

That was not the last careless accident at Los Alamos. In 1958, Cecil Kelley, a highly experienced technician, was operating a mixing tank that was used to recover plutonium. Due to multiple errors, the concentration of plutonium suspended in the solution was 200 times the safe level. When Kelley turned on the mixer, the fluid's vortex concentrated the plutonium, which briefly went critical. He died 35 hours later from massive radiation poisoning. That was the third criticality accident to occur in 1958 alone. The other two were at the Y-12 Plant in

Oak Ridge and the Vinca Nuclear Institute in Yugoslavia. A report published by Los Alamos National Laboratory in 2000 - *A Review of Criticality Accidents* - listed 60 events globally over a fifty-year period.



In 1957, a B-36 bomber on final approach to Kirtland Air Force Base, accidentally dropped a ten-megaton hydrogen bomb less than five miles from the control tower. The bomb's plutonium triggers had not been installed, so only its conventional munitions detonated on impact. The explosion destroyed the bomb, created a 12-foot-deep crater, and blasted plutonium across the desert - which fortunately was uninhabited but for one unlucky cow. The Air Force decontaminated the area, compensated the owner of the cow, and kept the accident classified for 24 years. What caused the incident? The crew did not

realize that a manual release mechanism had become stuck in the open position due to a snagged wire. Standard operating procedure required a crew member to lean over the bomb and remove a locking prior to landing. On approach, Lt. Bob Carp was given this awkward task. As soon as he pulled the pin, the 21-ton bomb was released from its cradle and crashed through the bomb bay doors. Carp must have been relieved not to have followed the bomb out to the desert floor 1,700 feet below. One moral of the story is that a minor design flaw was not spotted during development, testing, and several years of operation; it took an accident to identify the issue. The other is that the Air Force and government concealed the accident for nearly a quarter century; authority will go to great lengths to avoid public embarrassment.

What have these stories got to do with the COVID-19 pandemic (which I like to refer to as the Jinping Pandemic, in honor of the man who deserves the most credit for swiftly spreading it to a naively unsuspecting world)? Fatal accidents on the Los Alamos Project are a reminder that all humans are fallible. We all make mistakes. Even certified geniuses, more knowledgeable in their chosen field than 99.999% of humanity, are capable of really dumb lapses of judgment. Daglian knew he should not have been working alone. It was late, so he may also have been tired. He had just eaten. Did a heavy meal dull his senses? Perhaps he drank a beer or two with dinner? Slotin was relying on a loose screwdriver to prevent an uncontrolled fission reaction that would certainly kill him and, after a few more seconds, everyone else in the room, before exploding and irradiating much of the facility. The team had been lazy. They should have figured a permanent, fixed mechanism. Perhaps glued metal plates or screws drilled into the top of the housing could have been used to ensure the dome could not fully close over its twin. They skipped the effort but compromised safety by doing so. Boeing engineers can design less than perfectly. Highly trained air force pilots can have accidents. Authorities can be expected to bend heaven and earth to prevent failures from being aired in the public forum.

Another form of human fallibility is ignorance. In the pioneering stage of a new scientific field, scientists may not fully appreciate every danger involved. For instance, Marie Curie routinely exposed herself to x-rays and carried radioactive materials in her pockets. She had to be buried in a lead coffin and the ground around her grave still reads 30 times normal background radiation. What do scientists understand today about mRNA vaccines? The vaccines are novel, so scientists know little. In particular, they can only guess at what the long-term effects inside the body may be. The risks may turn out to be minor for most but high for 0.1% of the population; that would equate to about 330,000 people in the US and 78 million globally.

Government bureaucracy is notoriously fallible the world over. The powers that be may exhibit scant regard for the safety of their citizenry, relegating individuals as subservient to furtherance of state power. For instance, the Soviet government conducted the Toltskoye Exercise in 1954. A nuclear bomb was detonated in this remote region, with 45,000 military personnel and 10,000 civilians present as guinea pigs to study the effects of fighting in a nuclear conflict. When the bomb detonated at an altitude of 1000 feet, troops were maneuvering less than 2 miles away. Beria picked the Soviet's first test site in what he described as "uninhabited" Semipalatinsk in Kazakhstan. The area around the site was home to 700,000 farmers and villagers. Between 1949 and 1963 - the year public pressure finally forced the US, USSR, and the UK to sign the Limited Test Ban Treaty in Moscow - the USSR conducted 214 above ground nuclear tests. The vast majority were at the Semipalatinsk site. The US conducted 216 such tests, many of which purposefully irradiated unsuspecting

civilians and military personnel forced to observe the explosions. I remember watching US high altitude tests reported on the news during JFK's presidency. Although I was just a young child, I understood that Britain's air and milk supply would end up with higher levels of radioactive elements (mainly I-131, which can cause thyroid cancer up to 38 years later). What right, I wondered, did JFK have to irradiate my breakfast? The NCI has estimated that these tests may have caused over 200,000 thyroid cancers in the US alone. Independent estimates run as high as 400,000. Living halfway between the US and USSR in the Cold War engendered a depressing sense of powerlessness. We were but pawns in the great game of chess between East and West. At least we were white pawns; so we liked to believe - but the older I get, the more the picture fades to gray.

America's leadership may have been more honest, morally sounder, and more answerable to public pressure than Soviet communists but they were still far from being lily-white angels. US scandals from that period include the 23 tests conducted at Bikini Atoll. Downwind islanders received high enough radiation doses to immediately generate skin burns and reduced blood counts. On islands that received lower fallout, thyroid cancers and leukemias manifested years later. Congress paid just \$45.8 million in compensation to the islanders and the fund ran dry in 2009. Twelve years later they still have not bothered to replenish it. What is regarded as John Wayne's worst film, *The Conqueror*, was filmed on location in Utah, downwind of an old nuclear test site. John Wayne and nearly half the cast and crew subsequently died of cancer (91 of 220 people). When the original tests were conducted a decade earlier, downwind civilians were not evacuated. Other examples of sensitive government owned or regulated installations that have endangered the general public include Chalk River in Canada, Hanford, Three Mile Island, Kyshtym, Windscale, Chernobyl, and Fukushima. The Nuclear Information Service has produced a report titled "Playing with Fire: Nuclear Weapons Incidents and Accidents in the United Kingdom" which lists 110 serious incidents, the most famous of which was the Windscale fire in 1957 (available at: <https://www.nuclearinfo.org/wp-content/uploads/2020/09/playing-with-fire-report-FINAL.pdf>). Previously, the Ministry of Defense had only admitted to 27 incidents, which illustrates well enough that one has to be naïve in the extreme to believe any government will choose to be scrupulously honest when such honesty might prove embarrassing and result in damage to political careers.

Most importantly, we should remember that proximity matters. Risk typically diminishes at least in proportion to the square of the distance from the source. Slotin was a foot away from the plutonium core. A scientist standing ten feet away was penetrated by only 1% as much radiation. Slotin died, the others survived.

I will conclude the introduction with these two questions:

- 1) Is there any rational reason to expect biologists to be more careful than physicists?
- 2) Is there any rational reason to expect today's politicians and bureaucrats to be far more honest and open than yesterday's?

A Brief History of Lab Accidents

“To be a scientist is to be naïve. We are so focused on our search for truth, we fail to consider how few actually want us to find it” –
quote from the 2019 HBO Series *Chernobyl*

Biologists are just as human as physicists. They make mistakes too. As Dr. Scott Gottlieb recently noted, lab leaks “happen all the time”. For instance, there were three smallpox leaks from British labs in the 1970s. The last killed Janet Parker, who worked at a facility in Birmingham. The public is rarely informed of an accident unless it causes severe illness or death. Even then, authorities may be inclined to suppress the truth.

Just as physicists did not appreciate the dangers of radiation during their early research, so too biologists may be caught unawares. In 1967, research staff at a lab in Marburg, Germany, contracted what later became known as Marburg Virus. They had been handling African green monkeys that acted as the intermediary host. The original reservoir host was African fruit bats. Thirty-one people were infected, including family members and medical staff. The outbreak spread to Frankfurt and Belgrade before being contained. Seven people died. Thus, Marburg virus was discovered as a result of a lab exposure. Before then, it was unknown to science.

Another example is the tragic death of chemistry professor Karen Wetterhahn. In 1996 she spilled a few drops of dimethylmercury on her gloved hand. She followed proper safety protocols by immediately washing her hands and cleaning her tools. Yet she died two years later from mercury poisoning. Scientists had not realized latex gloves are not an effective barrier against dimethylmercury. Established protocols were inadequate.

Governments generally prefer to dodge accountability for disasters, so tend by nature to be dishonest in such situations. Exceptions are few and far between. In the case of a fatal lab accident, authorities can be expected to misdirect, evade, obfuscate, and outright lie to evade culpability, particularly when negligent management is a contributing factor. If military research is involved, the requirements of state security provide cover for such behavior. A great example occurred in 1979, when an accidental release of weaponized anthrax from a secret Soviet bioweapons facility in Sverdlovsk killed at least 60 people. CIA intelligence correctly concluded that a leak had occurred. However, Moscow maintained the CIA was foisting an unfounded conspiracy theory on the media to embarrass the USSR. The Kremlin maintained the deaths were natural. The cover story was that anthrax was commonplace in the local wild animal population and the victims unfortunately had ingested contaminated meat. In remote regions like Sverdlovsk, hunters sold their kill at farmers markets. No direct evidence could be offered to counter the Soviet version of events.

The CIA's reputation had been severely tarnished by the findings of the 1975 Church Committee (a Senate investigation of FBI and CIA abuses). Langley decided it could use an independent expert to bolster its claim. Professor Matthew Meselson - an American scientist with excellent credentials – was hired to study the outbreak and produce an independent report. Moscow appeared to be cooperative. Soviet scientists provided Meselson with slides of samples supposedly taken from victims. They were consistent with ingestion. He ended up effectively endorsing the Soviet story but did state that without a thorough independent inspection at the site itself, it was impossible to rule conclusively one way or the other. His support, though qualified, was sufficient to end the controversy. The uncomfortable fact that his support of the official Soviet line relied entirely on the assumption the Soviet scientists had acted as honest brokers – which one would have thought would have been regarded as hopelessly naïve after 62 years of consistent evidence to the contrary – seems to have been ignored. There were more important issues to worry about in 1979. It was only after the USSR collapsed over a decade later that Meselson finally was granted access to the real samples taken from victims' lungs. He then discovered that the Soviets had been running a bioweapons facility known as Compound 19, which manufactured weapons grade anthrax in violation of the 1975 Biological Weapons Convention (BWC). A departing shift had removed a clogged filter on a dryer and left a note instructing the incoming shift to replace it. The new shift missed the note, started up the machine, and spewed dried anthrax up the vent and out of the building, contaminating the entire neighborhood. Over 60 people died.

An even more dangerous lab accident occurred in 1977, though in which lab remains a mystery to this day. The first outbreak of the H1N1 flu virus caused the Spanish Flu pandemic of 1918-19. It killed an estimated 50

million to perhaps as high as 100 million worldwide. H1N1 continued to circulate worldwide for the next 39 years. Thanks to mutation, its virulence declined, until it finally mutated itself to extinction in 1957. For the next 20 years there were no H1N1 outbreaks. However, government labs maintained virus stockpiles 'on ice'. In 1977, an outbreak of a 1949-1950 strain broke out on the Chinese side of the Soviet-Chinese border and then spread into Russia. From there it soon spread worldwide. The only credible explanation for this magical resurrection of the long-deceased scourge is that it leaked from a lab, most likely Chinese. To date, no one has accepted responsibility. Fortunately, this was a relatively mild strain of H1N1 and most who were born before 1957 possessed natural resistance gained from prior exposure.

Another event worth remembering is the anthrax attack one week after 9/11. A highly toxic anthrax strain was mailed to several members of the political and media establishment over a three-week period. This obviously was an attack, not an accident. However, the FBI concluded that the anthrax was a weaponized strain produced by the US Army research lab at Fort Detrick. The prime suspect, a scientist, committed suicide.

The Financial Times has reported that *"In the most secure facilities in the US, the health department and the Centers for Disease Control jointly monitor the use of 67 different types of toxins and other potentially dangerous materials. Their latest report found that in the US in 2019, such substances were lost 13 times and accidentally released 219 times. This led to over 1,000 people undergoing medical assessments, and some taking preventive drugs."*

The Russians weaponized anthrax and suffered an accidental release. The Americans weaponized anthrax and suffered a planned release, probably by a mentally unbalanced scientist. Should we not expect the Chinese to also weaponize anthrax? If you sanction anthrax research, why stop there?

In the late 1990s, two Chinese PLA colonels wrote a book titled "Unrestricted Warfare". The US had recently demonstrated its complete dominance of the conventional theater by easily defeating Saddam Hussein. The Chinese colonels realized that alternative methods were required to counter US power. The book is now required reading in China's military academies. It advocates utilizing non-military techniques to strike at enemies. As the title of the book suggests, any means can be considered to weaken an opponent. The key is to avoid the opponent's greatest strengths. In an interview, one of the authors stated, "the first rule of unrestricted warfare is that there are no rules, with nothing forbidden" (similar to Alinsky's *Rules for Radicals*). Unconventional methods considered in the book include hacking into websites, controlling media narrative, urban warfare, terrorism, and targeting financial institutions. Sun Tzu would be proud to know his teachings still influence Chinese doctrine two and a half thousand years after his death. The conclusion of the preface reads as follows: *"If we acknowledge that the new principles of war are no longer "using armed force to compel the enemy to submit to one's will" but rather a "using all means, including armed force or non-armed force, military or non-military, and lethal and non-lethal means to compel the enemy to accept one's interests", this represents change. A change in war and a change in the mode of war occasioned by this."* China's primary concern was then and still is the US.

With such a doctrine accepted in Chinese military circles, we should expect China's PLA to be running a significant biowarfare program and to be using various forms of intelligence gathering and espionage against Western bioresearch programs. The PLA ought to be running gain of function experiments for dual use purposes. For us to reflexively dismiss such a likelihood would be foolishly naïve. Perhaps such logic is too unpalatable to be faced and accepted in today's woke postmodern world but for Western MSM to denounce any discussion of this potential danger as "xenophobic hate speech" is either moronic or traitorous behavior.

Have safety standards improved dramatically since the 1970s? One would hope so, but there are also many more labs and far more research being conducted than half a century ago. If safety standards have reduced the risk per experiment of an accident by 50% but ten times as many experiments are being conducted, the world will suffer the fallout from five times as many accidents. Between 2005 and 2012, 1,059 incidents that involved the accidental release of pathogens were reported to the CDC. A British investigation logged 40

accidents or blunders - such as sending dengue virus through the post - between June 2015 and July 2017. That is a rate of one mistake every two to three weeks in the UK alone.

In China's case, should we assume their scientists all perfectionists who never cut corners for convenience's sake, never work when tired and error prone, never ignore safety protocols, that their protocols are failsafe, and that even its students, without exception, are all well trained? Keep in mind, China has been rapidly expanding the number of facilities and scientists working in bioscience, yet had no experience running a BSL-4 facility prior to 2014.

Take SARS as an example. Research began in labs around the world after the 2002-3 epidemic. Six accidents in three different labs occurred in just the first two years. Four of those infections occurred in a single lab in Beijing. All but one involved students.

In 2003, a 3rd year doctoral student at the National University of Singapore contracted SARS whilst conducting experiments on West Nile Virus at the Environmental Health Institute's BSL-3 lab. He was given just twenty minutes training on safety protocols, was left unsupervised in the lab, and the lab was storing BSL-3 level pathogens in an adjacent BSL-2 lab, as it happened to have spare room in its freezer. Singapore enjoys a superbly run healthcare system that is as well prepared as any country to deal with an epidemic, yet its system still allowed two foolish errors that in combination, courted disaster.

Also in 2003, a senior, highly experienced 44-year-old military researcher in Taiwan caught SARS when he broke several biosafety rules, mishandled lab equipment, and ignored protective equipment safety protocols. He flew to Singapore and back whilst infected. When he fell ill, he chose to self-medicate at home, as he was afraid his lab would suffer "loss of face" if his illness were to be made public. He only checked into a hospital after his father threatened to commit suicide if he continued to refuse. Although this highly experienced scientist earned his PhD at John Hopkins, he exhibited extremely poor judgment and consistently negligent behavior. This illustrates that even the combination of a high qualification and long experience does not guarantee a scientist will always adhere to safety protocols. Brilliant minds can exhibit appallingly poor judgment. The human factor is key.

The really ugly accident occurred in Beijing. Four students at the National Institute of Virology in Beijing – which had both a BSL-3 and an adjacent BSL-2 lab - were infected with SARS in separate incidents over a three-month period in 2004. A microscope in the BSL-2 lab became infected with SARS (which should not be present in any lab below BSL-3) due to multiple breaches of biosafety regulations. The contamination was only detected after the 4th infected student also infected her mother. The mother died and a hospital nurse who had been treating the student was also infected. The nurse in turn infected others, who in turn infected a 4th generation. In total, one person died, eleven were infected, and 1000 people had to be traced and quarantined in two cities hundreds of miles apart. If this had been SARS-CoV-2 instead of the much less contagious SARS-CoV, a global pandemic most likely would have been triggered.

An excellent review of all three events, titled *The Good, the Bad, and the Ugly: a review of SARS Lab Escapes*, authored by Gilles Demaneuf, was published in November 2020. I recommend reading it in full, preferably two or three times to make sure the implications really sink in. It can be downloaded from:

<https://gillesdemaneuf.medium.com/the-good-the-bad-and-the-ugly-a-review-of-sars-lab-escapes-898d203d175d>.

Note that in Singapore's case [the good], a thorough review was conducted in public, led by a WHO expert. Lessons were learned and improved protocols were developed and implemented. The WHO also issued a report in reaction to the Singapore leak, which stated in the introduction "The possibility that a SARS outbreak could occur following a laboratory accident is a risk of considerable importance, given the relatively large number of laboratories currently conducting research using the SARS-CoV or retaining specimens from SARS patients. These laboratories currently represent the greatest threat for renewed SARS-CoV transmission through accidental exposure associated with breaches in laboratory biosafety". That December, the WHO

issued a new protocol for handling SARS specimens. I was in Singapore in February 2020 and was enormously impressed by the quality of the government's response in the early stages of the pandemic. Every government should study Singapore's approach in detail.

In Taiwan's case [the bad], a thorough investigation was conducted and the report was made public. WHO experts were brought in to assist with the investigation. Taiwan also sought help from US and Japanese experts. Major improvements in safety protocols were recommended. The WHO lead investigator later stated, "It hasn't been a disaster but it could have been".

In the Beijing case [extremely ugly], the report was poorly conducted, incomplete, was kept opaque behind closed doors, and was never fully published. The WHO appears to have been used merely to provide a veneer of international cooperation. Those who enjoyed sufficient influence within the CCP, rather than being held accountable, escaped meaningful sanction and were later promoted.

The poor safety record of China's existing labs was a key reason why the CCP committed in 2003 to build China's first BSL-4 lab under French supervision. The highly respected Wuhan Institute of Virology was chosen as the site for this lab and Shi Zhengli chosen as its first director.

I will conclude this chapter with two questions:

- 1) In today's world, would respected Chinese scientists be prepared to work on a project that is banned by international treaty?
- 2) If an accident occurred, would China's scientists support a CCP conspiracy to hide the true facts from the international community?

In other words, should we expect Chinese scientists to act in the same manner as Soviet scientists back in 1979? That is, of course, a rhetorical question.

Chinese Law: Security Implications for the West

“To secure its leadership role and unite the country in upholding and developing socialism with Chinese characteristics, our Party should make national security its top priority” – Xi Jinping

In case you worry I might be unfairly besmirching the reputation of fine, dedicated Chinese scientists, such as Shi Zhengli, consider the following undeniable facts of Chinese law:

Article 1 of the Chinese Constitution reads as follows: “The People's Republic of China is a socialist state under the people's democratic dictatorship led by the working class and based on the alliance of workers and peasants. The socialist system is the basic system of the People's Republic of China. Sabotage of the socialist system by any organization or individual is prohibited.” That is, it is illegal to oppose the CCP.

Article 2: “All power in the People's Republic of China belongs to the people. The organs through which the people exercise state power are the National People's Congress and the local people's congresses at different levels. The people administer state affairs and manage economic, cultural and social affairs through various channels and in various ways in accordance with the law.” In short, there is no limit constraining the power of the CCP. The CCP legitimizes its absolute power by claiming it is only exercised on behalf of the people.

Article 5 reads in part: “No law or administrative or local rules and regulations shall contravene the constitution. All state organs, the armed forces, all political parties and public organizations and all enterprises and undertakings must abide by the Constitution and the law.... No organization or individual may enjoy the privilege of being above the Constitution and the law.”

Linking article 5 back to articles 1 and 2, every organization and individual must accept that the CCP is all powerful. Disobeying instructions issued by the CCP is tantamount to sabotage of the socialist system and hence a punishable crime.

Articles 52, 53 and 54 instruct that all Chinese citizens have a duty to protect the unity of the country, keep state secrets, and “must not commit acts detrimental to the security, honor and interests of the motherland”.

In case the implications of the constitution might be considered too nebulous, the China's National Intelligence Law, which became law in July 2017, mandates in Article 7 that “Any organization or citizen shall support, assist with, and cooperate with state intelligence work in accordance with the law” and “The State commends and rewards individuals and organizations that have made significant contributions to national intelligence work”. Article 14 further states that “state intelligence work organizations, when legally carrying forth intelligence work, may demand that relevant organs, organizations, or citizens provide needed support, assistance and cooperation”.

In 2014 and again in 2017, the CCP reminded companies that they must assist the government in intelligence and security matters. In September 2020, Xi called for companies to operate “a backbone team of private businesspeople that is dependable and usable at key moments”. The intelligence law also explicitly states that private enterprises may be instructed to embed staff in organizations overseas for intelligence gathering purposes.

At a public panel discussion in July 2020, FBI Director Christopher Wray stated that “At this very moment, China is working to compromise American health care organizations, pharmaceutical companies and academic institutions conducting essential COVID-19 research.” He went on to observe that all 56 of the FBI's field offices were conducting investigations of Chinese spying and that out of nearly 5,000 active counterintelligence cases, approximately half involved China. The dire implications of Chinese laws are obvious. If a Chinese scientist is ordered by an organ of the CCP to lie as a matter of state security, it would be illegal to disobey. Furthermore, should state intelligence ask a Chinese scientist to gather intelligence abroad on behalf of the motherland, it would be illegal to refuse. The FBI's workload proves that this is not just a theoretical problem for the West. The CCP is China's church and Xi its pope. To oppose or even just refuse their demands is heresy (see: <https://www.lawfareblog.com/beijings-new-national-intelligence-law-defense-offense>).

The Wuhan Institute of Virology

“Cesium, iodine from the Chernobyl reactor accident went around the world many times and everyone on the Earth has a piece of Chernobyl in their bodies, but it’s very tiny – too small to cause much damage” – Michio Kaku, US theoretical physicist.

The Wuhan Institute of Virology (WIV) was founded in 1956 as the Wuhan Microbiology Laboratory. Over time it developed a reputation as, according to US microbiologist Richard Ebright, a “world-class research institution that does world-class research in virology and immunology”. It currently operates 4 research centers - the Center for Molecular Virology and Pathology, the Center for Analytical Microbiology and Nanobiology, the Center for Microorganisms Resources and Bioinformatics and the Center for Emerging Infectious Diseases. The support department is made up of the Microorganisms and Virus Culture Collection Center (MVCCC), the Core Facility Center, and the Wuhan National Biosafety Laboratory. MVCCC is also the "National Culture Collection Center" designated by the Ministry of Science and Technology and the Ministry of Finance.

In 2003 the Chinese Academy of Sciences announced a plan to build China’s first level-4 lab with financial and technical support from the French government’s CIRI lab. It would take another decade to plan and construct. As of 2010, there were only 42 BSL-4 labs worldwide, including 11 in the USA with another 2 US labs under construction (for list, see: <https://www.virtualbiosecuritycenter.org/education-center/us-bsl-laboratories/>). This April, the CCP’s Ministry of Science and Technology announced plans to build three new BSL-4 labs and 88 BSL-3 labs in China.

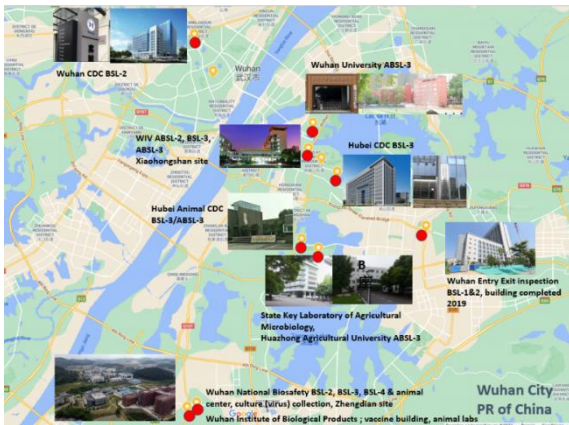
Like many other research facilities in China, the WIV decided soon after the 2002-3 SARS epidemic to commit a significant research effort to the problem of SARS and bat coronaviruses in general. Their most famous scientist is Dr. Shi Zhengli, who has dedicated her career to the study of bat coronaviruses and is regarded as one of the world’s foremost experts in the field. She has coauthored over 130 papers on the subject. In 2000, Shi was awarded her PhD by the University of Montpellier. In 2011, she was appointed director of the Center for Emerging Diseases, which primarily utilizes the BSL-4 lab. In 2013, she was appointed director of the WIV’s BSL-3 lab. In 2014, she was appointed director of the Committee of Biosafety and director of the CAS Key Laboratory of Special Pathogens. In 2015, she was appointed vice-director of the BSL-4 lab. Dr. Shi currently holds all these appointments and is also a visiting lecturer for graduate students. On top of all those responsibilities, Dr. Shi has also worked on a number of editorial boards since 2001. Is she over-stretched? She dropped her role as editor in chief of *Virologica Sinica* in 2019, so perhaps her numerous responsibilities had over-extended her. Shi’s team has spent nearly two decades scouring caves across southern China, where they collected over 16,000 bat fecal and blood samples for analysis back in Wuhan. As a result of her single-minded determination, Shi acquired the moniker ‘batwoman’ and the WIV possesses the world’s greatest inventory of bat coronaviruses.

A site for the BSL-4 lab was chosen 30 km. southwest of Wuhan in the Jiangxia district. It was built to a French design, with French oversight, and was completed in 2014. Construction was plagued by delays due to the fact the Chinese repeatedly violated their agreement with the French. It had been agreed that RTV, a French company with BSL-4 experience, would build the facility; instead, China switched to a Hubei based company, IPPR Engineering International, which was linked to the Chinese military. This breach of the agreement caused French intelligence to warn that the facility might well end up being used for military bioweapons purposes. At least one Chinese scientist has disclosed that the Chinese team failed to strictly execute on the French design. Although China had zero experience designing, building, or operating a level 4 facility, the developers introduced their own design innovations. Perhaps those were all completely sound but how do we know? The work was done in secret, without international oversight. It was expected that Chinese scientists would be trained in safety protocols at a BSL-4 lab in Lyon and that French scientists would also actively work and advise in the Wuhan lab itself. According to a French official stationed in the Wuhan consulate, “The intent was to set up a lab to international standards and open to international research” and that operation of the lab. would be “open and transparent” to the international scientific community. Instead, once the initial batch of Chinese scientists had been fully trained in France, French personnel in Wuhan were booted out in 2016. That naturally set off alarm bells once more in France’s intelligence community. In the US, Anthony Fauci and Peter

Daszak do not seem to have been at all perturbed, as they continued to fund WIV projects. When one considers that the CCP forbids foreign audits of China's private sector companies that are listed in US or European markets, it should not be a surprise that the CCP would never allow international oversight of a CCP owned facility that is the only (known) BSL-4 lab available for military research.

On the issue of safety, the WIV was criticized by foreign observers, prior to the pandemic, for exhibiting lax safety standards. There is plenty of evidence that Shi Zhengli and her staff were extremely careless out in the field. Shi has stated in interviews that she would enter caves without adequate protective clothing and come out with her hair splattered in bat feces. Photos taken on field trips show researchers working without gloves or masks whilst collecting samples. A report aired on Chinese state TV back in 2017 included footage of a scientist's swollen arm from a bat bite and scientists admitting that they had been bitten and splattered with bat blood (see: <https://www.taiwannews.com.tw/en/news/4102619>). Shi even commented on TV that she considered the risk of contracting an infection to generally be very low. Maureen Miller, an epidemiologist from Columbia University who has worked closely with Shi over the years and highly respects both her capabilities and dedication, nevertheless admitted to Time Magazine that she witnessed Shi using just BSL-2 level protection when handling a SL-CoV. Miller told Time "That is a BSL far too low for work with an agent of pandemic potential". Shi has admitted to conducting coronavirus research in the WIV's BSL-2 lab.

As of June 2021, the WIV employed 39 research fellows. Most were awarded PhDs in 1999 or later. The institute also runs graduate and post-doctorate programs. One French scientist who visited Wuhan noted that a researcher may oversee 20 students, whereas in France it would typically be no more than three. According to the Institute's web site, it had 268 employees and 325 graduate students as of August 2020, for a total of 593 people. According to DRASTIC, the WIV's animal experimentation center at the Zhengdian site, where the BSL-4 lab is also located, had 3,268 cages, which included 12 ferret cages and 12 bat cages. The photos I saw in January 2020 had far more than just 12 bat cages but may have been from another WIV building, as the institute has two other animal labs at its Xiaohongshan site in the Wuchang district. The animal center was built in 1996. Back then, building standards in China were appalling. The country was expanding its infrastructure at breakneck speed and most construction workers were fresh off the family farm. Laborers knew how to plant rice but not how to mix concrete or run a sewer line. On my first trip to China in 2010, I witnessed dangerous wiring and leaking plumbing in numerous newly constructed buildings. Back then, Chinese building standards were the worst I have ever observed anywhere in the world. Over the next decade, construction crews learned their trade and quality vastly improved.



Other facilities in Wuhan that may have been experimenting with SL-CoV samples in 2019 include the Wuhan Center for Disease Control & Prevention (WCDPCP). It has a BSL-2 lab located just a few hundred yards distance from the Huanan Fish Market. The WCDPCP is a branch of the Center for Disease Control and Prevention (CCDCP), which is run by the National Health Commission. The CDC's Hubei (provincial) BSL-3 lab is located southwest of the WIV headquarters and Wuhan University. The Wuhan Institute of Biological Engineering, which was founded in 1993 and is one of China's top educational institutions, also conducts animal research. Wuhan University has a number of laboratories, including an ABSL-3 animal laboratory located in

Wuchang District, which is close to the epicenter of the initial outbreak. There is also the BSL-3 National Key Laboratory of Agricultural Microbiology at the Huazhong Agricultural University. Finally, the Wuhan Institute of Biological Products (WIBP), which is part of the Sinopharm Group, is located in the Jiangxia district at the Zhengdian Gold Industrial Park, which is located next to the WIV's BSL-4 lab. It has a staff of over 1,100 and specializes in vaccine research that is largely supported by government funding. Though it has extensive animal houses, it appears to use labs at other facilities around town. In the past, the WIBP has been accused of being involved in biodefense programs and dual-purpose research. It also has a close working relationship

with its WIV neighbor. The WIBP had been located in the Wuchang district up until 2016, so many of its staff still live there and bus to the new campus each day. The WIV also runs a shuttle service from its Wuchang campus to the new Jiangxia site.

It is possible that in 2019, the WIV or another research institution in Wuhan was using an ABSL-3 lab for serial passaging of pathogens through an intermediate species as part of a gain of function program. If such a program was sensitive and under PLA direction, none of the research would have been published in scientific journals.

In conclusion, Shi may have a well-earned reputation as a brilliant, dedicated, and well-meaning scientist, a world-renowned expert in the field of bat coronaviruses – China's Marie Curie of bat research - but there is evidence her attitude towards biosafety has been dangerously cavalier. Leadership sets by example a standard for its entire organization to follow. American embassy officials in China issued two warnings in 2018 concerning inadequate safety measures at the WIV.

The CCP used French know-how to build the facility and train its staff, then ejected them. Acting in such brazen bad faith indicates the CCP prioritized keeping at least some WIV projects secret. Until proven otherwise, it would be prudent to assume these were military biowarfare or dual-use projects. French intelligence did warn of this prospect prior to the agreement being signed and again in 2016. To anyone who would believe otherwise, I would suggest studying real world application of John Nash's 1950 paper "Equilibrium points in n-person games". It was not by pure chance the paper ultimately won him a Nobel Prize.

In the chapters that follow, I will endeavor to make the case that SARS-CoV-2 from a WIV laboratory accident has gone around the world many times and everyone on the Earth eventually will ingest a piece in their bodies. Though the piece is very tiny, it has not been too small to cause a lot of damage.

Timeline of Relevant Coronavirus Research

"The Capitalists will sell us the rope with which we will hang them." – Vladimir Lenin

2004

In 2004 a team of Chinese scientists developed a novel screening method to efficiently study the mechanisms by which SARS-CoV (the human SARS virus that caused the 2002 epidemic) infects host cells. The process combines chromatography-mass spectrometry and a pseudotyped virus infection assay to create an artificial chimera virus described as "an HIV-luc/SARS pseudotyped virus". The team reported their new technique in Yi et al.'s *Small Molecules Blocking the Entry of Severe Acute Respiratory Syndrome Coronavirus into Host Cells*. The paper described the process as "highly sensitive, rapid, and reproducible; the materials are safe to handle and can be used for high throughput screening". The paper is available at:

<https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC521800&blobtype=pdf>.

Also in 2004, a patent application was filed by the Research Development Foundation, titled "*Insertion of Furin Protease Cleavage Sites in Membrane Proteins and Uses Thereof*". Dennis T Brown was listed as the inventor. Patent number US72222339OB2 was granted. In China, patent number CN100385011C was awarded. The patent described a new method to insert a polybasic furin cleavage site into a protein.

2005

In 2005, 17 scientists published a groundbreaking paper titled *Bats are Natural Reservoirs of SARS-Like Coronaviruses*. Their paper provided research evidence that a SARS-like coronavirus (SL-CoV) in bats was the likely original source virus for the 2002 SARS outbreak in humans. Ten of the scientists were Chinese, of which seven were associated with the WIV, including Shi Zhengli. The international contribution was from two Australian institutions and Peter Daszak at the New York based Consortium for Conservation Medicine. This paper can be downloaded from: <https://pubmed.ncbi.nlm.nih.gov/16195424/>.

Also in 2005, a team of Chinese scientists from several Chinese institutions, including two from the WIV, published a paper titled *Identification of Two Critical Amino Acid Residues of the Severe Acute Respiratory Syndrome Coronavirus Spike Protein for Its Variation in Zoonotic Tropism Transition via a Double Substitution Strategy*. Their research established that positions 479 and 487 of the SARS-CoV spike protein are "essential for human ACE2-mediated" infection by SARS-CoV. This was an important discovery. However, to achieve this finding, the team created chimeric viruses by substituting amino acids from human SARS into palm civet SARS and vice versa. The method they used was based on the new screening technique that had been developed by Yi in Beijing the year before, which involved lab generation of HIV-1/SARS pseudotyped viruses. This paper can be downloaded from: <https://www.jbc.org/action/showPdf?pii=S0021-9258%2820%2956384-9>.

2007

In 2007 Shi Zhengli was one of ten Chinese scientists who submitted a paper titled *Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) and SARS-Like Coronavirus of Bat Origin* to the Journal of Virology. Their research established that the SARS-like coronaviruses (SARSr-CoV) they had sampled from horseshoe bats in a single cave in Yunnan were very similar to SARS-CoV. However, the SARSr-CoV's spike proteins were unable to bind to human ACE2 (hACE2) cells. Also, they discovered that the SARS-CoV's spike protein could not bind to bat ACE2 cells. The researchers then replaced a sequence within the RBD region of SARSr-CoV (the bat coronavirus) with the (human) SARS-CoV sequence. This created a new, chimeric virus. It was found that this lab produced hybrid was a SL-CoV (SARS-like CoV) which could use hACE2 for cell entry. The WIV thus had produced a novel virus that had been optimized to infect humans. Shi's team also determined that it was "necessary and sufficient" to replace a short region of the spike protein – amino acids 310 to 518 – to convert the bat CoV into a chimeric version that could bind with hACE2. This paper can be downloaded from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2258702/pdf/1085-07.pdf>.

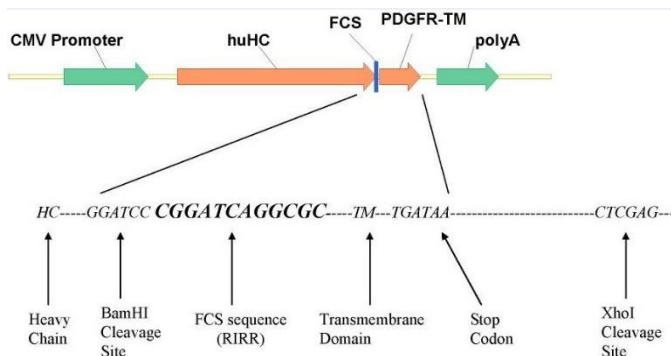
It should be noted that although such gain of function research has become highly controversial, there were sound scientific reasons for conducting the experiment. The worry though, is that by routinely experimenting in such fashion, scientists may end up not only populating Pandora's box but also accidentally opening it. For this reason, very strict international oversight should long ago have been imposed on all such facilities. Unfortunately, the likelihood that Xi Jinping's CCP will ever agree to international oversight of any lab in China is close to zero.

2008

In December 2008, Ralph Baric's team at the University of North Carolina published *Synthetic recombinant bat SARS-like coronavirus is infectious in cultured cells and in mice*. The article described how they replaced the spike receptor binding domain (RBD) in a bat SL-CoV with SARS-CoV's RBD. The SL-CoV could not infect hACE2 but this lab produced chimera was found to be "infectious in cell culture and in mice". The article is available at: <https://www.pnas.org/content/pnas/105/50/19944.full.pdf>.

2013

In 2013, both Peter Daszak and Shi Zhengli were contributors, along with 18 other scientists, to a paper titled *Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor*. This paper revealed that Shi Zhengli's team had discovered two bat coronaviruses, RsSHCO14 and Rs3367, which are very closely related to SARS-CoV. The bats samples were taken from the Yunnan cave in 2011 and 2012. The paper's abstract states "Our results provide the strongest evidence to date that Chinese horseshoe bats are natural reservoirs of SARS-CoV, and that intermediate hosts may not be necessary for direct human infection by some bat SL-CoVs." Shi managed to isolate the Rs3367 virus. This cultured version was classified as SARS-CoV-WIV1. It is 99% identical to Rs3367 and has over 95% genome sequence identity with both human and civet SARS-CoVs. In vitro testing revealed that WIV1 could gain cell entry via ACE2 cells of humans, civets, and horseshoe bats. This demonstrated that some bats were natural reservoirs for coronaviruses that were capable of directly infecting humans, without the need for some intermediary host such as a civet, pangolin, snake, or camel. This was the first time a SL-CoV from a wild bat was shown to bind to hACE2. The paper can be downloaded from: <https://pubmed.ncbi.nlm.nih.gov/24172901/>. Rs3367 can be found on the NCBI virus database under accession number KC881006 and taxonomy ID 1415834; the entire 29,792 base genome was submitted on November 22, 2013. On the same day, Shi also submitted RsSHCO14's entire 29,787 base genome under accession number KC881005 and taxonomy ID 1415851. WIV1 was submitted on November 6 and assigned an accession number of KF367457 and taxonomy ID 1415852. It can be found at: <https://www.ncbi.nlm.nih.gov/genome/?term=KF367457>.



In November 2013, Y. Zhou et al. published a paper titled *Simultaneous Expression of Displayed and Secreted Antibodies for Antibody Screen* in PLOS, an open access online journal. It can be downloaded from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3823846/pdf/pone.0080005.pdf>. Jiang Shibo and Liu Shuwen were co-authors. The paper described a technique the team had developed to insert a 12-base pair nucleotide sequence into DNA, creating a furin cleavage site (genetic code: 5'-CGGATCAGGCGC-3', which codes for RIRR). SARS-CoV and every SL-CoV that had so far

been discovered lacked a furin cleavage site at the junction of the S1 and S2 domains of the spike protein. That was fortunate for humanity, as scientists understood that introduction of such a site would significantly increase a CoV's ability to successfully penetrate a hACE2 cell – i.e. it would render an SL-CoV much more infectious. Unfortunately, by 2013, scientists had developed both a means to artificially insert furin at the correct spot and the ability to clone the resulting virus. Military researchers could not be expected to ignore the

technique's potential. They have to experiment as a matter of biodefense. It would be naïve to assume the PLA ignored this development. Of course, biodefense research is also bio-offense research. Whether discoveries are used for the former or latter purpose is a matter of political rather than scientific choice.

Zhou led a team of 12 Chinese scientists which included Jiang Shibo, a senior Chinese scientist and extremely important figure in SARS-related research. In the paper's credits, Jiang was identified as working both for a medical division of Fudan University in Shanghai and for the Lindsley F. Kimball Research Institute (henceforth LFKRI) in New York. Today, Jiang is director of the Institute of Medical Microbiology at Fudan University. As a student, he attended the First and Fourth Medical University of the PLA. Since then, he has maintained close ties to the PLA throughout his career. Upon graduating in 1987, he moved to the US for postdoctoral training at Rockefeller University. In 1990 he joined the LFKRI. He spent two decades in New York and during that time invited a number of PLA affiliated scientists to be trained there. One example is Liu Shuwen, who was affiliated with the First Military Medical University. Jiang returned to China in late 2010 and joined Fudan University, where his major interests have been the development of drugs and vaccines against HIV, SARS, RSV, HPV, and influenza. In February 2021, Jiang was elected to the American Academy of Microbiology. He has also been recipient of substantial research grants over the years from Dr. Anthony Fauci's NIAID.

To summarize progress by 2013, the WIV had ascertained bats were the likely original reservoir for the 2002 SARS outbreak and that although an intermediary host may have been involved, the initial spillover event could have been direct bat to human. The institute demonstrated as early as 2007 a 'gain of function' ability to optimize a SARS-like coronavirus for hACE2 entry. It identified in 2005 that positions 479 and 487 of the SARS-CoV spike protein as "essential for human ACE2-mediated" infection. Rs3367 was the closest relative yet found to human SARS-CoV. The WIV had successfully cultured it as WIV1 and discovered it could gain entry via hACE2 cells. The next closest relative was RsSHCO14, which had not been successfully cultured and could not attach to hACE2. SHCO14 and Rs3367 shared an 85% and 96% amino acid sequence identity respectively with SARS-CoV in the important RBD region of their spike proteins, with no deletions and perfect alignment. Their entire genomes of all three had been sequenced and published. Finally, a laboratory method that could be used to insert a polybasic furin cleavage site at the junction of the S1 and S2 domains of a SL-CoV had been developed.

2015

In December 2015, Shi Zhengli was a contributor on a team of 15 scientists who published a research paper titled *A SARS-like cluster of circulating bat coronaviruses shows potential for human emergence*. The majority of this team was from the University of North Carolina. Ralph Baric at UNC has had a long collaborative relationship with Shi and helped train her in gain of function techniques. Other contributors included a scientist from Harvard, another from the Bellinzona Institute in Zurich, and a second WIV researcher. The paper described how they took a SARS-like virus, SHCO14 (from horseshoe bats in Yunnan, as described in the 2013 paper), which could not infect hACE2 cells, and then manufactured a highly virulent chimeric, mouse adapted virus in the lab. They named this lab produced virus SHC014-MA15. They found it could bind to human, civet, and bat ACE2 cells. The paper's abstract explained that:

"Using the SARS-CoV reverse genetics system², we generated and characterized a chimeric virus expressing the spike of bat coronavirus SHCO14 in a mouse-adapted SARS-CoV backbone. The results indicate that group 2b viruses encoding the SHCO14 spike in a wild-type backbone can efficiently use multiple orthologs of the SARS receptor human angiotensin converting enzyme II (ACE2), replicate efficiently in primary human airway cells and achieve in vitro titers equivalent to epidemic strains of SARS-CoV. Additionally, in vivo experiments demonstrate replication of the chimeric virus in mouse lung with notable pathogenesis. Evaluation of available SARS-based immune-therapeutic and prophylactic modalities revealed poor efficacy; both monoclonal antibody and vaccine approaches failed to neutralize and protect from infection with CoVs using the novel spike protein."

After Ron Fouchier at the Erasmus Medical Center in Rotterdam used \$400 million in Pentagon funding to create a mutant H5N1 virus in 2011, the Obama Administration in October 2014 announced a pause on gain of function research. The primary viruses of concern were flu, MERS, and SARS. Thus, this new paper caused a bit of an uproar in medical circles.

Nature Magazine's November 12, 2015, issue ran an article that noted:

"Although the extent of any risk is difficult to assess, Simon Wain-Hobson, a virologist at the Pasteur Institute in Paris, points out that the researchers have created a novel virus that "grows remarkably well" in human cells. He also warned, "If the virus escaped, nobody could predict the trajectory".

As a result of the pause order, the NIH informed labs that were working on research which potentially could be classified as 'gain of function' to halt research immediately, pending a review process by the NIH. Shi's team at the WIV had been receiving US funding since 2014 via a NIAID administered grant to Peter Daszak's EcoHealth Alliance. The grant was approximately \$600,000 per year and totaled \$3.7 million between 2014 and 2019. There does not seem to have been any pause in funding during this period. The NIAID is an NIH subagency which is managed by Dr. Anthony Fauci. If the good doctors Fauci and Daszak offshored US funded gain of function research in order to squeeze around Obama's halt, surely it was because they believed they knew better? They were working for the greater good of mankind.

By 2017, HHS had formed the P3CO oversight committee to evaluate grants that might involve gain-of-function work. Fauci's NIAID never submitted Peter Daszak's grant for review. Was Daszak's grant funding manipulation of coronaviruses for gain of function? In December 2019 he participated in a podcast in Singapore in which he stated "You can manipulate them in the lab pretty easily. Spike protein drives a lot of what happens with the coronavirus. Zoonotic risk. So, you can get the sequence, you can build the protein – and we work with Ralph Baric [University of North Carolina] to do this – and insert the backbone of another virus and do some work in the lab." Well, when a scientist builds a novel spike protein and inserts it into another virus, it is either to study gain of function or loss of function. Those are the only two possibilities of interest in most cases. Scientists would rarely expend effort conducting an experiment where no change in function is expected. In SHC014-MA15, the WIV manufactured a potentially devastating gain of function.

DESCRIPTION

DETAILS

RESULTS

HISTORY

SUBPROJECTS

SIMILAR PROJECTS

NEARBY PROJECTS

BETA

LINKS

NEWS AND MORE

Project Number:

2R01AI110964-06

Title:

UNDERSTANDING THE RISK OF BAT CORONAVIRUS EMERGENCE

Contact PI / Project Leader:

[DASZAK, PETER](#)

Awardee Organization:

ECOHEALTH ALLIANCE, INC.

Total project funding amount for 6 projects is **\$3,748,715***

* Only NIH, CDC, and FDA funding data.

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Project Number	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC
2R01AI110964-06		UNDERSTANDING THE RISK OF BAT CORONAVIRUS EMERGENCE	DASZAK, PETER	ECOHEALTH ALLIANCE, INC.	2019	NIAID	NIAID	\$661,980
5R01AI110964-05		UNDERSTANDING THE RISK OF BAT CORONAVIRUS EMERGENCE	DASZAK, PETER	ECOHEALTH ALLIANCE, INC.	2018	NIAID	NIAID	\$581,646
5R01AI110964-04		UNDERSTANDING THE RISK OF BAT CORONAVIRUS EMERGENCE	DASZAK, PETER	ECOHEALTH ALLIANCE, INC.	2017	NIAID	NIAID	\$597,112
5R01AI110964-03		UNDERSTANDING THE RISK OF BAT CORONAVIRUS EMERGENCE	DASZAK, PETER	ECOHEALTH ALLIANCE, INC.	2016	NIAID	NIAID	\$611,090
5R01AI110964-02		UNDERSTANDING THE RISK OF BAT CORONAVIRUS EMERGENCE	DASZAK, PETER	ECOHEALTH ALLIANCE, INC.	2015	NIAID	NIAID	\$630,445
1R01AI110964-01		UNDERSTANDING THE RISK OF BAT CORONAVIRUS EMERGENCE	DASZAK, PETER	ECOHEALTH ALLIANCE, INC.	2014	NIAID	NIAID	\$666,442

Daszak's grant was financed under nine different NIH spending categories but the first listed was biodefense. Of course, in practice, there is absolutely no way of differentiating between bioresearch for defensive purposes

and bioresearch for offensive purposes. The term biodefense is hence a euphemism. The Department of Defense (nearly \$39 million between 2013 and 2020) and the State Department's USAID agency (\$64,700,000) have been EcoHealth's two biggest funding sources. In addition to the WIV, EcoHealth's grants were also directed to Ralph Baric's team at the University of North Carolina and Du Lanying at the LFKRI.

In April 2020, the White House ordered Dr. Fauci to cancel all Daszak's funding, which amounted to \$3.7 million for 2020 alone. As of 2020, his organization had received over \$123 million in Federal funding (see: <https://www.timesnownews.com/international/article/pentagon-gave-usd-39-million-to-peter-daszaks-ngo-that-funded-coronavirus-research-at-wuhan-lab/766933>).

2016

On January 1, 2016, a team of 14 Chinese scientists submitted a research article to Virologica Sinica titled *Coexistence of multiple coronaviruses in several bat colonies in an abandoned mineshaft*. Ten of the scientists were employed at the WIV. Shi Zhengli was a contributor. Back in 2012, Shi's team had visited a mineshaft in Tongguan after being notified six miners had been hospitalized with serious SARS-like pneumonia symptoms. Three of the miners had died. The article's abstract explained:

"We conducted a surveillance of coronaviruses in bats in an abandoned mineshaft [the Tongguan mineshaft] in Mojiang County, Yunnan Province, China, from 2012–2013. Six bat species were frequently detected in the cave: *Rhinolophus sinicus*, *Rhinolophus affinis*, *Hipposideros pomona*, *Miniopterus schreibersii*, *Miniopterus fuliginosus*, and *Miniopterus fuscus*. By sequencing PCR products of the coronavirus RNA-dependent RNA polymerase gene (RdRp), we found a high frequency of infection by a diverse group of coronaviruses in different bat species in the mineshaft. Sequenced partial RdRp fragments had 80%–99% nucleic acid sequence identity with well-characterized Alphacoronavirus species, including BtCoV HKU2, BtCoV HKU8, and BtCoV1, and unassigned species BtCoV HKU7 and BtCoV HKU10. Additionally, the surveillance identified two unclassified betacoronaviruses, one new strain of SARS-like coronavirus, and one potentially new betacoronavirus species. Furthermore, coronavirus co-infection was detected in all six bat species, a phenomenon that fosters recombination and promotes the emergence of novel virus strains. Our findings highlight the importance of bats as natural reservoirs of coronaviruses and the potentially zoonotic source of viral pathogens".

Features	COVID-19	Six pneumonia patients (master thesis 2013)
Major symptoms		
Fever	✓	✓
Dyspnoea/Fatigue	✓	✓
Cough	✓	✓
Minor symptoms		
Sputum/bloody sputum	/in some cases	✓
headache	(in some)	(in some)
ARDS	✓	✓
Laboratory results		
lymphocytes	decrease	decrease
Serum amyloid A protein, mg/L	High values	High values
D-dimer, mg/L	High value	High value
Radiology		
Chest C. T. scan prominent picture	Ground glass opacities, bilateral pneumonia, peripheral consolidation	Ground glass opacities, bilateral pneumonia, peripheral consolidation
Complications		
Pulmonary thromboembolism	✓	✓
Vascular complications	✓	✓
Hypoxia	✓	✓
Secondary infections (bacterial, fungal)	✓	✓
Role of age	✓	✓
Co-morbidities	✓	✓
Male sex	✓	All were males
Reason of death	Cardiac arrest, ARDS, pulmonary failure	Cardiac arrest, ARDS, pulmonary failure

The team identified 150 partial alphacoronavirus sequences and two betacoronaviruses, one of which was SARS-like. This they named RaBtCoV/4991. A short partial sequence of the RdRp region was published to GenBank under accession number KP876546 and taxonomy 1788497. Strangely, the WIV published no further research on RaBtCoV/4991 until January 20, 2020, at which time Shi gave it a new name – BatCoV RaTG13.

The Chengdu Military Region CDC was sent blood samples from two of the miners to analyze. PLA doctors confirmed SARS-CoV was not present. This alerted the PLA a novel pathogen was likely involved.

Official reporting on the mine incident is scant. What detail we have is thanks to two students. Dr. Li Xu's 2013 master's thesis was on the subject of the miners' medical treatment. A chapter in Canping Huang's PhD thesis covered the same subject. We also know the mine was later closed, is being policed, and is still off-limits to international scientists and media.

Why did it take four years for Shi to publish her first paper on the Tongguan research? Her team's 2012 sampling of a Yunnan bat cave resulted in a paper just a year later and a second paper in 2015.

Since the team now had identified a third SL-CoV, this time from a new location, are we to believe Shi really ignored RaBtCoV/4991? Is it more likely true that research did continue but Shi did not publish? Perhaps the cave attracted PLA attention and the work was deemed classified? To date, we have no way of knowing one way or the other, since the CCP has cut international access to both scientists and records.

	U	C	A	G	
U	UUU } Phe UUC } UUA } Leu UUG }	UCU } Ser UCC } UCA } UCG }	UAU } Tyr UAC } UAA } Stop UAG } Stop	UGU } Cys UGC } UGA } Stop UGG } Trp	U C A G
C	CUU } CUC } CUA } CUG }	CCU } CCC } CCA } CCG }	CAU } His CAC } CAA } Gln CAG }	CGU } CGC } CGA } CGG }	U C A G
A	AUU } AUC } Ile AUA } AUG } Met	ACU } ACC } ACA } ACG }	AAU } Asn AAC } AAA } Lys AAG }	AGU } Ser AGC } AGA } AGG }	U C A G
G	GUU } GUC } GUA } GUG }	GCU } GCC } GCA } GCG }	GAU } Asp GAC } GAA } Glu GAG }	GGU } GGC } GGA } GGG }	U C A G

Nothing more was heard or published on Tongguan for another four years. Then, on January 20, 2020 – a mere three days before the CCP quarantined the entire city of Wuhan – Peng Zhou et al. submitted a paper to Nature titled *A pneumonia outbreak associated with a new coronavirus of probable bat origin*. The ‘new coronavirus’ only later became known as SARS-CoV-2. In the paper, Shi’s team revealed that “We then found that a short region of RNA-dependent RNA polymerase (RdRp) from a bat coronavirus (BatCoV RaTG13)—which was previously detected in Rhinolophus Affinis from Yunnan province—showed high sequence identity to 2019-nCoV. We carried out full-length sequencing on this RNA sample (GISAID accession number EPI_ISL_402131). Simplot analysis showed that 2019-nCoV was highly similar throughout the genome to RaTG13, with an overall genome sequence identity of

96.2%.” The paper can be downloaded from: <https://www.nature.com/articles/s41586-020-2012-7>.

Shi posted the entire gene sequence of RaTG13 to GenBank on the same day. An updated version is available at: <https://www.ncbi.nlm.nih.gov/nuccore/1916859392>. The original posting contained 30,576 bases but the current entry has 29,855. Strangely, this new paper did not state that the sample had been collected from the Tongguan mineshaft in 2012 or that it had originally been identified as RaBtCoV/4991 in the 2016 paper. Why not? Four scientists from the original 2016 paper also contributed to this paper. They were familiar with the entire history. It is standard practice in all research papers to reference back to prior work and sources.

Monali Rahalkar and Rahul Bahulikar subsequently confirmed that RaTG13 and RaBtCoV/4991 were identical and published their finding on May 24, 2020, in an article titled *Understanding the origin of ‘BatCoV RaTG13’, a virus closest to SARS-CoV-2*. However, it is important to remember that Shi only published a 370-base segment of RaBtCoV/4991’s RdRp region for the 2016 paper. The 370-base sequence is only 123 codons long or about 1.2% of the genome. As an aside, SL-CoVs are all about 30,000 bases long. SARS-CoV-2 contains 29 proteins encoded by 9,937 codons, requiring 29,811 nucleotides (each nucleotide has one attached base). SARS-CoV consists of 9,909 codons, so is 29,727 nucleotides long.

The normal procedure followed by WIV researchers is initially to sequence the RdRp region to identify if a virus is SARS-like or not. On discovering it is, a full sequencing of the spike protein’s receptor-binding-domain (RBD) would then be carried out. If this had been done, assuming RaTG13 and RaBtCoV/4991 are the same virus and that Shi posted an accurate genome sequence of RaTG13 in January 2020, her team ought to have discovered in 2016 that RaBtCoV/4991 possessed an extremely dangerous spike protein. They ought then to have sequenced the entire genome and published it on GenBank. It would also have warranted publishing a paper in a major journal, as they did for RS3367 and SHCO14. RaBtCoV/4991 then would have joined RS3367 and SHCO14 as a virus of great research interest. That did not happen, which leads to the suspicion that either RaBtCoV/4991 proved to be a dead end, in which case the RaTG13 genome Shi published in January 2020 cannot truly be RaBtCoV/4991’s sequence, or the research was too sensitive to publish, in which case the military may have assumed oversight.

In November 2020, Shi published an addendum that confirmed RaTG13 and RaBtCoV/4991 were one and the same. The addendum also claimed that all samples of RaTG13 had been exhausted and live virus was never isolated. Foreign scientists are still denied access to the Tongguan mineshaft. There are no indications Chinese scientists returned over the last 18 months. Thus, the only evidence that RaTG13 really does have a

sequence almost identical to SARS-CoV-2 is Shi's paper and an upload to GenBank of a sequence of 9,909 three-letter codons, combined with her word that it is a true representation of the sample obtained in 2012. Even if we trust Shi to be scrupulously honest, we have to recognize that her will is subservient to the CCP's authority. The Chinese Constitution mandates that Shi "must not commit acts detrimental to the security, honor and interests of the motherland". Individual US citizens take for granted fundamental constitutional protections against state abuse, such as the Bill of Rights. By contrast, Chinese citizens take for granted that their constitution has a much longer Bill of Duties to the state.

According to WIV's publications to date, RaTG13 was isolated from a fecal sample obtained from a *Rhinolophus affinis* bat. So RaTG13's RBD region should be able to readily bind with this bat's ACE2. However, Mou et al.'s June 2020 paper, *Mutations from bat ACE2 orthologs markedly enhance ACE2-Fc neutralizations of SARS-CoV-2*, revealed that it does not bind with ACE2 cells of *Rhinolophus macrotis* or *Rhinolophus pusillus* bats. They had selected these two species as they are both closely related to *Rhinolophus affinis* (see: <https://www.biorxiv.org/content/10.1101/2020.06.29.178459v1.full.pdf>). RaTG13 may be a fraud.

Keep in mind that three of the six Tongguan miners infected in April 2012 did die. All suffered from a dry cough, high fever, and sputum. Five experienced difficulties breathing and four registered low blood oxygen levels. Two suffered blood clots. They were treated with steroids (which Western front-line doctors also found effective for the treatment of COVID-19, but authorities resisted approving their use), antivirals (Western front-line doctors have found Ivermectin to be effective against COVID-19, yet authorities have tried to ban its use), ventilation, and blood thinners (Western front-line doctors have been using Heparin). If the Tongguan miners had been rushed into a New York hospital in April 2020, they would have been diagnosed with COVID-19.

2016

On March 15, 2016, Menachery et al. published a paper titled *SARS-like WIV1-CoV poised for human emergence*. 13 of the 18 scientists involved worked at UNC Chapel Hill, including Peter Baric himself. The paper's abstract stated: "Focusing on the severe acute respiratory syndrome (SARS)-like viruses, the results indicate that the WIV1-coronavirus (CoV) cluster has the ability to directly infect and may undergo limited transmission in human populations. However, in vivo attenuation suggests additional adaptation is required for epidemic disease". Peter Baric's team was predicting that the Rs3367/WIV1 virus Shi's team had discovered in 2013, given a bit of adaptation, could spark a pandemic. The paper also explained how Baric's team had designed and manufactured a full-length clone of WIV1 and a chimeric version that used a mouse-adapted SARS backbone with the WIV1 spike inserted (WIV1-MA15). This was probably the same method Shi used to create the SHCO14-MA15 chimera. The team infected "well-differentiated primary human airway epithelial (HAE) cell air-liquid interface cultures". Both WIV1 and WIV1-MA15 produced "robust" infection. The team also discovered that a double inactivated vaccine was ineffective at providing immunity and that it had the potential to induce cell pathology. The paper is available at: <https://www.pnas.org/content/pnas/113/11/3048.full.pdf>.

Another important paper published in 2016 was Yang et al.'s *Isolation and Characterization of a Novel Bat Coronavirus Closely Related to the Direct Progenitor of Severe Acute Respiratory Syndrome Coronavirus*. It appeared in the Journal of Virology. Nine of the twelve scientists involved worked at the WIV, including Yang and Shi. Two Chinese scientists from other institutions were also credited. The twelfth was Peter Daszak of the EcoHealth Alliance. This paper detailed further research that had been conducted on fecal samples previously collected from the Yunnan cave back in 2011-12. Shi's team noted that they had "recently isolated a bat SL-CoV strain (WIV1) and constructed an infectious clone of another strain (SHCO14)". WIV1 was the successful culture of RS3367 discussed in the 2013 paper. The artificial chimeric clone of SHCO14, dubbed SHCO14-WIV15, is what caused an international uproar after publication of the 2015 paper. The new paper went on to report "the isolation of a new SL-CoV strain, named bat SL-CoV WIV16. SL-CoV WIV16 was isolated from a single fecal sample of *Rhinolophus sinicus*, which was collected in Kunming, Yunnan Province, in July 2013". The team had ascertained that all three of these SL-CoVs – WIV1/RS3367, SHCO14-WIV15, and WIV16 –

had the ability to infect humans via ACE2 receptors. However, WIV16, was found to possess a closer match to SARS-CoV in the critically important RBD region than any strain yet discovered. The paper explained:

“The S protein is responsible for virus entry and is functionally divided into two domains, denoted S1 and S2. The S1 domain is involved in receptor binding, and the S2 domain is involved in cellular membrane fusion. S1 is functionally subdivided into two domains, an N-terminal domain (S1-NTD) and a C-terminal domain (S1-CTD), both of which can bind to host receptors and hence function as receptor-binding domain (RBDs). All isolates of SARS-CoV and SL-CoV have high identity in both their nucleotide and their amino acid sequences in the S2 region but are highly diverse in their S1 regions. The WIV16 S gene has 95% sequence identity at the nucleotide level and 97% identity at the amino acid level to SARS-CoVs, much higher than those of WIV1, which has 88% identity at the nucleotide level and 90% identity at the amino acid level. Unlike with other bat SL-CoVs, the S1-NTD of WIV16 is very similar to that of SARS-CoV. The S1-NTD of WIV16 has an amino acid sequence identity to SARS-CoVs of 94% but of only 50% to 75% to other bat SL-CoVs. It is worth noting that the WIV16 RBD (amino acids 318 to 510) has 95% sequence identity to the SARS-CoV RBD but is almost identical to WIV1’s. Thus, the WIV16 S gene is likely a recombinant of WIV1’s gene and a recent ancestor of SARS-CoV’s gene.”

The paper concluded by noting that WIV16 was the closest ancestor to date of SARS-CoV. SL-CoV WIV16’s full genome was deposited in GenBank under accession number KT444582.

2017

On February 10, 2017, a group of 17 scientists, led by Dr. Ben Hu of the WIV, submitted a research article titled *Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus* to PLOS Pathogens. It was published that November. Along with Hu, Shi Zhengli and twelve of her colleagues contributed to the work. Peter Daszak of the EcoHealth Alliance in New York was also listed as a contributor. The author summary stated:

“Increasing evidence has been gathered to support the bat origin of SARS coronavirus (SARS-CoV) in the past decade. However, none of the currently known bat SARSr-CoVs is thought to be the direct ancestor of SARS-CoV. Herein, we report the identification of a diverse group of bat SARSr-CoVs in a single cave in Yunnan, China. Importantly, all of the building blocks of SARS-CoV genome, including the highly variable S gene, ORF8 and ORF3, could be found in the genomes of different SARSr-CoV strains from this single location. Based on the analysis of full-length genome sequences of the newly identified bat SARSr-CoVs, we speculate that the direct ancestor of SARS-CoV may have arisen from sequential recombination events between the precursors of these bat SARSr-CoVs prior to spillover to an intermediate host. In addition, we found bat SARSr-CoV strains with different S proteins that can all use the receptor of SARS-CoV in humans (ACE2) for cell entry, suggesting diverse SARSr-CoVs capable of direct transmission to humans are circulating in bats in this cave. Our current study therefore offers a clearer picture on the evolutionary origin of SARS-CoV and highlights the risk of future emergence of SARS-like diseases.”

The article revealed Shi’s team had sequenced full-length genomes of 15 SARS-related coronaviruses (SARSr-CoVs) discovered during their five-year surveillance of the cave in Yunnan. Eleven were new to this paper. These were named Rs4084, Rf4092, Rs4231, Rs4237, Rs4247, Rs4255, Rs4874, Rs7327, and Rs9401. The genomes were all deposited to GenBank under accession numbers KY417142 to KY417152 respectively. Of the new 11, Shi’s team identified three with S genes very similar to SARS-CoV. These were Rs4874, Rs4231, and Rs7327. Of these, the team only managed to successfully culture Rs4874, which was then found to be capable of infecting hACE2. As the team’s attempt to culture Rs4231 and Rs7327 failed, they instead built chimeric versions. WIV1 was used as the backbone and the S genes were inserted. The chimeric versions were named WIV1-Rs4231S and WIV1-Rs7327S. Both chimeras were found capable of using hACE2 to efficiently replicate in human airway cells, just as had been discovered for SHCO14-WIV15 (the chimeric version of RsSHCO14) back in 2016. In passing the paper also stated, “In this study, in addition to Rs4231 and Rs7327, we also constructed infectious clones with the S gene of Rs4081, Rf4075, Rs4085, Rs4235 and

As6526". Thus, the team actually created seven new chimeras and found all seven able to infect hACE2. The paper can be downloaded from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5708621/pdf/ppat.1006698.pdf>.

In summary, by early 2017 Shi's team had discovered three SL-CoVs they found could infect humans – RS3367/WIV1, WIV16, and Rs4874. They had also manufactured a grand total of ten infectious chimeras by inserting the S gene of one virus into the backbone of another. They used HIV as the backbone in their 2007 paper, mouse-adapted SARS in their 2015 paper (SHCO14-MA15) and the 2016 paper (WIV1-MA15), and WIV1 as the backbone for these latest seven chimeras. Out of their inventory of 13 SL-CoVs dangerous to humans, 23% were natural and 77% lab created chimeras.

2018

In 2018, Dan Hu et al. published a paper titled *Genomic characterization and infectivity of a novel SARS-like coronavirus in Chinese bats*. This team of scientists was from the Third Military Medical University in Chongqing and the Research Institute for Medicine in Nanjing, which is also a PLA facility. Hu was listed as associated with both military establishments. Between 2015 and 2017, they had sampled bats in Zhoushan (group of islands in Hangzhou Bay, just offshore from Ningbo), collecting 334 samples. The team sequenced two SARS-like betacoronaviruses. These were identified as ZXC21 and ZC45. These two new SL-CoVs shared 97% genomic sequence identity. They were more distant from both human and civet SARS-CoV than the bat SL-CoVs the WIV had so far identified, with only 81% nucleotide identity. In the important spike region, their proteins had only a 77% match with SARS-CoV. That was lower than Rs3367/WIV1, which the WIV found has 89.9% amino acid identity. Hu described these two newly identified viruses as possessing "huge diversities with the previously reported CoVs of bats associated with the S1 region". As noted above, the S1 region is that part of the spike protein that is responsible for receptor binding with host ACE2 cells. Hu's team concluded that these two viruses could not have been the result of recombination events by other known SL-CoVs, so were from a separate, distinct betacoronavirus clade. The team failed to isolate the viruses (a tricky process that Shi's team had accomplished with WIV1 and WIV6) but did manage to infect rats with coronavirus infected tissue samples and proved that the viruses could circulate in rats. Amplicon sequences and the full genomes of ZXC21 and ZC45 were uploaded to GenBank under accession numbers MG772844 through MG772934. The paper can be downloaded from: <https://www.tandfonline.com/doi/pdf/10.1038/s41426-018-0155-5?needAccess=true>.

To summarize, by 2018 the WIV had identified three SARS-like coronaviruses from a single cave in Yunnan Province that could infect humans. They had become masters of creating chimeric versions of SL-CoVs in the lab. They had taken virus samples from just this one cave and manufactured ten chimeric versions that were capable of infecting hACE2. They also appeared to have dropped the ball on what would later be named RaTG13. However, in late 2020, Shi revealed her team had been investigating samples from the Tongguan mine during 2017 and 2018. They at least partially sequenced eight new SL-CoV genomes and fully sequenced RaBtCoV/4991, aka RaTG13. Compare that workload with 15 full genomes from Yunnan samples sequenced over an eight-year period. It may be that Shi concentrated the WIV's research effort on the Yunnan cave up until early 2017, then switched attention to analyzing Tongguan mine samples throughout 2017 and 2018 - but chose (or was instructed) not to publish any of their findings. Meanwhile, Dan Hu's PLA team had found another two SL-CoVs, ZXC21 and ZC45, that were more distantly related to SARS-CoV but could infect rat ACE2 cells. They were also candidates for infecting humans.

2019

On April 10, 2019, Xia et al. published a paper titled *A pan-coronavirus fusion inhibitor targeting the HR1 domain of human coronavirus spike* in Science Advances journal. The paper's abstract described their project as follows:

"Continuously emerging highly pathogenic human coronaviruses (HCoVs) remain a major threat to human health, as illustrated in past SARS-CoV and MERS-CoV outbreaks. The development of a drug with broad-

spectrum HCoV inhibitory activity would address this urgent unmet medical need. Although previous studies have suggested that the HR1 of HCoV spike (S) protein is an important target site for inhibition against specific HCoVs, whether this conserved region could serve as a target for the development of broad-spectrum pan-CoV inhibitor remains controversial. Here, we found that peptide OC43-HR2P, derived from the HR2 domain of HCoV-OC43, exhibited broad fusion inhibitory activity against multiple HCoVs. EK1, the optimized form of OC43-HR2P, showed substantially improved pan-CoV fusion inhibitory activity and pharmaceutical properties”.

The team was attempting to identify a drug that could treat infections across a broad range of CoVs, not just SARS-CoV. Such a drug would not only be of huge benefit to mankind but also could generate enormous revenues. It could prove comparable to the discovery of penicillin. Of the 13 scientists involved in this project, seven were based in Shanghai, including Xia Shuai and Jiang Shibo. Du Lanying from the LFKRI also contributed, as did Tseng Chien-Te from the University of Texas Medical Branch. As noted already, Jiang is director of the Institute of Medical Microbiology at China’s Fudan University in Shanghai. His ties to the PLA extend back over the last two decades. Du, who is a highly accomplished scientist with over 100 papers to her credit, may also be at least indirectly affiliated with the PLA. The paper is available at <https://advances.sciencemag.org/content/5/4/eaav4580>.

As an aside, Dr. Tseng, who was born in Taiwan, specializes in immune evasion of RNA viruses and has been using transgenic mice that express hACE2 to investigate SL-CoVs. I mention this to illustrate that both Chinese and American labs use humanized mice to investigate pathogens. They are a very useful tool but also a potentially dangerous one.

The UT Medical Branch runs the Galveston National Laboratory, which houses several BSL-4 labs and is the largest such facility on any campus worldwide. The labs are used by the Center for Biodefense and Emerging Infectious Diseases, which receives substantial funding from and does extensive research for the DoD. From a national security perspective, the facility is highly sensitive. Whereas the WIV is officially the only BSL-4 lab in China, there are seven operating BSL-4 facilities in the US with another six either planned or already under construction. On April 27, 2021, Xiang Libin, the CCP’s Minister of Science and Technology, announced plans to build three more BSL-4 labs and 88 BSL-3 labs in China, which would begin to close the gap with the US. The field is rapidly expanding.

On November 27, 2019, right around the time the first COVID-19 victims were admitted to Wuhan hospitals, Shi and 12 other Chinese scientists submitted a paper titled *Molecular Mechanism for Antibody-Dependent Enhancement of Coronavirus Entry* to the Journal of Virology. ADE occurs when antibodies facilitate viral entry into host cells and enhance, instead of preventing viral infection. A number of scientists have expressed a concern that antibody protection gained from vaccination may be so narrowly focused to the genome of the original SARS-CoV-2 spike protein, the antibodies might backfire and end up providing ADE to later mutant versions of the virus. So, this is an important research topic for our current predicament. The paper was published on 14 February 2020, just as the Jinping Pandemic began to spread worldwide. The other scientists involved included Zhou Yusen, and Du Lanying. Zhou was director of the State Key Laboratory of Pathogen and Biosecurity of the Academy of Military Medical Sciences in Beijing. Du, who was born and educated in China, had worked in his Beijing lab before joining the LFKRI in New York. They continued to closely cooperate on research until Zhou’s untimely and still unexplained death in May 2020.

2020

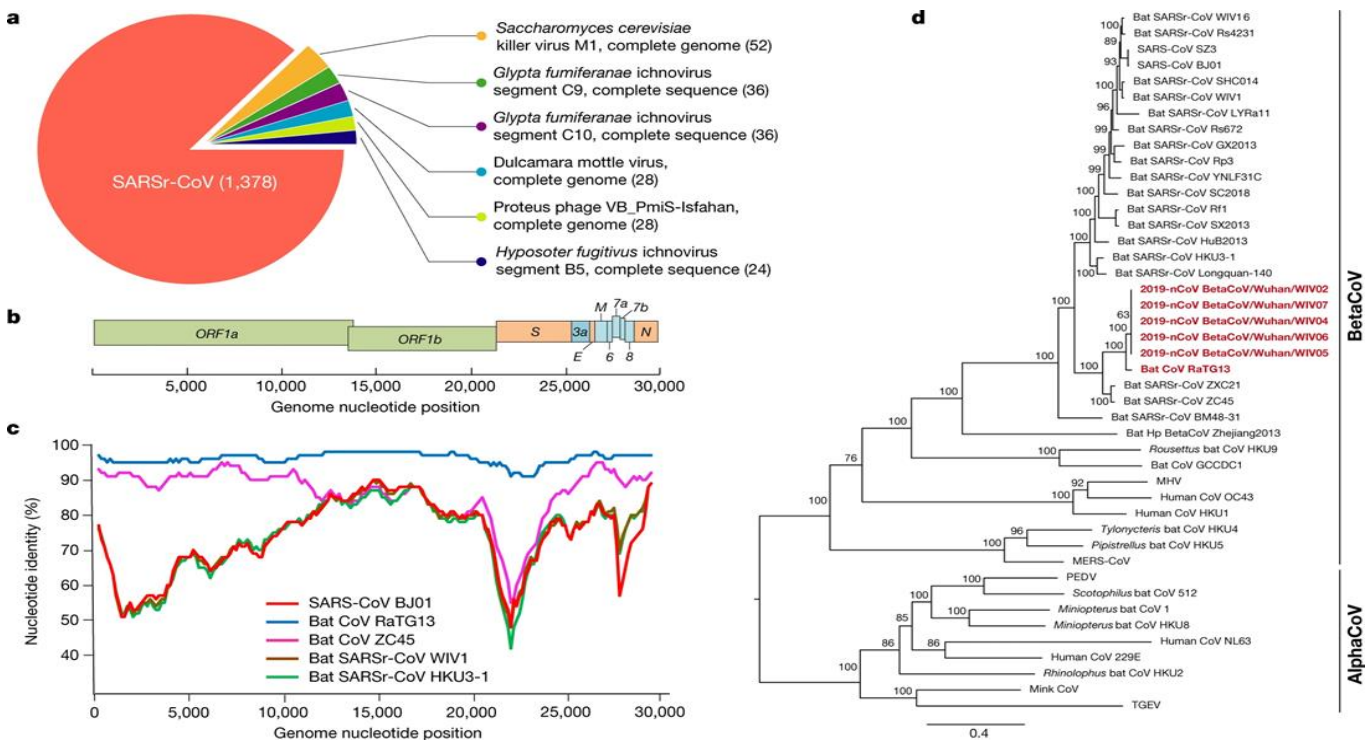
On January 20, 2020, as already noted, Shi’s WIV team submitted a paper titled *A pneumonia outbreak associated with a new coronavirus of probable bat origin*. The paper claimed that SARS-CoV-2 (which was then known as 2019-nCoV) was nearly identical to a virus extracted from a feces sample collected in a Yunnan cave. Shi named the sample RaTG13. The genome was uploaded to GenBank under accession number MN996532 and taxonomy ID 2709072. As can be seen in the graphic below, the differences between SARS-CoV-2 and RaTG13 are concentrated in the S1 domain of the spike protein, which in SARS-CoV-2’s case is optimally developed to attack human ACE2 cells. SARS-CoV-2’s spike is actually closer to a pangolin SARS

but with a 12-nucleotide polybasic furin cleavage site added, which is unique to SARS-CoV-2 amongst betacoronavirus SL-CoVs (see page 39 for more details). Furin sites are well understood to increase a virus's infectivity and would be a prime candidate for lab insertion during gain of function research.

Only when questioned later did Shi confirm RaTG13 had been named RaBtCoV/4991 in the 2016 paper on the Tongguan mine findings. Shi also claimed that the WIV had exhausted its RaTG13 sample and could not provide material to international researchers for independent analysis. Without samples, the only evidence of RaTG13's existence is a genome sequence that Shi's team typed and uploaded into a public database and a brief description in this paper of how they had spotted a similarity in a short region - presumably the 370-base segment that had been published back in 2016 - and then gone ahead and generated a full-length sequence. Though 18 months have since passed by, during which time COVID-19 has claimed over 3.7 million victims worldwide, there has been no indication that scientists have returned to the cave to collect new samples. No new paper has been published and the world still lacks physical evidence of RaTG13's existence that can be independently verified.

Here is the relevant text from the paper:

"We then found that a short region of RNA-dependent RNA polymerase (RdRp) from a bat coronavirus (BatCoV RaTG13)—which was previously detected in *Rhinolophus affinis* from Yunnan province—showed high sequence identity to 2019-nCoV. We carried out full-length sequencing on this RNA sample (GISAID accession number EPI_ISL_402131). Simplot analysis showed that 2019-nCoV was highly similar throughout the genome to RaTG13, with an overall genome sequence identity of 96.2%".



The paper claimed the WIV team produced the full-length sequence in January 2020, only after spotting that a 370-base section of RaBtCoV/4991's RdRp region (which had been sequenced in 2016) was a close match to the same region in SARS-CoV-2's genome. SARS-CoV-2 was first decoded by the Chinese Center for Disease Control and Prevention (CCDCP, formerly known as CDC) on January 2. They did not upload it to GenBank but perhaps they shared it privately with Shi's team.

However, inspection of the genome files that Shi's team uploaded put this sequence of events in doubt. The RaTG13 file names that were uploaded to GenBank incorporated dates that indicate they had all been created in 2017 or 2018, well before the pandemic broke out. In response to questions from international scientists, the WIV published an addendum to the Zhou et al. paper on November 17, 2020, which did admit the entire RaTG13 genome had been sequenced by 2018. Why was the January paper misleading? It clearly stated the sequencing had occurred after a finding a match of the short section with the same section in the SARS-CoV-2 genome – which was not available until January 2020. The addendum also revealed the WIV had discovered eight other SL-CoVs in the Tongguan mine that had also been partially or fully sequenced by 2018. Only one had been mentioned before. Are there more that still have not been revealed? We cannot know, since Shi terminated online access to the WIV database in September 2019, then in January 2020 the CCP banned any data sharing with the international community. The CCP also refused both WHO teams that visited Wuhan any access to original WIV records. If there ever was a 'smoking gun', the WIV has now had 18 months to expunge incriminating records.

The WIV's lack of candor, dissembling, data obfuscation, and outright lying as it has slowly dribbled information on the Tongguan cave discoveries to the international community, combined with the CCP's stonewalling, should be regarded as highly suspicious behavior. Why lie if they have nothing to hide? The WIV had fully sequenced RaTG13 and at least partially sequenced eight other SL-CoVs from the Tongguan mine by the end of 2018, yet failed to publish anything on the subject in 2019. Why not? With the exception of RaTG13, the WIV still has not disclosed their genomes. Why not? Why did the WIV 2016 paper state that they had detected only two SARSr-CoVs? They had found nine. Why was RaBtCoV/4991 renamed RaTG13 without any reference linking the two as one and the same? Also, consider the fact that Shi's team was a highly prolific publisher up to 2016. Their published output dropped significantly in 2017 and 2018, then almost completely dried up in 2019. Shi contributed to only three minor papers on SARs related subjects in the first half of 2019 and nothing but a single paper on MERS-CoV in Kenya in the second half. What was going on? What was keeping her busy? One possible explanation is that the Tongguan samples have been the major focus for Shi's team since early 2017, perhaps under the direction of the PLA. The work may then have been classified. That is not a 'conspiracy theory'. Military programs of a sensitive nature are typically classified. This is a reasonable explanation that ought to be looked into and either dispelled or confirmed. If the CCP has nothing to hide, it ought to fully cooperate. By doing so, it could begin to repair the damage Xi Jinping has inflicted on his country's international standing over the last 8 years. The international community needs to understand what Shi's team was working on in 2019. Independent scientists should be given access to records, original samples, cultured viruses, and chimeric derivatives. For the political establishment of Western nations not to insist, it seems to me, would be a dereliction of their primary duty – namely, their duty to defend their citizenry. It is now clear that allowing a free and easy relationship between US and Chinese institutions researching advanced technologies with potential military application was a massive strategic blunder on Washington's part. We cannot correct the past but we should learn from it. Going forward, ties need to be cut or restricted and subjected to government oversight. Continued stonewalling by the CCP ought to be regarded as prima facie evidence the CCP is guilty of foul play and used by Congress to justify imposing sanctions. In that case, the west would minimize risk of future events (perhaps not accidental next time) by assuming the CCP is guilty until it proves itself innocent. In particular, the subsidizing of Chinese research by US taxpayers, which has been facilitated by the likes of Anthony Fauci and Peter Daszak, should be terminated immediately.

Thanks to the addendum, we know Shi's team conducted semi-annual trips to the Tongguan mine from late 2012 through 2015, which was far more extensive than originally disclosed. They collected 1,322 samples and identified 293 CoVs. Nine were SARSr-CoVs (though their 2016 paper admitted to only two). All nine were at least partially sequenced. One of these was initially named RaBtCoV/4991 in the 2016 paper, was later fully sequenced in 2017 and 2018, then was revealed in Shi's January 2020 paper – but renamed RaTG13 and misrepresented as having been sequenced in January 2020. Supposedly the sample was exhausted when it was sequenced, which we now know was accomplished in 2018. Yet RaTG13 sequences that were uploaded to GenBank in January 2020 were updated as late as May 2020. The WIV did not provide any raw data files or

background documentation to identify why and how these changes occurred. If the sample had been exhausted back in 2018 and the sequence files created that September, what was Shi's team working with between January and May 2020? This smells fishy too. The addendum also stated the WIV received 13 serum samples collected from four of the sick miners back in 2012, whereas previously Shi claimed they only had bat fecal samples. Why did she lie and what research was conducted on those patient samples? The addendum can be downloaded from: <https://www.nature.com/articles/s41586-020-2951-z.pdf>.

On the subject of the miners' serum samples, check: <https://www.ncbi.nlm.nih.gov/biosample/SAMN14082201>. Note that the isolation source for RaTG13 sample SAMN14082201 was a fecal swab. Now check: <https://www.ncbi.nlm.nih.gov/sra/SRX7724752/>. This sequence was uploaded on 2/13/2020. The description states RNA was extracted from bronchoalveolar lavage fluid. It also identifies the sample as SAMN14082201. Was SAMN14082201 a bat fecal sample or bronchial fluid? It could not have been both. If it was fluid, was it obtained from a miner's lung or from a humanized mouse – i.e. was it from a hospital or from a lab?

RaTG13's genome can be found under accession number MN996532.2. Raw reads are indexed under SRX7724752. Amplicons can be found under SRX8357956. Note that files were edited and revised as late as May 2020.

The preceding raises some obvious questions.

- 1) The bats in the Tongguan mine were hibernating in late 2019 and none was being sold in Wuhan markets. However, there was a single source concentration of Tongguan SL-CoVs in Wuhan. The WIV had 13 serum samples and 1,322 bat samples from the mine. Lab work on these samples had been intense in 2017 and 2018. Since nothing was published in 2019, did lab experimentation continue throughout 2019?
- 2) The WIV had created eight artificial chimeras by 2017 just from the Yunnan cave samples. How many did it create from the Tongguan samples? It is unrealistic to believe they did not conduct such experiments. This was standard practice for Shi's team. If attempts to culture a SL-CoV failed, they resorted to cloning its spike into a WIV1 backbone. How many of the nine SL-CoVs did Shi's group manage to culture? One? Two? Were chimeras of the remainder manufactured in the WIV lab? How many were found to be capable of infecting hACE2? Let us not bury our heads and pretend this work was not done. The best strategy [Nash Equilibrium] is to assume it was until proven otherwise.
- 3) Was there an accident around August 2019? Did any WIV staff suffer SARS-like symptoms in the summer of 2019 or later? Can Huang Yanling come forward and present a statement to international media?

On January 31, 2020, Jiang Shibo, Du Lanying, and Shi Zhengli published a paper titled '*An emerging coronavirus causing pneumonia outbreak in Wuhan, China: calling for developing therapeutic and prophylactic strategies*' in the open access journal *Emerging Microbes and Infections*. As already noted, Jiang is with Fudan University in Shanghai and Du works at the LFKRI in New York.

On February 6, 2020, Shi Zhengli and Jiang Shibo submitted a paper titled '*The First Disease X is Caused by a Highly Transmissible Acute Respiratory Syndrome Coronavirus*' to *Virologica Sinica*. It was published three days later. The paper noted that "Jiang and colleagues have recently developed a pan-CoV fusion inhibitor, EK1 peptide, with potent inhibitory activity against infection by 5 human coronaviruses tested, including SARS-CoV, MERS-CoV, and 3 bat-SARSr-CoVs (Xia et al. 2019)".

On July 8 2020, a team led by Sun Shi-Hui at the Academy of Military Medical Sciences in Beijing published '*A Mouse Model of SARS-CoV-2 Infection and Pathogenesis*'. The paper describes how the military team used CRISPR/Cas9 knock-in technology to breed mice with ACE2 humanized lungs. It can be downloaded from: <https://doi.org/10.1016/j.chom.2020.05.020>. Was this a technique the military team first developed after December 2020, in reaction to the pandemic, or have they been experimenting with ACE2 humanized mice for years? If a military lab was working with mice that could mimic human lungs before the COVID-19 outbreak,

the primary reason would have been to analyze the pathogenicity in humans of coronaviruses, probably with an emphasis on SL-CoVs. Though the CCP could claim that such research was merely for biodefense purposes, just as a rifle can be as easily used for offense as defense, scientists have no control over the application of their discoveries. The PLA can advise but ultimately the CCP alone decides how to utilize China's military advances. In the West, there is the possibility of particularly egregious research being leaked to the press and then public pressure may force restrictions to be applied, as occurred with the Limited Test Ban Treaty in 1963. Under China's totalitarian system, which lacks a free press and severely punishes any dissent from official CCP policy - particularly on matters of national security - there are no such checks and balances.

China's military capabilities have been developing at a rapid and accelerating rate since Xi Jinping came to power. The CCP has declared that biodefense is a key component of that buildup. Bat coronavirus research was identified as a highly promising avenue soon after the 2002 SARS epidemic. Thus, it would be foolish of the West to turn a blind eye to the research activities of the various military labs and any scientists associated with those labs. International cooperation with those scientists or, even worse, funding grants for their work, should be considered suicidally foolish. Furthermore, the CCP's publicly declared military doctrine embraces both civil and military capabilities. We also know that Chinese law forces all Chinese scientists to "support, assist with, and collaborate with" any state directive. Scientists may not refuse to follow a directive issued by the military, by state intelligence services, or by the CCP itself. We thus have to regard the entire Chinese scientific community as potential agents of the CCP. That is unfortunate but it is what it is. As Ayn Rand warned "We can ignore reality, but we cannot ignore the consequences of ignoring reality". Thus any cooperation between US and Chinese scientists in general should be subjected to review and require Washington's approval.

The West has not been selling the rope as Lenin predicted. We've been donating it.

A Statistical Approach to Evaluating the Two Primary Hypotheses

"The theory of probabilities is at bottom nothing but common sense reduced to calculus" – Pierre-Simon Laplace

We know that the Jinping Pandemic began with a single human infection around August to perhaps as late as November 2019. The phylogeny can be visually tracked at Trevor Bedford's Nexstrain site (see: <https://nextstrain.org/sars-cov-2>). The first known hospitalized patient was admitted on November 17.

We do not know who was first infected (patient zero). However, we do know that the earliest hospitalized victims were not associated with the Huanan Fish Market, and all expressed the same strain (NH045512). The first three victims had not visited the market. Victim four had. Whether he worked at the market or had just visited the market, the CCP has not revealed. A week after he was hospitalized, several wet market workers were hospitalized. Since it takes about a week for symptoms to appear and maximum infectivity occurs in the days around the first appearance of symptoms, it may well be that patient four infected several workers whilst either working at or visiting the wet market shortly before he was hospitalized. A week later, they in turn produced symptoms. The local hospital then experienced a sudden influx of victims from the same market, expressing the same SARS-like symptoms. Chinese scientists analyzed all the animals sold at the market and did not find any of them to be infected. Only surfaces in the market were infected. Bats and pangolins had not been sold in the market over the preceding two years. Thus, a wet market animal does not appear to have been the original source. The market was merely a natural focal point for a subsequent cluster, just as we saw multiple clusters emerge in every infected country over the following months in churches and synagogues, in nursing homes, on cruise ships, planes, and buses.

We are thus left with two credible hypotheses:

- 1) Patient zero was infected by SARS-CoV-2 as a result of exposure to an infected bat or some intermediary host, most likely in Wuhan, though it is possible he was infected elsewhere and then travelled to Wuhan.
- 2) Patient zero worked at the WIV or another Wuhan lab and was accidentally infected during analysis of one of the WIV's 16,000 raw fecal samples or with virus samples generated during experimentation, perhaps even with a cultured virus or artificial chimeric virus produced for research purposes.

In short, the original infection either occurred in a lab or naturally (and randomly) outside the lab.

I arrived in China on December 31, 2019, and left on January 31, 2020, just before flights got shut down and quarantines were imposed. Internet chatter in Wuhan and across China throughout January favored the lab hypothesis. China's netizens did not believe an outbreak just a few miles away from the WIV was mere happenchance, did not believe anything the CCP conveyed, expected lies and a coverup from Beijing, and assumed the true death toll would be at least ten times what the CCP publicly admitted. A poll conducted by a popular Chinese commentator found that only 12% of respondents believed the outbreak to be natural. Subsequent events have only served to validate their early opinions.

What is the probability that a natural outbreak would randomly commence within 20 miles of China's only BSL-4 lab, where the world's largest collection of bat coronavirus samples is housed and experimented upon every day? How large is that collection? It had over 15,000 samples as of 2017, so likely exceeded 16,000 samples by 2019. Furthermore, the Huanan Fish Market - which generated the first cluster of cases - was a mere 300 yards from the Wuhan Center for Disease Control & Prevention. The WCDPCP is a branch of the CCDPCP, which is run by the National Health Commission (so is not a division of the WIV). It has a BSL-2 lab and there is evidence it was also researching bat coronaviruses and kept live bats for research purposes. Shi Zengli has also admitted that the WIV conducted bat research in its BSL-2 and BSL-3 facilities. That was reckless. A BSL-2 lab operates at a far lower safety level than a BSL-4 lab. Bats with the potential to harbor SL-CoVs should only be handled and sampled in BSL-3 labs at a minimum, preferably in BSL-4.

In a 2014 EcoHealth Alliance grant application, Peter Daszak noted, "*We found that people living close to bat habitats are the primary risk group for spillover*" (see: <https://reporter.nih.gov/project-details/9819304>). That

makes sense. Farmers and villagers living close to bat colonies are far more likely to be infected than city folk living seven hundred miles away from the nearest bat. Yet in an interview Daszak gave with Amy Goodman on April 16, 2020, he stated that President Trump's claim that the virus might have originated from the WIV was "just pure baloney". He went on to note that EcoHealth Alliance's researchers believed about 3% of the rural population in southwest China had antibodies to bat coronaviruses. Based on that finding, he estimated that between 1 million and 7 million people a year are infected in rural areas across Southeast Asia. Daszak compared those millions with the few hundred people who worked at the WIV and then claimed that implied there was a vanishingly small probability one of those few hundred could have been the source. His reasoning was unsound. In my judgment, his statistical findings support the contention that if the SARS-CoV-2 initial spillover event had been natural, directly from a bat, it ought to have begun in a rural setting, not in a city. Also, if over a million people a year are infected by bat coronaviruses but China has only suffered one major coronavirus epidemic prior to 2019 – i.e. SARS in 2002 – then it stands to reason that almost all coronaviruses cannot be passed easily or at all from human to human. Since bats hibernate in cold weather, from around October to March, they are not found in wet markets in November. Also, no wet market in Wuhan sold either bats or pangolins in the two-year period before the outbreak, per a study by Xiao et al. (see: <https://www.nature.com/articles/s41598-021-91470-2>). The only live bats in Wuhan at that time we know of were caged and used for research at Shi's WIV lab or at the WDCDCP's BSL-2 lab. In addition Shi's team was experimenting with its library of 16,000 samples on a daily basis.

How did Daszak come up with his "7 million a year" estimate? It appears he extrapolated from the results of a preliminary, small sample size study conducted in October 2015. The results of the study were published in a paper titled *Serological Evidence of Bat SARS-Related Coronavirus Infection in Humans, China*, which was submitted to *Virologica Sinica* in November 2017. The study can be downloaded from:

<https://www.ecohealthalliance.org/wp-content/uploads/2018/03/Virologica-Sinica-SARSr.pdf>.

Peter Daszak, Shi Zhengli, five of her WIV team, and nine other scientists contributed to this paper. It involved just 218 residents in four villages situated close to two caves in Yunnan. The WIV had been monitoring the caves since 2011 and knew they were inhabited by a large number of bats that are natural reservoir of coronaviruses. Thus, these villagers were at particularly high risk. Proximity does matter. Ironically, the study also used 240 residents of Wuhan as a control group. Why Wuhan? Wuhan is over 1000 km. distant from the bat caves, so Wuhan residents "have a much lower likelihood of contact with bats due to its urban setting". Wuhan is also home to the WIV researchers, so is their most convenient spot to test a control group. Shi's team utilized new enzyme-linked immunosorbent assays (ELISA) they had just developed that could test for four different coronaviruses. It was Maureen Miller of Columbia University who first urged Shi to develop serology tests and to then conduct surveys in rural communities. Of Shi's 218 villagers, six tested positive, giving a positivity rate of 2.7%. There were two positives from each of three villages and none from the fourth village. None of the 240 Wuhan residents in the control group tested positive – which is what the scientists had expected. That is why they chose Wuhan for the control group. They were not expecting Yunnan bats to have infected Wuhan residents, even via a wet market. The testing result of zero city dwellers infected supported that contention. Only one of the six villagers had travelled outside Yunnan over the prior 12 months. That was a single trip to Shenzhen. Rural Chinese cannot afford to regularly travel to distant cities. The study concluded that "The 2.7% seropositivity for the high-risk group of residents living in close proximity to bat colonies suggests that spillover is a relatively rare event" and "none of the 6 seropositive subjects could recall any clinical symptoms in the past 12 months, suggesting that their bat SARSr-CoV infection either occurred before the time of sampling, or that infections were subclinical or caused only mild symptoms". Not mentioned is the fact that these unnoticed infections did not spread to other villagers. They were either not human-to-human transmissible via respiratory tract infection or were very difficult to transmit. If the infection had been SARS-CoV-2, absent medical intervention, most villagers would have been infected, older villagers would have died, and the outbreak would have quickly spread to surrounding villages. A virus as infectious and deadly as SARS-CoV-2 cannot circulate for long without being noticed, even in remote districts of rural China.

Shi and Daszak continued such testing on a much larger scale over the next two years. They submitted a paper titled “Human-animal interactions and bat coronavirus spillover potential among rural residents in Southern China” to Elsevier on July 9, 2019. It is available for download at: <https://reader.elsevier.com/reader/sd/pii/S2590053619300308?token=CCE2D4FF87D5E809B1C726DF7B492FD99AF82F4FC0E744BE1734F7E8A142D7158009ACF2B58245E382A6D999A7BB18D4&originRegion=us-east-1&originCreation=20210614035037>. Shi Zhengli, Peter Daszak, and Maureen Miller were contributors. As noted above, it was Miller who first cleverly proposed developing a serology test and then conducting a survey in rural communities. The ELISA tests were still limited to just four coronaviruses but should also have detected close relatives. The research was conducted in 8 villages in high-risk areas in Yunnan, Guangxi, and Guangdong. The sample sizes were 761 residents in Yunnan, 412 in Guangxi, and 423 in Guangdong. The research was conducted between October 2015 and July 2017. Just nine individuals out of 1497 villagers (0.6%) in four villages tested positive for exposure to one of these coronaviruses. Seven in Yunnan tested positive for SL-CoV exposure and two in Guanxi to HKU10-CoV. None of the Guangdong residents tested positive, just as none of the Wuhan control group had in the first study. The paper failed to observe that the Guangdong positivity rate was 0%, the Guanxi only 0.5%, and the Yunnan 0.9%. All three came in substantially lower than the 2.7% in the original small four village study. Also, did the seven Yunnan residents who tested positive in this report include the six reported in the first paper? I cannot tell but note that the first study was conducted in October 2015 and the second was from October 2015 to July 2017, so the later study may be an extension of the former. The paper concluded that “despite the small sample sizes, this study suggests that there are a substantial number of people in rural Southern China who are exposed to bat-borne viruses and that exposure likely occurs through the daily or normal practices of rural communities, rather than specific high-risk behaviors”.

I draw somewhat different conclusions from these two papers. The WIV developed serology tests from SARS-like coronaviruses they had sampled from caves in Yunnan province. They ran serology tests on 1075 individuals in Wuhan, Guanxi, and Guangdong. Not one person tested positive for SL-CoV exposure. Only in three villages close to the Yunnan caves were they able to find seven individuals who tested positive. That indicates the initial infection risk is primarily local in nature. Wuhan residents were not being sickened by Yunnan bats living in caves 1000 km. distant. Nor were they being sickened by spillover from some intermediary host. Proximity matters. None of the seven positives appears to have been noticeably sickened and since other villagers did not test positive, the infections were mild in nature and either not contagious or had very low transmissibility. These SL-CoVs had not been optimized for human ACE2 entry (hACE2).

If 1% of Yunnan villagers are infected with coronaviruses carried by their local bat population, we can infer that rural communities elsewhere across SE Asia, also located close to bat colonies, likely suffer a comparable infection rate – but by the coronavirus strains carried by their local bats, perhaps passed through intermediary hosts. Scientists will need to develop serology tests specific to those strains in order to run similar studies. I suspect that Daszak’s 7 million infections a year estimate will prove to be wildly high. Based on the little we know, I would guess maybe 5 million S.E. Asian villagers in total have been infected at some point in their lives, rather than several million every year. Either way, millions of infections take place without a pandemic resulting. Cases where a spillover event results in patient zero developing a new disease that is both highly contagious and severely sickens its victims has to be very rare. Prior to SARS-CoV-2, it had never happened. SARS and MERS did achieve a zoonotic leap to humans but were not highly infectious. At the point of initial spillover, a virus is highly unlikely to be optimized for hACE2. It should be optimized for the ACE2 cells of its original host. If a highly infectious spillover event occurs, clusters of cases ought to develop close to the original source, which would be in a rural environment. After a few weeks, doctors should begin to notice those clusters, as they did when a cluster of six miners were infected in the Tongguan mineshaft. Thanks to our ability to sequence genomes quickly and at low cost, nowadays within hours, the medical community should be able to identify the cause far more rapidly than just a decade ago.

Peter Daszak’s 7 million infections per year comment was misleading, as it was based on inadequate statistics. The reasoning he presented to justify dismissing the lab leak hypothesis as “baloney” was dissembling. He has

enjoyed a close association with Shi Zhengli and the WIV for over 15 years. On 18 February 2021, he tweeted that the WIV did not collect live bats and house them at the institute. Is he a liar or just ineptly unaware of the WIV's practices? It has to be one or the other. Either way, he should not be trusted. Back in early 2020, whilst still in China, I saw photos of a large room at the WIV filled with caged bats kept for research. 16 months later, footage finally got broadcast by an Australian TV station of a Chinese documentary filmed in 2017 that showed live bats in cages and a WIV researcher feeding a bat. Both the WIV and the WCDLCP BSL-2 lab, situated just 300 yards from the Huanan Fish Market, kept live bats for experimental purposes. We know dead bats had been sent to a lab in Sydney for research there. Peter Daszak is not the only scientist who denied the WIV kept live bats. Shi Zhengli also did so. Why did Shi lie?

Lab technicians do on occasion get infected by accident. It had already happened six times with SARS. Fortunately, SARS had a low reproduction rate. It is not highly contagious. SARS-CoV-2 is a different beast entirely. The original strain was nearly as contagious as mumps. The latest nasty mutant strains appear to be even more contagious than mumps and smallpox. That means wherever patient zero was first infected, within a couple of weeks a cluster of local infections ought to have emerged – friends, family, co-workers, etc. If patient zero had been infected on a farm close to a bat cave in Yunnan, the local medical clinic would quickly have been overrun with cases. It would have been noticed there, just as the six miners in Mojiang County were noticed. That is not what happened. The first cluster was in the heart of Wuhan. Are there any bat colonies in Wuhan? That is easy to answer. The world's largest collection of bat viruses is maintained by the batwoman in her WIV freezers. The only other collection we know of was at the WCDLCP, which was 300 yards away from the Huanan Fish Market, until the authorities had the market bulldozed. Both institutions also kept live bats. The WCDLCP lab was just BSL-2, so was violating WHO standards by messing around with coronavirus laden bats. Eye-witness reports indicate the lab was disposing of lab waste with little regard for safety standards. Waste was placed in trash cans on the street for municipal pickup. There was even talk of lab workers earning pocket change by selling dead lab animals to the local wet markets.

I am not the only person to believe a natural bat-related outbreak is very unlikely to commence in the middle of a city. A Scientific American article that was published in the June 2020 edition described Shi Zhengli's reaction when she was informed of the outbreak and ordered by her director to take the first train back to Wuhan from the conference she had been attending in Shanghai. The article quoted Shi as saying "I wondered if [the municipal health authority] got it wrong. I had never expected this kind of thing to happen in Wuhan, in central China." The article also added that she remembered thinking "Could they have come from our lab"? If asked, would Peter Daszak also ridicule Shi Zhengli's thoughts as pure baloney?

Either this was a random natural event or an accident at the WIV. Can we try to quantify the probability of one hypothesis versus the other based on the sparse information we have available?

It is relatively simple to divide China into two subsets on a geographic, population, and wet market basis. One subset would be the region immediately around the origin of the pandemic. The other would be the rest of China. We can then estimate the probability of the outbreak commencing where it did, based on each hypothesis in turn.

Let us begin by calculating probabilities for the location of a random, natural spillover event. What is the probability of it happening close to a BSL-4 lab?

First, we will consider from a simple geographic approach by assigning an equal geographic probability density across all of China for the location of patient zero, irrespective of distance from bat colonies. This approach will underweight the true probability of a random, natural spillover event in rural areas and overweight the probability in distant cities. As both Peter Daszak and Shi Zhengli have publicly noted, the greatest risk is in the countryside, close to bat colonies. Proximity does matter. However, to both simplify the calculation and ensure the result is highly conservative, we will ignore distance from bat sources and just equal weight by square mile.

Then we will calculate the probability on a population basis, assigning an equal probability of being patient zero to everyone in China. Of course, farmers in rural areas are at much greater risk than office clerks in Beijing. Proximity matters. However, for simplicity's sake and to ensure we lean in favor of Daszak's favorite hypothesis, we will assume an equal risk for every citizen, irrespective of location or employment.

Lastly, we will calculate the probability of the outbreak beginning in [or close to] the wet market that happened to be closest to the WIV, China's only BSL-4 lab, rather than some other random wet market elsewhere in China.

China's area is 3.6 million square miles. The outbreak occurred within a twenty-mile radius from the BSL-4 lab, 7.5 miles from the WIV's Wuhan campus, and just 300 yards from the WCDGP lab. A 20-mile radius encompasses about 1200 square miles. If we were to throw a dart at random at a map of China, it would have well below a one in a thousand chance of landing in that 1200 square mile region. On this basis, if the outbreak was natural and random, the chance of it beginning that close to the WIV's BSL-4 lab about 0.033%. One could argue that large areas of China are desert or mountains with very low population, and thus should be excluded from consideration. However, even adjusting the result by a factor of ten still leaves us with an extremely low probability, still well under 1%, that a random, natural outbreak would commence that close to the lab. Daszak may think it baloney to consider an accident, but this calculation rather indicates it was baloney to reject the possibility out of hand. Although the WIV has the only BSL-4 lab in China, there are 62 lab complexes that contain one or more BSL-3 labs (see: <https://gillesdemaneuf.medium.com/a-count-of-bsl-3-labs-in-china-664f2b354276>). We could use the above methodology to calculate the probability of a natural outbreak beginning close to any BSL-3 or BSL-4 lab as ~ 2% - possible but highly unlikely.

Let us now calculate the probability on an equal weighted population basis, China has a population of 1.4 billion and the metro area of Wuhan has 8.5 million residents. 8.5 divided by 1400 is ~0.006. That gives us a 0.6% probability a natural outbreak would have commenced somewhere in metro Wuhan. We are left with a >99.4% probability that if the outbreak was a natural random event, it would have begun elsewhere.

Although supermarkets are multiplying across China, wet markets remain the prevalent outlets for fresh food in urban areas. Western-style supermarkets are being built but there are only 2000 or so in the whole country, versus over 40,000 supermarkets and convenience stores in the US. There are over 90 wet markets in Hong Kong alone. However, most wet markets in cities do not sell exotic animals. Chicken and pork are the staples of a Chinese family's diet. The typical family cannot afford exotic animals, such as pangolin. Only the wealthy elite can afford such luxuries. There are 17 wet markets in Wuhan and I would conservatively guess at least 2000 wet markets across China that sell exotic animals. It is that subset of all open-air markets that would be at risk of selling an infected wild animal.

If we assume all 17 wet markets in Wuhan were selling exotic animals (which was not the case and we also know the Huanan Fish Market sold neither bats nor pangolins), what is the probability a spillover event would occur in a Wuhan market, as opposed to a market elsewhere in China? We will equal-weight all 2000 markets nationwide. 17 out of 2000 is less than a 1% probability. Assuming Wuhan was that unlucky, there is then just a 1 in 17 chance the first cluster would have occurred in the specific market closest to the WIV campus. That is a less than 1% probability compounded by a less than 6% probability or 0.06%. We conclude on this basis that it is highly unlikely a natural spillover in a wet market would have by random chance happened in Wuhan and close to zero probability in this specific market – the Huanan Fish Market - a short stroll from a BSL-2 lab, just 7.5 miles from the WIV campus, less than 20 miles from China's only BSL-4 lab, and right in the middle of a residential area where WIV employees likely lived. Although the CCP tried to promote the wet market hypothesis, at least until it switched tack in the summer of 2020 and started blaming American soldiers instead, we know the earliest victims had nothing to do with the wet market. We also know the wet market was not selling bats or pangolins. The epidemic moved into the market but did not commence there. However, this simple calculation does illustrate that if a wet market had been to blame, it is extremely unlikely that it would have randomly happened in the closest wet market to the WIV campus.

Let us now consider the lab accident hypothesis.

If patient zero was the victim of a lab accident, what is the probability the early hospitalizations would cluster around the WIV? For patient zero, the probability must be close to 100%. In all six SARS accidents back in 2003 and 2004, patient zero was successfully traced back to a lab. It is possible for a lab to infect someone in the local community, rather than a lab worker. For instance, an accident might release virus into the local atmosphere or lab waste might be improperly disposed of, resulting in a sanitation worker becoming infected. However, patient zero would still be local to the lab and investigators would probably be able to track back to her connection with the lab.

What about the next several victims? The most likely candidates would be colleagues at the WIV, family, neighbors, passengers on her metro or bus route, and staff at retail locations she frequented. Unless patient zero by chance happened to leave the city soon after being infected, the immediate secondary victims would be residents within an easy commute of the WIV, most likely clustered in zero's own residential district. Seven of the nine who were infected by the National Institute of Virology leaks in 2004 were Beijing residents but one student traveled back to her hometown hundreds of miles away and there infected her mother. Authorities did not blame food from that city's local wet market; they traced back to the lab in Beijing. That is a practical example that although a lab leak may lead to early distant cases, the majority of early cases are likely to reside close to the source and early distant cases can generally be traced back to the source. In late 2019, all the early cases were in Wuhan, in the central metropolitan area. Early international cases in Singapore, Germany, Japan, S Korea, the US, Taiwan, Cambodia, Bali, Hong Kong, and Britain were all easily traced back to Wuhan. We can conclude that the fact the trail ends in Wuhan means the pandemic likely did originate in Wuhan, not in some distant Yunnan village.

It so happens that the Huanan Fish Market, the market that suffered the initial cluster of cases, is surrounded by residential districts and is an easy 7.5-mile commute from the WIV campus. It is also just three-hundred yards from the WDCDCP's BSL-2 lab, right in the heart of the city. WIV staff and students who work at the more distant BSL-4 lab mostly live in the metro area and commute to the lab on a shuttle bus that runs from the campus.

Circumstantial Evidence a Laboratory May Have Been the Pandemic's Source

"One must constantly keep in mind that nothing takes place in a vacuum" – Gordon Prange, *At Dawn We Slept*

On December 31, 2019, I arrived in Shanghai and then caught a domestic flight to Chengdu. Both airports were screening all passengers with infrared cameras. That is a precaution many Asian airports implemented for both domestic and international travel after the 2002 SARS epidemic. American airports failed to do so, though the cameras are not expensive and in no way impede passenger flow. You would think that between Homeland Security, the CDC, CIA, Congress, state governments, and owners of airports (such as Los Angeles City in the case of LAX), someone would have taken note of precautions introduced overseas and recommended the minor expenditure necessary to do likewise at our international gateways. LAX still was not monitoring passengers' temperatures when I returned to the US in mid-March. Immigration officers were not wearing masks and sanitizers had not been made available for public use. Cameras were belatedly installed in July 2020, six months too late. American leadership had been asleep at the wheel, at all levels of government.

Rumors of an outbreak in Wuhan were already beginning to circulate in Chengdu, so I stocked up on masks before catching a flight to Sihanoukville in Cambodia on January 5. No precautions were being taken at the Sihanoukville airport. It is a small, very basic airport that only reopened a few years ago. Cambodia is not a rich country. Four days later I headed to Siem Reap for a visit to Angkor Wat. It was quieter than usual. The locals told me Chinese business had dropped significantly below the 2019 level, as many Chinese tour groups had been cancelling reservations. On January 15 I flew from Phnom Penh to Hong Kong. All the check-in staff were by then clad in both masks and protective glasses. Infrared cameras had been installed. Hong Kong likewise was monitoring temperatures. Neighboring Asian countries were already introducing precautions at their points of entry, even though Chinese authorities still maintained there was no evidence the virus was transmissible. It took until January 20 for China's National Health Commission to finally admit the truth. By then I had arrived in Sanya on Hainan Island, ready to experience my first Chinese Lunar New Year.

During my 13 days in Sanya, Chinese netizens were allowed far more leeway than usual to discuss the disaster that was unfolding in Wuhan. Li Wenliang, a Wuhan doctor, had been punished by authorities after he had tried to warn colleagues in late December of the outbreak. His mistreatment by Wuhan authorities had angered the country and his subsequent hospitalization on January 12 with COVID-19 symptoms worsened what was already a public relations disaster for Beijing. The CCP reacted by relaxing its online policing for a few weeks. Though I do not speak or read Mandarin, friends and family translated interesting postings for me on a daily basis.

This summarizes what I learned whilst in Sanya and shortly thereafter:

- 1) The Chinese public was convinced the CCP was lying and not to be trusted.
- 2) Few believed the outbreak was natural.
- 3) The death toll in Wuhan was far higher than the official count, probably at least ten times as high.
- 4) The source, patient zero, was not from the Huanan Fish Market.
- 5) She was believed to be a student studying at the WIV by the name of Huang Yanling. This rumor was based on the fact her photo alone had been removed from the WIV public website and she could not be found, even online.
- 6) The rumor was that she had contracted the disease during a lab accident and then infected her boyfriend, who spread the disease to other Wuhan residents.
- 7) I inspected the WIV website and confirmed her photo was missing. Later, all information on her was scrubbed from the website.
- 8) Professor Wei Hong Ping of the WIV claimed Huang left the institute in 2015. However, a 2019 photo of Huang and fellow students standing in front of the institute circulated on WeChat.
- 9) Huang did not come forward voluntarily. Authorities could have ordered her to appear for a statement but have not. Instead, CCP censors scrubbed mention of her from Chinese web sites and chat groups.

- 10) Several months later, a short message appeared on her WeChat account, “For my teachers and classmates, how long without talking. I am Huang Yanling, still alive. If you receive an email, please say it is not true”. That still is the one and only communication purportedly written by Wei to appear anywhere since the pandemic began. She has vanished.
- 11) In the summer of 2019, the WIV ran an advertisement requesting bids for a commercial contract. The contract was to cover an initial thorough cleaning/ disinfecting of the WIV facilities and then ongoing regular disinfecting/cleaning. I saw a copy of the bid request. In August 2021, news reports revealed that the WIV also sent a request for bid for a new ventilation system around the same time.
- 12) On 12 September 2019, Shi took the WIV’s virus database offline. It remains offline to this day. Shi’s excuse? There had been hacking attempts against the database. Is that a valid reason? Aren’t the genetic sequences meant to be open source to the world’s scientific community? On the other hand, if the WIV had been working on a strain that just weeks before had been accidentally released into the community, taking the database offline would have been a prudent step in maintaining ‘plausible deniability’.
- 13) US Intelligence sources revealed that the WIV appeared to be closed for two weeks, from October 7 to October 24, 2019. The premises and surroundings were devoid of cellphone traffic for the entire two-week period. Locals confirmed that roadblocks had been set up and police were refusing access to the roads around the facility, which is located in a rural district about 30 km. southwest of Wuhan.
- 14) The CCP tried to prevent any news of the early cases from being communicated to the Chinese public or international organizations. In particular, Dr. Li and his colleagues were ordered to appear before police and forced to sign confessions that they had spread false and damaging rumors.
- 15) The CCP maintained that the first known cases occurred on December 8. However, records of two cases from November emerged.
- 16) In February, Professor Yu Chuanhua, a biostatistician at Wuhan University, gave an interview with Health Times. He said that a patient – a 61-year-old woman named Su - was admitted to Hospital on September 29 with symptoms consistent with COVID-19. She subsequently died and was cremated, so there is no way to prove with absolute certainty that she had contracted COVID. A screenshot of the professor’s database revealed that Su had been admitted to Rongjuan hospital. She lived in the Kaile Guiyan community on Zhuodaoquan Street. That is less than five kilometers southeast of both the University of Wuhan and the WIV headquarters (not the BSL-4 lab, which is 30 km. away).
- 17) The Military World Games were held in Wuhan from October 18 to 27, 2019. More than 9,000 athletes attended from over 100 countries. Many athletes fell ill upon their return home, with symptoms consistent with COVID. Athletes from Canada, Italy, Sweden, and France reported that many in their respective delegations fell ill. The American team returned home via Seattle. Washington State subsequently suffered the earliest COVID outbreak. They flew on to 219 bases in 25 states. At least 63 of those bases suffered COVID outbreaks prior to March 31.

Coincidences do happen but a logical sequence of several coincidences is highly unlikely. Huang Yanling disappears, never to be seen again. The WIV is secretly closed for two weeks, during which time the public is not allowed to access approach roads. Huang’s photo is removed from the WIV website. The research database is taken offline. A few cases start to turn up in Wuhan hospitals. The CCP suppresses news of early cases, punished doctors who speak out, and lies to the WHO and international community. In early January rumors of Huang go viral; officials respond by lying about her departure date, purge her bio on the WIV site, and then the CCP censors any discussion of her on social web sites. After the outbreak spreads too widely to contain, the CCP runs with the wet market as a cover story. Scientists and doctors are forbidden from communicating or cooperating with international scientists and media. All early forensic evidence is either destroyed or brought under the CCP’s direct control, not to be shared with the international community.

Xiao Qiang is a research scientist at the School of Information at the University of California, Berkeley, and also is the founder of China Digital Times. Last December he warned us in a New York Times article, “China has a politically weaponized system of censorship; it is refined, organized, coordinated and supported by the

state's resources". That is a concise and accurate summation of the scale and effectiveness of the CCP's global propaganda campaign. In January 2020, the Chinese public overwhelmingly believed the epidemic was the result of a lab leak. The largest online poll taken found that 88% of Chinese netizens believed the CCP was lying. In the West, up until just weeks ago, CCP talking points were parroted by the MSM, scientists, and most left-wing politicians. Internet social sites - including Twitter, Facebook, Google, and YouTube - de-platformed all who would not conform to this ridiculous orthodoxy. The lab leak hypothesis was binned as an extreme, bigoted, racist, xenophobic, completely unfounded, right-wing-inspired, conspiracy theory.

Scientific Evidence of Possible Lab Adaptation

“I ought to be thy Adam, but I am rather the fallen angel” - Mary Shelley, *Frankenstein*

In February 2020, Coutard et al. published a paper titled ‘*The spike glycoprotein of the new coronavirus 2019-nCoV contains a furin-like cleavage site absent in CoV of the same clade*’. The paper is available at: <https://europepmc.org/backend/ptpmcrender.fcgi?accid=PMC7114094&blobtype=pdf>.

How is that title relevant to arguments about potential lab design? Furins are ubiquitous in the human body. Viruses with a cleavage site are able to use the host’s own furin to improve their ability to fuse with host cells many fold – i.e. addition of a furin cleavage site can massively enhance the infectivity of a virus. There are four lineages of betacoronaviruses: A, B, C, and D. Coutard’s team noted that SARS-CoV-2 is a betacoronavirus of lineage B. Its spike protein has a twelve-nucleotide polybasic furin cleavage site (amino acid sequence ‘RRAR’) that is unique in nature. Although MERS and a few alphacoronaviruses have furin cleavage sites, none has been found before in a lineage B betacoronavirus. SARS-CoV-2 is the first. Furthermore, the design of SARS-CoV-2’s cleavage site is different to those found elsewhere. The insertion that created this site is ‘PRRA’. If no other coronavirus has this sequence, it could not have been inserted via a natural recombination error. Such swapping of genetic code between viruses can occur when a bat harbors two coronaviruses at the same time. One would have to be the precursor to SARS-CoV-2 and the other a virus with the ‘PRRA’ sequence. The two arginine amino acids would need to be coded by ‘CGG-CGG’ bases. Such a sequence is unknown, except in SARS-CoV-2. However, it is a straightforward matter for a lab to insert this sequence and it is precisely what one would expect a scientist to attempt in a gain of function project. As these insertion sites are so rare, one would expect a natural insertion to be a random three or four amino acid sequence, whereas a scientist would adopt a design that is optimized for furin cleavage at the first attempt. ‘PRRA’ has the hallmarks of intelligent design.

In April 2020, Professor Luc Montagnier, who shared the 2008 Nobel Prize in Medicine for discovering the HIV virus, stated in an interview with France’s CNews that SARS-CoV-2 contains genetic elements of HIV, which could not have evolved naturally. He believed the novel coronavirus was a lab creation.

In the summer of 2020, Professor Angus Dalglish and Dr. Birger Sorensen suggested that the COVID-19 virus had “unique fingerprints” which could not have occurred naturally. These were insertions on the SARS-CoV-2 spike protein which enhance the ability of the virus to bind extremely effectively to hACE2 cells. They also pointed to “deliberate destruction, concealment or contamination of data” at the WIV. They observed that in early January 2020, Beijing ordered hospitals and research labs to either destroy all early samples or surrender them to a short list of designated labs. The CCP also forbade sharing of any research or materials with third parties, whether Chinese or foreigners, including scientists and press, without first obtaining clearance from Beijing. It was for this reason that nothing was heard from Shi Zhengli for months.

Professor Dalglish is an oncologist at St. George’s University in London. He is renowned for creating the first effective HIV vaccine. Dr. Sorensen is a virologist and chairman of Immunor, a pharmaceutical company, which has been developing a coronavirus vaccine. Press and political figures immediately condemned the pair for spreading “fake news” and pushing a “discredited conspiracy theory”. However, if one reflects on this for a moment, it is pretty clear that these two professionals are qualified to make such a judgment, whereas the typical press reporter or politician who dismissed their evidence is unschooled in the relevant science. Considering the possibility of a lab leak cannot be described as “a conspiracy”, even less so as a “discredited conspiracy theory”. It is basic common sense. On the other hand, a concerted effort by press and establishment figures to swiftly discredit and de-platform anyone discussing such a possibility is a perfect example of a wide-ranging conspiracy - a rather dark and sinister conspiracy under the circumstances. The effort to discredit the two was completely successful. They could not get their paper published all last year. Now that it has been revealed that Lawrence Livermore produced a classified report in May 2020 that

concluded a lab leak is a credible hypothesis, the paper is belatedly going to be published. Its title will be *A Reconstructed Historical Aetiology of the SARS-CoV-2 Spike*.

On June 6 of this year, the Wall Street Journal published an opinion piece authored by Dr. Stephen Quay, founder and CEO of Atossa Therapeutics, and Richard Muller, an emeritus professor of physics at Berkeley. They stated that “COVID-19 has a genetic footprint that has never been observed in a natural coronavirus”. They noted that “the CGG-CGG combination has never been found naturally. That means the common method of viruses picking up new skills, called recombination, cannot operate here”. They went on to point out “a virus simply cannot pick up a sequence from another virus if that sequence isn’t present in any other virus”. They further noted that the CGG-CGG combination is a favorite commonly used in lab gain-of-function experiments. Also, CGG-CGG has an extremely low probability of occurring naturally. We have to assume that probability is very close to zero, since it has never been observed. On the other hand, CGG-CGG can easily be inserted in the lab and would be a likely choice for a gain-of-function experiment. They did not refer back to Zhou et al.’s 2013 paper but the furin sequence he inserted was 5’-CGGATCAGGCGC-3’ (i.e. ‘RTRR’), with the first arginine coded by CGG.

RaTG13 has 97.4% codon sequence identity with SARS-CoV-2 in the S protein but notably lacks insertion of the furin cleavage site. SARS-CoV also lacks a furin cleavage site, as do all other betacoronaviruses in the same clade. This is not a minor issue. Daniel Wrapp et al. in their paper titled *Cryo-EM Structure of the 2019-nCoV Spike in the Prefusion Conformation* noted that SARS-CoV-2’s affinity to bind to hACE2 cells is 10 to 20 times greater than SARS-CoV’s (see: <https://www.biorxiv.org/content/10.1101/2020.02.11.944462v1.full.pdf>). A furin site could be inserted by Zhou et al.’s technique or, alternatively, via serial passaging through an intermediary animal host. Past experiments that began with influenza that lacked a furin cleavage site and was not airborne, using ferrets for serial passaging, have generated highly pathogenic viruses with furin cleavage sites that could infect via aerosol transmission. The mutated viruses that emerged were not only more virulent, they also appeared to be natural, rather than lab generated. Serial passaging accelerates genetic mutation, so the resulting mutation appears to be far more distant on a time basis from its genetic ancestor than is actually the case. What would take several years in the wild can be achieved in a year in a lab. It should be noted that although SARS-CoV-2 appears to be optimized for binding to hACE2 cells, computer modelling indicates ferret ACE2 cells are almost as vulnerable. Mink farms in both Denmark and Spain suffered devastating COVID-19 epidemics last year. Minks are a subspecies of ferrets. Was SARS-CoV-2’s precursor serial-passaged through ferrets in one of the ABSL-3 labs in Wuhan? There are at least two such labs and one of them is just a couple of hundred yards away from the Huanan Fish Market.

Excluding the furin site from consideration, RaTG13 shares 96% identity with SARS-CoV-2 in the S1 domain and 99.7% in the S2 domain. In S2, the only RaTG13 differences are a switch from asparagine to serine at codon 1125 (N1125S) and from valine to isoleucine at codon 1228 (V1228I). These are both located towards the tail-end of S2. Most of the spike mutations observed in SARS-CoV-2 over the last 18 months have occurred in S1, which in SL-CoVs is much less stable than the S2 domain.

Sir Richard Dearlove, former head of Britain’s MI6 has stated it is “far more likely” SARS-CoV-2 came from the WIV lab. Dr. Scott Gottlieb, former head of the FDA, publicly stated that circumstantial evidence supports a lab leak theory. Dr. Robert Redfield, the former director of the CDC, has stated that he favors the lab hypothesis.

What papers opposing the lab leak hypothesis have been provided by the scientific establishment? Are they well-reasoned? Do they provide compelling evidence that a lab leak was impossible? If not, do they provide evidence a lab leak was highly unlikely? Do they provide evidence of the natural evolutionary path that began with bats, perhaps moved on to an intermediary host, and finally ended up with a zoonotic leap that infected patient zero with SARS-CoV-2 or do they rely on mere faith that since natural spillovers can happen in the countryside and in wet markets, this too must have been such an event? Did they try to estimate the odds of patient zero being some random citizen infected by a zoonotic spillover outside a lab environment versus patient zero being some unfortunate lab technician who mishandled a petri dish?

The paper that is most often cited as scientific “debunking” of the lab origin hypothesis is ‘*The proximal origin of SARS-CoV-2*’ (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7095063/pdf/41591_2020_Article_820.pdf), which was authored by Kristian Andersen of Scripps, Andrew Rambaut of the University of Edinburgh, Ian Lipkin of Columbia University, Edward Holmes of the University of Sydney, and Robert Garry of Tulane University. It was published as editorial correspondence (i.e. not a peer reviewed paper) in Nature Magazine on 17 March 2020. Scripps and Kristian Andersen have a close working relationship with Shi Zhengli and the WIV. Edward Holmes and the University of Sydney also has a close working relationship with Chinese institutions, including the WIV. It was Holmes who posted Zhang’s original SARS-CoV-2 genome to Virological.org and GenBank in January 2020.

The central claim of Andersen’s paper was that “It is improbable that SARS-CoV-2 emerged through laboratory manipulation”. However, the article provides little more than hopeful opinion as evidence to support that claim. Their first argument is “if genetic manipulation had been performed, one of the several reverse-genetic systems available for betacoronaviruses would probably have been used. However, the genetic data irrefutably show that SARSCoV-2 is not derived from any previously used virus backbone”. That is a vacuous argument. Its use discredits both paper and authors. One does not first require a PhD in molecular bioscience to identify the foolishness of their reasoning. Firstly, Shi Zhengli’s team has mastered the art of inserting spike proteins into a virus backbone. Secondly, their scientists have utilized multiple backbones. As already noted, by 2018 the WIV had manufactured a grand total of ten infectious chimeras by inserting the S gene of one virus into the backbone of another. They used HIV as the backbone in their 2007 paper, mouse-adapted SARS in both the 2015 paper (SHCO14-MA15) and the 2016 paper (WIV1-MA15), and WIV1 as the backbone in the 2017 paper. The November 2017 paper was the first mention in the literature of using WIV1 as a backbone. There was no prior literature involving its use precisely because it was Shi Zhengli’s team that first discovered and utilized it. That paper was published on November 30 but had been submitted on February 10, so the work had been conducted in 2016 or earlier. The funding for the project was from grants issued in 2013 and 2014. WIV1 had been identified by 2013. So experiments using WIV1 as a backbone could have begun as early as 2013 but not been reported until four years later. There is no impediment to Shi’s team using yet another backbone from their extensive collection of SL-CoVs for the first time either. It is merely a matter of selecting which viruses they deem worthy of research, followed by a management decision to launch a project. The results would not be published until years later. Does Shi Zhengli have a suitable backbone to manufacture SARS-CoV-2 available? RaTG13, ZC45, and ZX21 are candidates. Also, the genomes of the other SL-CoVs recovered from Tongguan have not been published, though Shi at least partially sequenced them in 2018. Perhaps one of those is an even closer genetic match to SARS-CoV-2 than RaTG13. It is also possible there is a tenth SL-CoV from the mine that has not been revealed. The WIV has been suspiciously secretive about the work conducted on Tongguan samples and issued a number of statements that were later admitted to have been misleading or completely false. Finally, Zhang et al. (2021) have identified cross contamination of coronaviruses in cotton and rice sequencing datasets that had been uploaded to GenBank in 2018 by the Huazhong Agricultural University in Wuhan and a SARS-WIV1-like betacoronavirus was found in a rice dataset sequenced by Fujian Agriculture and Forestry University in 2017. Zhang was able to assemble complete genomes of two novel coronaviruses from these datasets. Not only does this paper indicate that pathogens escaped from the WIV and found their way to other laboratories back in 2017 and 2018 but also that an infectious clone of HKU4 had been created that likely can bind to hACE2. The WIV has never published a paper on this project. The clone was completely unknown to the world’s scientific community prior to Zhang’s paper. Thus Zhang presented evidence that prior to the pandemic, the WIV ran multiple research programs that were never published. Also, dangerous cross-contamination occurred. Viruses from the WIV BSL-3 lab crossed to a laboratory at the Huazhong Agricultural University, which is likely designed for low-risk agricultural research. Multiple BSL-3 breaches were identified (see: *Unexpected novel Merbecovirus discoveries in agricultural sequencing datasets from Wuhan, China* by Zhang et al., which can be downloaded from: <https://arxiv.org/ftp/arxiv/papers/2104/2104.01533.pdf>).

In short, Andersen et al.'s claim was mere dissembling. The fact that SARS-CoV-2 cannot have been manufactured from a previously used backbone is immaterial. This is the entirety of their argument for dismissing the lab leak hypothesis. They claimed, "Our analyses clearly show that SARS-CoV-2 is not a laboratory construct or a purposefully manipulated virus". That is a brazen lie. Their analysis shows nothing of the sort. The claim is laughable and totally unworthy of their station. However, the MSM has no problem accepting such junk as sufficient evidence to label the lab leak hypothesis "debunked" by experts.

Nucleotide sequence identity (%) with SARS-CoV-2														
	Whole genome	Spike	RBD	E	M	N	ORF1	RdRp	ORF3a	ORF6	ORF7a	ORF7b	ORF8	ORF10
Bat-CoV-RaTG13	96.2	93.2	86.2	99.6	95.9	96.9	96.5	97.8	96.2	98.4	95.6	99.2	97.0	99.2
Pangolin-CoV-2020	90.3	84.5	86.6	99.1	93.2	96.2	90.4	91.3	93.2	95.7	93.4	91.5	91.8	99.2
Bat-CoV-ZC45	88.1	77.1	68.6	86.7	93.4	91.1	89.2	86.7	87.8	95.2	89.3	94.6	88.5	99.2
Bat-CoV-ZXC21	88.0	76.7	67.3	86.7	93.4	91.2	89.1	87.0	88.9	95.2	89.6	95.4	88.5	100.0
SARS-CoV	79.8	74.1	73.3	94.7	84.9	88.6	80.0	88.6	75.7	76.9	82.7	86.2	52.9	93.2

Table from Liu et al.'s *Are pangolins the intermediate host of the 2019 novel coronavirus (SARS-CoV-2)?*

Andersen's paper went on to propose two possible mechanisms for a natural spillover – either natural selection within an animal host and then zoonotic transfer to humans or a serial process of natural selection in humans. No strong genetic evidence was offered in support of either proposal, so both can only be regarded as initial hypotheses. The problem with the first proposal is that Andersen did not identify a credible natural reservoir not associated with the WIV. Andersen pointed out that a pangolin-CoV (pCoV) has the closest known genomic match in the spike protein. Liu et al. made the same observation in a paper submitted to PLOS Pathogens a month ahead of Andersen's, in February 2020, which was not published until May. Liu identified this newly discovered virus as pangolin-CoV-2020. Pangolin-CoV-2020 was collected sometime between 2017 and 2019. It is more distant than RaTG13 in every protein sequence except the RBD region. Yet RaTG13 was collected in 2013. The fact that SARS-CoV-2 and RaTG13 are genetically very close, though first collected six years apart, but pangolin-CoV-2020 is over twice as distant (3.8% vs 9.7% genetic difference), though collected between just two years to as little as a few months apart, indicates spillover was more likely direct bat-to-human, rather than via this pangolin intermediary. Andersen needs to find a p-CoV that sits genetically between RaTG13 and SARS-CoV-2. Pangolin-CoV-2020 also lacks a polybasic furin cleavage site at the S1/S2 boundary. Polybasic cleavage sites have not been found in any lineage B betacoronavirus. Other than in a lab, no candidate SL-CoV has been found that could provide this PRRA insertion via natural recombination errors in a bat host or any intermediary species.

Andersen did not observe that most of Liu's pangolins had been obtained from the PLA. They were seized in customs raids during 2017 and early 2018. More were obtained in March and July of 2019. Also, they were native to Malaysia, not China. The conjecture is further undermined by evidence pangolins were not being sold in any Wuhan market and the fact that none of the animals in the Huanan Fish Market tested positive for a SL-CoV.

The paper observed that Shi's RaTG13 has the closest genetic match across the genome but then claimed that because some p-CoVs have "strong similarity to SARS-CoV-2 in the RBD", "this clearly shows that the SARS-CoV-2 spike protein optimized for binding to human-like ACE2 is the result of natural selection". That statement is not true. Andersen applied faulty logic. Twenty-one of twenty-seven codon differences between SARS-CoV-2 and RaTG13's S1 domain are concentrated in the RBD region. If a lab started with RaTG13 as a backbone, replaced with pangolin-CoV-2020's RBD region, then inserted the 'PRRA' cleavage site, the resulting spike protein would only differ from SARS-CoV-2 in 9 out of 1273 codons (F32S, S50L, T76I, Q218P, E324D, Q498H, T604A, N1125S, and V1228I); with 99.1% identity to SARS-CoV-2 across the entire spike protein, this chimera would be close enough for a human spillover event. "Natural selection" for human-like ACE2 could be further accelerated by serial passaging the virus through animal intermediaries in a lab. The WIV possessed the facilities and had access to the raw materials to design and build this chimera in 2018 or 2019. Serial passaging could have been conducted at the WIV or a highly secure animal facility, such as the ABSL-3 animal lab at Wuhan University. Thus the combination of (a) the very close relationship between pangolin-CoV-2020 and SARS-CoV-2 just in the RBD region (a mere single codon difference) and (b) the very

close relationship between RaTG13 and SARS-CoV-2 everywhere else is actually evidence of the component viruses a Chinese lab could have utilized to create a chimera that is now known as SARS-CoV-2.

Andersen failed to note that in addition to RaTG13, ZC45 and ZX21 are also closely related to SARS-CoV-2. ZC45's E protein shares 98.7% identity with SARS-CoV-2 (1 codon different out of 76), ORF6 95.2% (3 out of 62 codons), ORF7b 97.7% (1 out of 44), and ORF10 97.4% (1 out of 19). He did not caution that the WIV has yet to make available raw data that would allow researchers to fully verify the RaTG13 sequence. A thorough independent peer review of RaTG13 is impossible due to the sparse information so far provided. Also, the WIV has claimed that the original bat fecal sample has been exhausted. Should Andersen have treated as gospel a paper from the WIV that cannot be independently verified? Andersen cannot prove RaTG13 even exists as claimed. A basic rule of science is that a hypothesis may not be raised to the status of established theory unless relevant experiments are found to be reproducible. That cannot be done in the case of RaTG13. Believing in RaTG13 is a matter of faith, not science. The faithful have to be absolutely sure Shi's team would never be complicit in a CCP conspiracy to deceive the international community. Unfortunately, Chinese law does not provide her the leeway to ignore CCP instructions. Also, it is well established that the WIV has been guilty of deceptive reporting and lying by omission in the matter of its Tongguan mine research. COVID's global death toll exceeds 4 million and economic loss runs into the trillions. Accepting the WIV's claims on a matter of such vast global significance without any independent confirmation is the height of naiveté.

A Chinese paper published in June 2020 by Mou et al., *Mutations from bat ACE2 orthologs markedly enhance ACE2-Fc neutralizations of SARS-CoV-2*, also concluded pangolins were the most likely intermediate host. Mou also used the Malaysian pangolin as evidence in support of that theory. Mou's pangolin sequence had been named MP789 by Liu in an October 2019 paper and GD_1 by K. Xiao in a 2020 paper. Liu's original paper, *Viral Metagenomics Revealed Sendai Virus and Coronavirus Infection of Malayan Pangolins (Manis javanica)*, is available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6893680/pdf/viruses-11-00979.pdf>. Upon investigation, it turns out that MP789, GD_1, and pangolin-CoV-2020 are all one and the same virus. Liu uploaded the sequence to GenBank under accession code MT121216. So far, none of these scientists has offered evidence of a natural method by which a Malaysian pangolin's spike could be cleaved into a Yunnan bat's SL-CoV, nor has any pangolin been discovered with the required PRRA insert.

Until a natural path is identified from either RaTG13 or MP789 – i.e. either from a bat source or a pangolin source – to SARS-CoV-2, a natural explanation remains evidence-free conjecture. Researchers would have to identify a pCoV with a backbone that closely matches RaTG13 and an RBD region closely matching MP789. No such pangolin has been discovered. Alternatively, they would need to discover a bat SL-CoV that is closely related to RaTG13 (or ZC45) that somehow managed to acquire an RBD region almost identical to MP789. No such bat has been discovered. However, we do know the WIV does have the capability to clone such a chimera in the lab and then insert a furin cleavage site to turbocharge its effectiveness. The PLA team in Nanjing is also experienced, as is Professor Jiang Shibo at Fudan University.



Andersen's paper did admit that "adaptation to passage in cell culture" is conceivable but then concluded "The finding of SARS-CoV like coronaviruses from pangolins with nearly identical RBDs, however, provides a much stronger and more parsimonious explanation of how SARS-CoV-2 acquired these via recombination or mutation". Yet it is not a "more parsimonious explanation", since all the natural links between RaTG13, MP789, and SARS-CoV-2 are missing. Nor is it a stronger explanation, since although all the source materials, methods, expertise, and facilities required to construct SARS-CoV-2 as a lab chimera have been identified, Andersen's candidate pCoV cannot be a natural precursor to SARS-CoV-2. All he has demonstrated is that MP789 has a 59-codon sequence in its RBD region that matches SARS-CoV-2 in all but one codon. SARS-CoV-2 is over 9,000 codons long. He offered no natural precursor for the backbone and no natural precursor from which the 'PRRA' sequence could have been acquired by recombination. The only thing that is parsimonious about Andersen's claim is the paucity of evidence offered in support.

As Andersen et al. provided no evidence of how a Malaysian pangolin's spike protein ended up naturally cleaved into a Yunnan bat's backbone, their conclusion was a gigantic leap of faith. They are highly experienced scientists. They should know better. They do know better. If SARS-CoV-2 was generated by natural selection in Yunnan bats, how did its spike protein come to match that of a pangolin living in a country separated by an ocean? The MP789 RBD was the result of natural selection in a pangolin, not a bat – i.e. natural selection for pangolin ACE2 cells, not bat ACE2 cells. No bat has been found with a SL-CoV that closely matches SARS-CoV-2's spike protein. RaTG13 is the closest, but that as yet unverified evidence was published in 2020. By then, Shi may have been instructed by Beijing to falsify records for political reasons. On the other hand, if SARS-CoV-2 resulted from a pangolin intermediary, why is its genome more closely related to bat-CoVs ZC45 and RaTG13 everywhere but in the RBD region? SARS-CoV-2 is like an ancient Greek chimera with a bat's body and a pangolin's head.

The MP789 pangolin SL-CoV was identified by researchers in Guangdong and first reported by Liu et al. in October 2019. Dead pangolins had been delivered by the Anti-Smuggling Bureau, which is a division of the PLA. Is it logical to ignore the military's involvement when one is analyzing the relative probabilities of natural origin versus lab (and hence CCP) involvement?

Their second natural proposal was optimization in humans over time. They surmised that human spillover of a precursor SL-CoV would have had to occur numerous times. Each occurrence would have been minor and of short duration, causing insufficient sickness to alert authorities, until a final, random natural mutation in some unlucky individual resulted in the addition of the polybasic cleavage site perfectly positioned at the S1/S2 interface. That final spillover would have commenced in a single infected person, presumably in the autumn of 2019, likely in Wuhan. That was the pandemic's patient zero. SARS-CoV-2 had been created by natural mutation or a recombination error in that initial victim, who then infected others. COVID-19 spread unnoticed for some weeks before a cluster of cases linked to the wet market emerged in December. Andersen noted that this avenue would have required "many prior zoonotic events that produced short chains of human-to-human transmission over an extended period. This is essentially the situation for MERS-CoV, for which all human cases are the result of repeated jumps of the virus from dromedary camels, producing single infections or short transmission chains that eventually resolve, with no adaptation to sustained transmission". There are multiple fallacies in that argument. Humans work closely with camels on a continuous basis. Camels are domesticated. We do not use domesticated bats or pangolins as beasts of burden. There is much greater opportunity on a daily basis for MERS to make the zoonotic leap from camels to humans. MERS does have a polybasic furin cleavage site, unlike any known betacoronaviruses of SARS-CoV-2's lineage (lineage B). Yet even with that advantage, the human MERS virus is still not optimized for hACE2. It is optimized for camel-ACE2, rather than human, so every MERS outbreak has died out. There has been no adaptation within the human body to a hACE2 optimized version that will enable sustained transmission, though thousands of Arabs earn their living working with camels.

Rambaut, who was a coauthor on the Andersen paper, is a MERS expert. His 2013 paper, *Full-genome deep sequencing and phylogenetic analysis of novel human betacoronavirus*, noted that "Molecular clock analysis showed that the 2 human infections of this betacoronavirus in June 2012 (EMC/2012) and September 2012 (England/Qatar/2012) share a common virus ancestor most likely considerably before early 2012, suggesting the human diversity is the result of multiple zoonotic events". So in the case of MERS, which Andersen presented as a valid precedent, genomic diversity was evident. There had been multiple outbreaks that failed to take hold and widely transmit and those mild outbreaks left a forensic trail that scientists were able to identify in the genomic record. In the case of SARS-CoV-2, there was no diversity. We know there was a single source in Wuhan, who was infected around August to November of 2019. If a non-adapted precursor of SARS-CoV-2 spilled over from an intermediary host to humans and then fortuitously mutated inside a human body to generate a furin site at precisely the right spot, that unprecedented, extremely low probability mutation would have been preceded by a multitude of minor spillover infections that burned out. The furin cleavage site is four amino acids (PRRA) encoded by 12 nucleotides (5'-CCUCGGCGGGCA-3') inserted at the S1-S2 interface of the spike protein. There are only two ways to insert it – either natural or in a lab. Prior to SARS-CoV-2, no

betacoronavirus of lineage B had been identified with a furin cleavage site. The design of the cleavage site is unique. It has a pair of CGG codons that have never been found together in any other virus's cleavage site. CGG encodes the amino acid arginine. Five other codons can also encode arginine. Of the 42 arginines that are encoded in the SARS-CoV-2 spike, only the doublet in the furin cleavage site uses CGG. The other 40 use CGU, CGC, CGA, AGA, or AGG. CGG only appears in seven other locations in the entire genome, which is over 9,000 codons long. How this 'CGGCGG' sequence could have occurred naturally is a complete mystery. The natural odds are the order of one in a million. However, it is possible to insert it in the lab. In 2013, Y. Zhou et al. demonstrated a technique for inserting a 12-nucleotide furin cleavage site into DNA. Professor Jiang Shibo of Fudan University was a member of that team. The inclusion of proline in the cleavage site is another indication of intelligent design. Proline is rigid. It forces the structure to protrude, thus it facilitates access by the host's furin enzymes. Furin can then cleave the spike at the right spot - the boundary of the S1 and S2 domains. Only after successful cleavage can the S2 domain manage penetration of the ACE2 cell membrane. It has been estimated that addition of this site increases the pathogenicity of SARS-CoV-2 by ten- to twenty-fold versus SARS-CoV. If the cleavage site was created by some random mutation during a spillover, it should have been preceded by many thousands of minor spillover events that did not achieve this unique insertion. Some evidence would remain in the genetic record. Scientists should have uncovered evidence by now of precursor versions, close to SARS-CoV-2 but lacking the furin site, circulating in Yunnan villagers a thousand km. distant from Wuhan. Peter Daszak's survey of Yunnan villagers proves no such genetic evidence exists, hence it did not happen. Finally, there is no natural mechanism for that many spillover events to occur. Villagers work every day with pigs and chickens, not bats and pangolins. Though probability of a random, natural insertion of this particular design of cleavage site is vanishingly low, a scientist interested in running a gain of function experiment on a SL-CoV, with the goal of producing a chimera that would exhibit ten to twenty times SARS-CoV's ability to enter hACE2 cells, would know that insertion of a furin cleavage site at the S1-S2 boundary would be highly effective. Adding proline for rigidity is a clever extra tweak.

One final piece of evidence that 'debunks' Andersen's scientific propaganda piece has been provided by Andersen himself. Two months earlier, on January 31, Andersen emailed Anthony Fauci that the virus had "unusual features" and was "(potentially) look engineered". We know this thanks to the recent release of Anthony Fauci's emails. The very next day, Dr. Fauci, Francis Collins (Fauci's boss at NIH), and Jeremy Farrar of the Wellcome Trust organized a conference call to discuss concerns about rumors of lab origin that had begun to circulate on the Internet. Subsequent emails indicate they specifically addressed the problem of how to explain the furin insert. Robert Garry was invited but may have missed the meeting. The other four authors of the 'proximal' paper reportedly did attend. Other attendees included Francis Ross (only Executive Branch official involved), Ron Fouchier (who led development of a deadly airborne version of H5N1), and scientists who had collaborated with the WIV. Science Advisor to the President Kelvin Droegemeier, who also served as director of the Office of Science and Technology Policy (OSTP), arranged a meeting of leading virologists. On the morning of February 3, he submitted a letter to Marcia McNutt, president of the National Academy of Science, in which he requested she convene a "meeting of experts". He highlighted the need to be able to quickly react to papers that claimed a lab origin. The meeting was held at 2:00 p.m. that same day. National Academies' Policy Director Alexander Pope introduced the meeting, and then Droegemeier, Fauci, and Chris Hassell spoke. Ralph Baric, Peter Daszak, Trevor Bedford (Hutchinson Institute), and other leading virologists attended. Out of that meeting, it was decided to assemble an informal group of about 15 eminent scientists, coordinated by Jeremy Farrar in England, who would investigate the pandemic's origins. That was the cover story. By mid-month, five scientists from this group, led by Peter Daszak, had already written the "proximal origins" letter. It was published on March 17. Did word also go out from on high not to question the official narrative? Was Trump kept aware of Fauci et al.'s machinations behind the scenes or kept in the dark?

Another pro-natural paper, *Furin cleavage sites naturally occur in coronaviruses*, by Yiran Wu and Suwen Zhao, both from ShanghaiTech University, was published in Stem Cell Research on 9 December 2020 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7095063/pdf/41591_2020_Article_820.pdf). The central claim of the paper was that "the insertion of furin cleavage site into [the] SARS-CoV-2 spike protein is not necessarily

a result of manual work". The two were not dismissing the possibility of a lab insertion but were making a claim that it could have been due to natural mutations in the wild. Undermining the likelihood of this scenario is the fact that no other known coronavirus in the same subgenus family has a furin site inserted. Rossana Segreto and Yuri Deigin emphasized the uniqueness of this feature in their paper titled '*The genetic structure of SARS-CoV-2 does not rule out a laboratory origin*' (available from: <https://onlinelibrary.wiley.com/doi/10.1002/bies.202000240>). They also noted that the "receptor binding domain (RBD) [is] optimized to bind to human cells". SARS-CoV-2 is superbly adapted for humans - not bats, pangolins, snakes, or civets. It is much more likely to be a product of intelligent design than natural evolution. Was that God's doing or an Earth-bound creator's?

In September 2020, Li-Meng Yan et al. published a paper titled '*Unusual Features of the SARS-CoV-2 Genome Suggesting Sophisticated Laboratory Modification Rather Than Natural Evolution and Delineation of Its Probable Synthetic Route*'. The paper can be downloaded from: https://www.researchgate.net/publication/344240007_Unusual_Features_of_the_SARS-CoV-2_Genome_Suggesting_Sophisticated_Laboratory_Modification_Rather_Than_Natural_Evolution_and_Delineation_of_Its_Probable_Synthetic_Route.

In December 2020, Dr. Yan was a post-doctoral fellow working as a virologist at the WHO reference lab in Hong Kong. She was sent to Wuhan to get information on the outbreak of strange new SARS-like cases. She discovered that Chinese authorities were misleading both the Chinese population and the international community. When she returned to Hong Kong, her supervisor would not allow her to release her findings, in particular that human-to-human transmission was occurring. In order to reveal the CCP's coverup, Yan fled to the US in April 2020. Her husband did not accompany her. After her paper was released, the CCP arrested her mother. Yan's paper made three significant claims, which were:

- 1) SARS-CoV-2 shows biological characteristics that are inconsistent with a naturally occurring, zoonotic virus. In particular, the presence of restriction sites flanking the RBD suggest prior screening for a virus targeting the human ACE2 receptor, and SARS-CoV-2's 'RRAR' furin cleavage site is not found in any SL-CoVs but can easily be engineered in the lab.
- 2) Evidence favors the hypothesis that SARS-CoV-2 is a laboratory product, created by using ZC45 or ZXC21 as a template and/or backbone. SARS-CoV-2 has an almost identical genome to both ZC45 and ZX21, except in the important spike protein. The major difference there is the insertion of a 12-nucleotide polybasic cleavage site at the S1/S2 boundary, which likely amplifies the virus's ability to enter hACE-2 cells tenfold.
- 3) The paper described a synthetic route to manufacture SARS-CoV-2 in the lab that could be accomplished in approximately six months.

The paper concluded that there was a "need for an independent investigation into the relevant research laboratories" and that "a critical look into certain recently published data, which, albeit problematic, was used to support and claim a natural origin of SARS-CoV-2" was justified.

The reaction from the scientific community was to unanimously dismiss the paper's arguments. Critics also rejected out of hand any suggestion an inspection of the WIV might be in order. For instance, RapidReviews:COVID-19 (RR:C19) published four scathing reviews. They were produced independently by Takahiko Koyama, Adam Luring, Robert Gallo, and Marvin Reitz. RR:C19's editorial statement included the comment that "if the claims are not adequately substantiated, this work is defamatory, grossly negligent, and ethically dubious". The editors went on to state "Given the far-reaching implications of the "Yan Report," RR:C19 sought out peer reviews from world-renowned experts in virology, molecular biology, structural biology, computational biology, vaccine development, and medicine. Collectively, reviewers have debunked the authors' claims that: (1) bat coronaviruses ZC45 or ZXC21 were used as a background strain to engineer SARS-CoV-2, (2) the presence of restriction sites flanking the RBD suggest prior screening for a virus targeting the human ACE2 receptor, and (3) the furin-like cleavage site is unnatural and provides evidence of

engineering. In all three cases, the reviewers provide counter-arguments based on peer-reviewed literature and long-established foundational knowledge that directly refute the claims put forth by Yan et al. There was a general consensus that the study's claims were better explained by potential political motivations rather than scientific integrity".

The MSM overwhelmingly accepted the RR:C19 conclusion as gospel. Should they have? Were those statements by RR:C19's editors accurate? Were the paper's claims thoroughly "debunked"?

If you are not familiar with RR:C19, the site was established as a means to peer review preprints and then post those reviews online. Its stated goal is to "stem the tide of misinformation about COVID-19". On that basis, one might suspect that RR:C19's editorial board may have been biased against any material that countered the established natural, zoonotic narrative.

I have studied all four peer reviews. All four are highly flawed.

Kayama's review (see: <https://rapidreviewscovid19.mitpress.mit.edu/pub/igt3wru/release/1>) was just a single page. He began by admitting that no viable intermediate host has yet been identified. So Kayama could not offer evidence of an existing natural pathway. It was merely an assumption on his part that an entirely natural pathway was responsible. As long as he lacks hard evidence, it remains mere conjecture. We need to keep clear in our minds that the hypothesis the spillover was entirely natural and outside a lab environment is still just a hypothesis. It may be the favored hypothesis of the scientific community but that does not mean all alternative hypotheses must be dismissed as impossible out of hand. Yan's paper offered evidence in support of just one alternative hypothesis, i.e. lab engineering was involved. There is a third reasonable hypothesis, which is that a lab accident occurred during handling or experimentation on a natural sample at one of Wuhan's labs. If an accident occurred during handling of an infectious sample, the genome would not yet have been published.

Did Kayama offer any compelling evidence that disproves Yan's hypothesis? In a word, no. His arguments are weaker than a watered-down Budweiser. For instance, Yan's paper noted that "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". Kayama's response is "A variant analysis with respect to SARS-CoV-2 is performed and over 3000 genomic differences are identified between ZC45 and SARS-CoV-2 genomes". He then claimed that Yan would have to explain how all 3000 differences were engineered. That is a ridiculous argument. Mutations can be rapidly generated in the lab by serial passaging a virus through lab animals or in vitro. The most promising mutants are then selected. There is no need to identify every single mutation. Can Kayama identify every single mutation back to an original precursor virus? He did not even identify a candidate precursor.

I checked Kayama's claim by building the two genomes in an excel spreadsheet and then comparing them. In the ORF1 region of ZC45 there are 4407 codons. Each codon codes for one of twenty amino acids (aa). The SARS-CoV-2's genome (NC045512 version from Wuhan) has just 196 codons that differ from ZC45 out of 4409 in the ORF1a region (95.5% identity). The ORF1b region has 113 differences in 2696 codons (95.8% identity). So ORF1 in its entirety has 309 differences in 7105 codons (95.6% identity). There are 215 differences out of 680 in the S1 region of the spike (68.4% identity). In the S2 region there are 33 differences in 590 codons (94.4% identity). ZC45 is also missing the 4 codon furin insert. For the entire spike region there are 252 differences out of 1274 codons (80.2% identity). Yan proposed that SARS-CoV-2's spike was inserted into ZC45 in the lab, so the spike differences can be ignored. In the ORF3 region, 25 of 275 codons were different (90.9% identity). The 75 codon E protein is 100% identical. In the membrane, 220 of 223 codons matched (98.6% identity). SARS-CoV-2's membrane begins with 'MADS' and ZC45's with 'MSGD'. From codon 5 to 222 they are identical. ORF6 has 4 differences in 62 codons (93.5% identity). ORF7a has 15 differences in 122 codons (87.7% identity). ORF7b has 3 differences in 44 codons (93.2% identity). ORF8 has 7 differences out

of 122 codons (94.3% identity). The nucleocapsid has 24 differences in 420 codons (94.3% identity). ORF10 has one difference in 40 codons (97.5% identity). Out of 9764 codons inspected, 643 differ (93.4% identity). Excluding the spike, 8490 codons were inspected and only 391 differences were identified (95.4% identity). How did Kayama get from 391 differences to his 3000 figure?

The genes listed above include the four structural proteins: the spike (S) protein, nucleocapsid (N), membrane (M), and the envelope (E). All four are required to build a viable virus that can reproduce. Nonstructural components include open reading frames ORF1ab, ORF3, ORF6, ORF7ab, ORF8, and ORF10.

What we can observe from the above analysis is that ZC45 and SARS-CoV-2 are closely related everywhere except in the S1 region of the spike protein. How could natural evolution have resulted in just 68% identity in the S1 region but great similarity everywhere else - 91% identity in ORF3; close to 95% identity in ORF1, S2, ORF8, and the nucleocapsid; 99% in the membrane; and 100% in the E protein? Is it not highly improbable that such a huge difference in just the S1 part of the spike protein of SARS-CoV-2 could have arisen naturally, whilst the rest of the genome remained closely related? I do not know the answer to that question.

SARS-CoV-2 and RaTG13 are the only coronaviruses that share 100% amino acid identity with ZC45's E protein. We know E proteins are tolerant of mutations. In fact, by April of 2020, only a few months into the pandemic, mutational changes had already been identified at four different locations in SARS-CoV-2's E protein. So how is it that the initial (Wuhan version) SARS-CoV-2 genome and ZC45 have identical E proteins? It is an indication that ZC45 is a very recent ancestor – but the spike protein indicates it is distant. It cannot be both.

The near match of ORF8 is also strange. ORF8 easily mutates, so is poorly conserved across coronaviruses. Yet ZC45 shares a 94.3% identity with SARS-CoV-2's ORF8 protein. With the exception of RaTG13, no other coronavirus shares more than 58% identity with SARS-CoV-2. The combination of an identical E protein and near identical ORF8 indicates ZC45 and SARS-CoV-2 are close relatives – but the S1 regions of their spike proteins diverge, indicating they are much more distant relatives. The paradox of E and ORF8 indicating a close relationship versus the spike protein indicating a very distant relationship is reconciled if SARS-CoV-2's spike protein is a product of lab engineering applied to a ZC45 template (or a close and still unpublished relative of ZC45).

Yan highlighted the fact that SARS-CoV-2 has a unique 12-nucleotide polybasic cleavage site at the S1/S2 boundary, which amplifies its ability to successfully penetrate hACE2 cells about ten-fold relative to SARS-CoV. Since a 'PRRA' insertion has never been found elsewhere and the insertion is precisely what one would expect from a gain of function experiment, Yan rationally cites this as more likely to be a lab construct than natural. Kayama, by contrast, claimed that similar insertions have been seen in nature. He cited a newly discovered SL-CoV, RmYNO2 (EPI_ISL_42977), which has a PAA insert at the same site. Yan had dismissed this genome as potentially fraudulent. Kayama stated Yan had offered no concrete evidence to support that claim. What Kayama does not mention is that he can provide no concrete evidence whatsoever that RmYNO2 actually exists. It was first revealed in a paper published on 10 May 2020, five months into the pandemic, by Hong Zhou. Independent international scientists do not have access to his team's lab samples or to raw reads. The sequenced genome has not even been uploaded to GenBank to allow easy access for the international community. Zhou's paper is titled '*A Novel Bat Coronavirus Closely Related to SARS-CoV-2 Contains Natural Insertions at the S1/S2 Cleavage Site of the Spike Protein*'. It can be downloaded from: [https://www.cell.com/current-biology/pdfExtended/S0960-9822\(20\)30662-X](https://www.cell.com/current-biology/pdfExtended/S0960-9822(20)30662-X). The authors were all China based, with the sole exception of Edward Holmes in Sydney. In a court of law, Kayama's evidence would be dismissed as hearsay.

The fact that Zhou's work cannot be independently verified is not the only issue with Zhou's claim of having discovered an S1/S2 insertion. On 27 May 2021, Yuri Deigin and Rossana Segreto published a report in BioEssays, which critiqued Zhou's paper. Their conclusion was that RmYNO2 has a 6-nucleotide deletion at the S1/S2 junction, rather than Zhou's claimed 9-nucleotide insertion. Deigin and Segreto's paper was titled

SARS-CoV-2's claimed natural origin is undermined by issues with genome sequences of its relative strains. It can be downloaded from: <https://onlinelibrary.wiley.com/doi/epdf/10.1002/bies.202100015>.

In conclusion, every point in Kayama's debunking of Yan's paper has hereby been debunked.

Adam Luring's critique was also highly flawed. For instance he claimed that Yan had to prove RaTG13 does not exist. That is a ridiculous argument. It is up to Luring to provide compelling evidence it does exist as claimed. The evidence supporting any scientific theory must be independently reproducible. If no such independent evidence is available, it is perfectly reasonable for Yan to dismiss the WIV's paper. RaTG13 has remained unverified since its highly convenient appearance in January 2020. My suspicion is that Shi started with the RaBtCoV/4991 sequence, which may be a very close relative of SARS-CoV-2 and then manually modified it to produce the RaTG13 sequence that was somewhat more genetically distant. One technique would be to just type codon mutations that match those found in ZC-45. For instance, codon 32 of the S1 region of the spike is F in NC045512 but S in both ZC-45 and RaTG13; Codon 50 is S in NC045512 but L in both ZC-45 and RaTG13; and Codon 346 is R in NC045512 but T in ZC-45 and RaTG13.

Luring claimed that Yan provided no evidence SARS-CoV-2 was engineered from ZC45. Yan does not need to provide photographs of PLA researchers hard at work engineering SARS-CoV-2 from ZC45. She merely has to establish this as a credible hypothesis that should be investigated. Yan did discuss the methods that could be used for lab engineering and provided evidence of a high level of identity between ZC45 and SARS-CoV-2 everywhere except in the S1 region of the spike. Luring then claimed that ZC45 differs from SARS-CoV-2 at about 3000 of the roughly 30,000 bases in the genome, giving about 90% sequence identity. That claim appears to me to be inaccurate. As noted in detail above, the genomes share 95.4% identity outside the spike protein, with a mere 391 amino acid differences out of 8,490 codons.

Luring also cited five papers that support the notion of a "remote or recent bat origin":

- 1) One was Andersen et al.'s paper, which should be rejected outright.
- 2) The second was Lam et al.'s February 2020 paper published in Nature Magazine. That paper identified pangolin-CoVs related to SARS-CoV-2, not bat-CoVs (see: <https://www.nature.com/articles/s41586-020-2169-0.pdf>). So that does not support his contention either. To the contrary, a thorough analysis would conclude the paper's findings support a lab chimera hypothesis.
- 3) The third paper cited was Latinne et al.'s *Origin and cross-species transmission of bat coronaviruses in China*, which was published in Nature Communications in August 2020 (see: <https://www.nature.com/articles/s41467-020-17687-3.pdf>). Co-authors included Dan Hu, Zheng-Li Shi, and the now infamous Peter Daszak. Nine of the authors were cited as being associated with the EcoHealth Alliance. Four were associated with the WIV. Interestingly, Dan Hu was listed solely as working in the WIV's Key Laboratory with Shi Zhengli. Yet, in 2018 he worked at the Third Military Medical University in Chongqing and the Research Institute for Medicine in Nanjing. Both are PLA facilities. Has he resigned from the PLA or has the WIV been housing a military wing? As the paper's title suggests, its subject matter was solely an analysis of cross species transmission of coronaviruses. The paper displayed a phylogenetic tree with SARS-CoV-2 placed on a branch occupied by two Malaysian pangolin-CoVs and one Malaysian bat-CoV. The paper also discussed the issue of geographic dispersion over time. A map of spatiotemporal dispersal routes between regions in China did not indicate any flow in either direction with Malaysia. So the paper basically identified SARS-CoV-2 as belonging in Malaysia and did not identify a natural route by which it could have spread back into China. So I am at a loss to figure out why Luring thought this paper in any way refutes Yan's.
- 4) The fourth paper Was Xiao et al.'s paper, *Isolation of SARS-CoV-2-related coronavirus from Malayan pangolins*. It was delivered to Nature on 16 February 2020, very early in the pandemic, but not published until 7 May 2020. Xiao et al. relied on the same data as Liu et al.'s 2020 paper, 'Are pangolins the intermediate host of the 2019 novel coronavirus?'. That dataset had been published by Liu et al. in the October 2019 paper titled *Viral Metagenomics Revealed Sendai Virus and Coronavirus*

Infection of Malayan Pangolins (Manis javanica). All this paper does is establish a connection between the spike protein of a Malaysian pangolin and the spike protein of SARS-CoV-2. It actually reinforces the argument in favor of lab manipulation, since we know of no natural method of inserting remote pangolin spikes into bat SL-CoVs in Wuhan.

- 5) The fifth and final paper was Boni et al.'s *Evolutionary origins of the SARS-CoV-2 sarbecovirus lineage responsible for the COVID-19 pandemic*, which was published in Nature Microbiology in November 2020. That paper concluded that the lineage from which SARS-CoV-2 originated must have been "circulating in bats unnoticed for decades". This is yet another piece of evidence arguing in favor of lab manipulation. There is close to zero probability that SARS-CoV-2 could circulate for decades and then spilled into the human population via a natural zoonotic transfer, outside the lab environment, and end up with an E protein that by pure chance exactly matches ZC45. ZC45 was sampled from a bat living on an island in Hangzhou Bay, a thousand miles distant from Yunnan. Remember, civets acted as the intermediate host for the SARS-CoV outbreak in 2002 and camels for the MERS-CoV outbreak in 2012. In both cases, the animal's SL-CoV bore >99% similarity to the resulting human-CoV. RmYNo2 has been proposed as a close relative to SARS-CoV-2 but though it is very similar in the ORF1ab protein, it is quite distant in the S1 portion of the spike and in the ORF8 protein. Likewise, RaTG13 is close but is highly distinct in the RBD region of the spike and lacks a furin site. They are too distant to be natural proximal ancestors. Furthermore, both RaTG13 and RmYNO2 have yet to be independently confirmed, as the CCP has cut all avenues of open communication and free exchange of data with Western scientists.

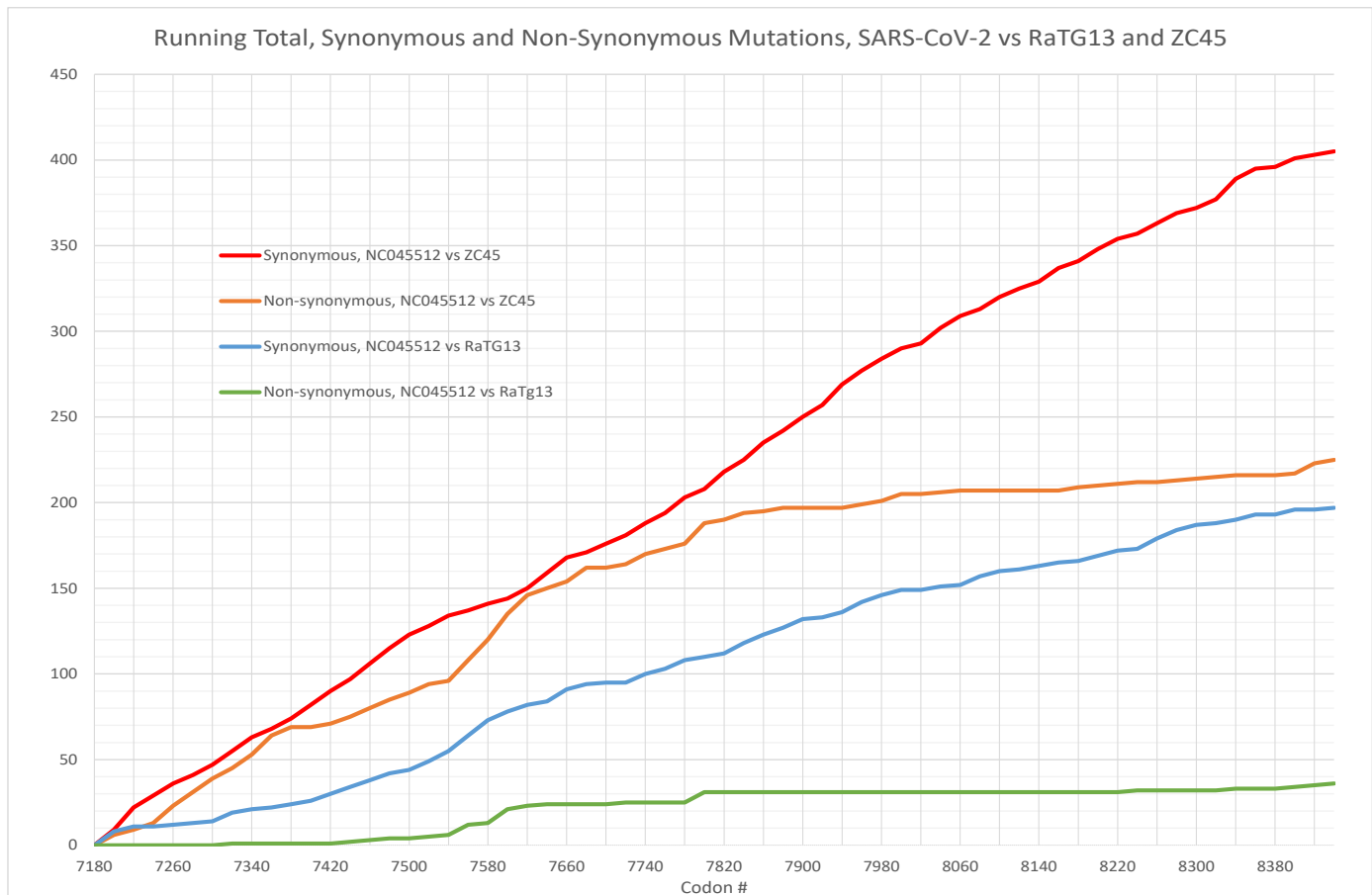
Lauring objected to Yan's proposed method for engineering SARS-CoV-2. He suggested that a far superior route to take is gene synthesis, where genes are constructed de novo from individual nucleotides and then assembled into the final structure. All he has done is claim that it is possible to create SARS-CoV-2 without even requiring a template. Yan suggested the multistep restriction enzyme approach simply because that is the technique Chinese researchers have been using for over a decade. I have not been able to find any example of a Chinese team using Lauring's approach. His objection is a red herring.

Lauring also dismissed the furin cleavage site as being at all suspicious. He stated, "many viruses have these cleavage sites". He did not mention that no lineage B betacoronavirus has been found with a furin cleavage site other than SARS-CoV-2. He also ignored the fact that the CGG-CGG base sequence is unique to SARS-CoV-2. As Yarin Wu and Suwen Zhao noted in their December 2020 paper on this subject "Surprisingly, SARS-CoV-2 has the furin recognition motif at S1/S2, caused by a 12-nucleotide insertion not presented even in its closest relatives." The paper proposed methods by which such a site, though unexpected, could occur naturally. Their conclusion was that "the insertion of [a] furin cleavage site into SARS-CoV-2 spike protein is not necessarily a result of manual work". In other words, he proposes that although scientists have not identified an evolutionary path from a precursor ancestor to SARS-CoV-2, it may exist. On the other hand, he left open the option the insertion could have been accomplished in a lab.

In conclusion, Lauring's arguments are weak, incomplete, and misleading. Lauring was also guilty of repeatedly demanding 'proof' from Yan, yet not imposing a like standard in support of his arguments. To be reasonable, Yan's paper should be read as merely laying out a sensible hypothesis as to how the virus may have been engineered. It was sufficient for her to provide a viable description of how SARS-CoV-2 could have been manufactured. She was in Wuhan in December 2019 and was shocked by the cover-up she witnessed firsthand. She had to flee Hong Kong in order to speak freely. She has to live in hiding and her family in China has been persecuted. She worked in the field in China and is far more intimately conversant with the country's technical capabilities and the nature of its communist government than most US-based scientists. She is a credible witness. Her proposal is as worthy of consideration as the other two primary hypotheses – i.e. either a random natural event or a simple lab accident during handling of one of the WIV's many thousands of bat samples. Yan does not need to prove anything in order to outline a credible hypothesis. One begins with a hypothesis and then conducts a study sufficient to either support or disprove the conjecture. In this case, such a study would have to be conducted in China, with Beijing's cooperation. It is frankly ridiculous for her

detractors to impose such an impossibly high bar, particularly as their own favored explanation has primarily been supported by mere opinion vacuously paraded as proven fact.

Her detractors also appear to be missing the fact that pursuing evidence as to the origin is not yet a scientific issue. It is still primarily political. By dismissing out of hand any suggestion that the CCP may have conspired to cover-up an accident, US scientists have provided fodder for the CCP's propaganda campaign and weakened Washington's negotiating position. First the diplomatic hurdle must be cleared. The West has to apply sufficient political pressure to convince Beijing to agree to a thorough, open, unfettered, on-site investigation by a team of independent scientists selected by the international community. Another sham investigation by the WHO would achieve nothing positive. If that very difficult political hurdle is cleared – which will require a level of political fortitude to date woefully absent in the West's halls of power - only then might international scientists be allowed to professionally investigate all three hypotheses. Unfortunately, this late in the game, the task might still prove to be next to impossible. If there was an accidental release, the CCP has had over a year to scrub forensic evidence and falsify records.



Gallo and Reitz's reviews merely rehash a few of Kayama's and Lauring's points. They both accept RaTG13 and criticize Yan for rejecting it. They completely ignore the fact that the RaTG13 genome sequence had not been made public prior to the pandemic, was conveniently released a month in, has not been independently confirmed, and is short on amplicon data. The WIV updated the GenBank sequence in late 2020, though the original sample was supposedly exhausted in 2018. The file descriptors indicate it may have been derived from a miner's lung sample, rather than a bat fecal swab. There is also a strange discrepancy in the ratio of synonymous to non-synonymous mutations between RaTG13 and SARS-CoV-2. The ratio should be approximately five synonymous mutations for every one non-synonymous. That ratio ought to be roughly maintained right across the length of the genome. However, in the case of RaTG13 and SARS-CoV-2's spike proteins, the final ratio is the expected 5:1 but almost all the non-synonymous mutations are within the first 500 codons.

My own suspicion is that Yan is wrong about ZC-45. I suspect RaBtCoV/4991 or another sample from the Tongguan cave was the precursor for SARS-CoV-2, which is the product of serial passaging or a chimera generated by a gain of function experiment (or a combination of both techniques). If that is what happened, then ZC-45's sequence would have been a useful tool to help create a fictitious genome, RaTG13, that appears to be closely related to SARS-CoV-2 but is apparently separated by at least a few decades of independent natural mutation in the wild. This fake genome was then published in January 2020 to add credibility to the natural spillover theory. If it had not been published, Western scientists would soon have noticed that the 123-codon sequence of RaBtCoV/4991 that had been published back in 2016 perfectly matches the same sequence in SARS-CoV-2. It was better to preempt those questions. If my suspicions are correct, RaTG13 never existed in the wild. It is a falsified sequence created to support a cover story.

On July 7, Edward Holmes from the University of Sydney, Jeremy Farrar of Wellcome, Kristian Andersen, Robert Garry, and Andrew Rambaut and 16 other scientists published a new paper that defends the natural origin hypothesis, titled *The Origins of SARS-CoV-2: A Critical Review*. Peter Daszak was the only member of the original 'proximal' paper not involved in this latest defense of the CCP and WIV. His continued involvement would have tarnished the paper's credibility. The document is not peer reviewed and, in my opinion, would not survive any intelligent review. Holmes et al. appear to be blind to the diplomatic issue preventing elimination of the lab hypothesis as the prime contender. The CCP has refused to share critical data and records for a year and a half now. As long as the CCP continues to refuse Western scientists open access to Wuhan, there is no way to prove the WIV was not at fault. The WHO has conducted two visits to Wuhan, one in 2020 and the second this year. The teams were not allowed access to the WIV, to the WIV's database, to notes taken during experiments, or to any original medical records. Their only achievement was to provide the CCP with an excuse to refuse a properly conducted investigation. Likewise, papers such as 'the proximal origin' and this latest support from Professor Holmes et al. just provide the CCP ammunition for their propaganda campaign. This paper claims the virus probably spread from the Huanan Fish Market via infected civets or raccoon dogs. It fails to provide a logical and innocent reason for the CCP's January 2020 decision to obliterate the fish market and destroy as much forensic evidence as possible, and its subsequent refusal to share what remained with international experts. It dismisses the fact that the earliest victims had no contact with the market. It ignores evidence of victims earlier than mid-November. It ignores the fact that if infected civets or raccoon dogs had been present, they would have been tested. It claims that since the WIV had not published any research that appeared to be linked to SARS-CoV-2, the institute could not have been working on a precursor. Yet we know for a fact that a great deal of the WIV's research after 2016 was never published. It claims that "no previous epidemic has been caused by the escape [from a lab] of a novel virus". What does it matter if the virus is novel or not? It is not as if there is one class of accidents for novel viruses and another class for well-known viruses. Already covered in chapter 2, in 1967, Marburg virus was discovered as a result of a lab release. Fortunately Marburg is not anywhere near as contagious as SARS-CoV-2. In 1977, it was most probably a Chinese lab that released H1N1. The CCP never admitted to any Chinese involvement. Strictly speaking, that event could be regarded as a release of a novel pathogen, since it had not existed since 1957, except on ice in research labs. In 1979, Anthrax was released from a Russian lab that was operating a secret military program in violation of international law. Fortunately, anthrax is not contagious. If they had been working with SARS-CoV-2, that event might well have triggered a global pandemic. The paper also claims that "there is no data to suggest that the WIV – or any other laboratory – were [grammatical error in original document] working on SARS-CoV-2, or any virus close enough to be the progenitor". Yet the closest known SL-CoV is RaTG13. As disclosed, it is not close enough to be the progenitor but it is still the closest yet identified. Furthermore, eight other SL-CoVs from the same Tongguan cave were at least partially sequenced by 2018 and still has not released sequencing files to GenBank. The WIV kept the Tongguan project almost entirely secret for six years, and then either lied or misled the international community when, over the course of 2020, it finally did dribble out conflicting details of what it had been up to. Not a single one of the points raised in this work was addressed by Holmes. It claims RmYN02 is a closer relative to SARS-CoV-2 than RaTG13, yet RmYN02 shares only 93.3% nucleotide identity versus 96.2% for RaTG13. Chen et al. claimed RaTG13 shares 98.7% identity with SARS-CoV-2. One of the most ridiculously naive statements made in the document

is that “Despite extensive contact tracing of early cases during the COVID-19 pandemic, there have been no reported cases related to any laboratory staff at the WIV and all staff in the laboratory of Dr. Shi Zhengli were reported to be seronegative for SARS-CoV-2 when tested in March 2020.” Holmes et al. failed to note that there has been no independent verification of this information. Scientific evidence MUST be independently verifiable. The CCP has refused access to WHO records and has not allowed independent testing of WIV personnel. So the seronegative claim is absolutely worthless. It is mere hearsay, sourced from an organization that is a proven serial liar. Consider this: At the Sydney Olympics in 2000, the CCP provided 14-year-old Dong Fangxiao with a passport which declared her age as 16. That is the minimum age required to compete in the Olympics. Her team took a bronze medal. Ten years later it was discovered that the CCP had cheated. The Olympic Committee then stripped the Chinese team of its medal. At the Beijing Olympics in 2008, three of the women’s gymnastics team – Jiang Yuyuan, Yang Yilin, and He Kexin – were between 12 and 14 years old. The CCP has been prepared to lie and cheat repeatedly in the Olympics, even though there was a high likelihood they would be caught. We know the CCP lied repeatedly with the aim of misleading the world community during the early stages of the Jinping Pandemic. They still lie today. Consider the recent floods in China. The CCP has admitted to a total death toll of 302. Yet in Zhengzhou alone the number of victims who drowned in flooded subway carriages likely exceeds 300. The local water authority (run by the CCP) released floodwaters from reservoirs late at night, without warning the city and communities downstream. As a result of this total lack of communication, the subway system was not taken out of operation and the tunnels started flooding without warning. Over 80 trains had to be taken out of commission due to being flooded. Carriages were seen being moved with all the windows covered by black tarp, most likely because there were still bodies inside. The CCP admitted to 12 subway deaths, yet hundreds of wreaths were laid at the entrance to one subway station alone. The CCP erected a barrier to hide the offerings, so people started laying wreathes outside the barrier. The CCP then built a bigger barrier that extended over 100 yards from the station entrance. The public backlash became so great, authorities removed the barrier and started claiming on social media that the offerings and wreathes were for all the flood victims across China, not just those drowned at this one station. Why didn’t the water authority warn the community it was planning to release flood water? Why did it do so in the middle of the night? Under Chinese law, homeowners and businesses can claim compensation from damage caused by planned water releases but no compensation is provided for “acts of god”. The CCP is proven completely untrustworthy. It also happens to run what can be objectively regarded in the free world as a fundamentally evil, dystopian dictatorship. Yet Holmes and his 20 fellow scientists, the majority of whom have significant professional ties with China, have chosen to accept Shi Zhengli’s statement as gospel, without adding any caveat as to their inability to verify the truth of her statement. They know she enjoys no freedom of conscience. She must obey CCP instructions. Failure to comply would at a minimum see her career destroyed; possibly she would end up paying with her life. I am sorry to have to be this blunt, but these 21 scientists are either politically naïve fools or they are quite aware that they are prostituting their collective reputation to back unproven claims by the CCP. In the latter case, they have provided propaganda support for a totalitarian regime and should be utterly ashamed of themselves. On October 18, 1962, Soviet Foreign Minister Andrei Gromyko met with President Kennedy at the White House. During that meeting, he assured Kennedy that the only military assistance Moscow had provided to Cuba was for “the defensive capabilities of Cuba”. The president knew Gromyko was lying, as SS-4 and SS-5 missiles had been photographed by a U2. That evening, Kennedy met with his ExCom group to discuss whether to launch an air strike on Cuba or just settle for a blockade. The details of the Cuban Missile Crisis should be highly familiar to these 21 scientists. They are intelligent and well-educated. They ought to know not to blindly trust a statement from a communist regime that cannot be independently verified. Compared with Xi Jinping, Khrushchev was a veritable angel.

Is it credible that not a single employee contracted COVID? There were about 590 scientists and staff in early 2020. The number of deaths in Wuhan between January and March 2020 was about 75% higher than normal. The CCP only reported COVID deaths from a handful of hospitals which were designated as COVID facilities. Those who died in other hospitals or at home were not counted. The CCP’s official COVID death toll for the entire country is under 5,000 but, based on activity at crematoria, at least 40,000 died in Wuhan alone. Guo Wengui, an exiled Chinese billionaire with an excellent network of contacts, stated that there were 1.5 million

documented cases in China by early February 2020, the vast majority in Wuhan. He claimed over 50,000 had died. A study by Zhenyu He et al., (see: [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(21\)00238-5/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(21)00238-5/fulltext)) conducted during the pandemic and published on March 18 in *The Lancet*, found that 80% of seropositive individuals never exhibited symptoms. The CCP had only admitted to about 68,000 cases in Hubei by mid-March, but this paper estimated 629,000 infected in Wuhan, or 7% of the population. What is the probability that every single WIV employee would have avoided infection under those conditions? Assuming each employee had a 93% chance of avoiding infection, the probability all 590 were able to do so is $\sim 0.000000000000000003\%$. In other words, it was next to impossible. Let us instead assume the WIV employees were all much better protected than the general population. We will assume each only had a 1% chance of being infected, a mere one-seventh of the typical citizen. Then the probability all 590 avoided infection is $\sim 0.3\%$. That is possible. About once in every 376 pandemics we could expect a clean slate. If Wuhan had suffered a pandemic of this scale every year since the Battle of Naseby – when Cromwell's New Model Army trounced Charles I's Royalists – we could expect that one of those years, the Wuhan Institute would get lucky and completely avoid any infections. They would have us believe 2020 was this very, very, very lucky year. Sometimes we get lucky but, based on the odds, it is logical to conclude Shi almost certainly lied and Holmes either was suckered or chose to conspire in the lie. In January 2020, the CCP ordered that every communication related to the Jinping Pandemic must first be routed through Beijing for clearance. Just because a final statement to the press or a WHO team stated no employee tested seropositive does not guarantee that was the true result of testing. Beijing is free to edit as it likes. What kind of tests were run? If they were PCR tests, they would not have detected infections from six months prior. Likewise, IgM tests would not detect an infection from six months prior. Only IgG tests would still return valid positives six months after infection. Few in China dare challenge the CCP. Shi lives under the thumb of a ruthless dictatorship, where 'speaking truth to power' is considered a criminal act. Western scientists have no such excuse. What has been happening to our scientific community? Over the last year, too many experts associated with prestigious bodies have appeared to be either inept fools or prepared to conduct themselves in a thoroughly unscrupulous and unethical manner.

The Holmes document concludes "While the possibility of a laboratory accident cannot be entirely dismissed, and may be near impossible to falsify, this conduit for emergence is highly unlikely relative to the numerous and repeated human-animal contacts that occur routinely in the wildlife trade". That strikes me as both illogical and unjustified reasoning. It is unjustified because Holmes failed to provide any estimates of the number of interactions with wild animals in the fish market versus in the various animal labs dotted around Wuhan. He also failed to note that animals in a market are not purposefully infected, whereas in a lab that is a matter of routine experimentation. Neither bats nor pangolins were sold in Wuhan markets. However, bats were kept and experimented on in at least three labs. To arrive at a conclusion that there were vastly more interactions with potential original animal hosts in wet markets than labs, he should have had two numbers – a numerator and a denominator, as he was taught at primary school. Where are his figures? They were not provided. Why not? Likely because his team didn't do the math. The statement is thus not justified, as it is not supported by data. 21 professors should not ignore this most basic rule of science. The claim is thus no more than shallow opinion by far from disinterested parties. Why is the statement illogical? First, the Chinese CDC itself dismissed the Huanan Fish Market hypothesis in May 2020. Secondly, if the WIV was innocent, it would have been remarkably easy to eliminate the lab hypothesis from consideration. All the CCP had to do was allow full access to the WIV early last year, rather than close down communication with the international community. The CCP's actions have been consistent with known guilt and a cover-up to hide the embarrassing truth. The reason the lab theory is now almost impossible to dismiss, even if it is false, is that Major-General Chen Wei has had over a year to destroy or falsify records, so they can no longer be trusted as valid evidence.

It is not just the 21 scientists who have put their reputations on the line in support of the CCP. The document lists their affiliation with the Universities of Sydney, Melbourne, Glasgow, Edinburgh, London (King's College), Arizona, Utah, Tulane, Pennsylvania, Texas A&M, Xi'an Jiaotong-Liverpool (Sino-British joint venture in

Suzhou, China), Otago (in New Zealand), the Medical University of Vienna, Scripps Research Institute, The Wellcome Trust, and Zalgen Labs.

In July 2020, after President Trump cut US funding of the WIV by Peter Daszak's group, Professor Robert Garry (of Tulane University and Zalgen Labs) told Newsweek, "Scientifically, this doesn't make sense" and "scientists should be able to work with other scientists without politics". That neatly summarizes the problem. Some scientists are not realists. They choose to conduct themselves as if the world is what they wish it to be, rather than what it actually is.

The Holmes document can be downloaded from: <https://zenodo.org/record/5075888#.YOhELMD3YIQ>.

Occam's Razor

"Before we start to investigate, let us try to realize what we do know" - Sherlock Holmes in Arthur Conan Doyle's *The Adventure of the Priory School*

Based on the principle of keeping an explanation as simple as possible, whilst still taking account of all evidence available, let us propose a slight alternative to the standard 'lab leak' hypothesis that may be worthy of consideration. Simply put, what if RaBtCoV/4991 was actually the source of SARS-CoV-2?

It seems to me that this is the simplest explanation that is consistent with all the facts we are privy to and also provides justification for the CCP and WIV's rather bizarre behavior since late 2019. Both organizations have been proven to be serial liars throughout the pandemic. For the CCP, lying to the international community is standard practice and is generally justified predominantly by domestic considerations. However, for a highly respected scientific institution to risk its reputation is a different matter entirely. One would not have expected the Wuhan Institute to willfully mislead the international scientific community, particularly in such a sloppy manner, unless it was pressured to do so by higher authority.

The 'natural spillover' version of events is that SARS-CoV-2 was circulating in the wild – in bats, an intermediate host, or even in humans – for years and then somehow acquired the cleavage site, rendering it far more potent. Once the virus achieved that key evolutionary step, the next time there was a spillover event it did not quickly peter out unnoticed. Patient zero was infected in Wuhan and from there the virus spread globally in just a few months. The WIV claims it did not have SARS-CoV-2 in its inventory of samples and isolates, so the lab could not have been responsible. According to the WIV, how patient zero was infected is a mystery but he definitely was not connected to the WIV. Is that a credible hypothesis? Chinese authorities, Western scientists, most of the Western MSM, and all of the major Internet social sites not only agreed with this hypothesis, they also denounced anyone with the temerity to suggest it might have been a lab accident. Can we prove that their favored hypothesis is far from the most likely? Better still, can we prove that it is next to impossible to have been a natural spillover without lab involvement? In chapter 6, some simple probability weightings based on the peculiar location of the outbreak – i.e. close to China's only BSL-4 lab, where the majority of China's coronavirus research is conducted – were provided to estimate the likelihood of such a strange coincidence. There is another approach we can utilize, which is taking account of SARS-CoV-2's mutation rate.

Consider this:

The S1 domain of the spike protein is much less stable than the S2 domain. This has been analyzed by Lalitha Guruprasad (see: <https://onlinelibrary.wiley.com/doi/10.1002/prot.26042>). Guruprasad inspected 10,333 samples of SARS-CoV-2's spike protein. The samples had been collected prior to January 2021, so encompassed about a year of evolution from the initial Wuhan strain. She observed that 8,155 exhibited at least one mutation (79%). She counted 9,654 different mutations at 400 specific locations. As the entire spike protein consists of just 1,273 codons, about one in three codons has been subject to mutation. Although mutations have occurred over the entire length of the sequence, the greatest frequency has occurred around the cleavage site (codons 675 to 692), followed by the RBD (333 to 527). 8,985 of those mutations (93%) were in the S1 domain. The top 10 mutation sites were D614(7859), L5(109), L54(105), P1263(61), P681(51), S477(47), T859(30), S221(28), V483(28), A845(24). Guruprasad only observed 93 mutations (1%) in the Heptad repeat region (codons 1,134 to 1,213) and Transmembrane region (1,214-1,236). She found as many as 16 mutations in a single isolate. Only 21% of the samples had retained complete identity with NC045512 (Wuhan-hu-1, sequenced January 2020).

The WIV released the full sequence of RaTG13 in February 2020. Later in the year the institute confirmed that RaTG13 was indeed RaBtCoV/4991, just with a new name. RaBtCoV/4991 was extracted from a fecal sample obtained at the Tongguan mine in 2013. A lab specimen stored in a freezer does not evolve. From an evolutionary standpoint, RaBtCoV/4991 is frozen in time, circa April 2013.

The only portion of RaBtCoV/4991 that Shi's team divulged prior to the pandemic was a 370-base pair sequence of the RdRp region (123 codons), which was published on GenBank in 2016, under accession number KP876546 and taxonomy 1788497. What I have not seen observed elsewhere is the fact that the RaBtCoV/4991 RdRp sequence perfectly matches the same section of SARS-CoV-2's genome.

What other similarities are there in the two genomes? What are the differences? We have to rely on the sequence Shi uploaded to GenBank in January 2020, when RaBtCoV/4991 was renamed RaTG13. We know RaBtCoV/4991 was sequenced in 2018 but the paper Shi submitted to Nature Magazine on 20 January 2020 claimed the work had been conducted earlier that very month. That was a lie. If Shi's official statements cannot be fully trusted, her data should not be fully trusted either. With the Soviets, President Reagan was prepared to trust and verify. With the CCP, it may be wiser to verify, then trust. Until we have proof to the contrary, we should allow for the possibility that RaTG13 may be a doctored version of the actual RaBtCoV/4991 (=SARS-CoV-2 precursor?) isolate, with the objective of providing the WIV with a better cover story based on natural emergence.

According to Shi's January 2020 paper, RaBtCoV/4991 and the NC045512 strain of SARS-CoV-2 are 96.2% identical. However, I have found that if we take account of evolution over the six years from 2013 to 2019, the two genomes may have been close to 99% identical in 2013. After 2013, SARS-CoV-2 would have developed independently of RaBtCoV/4991, whether in the wild or as the result of experiments in a lab. We have to estimate the rate of natural evolution and then also consider what serial passaging - either in vitro or in vivo in an animal lab - might have achieved to accelerate the mutation rate.

Let us work through the RaBtCoV's genome sequentially, beginning with ORF1ab. We will compare it primarily for differences with the SARS-CoV-2 NC045512 strain but also refer to ZC45 where appropriate.

ORF1ab (98.6%):

This open reading frame has 7096 codons, which constitutes a little over two-thirds of the entire genome. 6997 of RaBtCoV/4991's codons are identical to SARS-CoV-2. 99 are different. The two genomes are thus 98.6% identical. ORF1ab accumulates mutations at about 3 times the rate of the spike protein. In 2013, NC045512 may only have had 80 differences, in which case the two would then have shared 98.9% identity. A third of RaBtCoV/4991 differences (33 of 99) are also found in ZC45. In another 23 locations both ZC45 and RaBtCoV/4991 differ from NC045512 but also with each other. ZC45 was collected in 2015, whereas RaBtCoV/4991 was collected in 2013.

Spike protein (97.7%):

This is a structural protein. We know from Guruprasad's work that around one mutation per year could be expected in the spike protein, so after six years somewhere around half a dozen new natural mutations could be expected. Ignoring the fusion site, NC045512 has 29 codon differences in the spike versus RaBtCoV/4991. So in 2013 it might have had just 23 differences. RaBtCoV/4991 and NC045512 would then have shared about 98.2% identity. That is very close. By contrast, ZC-45 has 248 differences and WIV1 276 (still excluding the 4-codon fusion site insertion).

ORF3 (97.8%):

ORF3						
Codon #	10	28	52	77	80	259
NC_045512	I	F	L	V	V	V
ZC45	L	S	I	V	V	A
RaBtCoV/4991	L	S	F	I	I	A

SARS-CoV-2, ZC45, and RaBtCoV/4991 all have a 275-codon long open reading frame 3 (ORF3). SARS-CoV-2 is identical to RaBtCoV/4991 in 269 of the 275 codons, for a 97.8% match. In three of these six codons (10,

28, and 259), ZC45 and RaBtCoV/4991 are identical. Codons 77 and 80 are both mutations from I to V and Zc45 has the same mutation. In codon 52, NC045512 has mutated from F to L. ZC45 and RaBtCoV/4991 also differ in this location.

E Protein (100%):

This is a structural protein. The E protein consists of 75 amino acids. All three genomes have an identical E protein.

Membrane (99.6%):

Membrane					
Codon #	1	2	3	4	5
NC045512	M	A	D	S	N
ZC45	M	S	G	D	N
RabTCoV/4991	M	A	D		N

This is a structural protein. The membrane consists of 222 amino acids. The only difference between NC045512 and RaBtCoV/4991 is the 4th codon, which is missing from RaBtCoV/4991. So the two genomes are 99.6% identical. ZC45 is also identical but for the 2nd through 4th codons, so it shares 98.6% identity with SARS-CoV-2. The first 4 codons are 'MADS' for SARS-CoV-2, 'MADN' for RaBtCoV/4991 (the 'N' aligns with NC045512's 5th codon), and 'MSGD' for ZC45.

ORF6 (100%):

ORF6 has 61 amino acids. NC045512 and RaBtCoV/4991 are identical. ZC45 has 4 mutations, resulting in 93.4% identity.

ORF7a (97.5%):

ORF7A			
Codon #	8	10	104
NC045512	A	I	V
ZC45	V	I	V
RaBtCoV/4991	V	V	I

ORF7a has 121 amino acids. Between NC045512 and RaBtCoV/4991, 118 are identical (97.5%). The three differences are illustrated in the table above. Note that codons 10 and 104 have been switched from 'I' and 'V' in NC045512 to 'V' and 'I' in RabTCoV/4991. If that swap occurred after 2013, then in 2013 they shared 99.2% identity. ZC45 has 15 mutations relative to NC045512.

ORF7b (97.7%):

ORF7B	
Codon #	2
NC045512	I
ZC45	S
RaBtCoV/4991	S

ORF7b consists of 44 codons. All are identical but for codon 2, which has switched from S in both RaBtCoV/4991 and ZC45 to I in NC045512.

ORF8 (95%):

ORF8						
Codon #	3	10	14	26	65	84
NC_045512	F	I	A	T	A	L
ZC45	F	L	A	A	V	S
RaBtCoV/4991	L	L	T	A	V	S

ORF8 has 121 amino acids. NC045512 and RaBtCoV/4991 share 95% identity. Of NC045512's six mutations, four are in codons where ZC45 and RaBtCoV/4991 share identity (codons 10, 26, 65, and 84). The other two mutations (codons 3 and 14) match mutations of ZC45 relative to RaBtCoV/4991.

Nucleocapsid (99.0%):

Nucleocapsid				
Codon #	37	215	243	267
NC045512	S	G	G	A
ZC45	P	G	G	Q
RaBtCoV/4991	P	S	S	Q

The nucleocapsid is a structural protein consisting of 419 amino acids. Between NC045512 and RaBtCoV/4991, 415 are identical (99.0%). In 2 of those 4 codons (37 and 267) RaBtCoV/4991 and ZC45 are identical. In the other two, NC045512 and ZC45 are identical.

ORF10 (100%):

NC045512 and RaBtCoV/4991 are identical in all 39 codons.

ZC45 has codon 37 switched from L to F.

In summary, back in 2013, RaBtCoV/4991 and SARS-CoV-2 could have shared 98.9% identity in ORF1, 98.2% in the spike protein, over 97.8% in ORF3, 100% in the E protein, 100% in ORF6, 99.2% in ORF7a, 97.7% in ORF7b, over 95% in ORF8, over 99% in the nucleocapsid, and 100% in ORF10. A rule of thumb is that you need about 99% identity to set the stage for a successful spillover event. If SARS-CoV-2 began as RaBtCoV/4991 in 2013 (or a closely related virus collected and identified but never published), a multi-year lab program that inserted a furon cleavage site and then followed up with serial passaging through ferrets in one of Wuhan's animal labs could have produced the extra 1% required. As serial passaging alone can generate a cleavage site, it could have been accomplished without lab insertion by Shi's team. In that case, an accident whilst handling a lab animal, such as a ferret, could have been the initial zoonotic event. The CCP would definitely not want the world to know it had been running gain of function experiments in one of Wuhan's animal labs.

Initially we were told Shi ran a search against the Wuhan database in January 2020 (which was taken offline in September 2019, right around the time patient zero was infected). That search identified the RaBtCoV/4991 sequence as similar to the same region in SARS-CoV-2 (actually, they are identical), so Shi's team went ahead and sequenced the entire genome. That was accomplished in January 2020. Later in the year Shi admitted they had actually sequenced the entire genome back in 2018.

France's direct involvement at the BSL-4 lab was terminated in 2016. It has been reported that subsequently, the PLA established an office at the BSL-4 lab.

We know Shi's team fully sequenced RaBtCoV/4991 by 2018 and that several other SL-CoVs from the mine were also at least partially sequenced that year. So we know Shi was sitting on a major discovery in 2018 – yet nothing was published in either 2018 or 2019. If we are to believe Shi's GenBank upload of the RaTG13

genome, RaBtCoV/4991's spike was very interesting. Would Shi have just filed it away in 2018 and moved her team on to other research? That seems inconceivable. This appeared to be at least as dangerous as SARS. Three of six miners had died; that is a mortality rate of 50%. RaBtCoV/4991 may have been responsible. Also a cause for suspicion, the publishing output of both the PLA's Nanjing group and the WIV dried up after early 2018. These two teams had been responsible for about 90% of bat coronavirus discoveries worldwide over the preceding decade. In 2018 they entered stealth mode. Why? What were they working on?

Let us assume that with the French gone, the PLA started to use the WIV's BSL-4 lab for biodefense research in 2016. The PLA was informed of the Tongguan mine incident in 2012 and had obtained samples from the six miners. Shi's team also had four fluid samples taken from their lungs. Her team made multiple trips to the mine over the 2012 – 2013 period. All six miners had suffered COVID-19-like symptoms. Documentation of their hospital treatment verifies that they suffered pneumonia-like symptoms and exhibited ground-glass opacity on lung x-rays. Three of the miners succumbed. Shi's 2016 RaBtCoV/4991 paper did not specifically identify the Tongguan mine or mention the infected miners. It merely stated her team had spent two years collecting samples from an abandoned mineshaft in Mojiang County. In 2016 Shi was interviewed by Scientific American on the Tongguan incident. In that interview she stated the miners had been infected by a fungus, not by a coronavirus. Yet the medical records of the miners were all consistent with a SARS-like infection. The mine incident was not reported to the WHO or PREDICT. Since whatever killed the miners exhibited a 50% lethality rate, the PLA may well have decided to investigate further. Once the BSL-4 lab in Wuhan became available, it would have been prudent on safety grounds for the military to conduct all research there.

If Shi's team had not published the RaTG13 genome on GenBank in early 2020, it was only a matter of time before some bright researcher would have noticed that RaBtCoV/4991's 123 codon sequence was a perfect match for the same sequence in SARS-CoV-2. Questions would have been asked about why SARS-CoV-2 matched one of the WIV's published lab specimens. By publishing RaTG13, Shi preempted those questions and established RaTG13 as a credible wild relative to SARS-CoV-2. It would have been relatively simple for Shi to take RaBtCoV/4991's sequence and then doctor the data to widen the genetic distance from NC045512 to, say, 20 to 50 years. ZC45 could have acted as a great template for that job. All Shi had to do was swap in some of ZC45's mutations, maybe add a few more found in WIV1, introduce synonymous base changes at a five to one ratio, and the job was largely accomplished. Remember, RaTG13 exists only as database files. There are no physical samples that could be used for independent confirmation. If we assume RaTG13 is merely a somewhat doctored version of RaBtCoV/4991, designed to help discredit the lab leak hypothesis and add credence to the CCP's 'natural spillover' cover story, then RaBtCoV/4991 could be very close, even near identical to SARS-CoV-2. In that case, SARS-CoV-2 evolved from RaBtCoV/4991 as the product of several years of gain of function research. It is also possible that RaBtCoV/4991 was derived from a clinical sample obtained in April 2012 from one of the six infected Tongguan miners, rather than from a fecal bat sample in 2013. The miners' symptoms were completely consistent with SARS-CoV-2.

Such reasoning would be damned by the MSM as an "unfounded conspiracy theory". However, I would argue it is not groundless. The CCP has spent the last 72 years lying to the Chinese people and the world at large. It has zero credibility as far as honesty is concerned. Its primary objective has always been to protect its monopoly on power. The CCP has always been a master at obscuring and evading responsibility for embarrassing truths. Under Xi's leadership, it has become even more paranoid. Its actions since September 2019 are consistent with a cover-up. The cover-up has been successful in one respect – we have not yet found direct proof of what the Party was up to in Wuhan. However, it has been a failure in another respect – it is obvious the CCP has been doing all in its power to block international access. Why do that unless truth revealed would cause the Party enormous embarrassment? A leak from an illegal military project that ends up killing millions worldwide and costing economies trillions of dollars is about as embarrassing as it gets.

The Coverup Conspiracies

“When falsehood can look so like the truth, who can assure themselves of certain happiness?” – Mary Shelley, *Frankenstein*

It is evident that Xi Jinping and the CCP did conspire to mislead the world about the true danger of the Wuhan outbreak in its early stages.

In early January 2020, whilst Beijing and the WHO were still telling the world the virus was not human to human infectious, the CCP ordered the Triad and Tong organizations operating across the Chinese diaspora worldwide to purchase every protective medical mask, glove, and gown available and immediately ship them back to China. The gangs bought up the equivalent of a two months' global supply in just a few weeks. This massive haul was shipped to China, leaving the world's inventory depleted. This was the primary reason Western hospitals faced such a dire shortage of supplies in the early months of the pandemic.

The Tongs and Triads exist in an informal symbiotic relationship with the CCP. They mainly operate outside mainland China and, in addition to their normal business interests, act as an enforcement and intelligence arm for the CCP. For instance, in July 2019, an anti-government demonstration in Yuan Long, a town in the New Territories district of Hong Kong, was broken up by a gang of thugs, who used poles and rods to assault the crowd. Forty-five demonstrators were hospitalized. Dixon Sing, a Hong Kong political analyst told French news agency AFP that “*When the Communist Party of China finds it inconvenient for it to do something, it will use those gangsters on its behalf*”. In return for such favors, the CCP allows the gangs space to conduct their business operations, such as drug running and prostitution.

The WHO also conspired with the CCP to mislead the world as to the true threat. In December 2019, Taiwan officials warned the WHO that the outbreak in Wuhan was human-to-human communicable and highly virulent. Dr. Tedros ignored the warning on the basis Taiwan was no longer a WHO member and instead continued to parrot the CCP's misinformation well into January. That helped buy the CCP extra time to vacuum up much of the world's inventory of medical masks.

The WHO also delayed declaring the outbreak a global pandemic until weeks after it qualified as such. As late as February 5, 2020, Sylvie Briand, head of WHO's Global Infectious Hazard Preparedness division, told reporters in Geneva that “*currently, we are not in a pandemic*”. Although that was technically true, the epidemic had already spread from mainland China to 23 countries in Europe, the Americas and Asia. Briand should have by then been warning that the outbreak would inevitably become a global pandemic and that it thus warranted immediate imposition of strict travel sanctions. If insignificant little Atlas Equity Research could figure that out in January, surely the thousands of the world's top experts associated with the WHO could too? Tedros was able to stall the WHO's declaration of a pandemic status until March 11, by which time 37,541 cases had been detected in 118 countries outside mainland China (including Taiwan, Hong Kong, and Macau).

As we noted in an Atlas memo the day of Sylvie Brand's comments, “*Once again the CNN's of the world are trotting out Ivy League academics to assure us that, counter-intuitively, flight bans are useless at preventing the spread of disease but result in a number of negative effects – economic damage, stigmatization, xenophobia, difficulty in tracking civilians who manage to beat travel restrictions, etc. However, such statements are disingenuous. Yes, a flight ban generally will not stop the spread of a pandemic but it should reduce the speed at which the disease spreads geographically and lowers the number of imported cases. A single individual with the disease can be hospitalized and it may be possible to track, quarantine, and monitor all his contacts (as occurred in Lagos with a single Ebola victim in 2014). However, if flights are arriving every day from the epicenter, more infected slip through and it soon becomes impossible to track everyone exposed. A plane with 100 passengers from Wuhan today would on average have one infected passenger. In a few weeks it may be north of three passengers. Eliminating air travel slows the spread and reduces the number of early first-generation cases, which gives hospital systems more time to prepare and a more manageable case load when the disease finally arrives.*”

In addition to the WHO, left-leaning media, academics, and political parties (including the leadership of the Democratic Party in the US) largely hewed to the CCP's script. Experts who warned otherwise were ignored or derided as Xenophobes.

A 55-year-old man was the first known COVID-19 patient. He was admitted to a Wuhan hospital on November 17. By December 15, the total number of infections stood at 27. The first double-digit daily rise was reported on December 17. By December 20, the total number of confirmed cases had reached 60 (see: <https://www.scmp.com/news/china/society/article/3074991/coronavirus-chinas-first-confirmed-COVID-19-case-traced-back>).

According to a recent report by the WSJ (May 2021), US intelligence believes three WIV researchers were hospitalized with symptoms consistent with COVID in November 2019. Chinese authorities and Shi Zhengli have consistently denied over the last 18 months that any WIV staff were ever sickened. However, as the international community was denied access to WIV records, we really only have the CCP's word on this. The CCP, frankly, has zero credibility. In fact, if the CCP makes a claim but refuses to disclose the records that would confirm the claim, one has to favor the hypothesis that Beijing has been lying once again.

On December 27, a lab by the name of Vision Medicals managed to complete a genetic sequence of most of the genome and found it to be quite similar to SARS. They immediately shared the data with Wuhan medical officials and the Chinese Academy of Medical Sciences (as reported by Caixin and confirmed independently by A.P.). The same day, Dr. Zhang Jixian of Hubei Provincial Hospital of Integrated Chinese and Western Medicine, reported to the Jiangnan district center for disease control and prevention that her hospital had four patients suffering from a viral pneumonia of unknown origin and that all four were linked to the Huanan Fish Market. Wuhan officials delayed three days before sending an internal warning notice on December 30. Shi Zenghli received the notice and immediately returned from a conference in Shanghai to the WIV. The WHO was not warned.

Dr. Li Wenliang, a Wuhan ophthalmologist, witnessed his hospital's sudden influx of patients with SARS-like symptoms. On December 31, he warned other professionals via his WeChat group of what was occurring, advising them to take sensible precautions. On January 3, Li and seven other doctors from his chat group were summoned by the Public Security Bureau and forced to sign "confessions" that they had been spreading fake rumors. They were forced to promise they would not commit "unlawful acts" again. Tragically, the good doctor contracted COVID and died on February 6, just 33 days after being dragged before the police and forced to sign his confession. News of his death sparked massive anger across the country. Over the following month China's "fact checking" online policing had to withdraw and allow netizens some space to vent their fury. It proved to be only a brief respite though – an online tankman moment. By April, bloggers who had been reporting from ground zero in Wuhan began to "be disappeared", only to reappear a month or two later contrite and silent. The CCP is the world grandmaster of rapid reeducation.

On December 31, the Municipal Health Committee of Wuhan released two notices, which stated that 27 pneumonia cases related to the wet market had been identified, that the disease was "preventable and controllable", and that there was no "obvious human-to-human transmission and no medical staff infection". Yet Wuhan's hospitals had already reported they were experiencing an exponential growth in SARS-like cases. The first wet market victim infected his wife, who had never visited the market. She was diagnosed on December 6. On December 25, medical staff in two hospitals had to be quarantined after exhibiting symptoms of pneumonia. The Municipal Health Committee had to be well aware its statements were false.

The CCDCP (Chinese equivalent to the CDC, reporting to the National Health Commission) still neglected to alert the WHO. However, the WHO monitors open-source platforms worldwide and spotted an online report about the unusual surge in pneumonia cases. By this time, 266 victims had been hospitalized in Wuhan. That night, a New Year's party beside the Yangtze River was attended by a crowd numbering over 10,000.

On January 1, the Hubei Provincial Health Commission started ordering labs to stop analyzing samples from Wuhan and to destroy all existing samples. Under the hierarchical structure of the CCP's rule, there is no way this would have been done but on orders from the CCP in Beijing. Wuhan hospitals had admitted 381 cases by that day, up from 266 the day before. An increase of 115 cases in a single day clearly qualifies as a major epidemic in the making and most likely had to involve human-to-human transmission. The number of hospitalized cases jumped to 381, up 115 for the day.

Also on January 1, the CCP ordered the Huanan Seafood Market to be closed and then bleached, which destroyed forensic evidence that might have helped international investigators track back to the original source. Later the market was also bulldozed, which both literally and figuratively covered-up any remaining forensic evidence.

On January 2, Wang Yanyi, director of the WIV, issued a notice to the institute's research staff that the National Health Commission had informed her by phone they were forbidden to release any information on COVID-19.

On January 3, the National Health Commission ordered labs to either destroy virus samples or send them to a specific list of institutions. A document was sent to all regional health commissions and biosafety labs in the country. Labs were forbidden from sharing or publishing information about the virus without first obtaining approval from Beijing. Biological samples could no longer even be shared with other Chinese institutions without approval. It might be claimed that this order was a safety measure to ensure the situation was not worsened by virus leaking from labs in other cities - the CCP wanted all samples collected in a few BSL-3 labs to minimize risk. However, if this was so, why was the CCP still maintaining to both the Chinese public and the international community that the virus was not transmissible? Why were authorities allowing life in Wuhan to continue as normal? Also, if the CCP had no idea how the outbreak began, they would have wanted to keep all samples for forensic analysis. The order should then have been to preserve all samples and have them securely forwarded to a BSL-3 lab for safety. As a result of these orders, critical forensic evidence was destroyed, what remained was placed off limits for international scientists, and the WIV could no longer communicate, though it was ideally placed at the epicenter of the brewing pandemic and employed China's leading expert on bats and SL-CoVs.

Also on January 3, the Chinese CCDCP fully sequenced the genome – but failed to share it.

On January 4, Professor Zhang Yongzhen's team at the Shanghai Public Health Clinical Center likewise successfully completed sequencing the SARS-CoV genome. In an interview with Time Magazine, Zhang said his team sequenced the genome in less than 40 hours and "then I realized that this virus is closely related to SARS, probably 80%. So certainly, it was very dangerous". He posted the sequence to GenBank but it sat waiting for review for more than a week. He also passed the information to Dr. Zhao Su, head of respiratory medicine at Wuhan Central Hospital. He also contacted the National Health Commission and warned that the virus was similar to SARS, so probably human-to-human infectious via respiratory passages. He recommended preventive measures be taken in public areas. He then went to Wuhan to meet with authorities face to face.

On January 5, the Chinese Academy of Medical Sciences in Beijing also completed the genome sequence. It failed to share it internationally.

On January 8, Chinese medical authorities stated there was no "clear" evidence of human-to-human transmission. Yet by now four Chinese labs had independently sequenced the genome. Chinese authorities knew it was a SARS-like coronavirus and that the S1 region of the spike protein (which is responsible for binding to ACE2 cells) had been sequenced. That evening, Professor Zhang had dinner with top health officials in Wuhan and informed them of the SARS-like nature of the genome and that it transmits via the respiratory tract.

On January 11, Chinese medical authorities again maintained that there was no “clear” evidence of human-to-human transmission. The same day, Professor Edward Holmes called Zhang from the University of Sydney. Zhang must have shared the genome sequence with Holmes, as he asked Zhang for permission to release it. Zhang agreed and Holmes immediately posted it to Virological.org. The following day, January 12, the Shanghai Health Commission ordered Zhang’s BSL-3 lab closed for ‘rectification’. A month later it was still closed, despite the fact hospitals around China relied on the lab for its prowess in genetic sequencing. In an act of rank propaganda, the Chinese embassy’s official web site currently claims that Chinese authorities posted the sequence on January 11. Why does the MSM ignore such brazen lying on the part of the CCP?

On January 12, Dr. Li was hospitalized. As an ophthalmologist, he had treated a patient who he did not realize was infected with COVID. This was yet further tragic proof of human-to-human transmission.

The next day, on January 14, the WHO reported “Preliminary investigations conducted by the Chinese authorities have found no clear evidence of human-to-human transmission of the novel coronavirus”. There was no mention that Taiwan had warned the WHO in December that the disease was transmissible. Tedros allowed the CCP’s lie to stand unchallenged.

On January 15, Japan reported its first case and noted the victim had not visited any wet market in Wuhan.

On January 16, the National Health Commission sent an internal notice to all regional health commissions titled “Novel Coronavirus Laboratory Biosafety Guidelines”. The document instructed that BSL-3 standards should be used. The document was only made public on January 23.

On January 18, 40,000 families in Wuhan shared home-cooked food at a potluck event. Authorities ignored pleas from the Wuhan medical community to cancel the event. They were also ignoring the advice Professor Zhang had provided ten days before. Did they bother to ask Shi Zhengli for her advice? Subsequently, 57 buildings in the community had to be declared as “fever buildings”, where exterior doors were literally welded shut to imprison occupants inside.

On January 20, the Chinese National Health Commission at last admitted that human-to-human transmission had occurred and that medical personnel had been infected.

On Thursday, January 23, the CCP ordered that the entire city of Wuhan be quarantined. The lockdown, which lasted over two months, included all road and rail traffic, river traffic, and domestic flights. The city was effectively isolated from the rest of China the day before the Lunar New Year’s Eve celebration. Citizens could not even leave Wuhan by foot. As Wuhan is a major rail hub in the heart of China, the impact on the country’s commerce could be compared to what would happen in the US if Chicago were to be locked down. However, Xi not only allowed international flights out of Wuhan’s airport to continue, he campaigned through diplomatic and media channels to prevent any cessation of international flights. The compliant WHO, run by the awful Dr. Tedros, officially recommended to the world’s nations that air traffic should be kept open.

One day later, on the Lunar New Year’s Eve, during a nighttime TV extravaganza which is broadcast on every channel in China, the CCP asked the public not to travel over the New Year, to stay at home in as small groups as possible and not celebrate with extended family. The CCP appealed to the public’s sense of patriotism and social responsibility. I was in Sanya, on Hainan Island at the time. The next day all tourist attractions were closed, planned concerts were cancelled, bus and taxi services were terminated, as was the high-speed rail service. Restaurants that had been packed the night before were almost empty on what is typically one of the busiest nights of the year. I toured the islands five-star hotels and found them eerily quiet, with guests leaving but few arriving.

On January 26, the Lancet published Huang et al.’s *Clinical Features of patients infected with 219 novel coronavirus in Wuhan, China*. The report analyzed 41 COVID-19 patients who had been admitted to hospital prior to January 2. Twenty-seven of the patients had visited the Huanan Seafood Market but 15 had not visited the market, including the earliest three patients. Admission of the initial patient linked to the wet market was

followed by a gap of four days with no new cases, then a cluster of wet market cases over the following 13 days (Dec 15 to Dec 27). The report noted that five days after a wet market employee was admitted to hospital, his wife was also admitted. She had not visited the wet market. The authors concluded “evidence so far indicates human transmission”.

On January 27, Hong Kong closed its border to Hubei residents.

On January 30, the WHO belatedly declared a Public Health Emergency of International Concern. Tedros had sufficient information to do so at least a week earlier but chose to delay. Political pressure from the CCP was likely the primary reason. In particular, Tedros ignored early warnings from both Hong Kong and Taiwan that the outbreak was contagious, as neither is a member of the WHO. Beijing claims sole authority over both.

On January 31, Joseph Wu et al. from Hong Kong University published a paper that estimated 75,815 had been infected as of January 25 (95% CrI 37,304–130,330). Mainland China’s official tally of confirmed cases was 1,287 that day. Atlas produced its own simple model on February 3. We assumed 40,000 infected as of January 23, or 0.29% of Wuhan’s 14 million population (city + suburbs). We used 0.15% as the average infection rate for Wuhan travelers over the preceding four weeks and assumed Wuhan’s 14 million citizens would contribute 1% of Chinese tourists who had travelled internationally. By February 9, with the two-week incubation period passed since Wuhan had been quarantined, the number of Chinese sourced cases internationally stood at 191, 7% higher than the Atlas model’s estimate of 177. Thus, it seemed likely that the true number infected in Wuhan as of January 23 was around 40,000 or more, which was 70 times the 571 confirmed by Beijing as of that day.

Also on January 31, the CCP ordered Dr. Chen Wei to assume command both of the medical response in Wuhan and management at the WIV. Wei was awarded her doctorate by the Academy of Military Medical Sciences (AMMS) in 1998 and then joined the faculty. She currently is director of the Academy’s Institute of Bioengineering. She is also a member of the CCP and holds the rank of major-general in the PLA. She is reputed to be the PLA’s top bioweapons researcher and somehow acquired the moniker ‘wolf warrior’. Her AMMS researchers produced the first Ebola vaccine in 2014. State-run Pengbai News described her as a “goddess of war” and reported that Beijing had placed her in control of the entire response and was also tasked with developing a vaccine as rapidly as possible. Changjun Wang from the PLA’s Nanjing lab was transferred from Eastern Command to assist Wei. In 2018, Wang led the team that isolated ZC45 and ZX21 (described in paper by Dan Hu et al.).

On February 6, Dr. Li died. The Chinese public was furious and placed blame on the CCP. The same day, Wired Magazine ran an article that criticized President Trump’s decision to severely restrict flights from China. The article quoted a public health law professor from Georgetown University by the name of Lawrence Gostin, who stated “The travel ban on foreign nationals is counterproductive, unethical, and violates international law. There’s little evidence that a person who’s been to mainland China but not in the hot zone would be exposed to the virus, and there are far less restrictive measures we could use. I think it’s a huge overreach, and I worry that the White House is lurching from complacency to panic and overreaction.”

As of February 17, there were 24 provinces or major cities in China with at least a hundred confirmed cases (and many more suspected). The caseload had been doubling every six days. In Wuhan, citizens were under martial law, unable to leave their homes at all. Over 1,700 medical staff in Wuhan had been infected. The CCP had imposed full or partial quarantine on almost a third of China’s population. In Chengdu, where I have relatives, families were not allowed to leave their apartment complexes except one person, on specific days, a couple of times a week, only to walk to the nearest supermarket to buy supplies. Yet Wired Magazine saw fit to use a law professor with zero appreciation of basic statistics, rather than an expert on pandemics, to suggest to the general public that President Trump’s travel restrictions were counter-productive, unethical, and illegal. Such coverage was the norm for MSM publications and broadcasters at that time. Left-leaning media universally resisted common sense measures the White House was trying to implement on such grounds as xenophobia, ineffectiveness, panic, invasion of states’ rights, cost, not following WHO guidelines, not “following

the science”, violations of international law, etc. Whether by purposeful design or as an unintended consequence of the MSM’s single-minded focus on its hatred of all things Trump, media coverage was obstructing the efficient rollout of the critically important early response. With a pandemic, the trick is to over-react at the front end, then relax constraints as more information becomes available. Media in both Europe and the US pressured for exactly the opposite response.

Also on February 17, the number of Diamond Princess passengers confirmed to have contracted COVID-19 jumped by 99 to 454. That enormous cluster of cases began with just a single infected passenger, who disembarked in Hong Kong on January 25. Despite such clear practical evidence demonstrating that, at a minimum, travel restrictions and thorough screening ought to be imposed at international gateways, the MSM, university “experts”, and the vast majority of voices on the political left prioritized criticizing President Trump’s every decision or utterance over actually working in cooperation with the Administration to diminish importation of seed cases and hence buy extra time for the medical system to prepare for the inevitable onslaught. The American left prioritized continuance of the political civil war it had been waging against the Trump Administration unabated since November 9, 2016.

On March 3, the Huanan Seafood Market was bulldozed, eliminating any evidence the January 1 bleaching may have missed. The same day, Major-General Wei and six members of her research team were injected with an experimental recombinant vaccine which supposedly had not yet even been tested on lab animals. The PLA’s official Weibo channel posted a photo of Wei receiving the injection. The post was subsequently deleted.

On March 11, 2020, a Chinese spokesman tweeted a claim that US military brought SARS-CoV-2 to Wuhan

On March 12, real estate tycoon Ren Zhiqiang went missing. In addition to his real estate interests, he was a blogger on Sina Weibo with 37 million followers. He was also a harsh critic of the CCP in general, and Emperor for Life Xi Jinping in particular. For this, he had earned the moniker “Big Cannon Ren” and was sometimes described as “China’s Donald Trump”. Naturally, he had been harshly criticizing Xi’s response to the pandemic. On April 7, the CCP announced that Ren had been arrested and was being investigated for “serious violations of law and discipline”. He was expelled from the CCP on July 23. Then on September 22 he was sentenced to 18-years in prison on corruption charges. The trial lasted just one-day. The conviction rate in China consistently runs well above 99%. In 2013, the conviction rate was over 99.9%. In 2014 and 2015, the acquittal rate remained below 0.1%. Is this rule of law or rule by law?

On March 16, Dr. Wei’s team of researchers from the AMMS and CanSino Biologics registered for a phase 1 trial of an experimental adenovirus vaccine.

On March 27, Radio Free Asia reported that Wuhan’s death toll appeared to be over 15 times as high as official CCP figures. Their estimate was based on the workload of crematoria around Wuhan (see: <https://www.rfa.org/english/news/china/wuhan-deaths-03272020182846.html>). Considering the West’s experience last year, is the official toll of 2,548 victims (as of 3/30) at all credible? Metropolitan Wuhan is a city of over 8.5 million. It was the epicenter of the pandemic and was hit hard before doctors had any idea what they were dealing with or what methods of treatment would prove to be most effective. To obtain such a ridiculously lowball statistic, the CCP lied in the same manner as Governor Cuomo. Just as Cuomo omitted nursing home victims who were rushed to hospital and died there, which reduced New York’s official nursing home death toll by about a third, the CCP only counted victims who died in six hospitals that had been designated as COVID hospitals. Those who died in other facilities or at home were omitted from the official statistics. By doing so, it appears the official statistic did not count over 90% of victims. This is to be expected. Under a system of state socialism, individuals do not count. Aggregates are the primary concern. The individual is held strictly subservient to the state.

On March 28, the CCP banned most foreigners from entering China, even those with residence visas. Chinese citizens who subsequently returned to China had to quarantine for three weeks. Visas to foreigners are now being issued for business and humanitarian purposes but applicants need to have been inoculated with the

Chinese vaccine and pass an antibody test taken no more than 48 hours prior to the flight. Yet back in January, Xi was campaigning to keep the world's airports open to flights from Wuhan.

On March 30, Atlas made the following observation in an email: "This pandemic illustrates that state governments have not been consistently serious about their primary responsibility, namely protecting the public's health and well-being. In reaction to the 2006 avian flu epidemic, Governor Schwarzenegger developed three mobile hospitals and a ventilator stockpile in California to provide additional surge capacity in case of epidemic. Governor Brown got rid of them. Instead, he prioritized spending on climate change and his high-speed rail boondoggle. Mask inventories were run down a few years ago and never restocked (see: https://www.latimes.com/california/story/2020-03-27/coronavirus-california-mobile-hospitals-ventilators?fbclid=IwAR1p1WQr_Wm4_joHYzbr4Xb1Ock0pkOVmCCVi3wmewePvPGtZFnPYVICgkc)."

Between January 1 and May 30, the SRA received 241 nanopore sequences of SARS-CoV-2 amplicons from Wuhan, indexed under project PRJNA612766. This sequencing data had been collected by Aisu Fu and Renmin Hospital at the University of Wuhan. The sequences had been derived from nose swab samples of early COVID-19 victims in Wuhan. As only 282 SARS-CoV-2 sequences were uploaded to the SRA in the first three months of 2020, this one project provided around 85% of the early data China shared with the international community via the SRA. The SRA later deleted all of this data, which could only have been pursuant to a request by the University of Wuhan, almost certainly instigated by the CCP.

On 6 May 2020, Hongliang Li was replaced as director of the Animal Experiment Center and as director of the ABSL-3 laboratory at Wuhan University. Why? Was a SARS-CoV-2 precursor, such as ZC45 or RaTG13 being tested on animals at the ABSL-3 lab? Was there a lab accident?

On May 21, the South China Morning Post reported that the Standing Committee of the National People's Congress (NPC) intended to legislate a national security law for Hong Kong that would proscribe secessionist and subversive activity, foreign interference, and terrorism in the city. Atlas wrote in a memo the same day that this law would violate the Sino-UK Accord and mark the end of free speech in Hong Kong. It would almost inevitably allow Chinese security forces to operate in the city, allowing them to arrest and remove "offenders" to the mainland without an extradition hearing. Xi and the CCP likely believed there was nothing to be lost by now taking the gloves off. Hence, we were seeing PLA jets flying into Taiwan airspace, more aggression in the South China Sea, and friction along the border with India in the Himalayas. A full-fledged cold war appeared to be brewing, with grave implications for the future of manufacturing supply chains.

On June 1, The Associated Press ran an excellent article titled *China delayed releasing coronavirus info, frustrating WHO* (see: <https://apnews.com/article/united-nations-health-ap-top-news-virus-outbreak-public-health-3c061794970661042b18d5aeaaed9fae>).

Also in June, China began vaccinating military personnel with Wei's experimental vaccine, AD5-nCoV, whilst it was still in phase 1 trials. AD5-nCoV is a viral vector vaccine, which is the approach both Astrazeneca and Johnson & Johnson chose. It uses adenovirus type-5 (a common cold virus) as a vector to carry genetic instructions which are used by the recipient's own cells to produce a 'safe' version of the spike. The recipient's immune system then manufactures antibodies that target the RBD region to kill and dispose of the alien pseudovirus. The immune system preserves a memory of this antibody design for at least several months, possibly as long as ten years; time will tell. The other three vaccines that have been produced in China – two by Sinopharm and one from Sinovac – use inactivated SARS-CoV-2. Using dead or weakened virus is the traditional method for producing vaccines. Thus the PLA's team, in concert with CanSino Biologics, alone in China has demonstrated the capability to use this cutting-edge technique. In an interview, Wei stated "We found the most useful section of genes and turned it into a vaccine. Analysis of current data indicates a very low possibility of variation in the section of genes we chose". What section did she use? Very little data has been shared. How did she become confident enough by as early as March 3 to be immunized with AD5-nCoV? That was a mere 60 days since the CDCCP first fully sequenced the genome and 43 days since the CCP admitted the disease was human-to-human transmissible.

On 24 August 2020, new safety protocols were instituted at Wuhan University's ABSL-3 lab subsequent to an extensive safety evaluation by authorities.

The CCP initially presented the wet market as the source of the epidemic. Xi then ordered it bleached and bulldozed, which ensured international scientists would never be able to inspect it and gather forensic evidence that might refute the claim. He forbade Chinese researchers from cooperating with Western scientists. They could no longer share research materials or even discuss their findings without prior authorization from central authorities. In particular, Shi Zhengli could not even be interviewed for months. Early samples and records were ordered to be destroyed. He denied the WHO entry into China for several months and then only allowed the team a few hours in Wuhan. They were not able to question staff at the WIV or audit records. The CCP has been promoting a baseless theory over the last year that SARS-CoV-2 was genetically engineered in Fort Detrick and American soldiers introduced it to Wuhan during the Military World Games in October 2019. His actions can only be described as a conspiracy to accelerate the pandemic's spread around the world, to seize tactical advantages for China no matter what the cost to other nations, and to prevent any meaningful investigation to track back to the source of the outbreak. The only logical explanation is that a thorough investigation might have made discoveries that would have greatly embarrassed both Xi and the CCP. He has now had a year and a half to erase any records that might have helped investigators track back to patient zero. As the pandemic raged, Xi cracked down on protestors in Hong Kong and effectively ended Hong Kong's political independence; Chinese soldiers ambushed Indian troops along the Himalayan border, igniting a diplomatic crisis and troop buildup; China's activities in the South China Sea became even more aggressive; military incursions into Taiwan's airspace increased in frequency; and he launched an economic campaign against Australia to try to force them to heel. Does the aggressive posturing in the near-abroad distract Xi's opposition from focusing on domestic missteps?

That summarizes the CCP conspiracy. Motives that would justify such egregious behavior are obvious. The stranger conspiracy by far has been the conspiracy in the West over the last 18 months to suppress any discussion of the CCP's sins. Cui Yongyuan, a famous Chinese social media commentator, ran a poll on Weibo in early 2020 posing the question as to how the pandemic originated. 10,000 people responded. 51% believed it was an accident due to negligence, 24% believed it was a purposeful release, and only 12% believed it was a natural spillover. That poll result is consistent with what I was seeing published on various Chinese social media platforms at the time. Yet in the US, it is only in recent weeks that the MSM, various three letter agencies, the major Internet based social platforms, and left-wing politicians have turned on a dime and started promoting or (in the case of social platforms) allowing discussion of the lab leak hypothesis. Stranger still, the turnabout seemed to be timed just days after the Biden Administration on May 26 shut down a Trump-era State Department investigation into the lab leak hypothesis. The Hawley-Braun Bill that requires the administration to declassify and publish all intelligence relating to the origin of the pandemic passed unanimously on May 27. In addition, the press has stopped ignoring the Hunter Biden story. Are we seeing the groundwork being laid to undermine Biden?

Back in 2012, in an article for the American Society for Microbiology, Dr. Anthony Fauci wrote "In an unlikely but conceivable turn of events, what if that scientist becomes infected with the virus, which leads to an outbreak and ultimately triggers a pandemic?" He was considering the risk of a scientist becoming infected during gain of function research. In 2012, he considered such an event conceivable but worth the risk.

Yet Peter Daszak has publicly opined it is "pure baloney" to believe the COVID-19 outbreak could have been anything but natural. He organized a letter, signed by himself and 26 other scientists, that was published in the Lancet on March 7, 2020. It stated "We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin. 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". There are at least three problems with that argument. First, labs have released natural viruses by accident in the past – so the claim that SARS-CoV-2 originated in wildlife does not preclude patient zero being infected by a lab accident. SARS – which we all

agree is natural - was leaked from three different labs in three different countries in just two years. The Beijing contamination led to four infections over a three-month period before it was caught. Second, questions have been raised about substitutions in key locations on the spike protein that appear to be designed for maximum pathogenicity rather than mere random mutations. The addition of a furin cleavage site is unique to SARS-CoV-2. Third, suggesting that a lab leak took place is not a conspiracy theory. A leak is not a conspiracy. It is an accident. Even if SARS-CoV-2 is artificial, the result of secret gain-of-function research the WIV was being forced to conduct by the PLA, a lab accident is still not a conspiracy. On the other hand, 27 scientists organizing a letter to mislead the public does appear to be a conspiracy, particularly so when it is organized by Peter Daszak. Has he never heard of the concept of conflict of interest? Does he not know why judges sometimes recuse themselves from cases? Does he not understand that his signature destroys the letter's credibility as an impartial statement by objective, unconflicted scientists? Did the letter provide any hard evidence to not only prove SARS-CoV-2 is natural but also that it was not brought to Wuhan by Shi's team and then released as a result of a lab accident? No, it did not. All 27 signatories claimed to have no conflict of interest, yet 15 did, including 7 who were affiliated with EcoHealth. Lancet's Editor-in-Chief, Richard Horton, allowed the Lancet's reputation to be severely tarnished by this episode. If he possessed an ounce of ethical backbone, he would have resigned long ago. An apt quote can be found in Richard Hamming's *'The Art of Doing Science and Engineering'*, where he wrote "Experts, in looking at something new, always bring their expertise with them, as well as their particular way of looking at things. Whatever does not fit their frame of reference is dismissed, not seen, or forced to fit into their beliefs. Thus really new ideas seldom arise from the experts in the field".

Daszak was the only American the CCP allowed in the WHO team that on January 28, 2021, finally commenced its Wuhan investigation of the origin of the pandemic. On January 31, the team visited the site of the Huanan Fish Market, though Xi had it bulldozed a year ago, so the visit was symbolic rather than practical. The world community has a right to expect an international investigation to be conducted in a thorough and transparent manner. In this case it was neither. In a subsequent podcast, Daszak confirmed that the WHO team did not inspect WIV staff medical records. Records of lab experiments were not inspected. The WHO did not even ask for access to Shi's database, which was taken offline in September 2019. Another member of the team, Marion Koopmans, a Dutch virologist, in an interview with NPR's Steve Inskeep, said they had face-to-face meetings in Wuhan [presumably with officials, medical personnel, and scientists] but they were not allowed access to raw data files. If the cause was indeed a lab leak, even an exhaustive investigation would probably come up with nothing at this late stage. Major-General Wei has had well over a year to destroy or falsify records. However, it is clear the WHO visit was far from exhaustive. It was a fig-leaf to enable the CCP to claim it has cooperated with the international community. After just a fortnight, the team left Wuhan and issued statements that offered no new findings, yet concluded a lab leak was the "least likely" possibility.

Over the last year, the majority of the MSM, Facebook, Google, YouTube, Twitter, various government agencies, the WHO, scientific publications, and establishment figures have crushed any dissenting view to the natural source orthodoxy, whether expressed by expert or layman. The standard response was to tar and feather the lab hypothesis as misinformation, a conspiracy, implausible, extremely unlikely, false, out of a comic book, debunked, or disproven. Yet every one of these descriptions was demonstrably woefully inaccurate based on the information then available. Such consistency of erroneous reporting certainly has the appearance of being a coordinated propaganda effort. One could describe it – to paraphrase Hillary Clinton – as a vast deep state conspiracy.

Surely the fact that the CCP destroyed early samples and data (including the SRA data in the US), refused to share early research findings, silenced Chinese scientists, flattened the fish market to obliterate all traces of evidence (whilst still using it as a cover story), denied international observers meaningful access to the WIV, its records, and its personnel for a year and a half now, and spread what it knew to be fraudulent theories as to the spillover source (first the wet market, then American soldiers) is indicative of a systematic and very thorough conspiratorial coverup?

Questionable Relationships

“Integrity without knowledge is weak and useless, and knowledge without integrity is dangerous and dreadful” - Samuel Johnson

On February 24, 2020, Zhou Yusen, a senior PLA scientist submitted a patent for a COVID-19 vaccine. Zhou worked at the Beijing Institute of Microbiology and Epidemiology, which is run by the PLA. It is a department of the Academy of Military Medical Sciences. Zhou was the director of the State Key Laboratory of Pathogen and Biosecurity. If Chinese medical authorities had really believed SARS-CoV-2 was not human-to-human transmissible until January 20, why was Dr. Zhou working on the patent before then? Preparing a patent application normally takes at least three months. The genetic sequence was not publicly posted until January 12. If he began his work that day, is it feasible to produce a patent in just 43 days? If he obtained the sequence on January 4, directly from the Shanghai lab, before it was publicly available, that still only gave him 51 days. Another theory – a sinister theory – would be that the PLA already had the sequence in 2019 and that Dr. Zhou had been working on vaccine candidates for several months as part of a biowarfare program. Unfortunately, Western scientists will not have a chance to quiz Dr. Zhou, as he died in May 2020 of unknown causes. The Beijing press does not seem to have bothered to publish an obituary, despite the fact he was a renowned scientist. Zhou was born in 1966 so would have celebrated his fifty-fourth birthday sometime in 2020.

As noted already, Zhou collaborated with 12 other Chinese scientists on a paper that was submitted to the Journal of Virology on November 27, 2019. It was titled “Molecular Mechanism for Antibody-Dependent Enhancement of Coronavirus Entry”. Two of his collaborators were from the WIV - Shi Zenghli and Chen Jing. Two worked at his laboratory. The other eight all work in the US.

One of those US-based scientists was Du Lanying. It has been reported that she worked at Zhou’s PLA laboratory in Beijing before transferring to the LFKRI in New York (I have been unable to confirm this). Du has published over 100 papers and specializes in coronavirus-related research and vaccine development. A check of US Patent and Trademark Office records indicates she has filed for 12 patents. Zhou is listed as co-inventor on 8 of the 12. Jiang Shibo is listed as co-inventor on all 12. I checked ten of Du’s papers and found that Zhou was a co-author on all ten, whilst Jiang Shibo was a co-author on nine. The three clearly enjoyed a very close research relationship. It has also been reported that Du and Zhou were married, though I have not been able to confirm this as information online regarding her early life in China appears to be non-existent.

As already noted, Jiang is a member of the CCP, has close ties to the PLA, is currently director of the Institute of Medical Microbiology at Fudan University, and has had a working relationship with the LFKRI in New York since 1990. Jiang has received over \$17 million in US grants over the years, for the most part awarded by Dr. Fauci’s NIAID. Jiang collaborated closely with Zhou Yusen throughout his career and has published twelve papers with the WIV over the last eight years. He has also published 11 articles since 2013 with the University of Texas Medical Branch (UTMB), which operates the highly sensitive Galveston National Laboratory’s BSL-4 facility. Two UTMB faculty - Jianli Dong and Bin Gong - were educated in military universities.

Zhou also had direct ties to US institutions. After graduating from the Chinese Academy of Military Medical Sciences in 1998, he moved to Pittsburgh in 2000 and spent three years conducting post-doctoral research at the University of Pittsburgh School of Medicine. Although he returned to China in 2003 to build and then lead his PLA laboratory, he remained a visiting professor at the University of Pittsburgh. He also maintained close working relationships with the LFKRI and the Paris-Sud University, and collaborated with Professor Fang Li, who is a professor at the University of Minnesota.

On July 22, 2020, President Trump charged the CCP with conducting massive spying operations from its Houston consulate, which he ordered to be closed within 72 hours. The Houston area is home to one of the greatest concentrations of medical research facilities in the US, including the BSL-4 labs at the Galveston National Laboratory. Might Facebook’s ‘fact-checkers’ de-platform any brave soul who suggests the proximity of labs to China’s spy headquarters could be more than mere coincidence? Will the equivalent of a triple-blind study be demanded for proof?

Diplomacy and Trade – Potential Impacts on International Relations

“Igitur qui desiderat pacem, praeparet bellum” – *Epitoma Rei militaris* by Publius Renatus

The CCP's behavior throughout the pandemic should have clearly revealed to the West that we are faced with a totalitarian system that cannot be trusted and is incompatible with Western values. The West needs to step back and rethink its relationship with China, particularly whilst Xi Jinping remains supreme leader.

In dealing with Xi at a diplomatic level, Western leaders must keep in mind the unsettling fact that Xi exhibits a level of domestic and international paranoia comparable to Stalin. That is hardly surprising considering what he and his family experienced during his formative years. His parents were imprisoned, his sister beaten to death, and Xi himself was banished to live in a remote cave as a peasant. He emerged from the experience “redder than red”. Xi wields power in as ruthless a manner as Mao or Stalin for the same reason - primarily to protect himself from internal competition. On the international stage, Xi's desire to challenge US power on the high seas is reminiscent of Kaiser Wilhelm's attempt to match the Royal Navy prior to WWI. That did not end well. The CCP's treatment and description of the Sino-British Hong Kong Accord as a “scrap of paper” is reminiscent of Hitler's attitude towards his Sudetenland agreement with Chamberlain in 1938. On June 30, 2017, Chinese Foreign Ministry spokesman Lu Kang told reporters *“Now Hong Kong has returned to the motherland's embrace for 20 years, the Sino-British Joint Declaration, as a historical document, no longer has any practical significance, and it is not at all binding for the central government's management over Hong Kong.”* The agreement is a legally binding treaty, registered with the UN, that was to remain in force for 50 years, not just 20. Events over the following three years proved he meant every word. Xi's claims in the Himalayas, the South China Sea, and Taiwan are as much a threat to world peace as Hitler's “limited claims” in the Sudetenland and the Danzig Corridor. China's need to import raw materials, particularly oil, is little different to the problems both Germany and Japan faced in the 1930s. Hitler's solution was “lebensraum”. Mussolini's strutting desire to rekindle the greatness of ancient Rome mirrors Xi's desire to bury forever the century of humiliation by foreign powers and reestablish China in its former glory as the most powerful nation on Earth.

The Chinese system has also morphed from communist style socialism to fascist/national socialist style, which should also be no surprise, since China's existential crisis in the immediate post-Mao era forced the Party to allow some room for the private sector and development of a thriving middle class, which is much more akin to the political constraints socialists faced in post-WWI Italy and Germany than to the poverty stricken and largely agrarian societies in 1917 Russia or 1949 China. Fascism is a natural solution for a socialist party faced with the realization it must provide a degree of accommodation for private businesses, private property, and hence private concentrations of capital, in order to generate (or maintain in the Italian and German cases) a broad-based middle class. The mistake Western observers made was assuming the evolution from communist style socialism to fascism would continue its liberalizing momentum and ultimately end up becoming some form of multi-party liberal democracy. When Xi was elected General Secretary in 2012, observers in both East and West hoped he would renew Deng Xiaoping's drive towards liberalization. My thought was to keep an eye on Hong Kong, as it would likely serve as the ‘canary in the reform mine’. If Xi was going to pursue reform, he likely would leave Hong Kong in peace and use it as a laboratory to study how best to adapt the mainland. On the other hand, if Xi was a hardline Maoist, along the lines of Bo Xilai, then Hong Kong's legal, political, and security independence would likely come under siege. The world now knows the course Xi has chosen. Xi was appalled by the prospect of further liberalization leading to destabilization akin to Gorbachev's USSR. He hit the brakes, put the whole process into reverse, and set China's civilization firmly on a course that Orwell, Huxley, and Hayek long ago warned must lead to ever more cruel, totalitarian governance.

Apologists in the West have argued that the CCP's claims are local to their “sphere of influence” and should be accepted. The age of US dominance must give way to ‘legitimate’ Chinese claims. Yet I wonder what Britain's neighbors would think if Whitehall produced a map with a seven-dashed line that laid claim to the entire North Sea. The Norwegians, Danes, Dutch, and Icelanders would be unlikely to accept such a claim without a fight. Or if Boris gave a speech in Parliament in which he stated, “solving the Ireland question and realizing the complete reunification of the motherland are the unswerving historical tasks of the British Conservative Party

and the common aspiration of all British people”, would not the American cousins be appalled? The entire anglosphere would join in, calling for Boris’s resignation and an early election. The Queen might be asked to dissolve Parliament tout suite. Newspapers would run comparisons with Hitler’s call for lebensraum and would remind us how his ‘limited’ territorial claims once started, kept expanding. Yet the CCP and Xi Jinping have been able to repeatedly issue similar expansionist claims with minimal diplomatic cost. The Communist Party’s constitution claims ownership of Taiwan (note: I refer to it as the Party’s constitution, rather than China’s, since it was produced by the Party and is updated solely by the Party; only CCP members have had any say in its formulation). Since 1949, the CCP has never wavered from that claim, though Beijing has not governed Taiwan in over a century. Xi Jinping has become increasingly belligerent. He has given multiple speeches in which he has made abundantly clear his strategy requires Taiwan to reunify peacefully in this generation or face being reunified forcefully. He has announced to the Chinese people a goal of reunification in this generation. He is not going to leave the ‘Taiwan question’ in limbo for the next administration to solve. JFK set a goal of reaching the moon in a decade. Xi Jinping has set a goal of reaching both the moon and Taipei.

In the West, we should remember that the CCP conquered China with Japanese arms and ammunition provided by Stalin. Mao was financed with Russian gold. Truman’s abandonment of the legitimate Chinese government, which had been a US ally in the war, led to their retreat to Taiwan. The CCP may be the de facto ruler of China but until such time as it allows free and fair elections, it can never be truly legitimate. The government in Taipei is not only a constant reminder of the CCP’s illegitimacy, it also proves a Chinese people can enjoy stable governance with electoral choice. Furthermore, Taiwan also established a much higher standard of living than the mainland very early after the war and maintains that advantage to this day. Taiwan’s example thus puts the lie to the CCP’s twin claims of legitimacy and being the sole viable governance option.

Mussolini attained power via constitutional means, albeit after intimidating the king by marching 25,000 blackshirts to Rome. Hitler was elected by popular mandate, with the biggest election victory in German history. Xi Jinping can make no such claim. The CCP’s political legitimacy is the legitimacy that derives from the barrel of a gun. On the 100th anniversary of the CCP, Xi told the world that "The Chinese people will never allow any foreign forces to bully, oppress or enslave us. Anyone who dares will have their heads cracked and their blood will flow before the steel Great Wall built with the flesh and blood of 1.4 billion Chinese people" and "The Communist Party of China and the Chinese people, with their bravery and tenacity, solemnly proclaim to the world that the Chinese people are not only good at taking down the old world, but also good at building a new one". Mussolini and Hitler would both approve of Xi’s style. It is not just Xi’s speeches that should be compared with past totalitarian leaders. The martial displays and massed crowds in Beijing during the centenary celebrations could have been staged by Goebbels.

When the world’s oldest civilization, with the biggest population, second largest economy, third largest land mass, suffering from inadequate domestic resources, and ruled by a ruthless single-party dictatorship, acquires a new leader, the world should take note of what develops under his leadership. In Xi’s case we have a leader who has been consolidating power like Mao. He appears to be as paranoid as Stalin. He exhibits Hitler’s ruthless desire for expansion, using shared ethnicity and history as justification. Like Mussolini, he seeks a return to former imperial stature on the world stage. Like Kaiser Willie, he dreams of competing with the world’s leading naval power. Xi is a Marxist Leninist running an increasingly militaristic, fascist-style economy, dependent on cult of personality, and determined to settle local territorial claims. He ought to be considered a much greater threat to peace than Hitler represented in the mid-1930s.

The legal concept of ‘innocent until proven guilty’ is applied to individuals, not governments. Under the current circumstances, the rational strategy for the West to adopt in response to the Jinping Pandemic is to assume Xi and the CCP are guilty until they have proven themselves innocent. For those who doubt my comparison of Xi’s China with Hitler’s Germany, check this article on the Mises Institute website: <https://mises.org/library/our-corporate-oligarchy-and-road-national-socialism>. The article also serves as a warning of the dangers ‘we the people’ face in allowing government to assume vast new, intrusive powers that infringe on personal liberties, under the pretext of countering a pandemic.

Part II – The West

Chapter 12: Conspiracy to Ignore Effective Treatments – Ivermectin

Chapter 13: Conspiracy to Ignore Effective Prophylactics – Vitamin D

Chapter 14: The Contergan Scandal

Chapter 15: Conspiracy to Force Universal Vaccination

Chapter 16: How to Decline and Fall

Conspiracy to Ignore Effective Treatments – Ivermectin

“I can calculate the movements of heavenly bodies, but not the madness of people” – Sir Isaac Newton

In the spring of 2020, Professor Thomas Borody, the world-famous doctor who developed a cure for stomach ulcers, suggested a triple antibiotic therapy for COVID-19 patients based around Ivermectin.

Dr. Borody is highly credible. As a young man he found the first cure for ulcers, a feat the combined research labs of the world's giant pharma companies had failed to achieve. Glaxo in the UK enjoyed massive revenues from a drug that treated but did not cure ulcers. It was the world's biggest selling drug. It took about two years for the world's doctors to broadly accept Borody's cure, after which Glaxo's revenues took a severe hit.

Ivermectin is a wonder drug that has been approved for over 35 years. More than 4 billion doses have been taken. It has a safety profile superior to paracetamol. It is cheap, globally available, and off patent. It was discovered by Satoshi Omura in Japan, when he found very unusual bacteria in soil samples. He partnered with William Campbell (a Merck researcher) to develop the bacteria into a drug. Ivermectin has been such an extraordinarily beneficial drug that Satoshi and Campbell were awarded a Nobel Prize in 2015.

On 8 March 2020, Leon Caly et al. at the Royal Melbourne Hospital in Australia submitted a paper titled *The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 in vitro* to Elsevier. It was published online on April 3.

On 6 June 2020, Juliana Cepelowicz et al. of the Broward Medical Center in Florida presented ICON (Ivermectin in COVID-19) study: Use of Ivermectin is Associated with Lower Mortality in Hospitalized Patients with COVID19 at a conference and also posted it online. It was published in CHEST on October 27. A corrected version was finally published in CHEST this January. It took five months to get this work published in a major journal.

On 11 June 2020, Professor Michael Lisanti of Salford University highlighted the potential application of senolytic drugs in combating COVID-19. He advocated azithromycin as likely superior to HCQ.

On 8 July 2020, Professor Thomas Borody was interviewed by Australia's Sky News. He claimed, “It looks like corona is very simple to kill [with Ivermectin]” and added “It's available as a prescription medication. You wouldn't use it alone ... but you add two other things to it such as doxycycline and zinc.” In other interviews he gave in July and August he pointed out that “These three medications are already approved” and so “do not need preclinical or clinical trials”, and “Patient treatment programs have been done in the US and elsewhere which indicate it [triple therapy of Ivermectin, Doxycycline, and zinc] can work within four to six days”. He pointed out that “No trial has shown Ivermectin-based therapy to be ineffective. In-fact, international trials report almost 100% cure rate with symptom improvement within 4-6 days. This needs to be available for aged care facilities and frontline health workers today”.

On 1 August 2020, India's Uttar Pradesh province adopted the use of Ivermectin treatment (234 million population), as did also Bihar (population 120 million). Cases and fatalities peaked and then crashed in September and October, well ahead of any vaccinations. Kerala decided against Ivermectin. Cases and mortalities continued to skyrocket into January.

On 27 August 2020, the NIH (Anthony Fauci's organization) recommended against the use of Ivermectin. The NIH has recommended remdesivir for the last two years, though it was obvious by the spring of 2020 that it is almost completely ineffective. However, NIH scientists do have a royalty interest in remdesivir sales. Might that be a conflict of interest? The NIH is still recommending not to prescribe azithromycin.

On 3 September 2020, In Vivo published a paper authored by Stephen Lehrer and Peter Rheinstein, titled *Ivermectin Docks to the SARS-CoV-2 Spike Receptor-binding Domain Attached to ACE2*. The paper described a mechanism whereby Ivermectin may interfere with the ability of SARS-CoV-2's spike protein to bind to ACE2 cells. The paper can be downloaded from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7652439/>.

On 23 September 2020, new research was presented at the ESCMID Conference on Coronavirus Disease, which demonstrated that a lower blood zinc level is associated with poorer outcomes in COVID-19 patients. The study was led by Dr Roberto Güerri-Fernández, Hospital Del Mar in Barcelona.

In October 2020, Juan Chemie published *Real-World Evidence: The Case of Peru. Causality between Ivermectin and COVID-19 Infection Fatality Rate*

On 15 October 2020, David Jans and Kylie Wagstaff, who both work at Monash University, submitted '*The broad spectrum host-directed agent ivermectin as an antiviral for SARS-CoV-2?*'. The paper can be downloaded from: <https://pubmed.ncbi.nlm.nih.gov/33341233/>.

On 26 November 2020, Sabeena Ahmed et al. published '*A five day course of ivermectin for the treatment of COVID-19 may reduce the duration of illness*' (Bangladesh hospital study). Ivermectin is widely prescribed in Bangladesh. Most families routinely use it to counter parasites. This poor country, which has a far less developed medical system than the US, has experienced a 99% lower per capita death rate from COVID-19 than the US.

On 7 December 2020, Pierre Kory et al. of the FLCCC Alliance published *Review of the Emerging Evidence Demonstrating the Efficacy of Ivermectin in the Prophylaxis and Treatment of COVID-19*. The paper can be found at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8088823/>.

On 15 December 2020, Alam et al. published *Ivermectin as Pre-exposure Prophylaxis for COVID-19 among Healthcare Providers in a Selected Tertiary Hospital in Dhaka – An Observational Study*. It can be downloaded from: <https://www.ejmed.org/index.php/ejmed/article/view/599/337>.

On 24 December 2020, South Africa banned the importation and use of Ivermectin.

On 29 December 2020, Mexico City introduced the use of Ivermectin for immediate use on anyone who tested positive for COVID. It was a test and treat protocol. Hospital cases and mortality nose-dived within a week.

On 14 January 2021, after the FLCCC presented its data to the NIH, the NIH was forced to drop its opposition to the drug. Dr. Kory afterwards stated "The studies we presented to the NIH revealed high levels of statistical significance showing large magnitude benefit in transmission rates, need for hospitalization, and death. What is more, the totality of trials data supporting Ivermectin is without precedent". However, the NIH still does not recommend prescribing Ivermectin. It only recommends remdesivir, which is expensive, relatively ineffective, but does provide NIH scientists with a royalty stream.

On 21 January 2021, Chamie et al. published on the SSRN site *Sharp Reductions in COVID-19 Case Fatalities and Excess Deaths in Peru in Close Time Conjunction, State-By-State, with Ivermectin Treatments* (see: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3765018). This is a must read. Did anyone at the CDC or FDA bother?

On 20 March 2021, Yagisawa et al. published *Global trends in clinical studies of ivermectin in COVID-19* in the Japanese Journal of Antibiotics. The Nobel Prize winner Satoshi Ōmura was one of the coauthors. The paper stated that:

"As of the 30th of January 2021, a total of 91 trials in 27 countries has been recorded at these registration sites. There are 43 trials in phase 3 and 27 trials in phase 2, along with 17 observational studies. This includes 80 trials being conducted for therapeutic purposes and 11 for the purpose of preventing the onset of disease in close contacts and healthcare professionals.

Furthermore, by the 27th of February, the results of 42 clinical trials, including approximately 15,000 patients (both registered and unregistered studies) have been subjected to a meta-analysis after exclusion of biasing factors. It was found that 83% showed improvements with early treatment, 51% improved during late-stage treatment, and there was an 89% prevention of onset rate noted. This confirms the usefulness of ivermectin.

Since it is a meta-analysis based on 42 test results, it is estimated that the probability of this comprehensive judgment being a mistake is as low as 1 in 4 trillion”.

The paper can be downloaded from: <https://COVID19criticalcare.com/wp-content/uploads/2021/04/Satoshi-Omura-Global-trends-in-clinical-studies-of-ivermectin-in-COVID-19-Japanese-Journal-of-Antibiotics-March-10-2021.pdf>,

On 1 June 2021, Dr. Pierre Kory appeared on Bret Weinstein’s DarkHorse podcast. The program was titled *COVID, Ivermectin, and the Crime of the Century*. Dr. Kory estimated that the political suppression of Ivermectin has already cost hundreds of thousands of lives. That dwarfs the death toll Governor Cuomo inflicted on New York nursing home residents last year when in March he ordered facilities to accept active COVID patients and forbade staff from testing the incoming patients. His orders probably only condemned 15,000 or so seniors. The governors of three other northeastern states issued similar orders, with similar results. What were they thinking? Looking at the events from a purely rational, logical perspective, one could conclude that they were trying to find the fastest and most effective means to decimate the nursing home population. That is certainly what they achieved, short of sending in the panzers. To quote François de Charette, “on ne saurait faire d’omelette sans casser des œufs”.

On 20 June 2021, Bryant et al. published *Ivermectin for Prevention and Treatment of COVID-19 Infection: A Systemic Review, Meta-analysis, and Trial Sequential Analysis to Inform Clinical Guidelines* in the American Journal of Therapeutics. It can be downloaded from: https://COVID19criticalcare.com/wp-content/uploads/2021/06/Ivermectin_for_Prevention_and_Treatment_of.98040.pdf.

On 23 June 2021, an investigative trial of Ivermectin was launched in the UK as part of Oxford University’s PRINCIPLE trial.

The FDA is still opposed (as of mid-June) to the use of Ivermectin and has a full page on its official website that advises the public “Why You Should Not Use Ivermectin to Treat or Prevent COVID-19”. President Biden’s ‘follow-the-science’ administration currently believes that betting on odds of 1 in 4 trillion is vastly superior to 3,999,999,999 in 4 trillion. Truth is, politics follows the money, not the science. Science is merely a tool that is molded and distorted to support policy, discarded when it is at odds. Unfortunately, today’s scientific establishment is not your grandfather’s. It has been thoroughly politicized. As a result, in today’s world there are two categories of scientists. There are still many true scientists who can and do maintain high ethical standards of honesty. Then there are the fakes who abuse their chosen discipline in favor of supporting a political agenda. I choose to refer to them as ‘political scientists’ and their output, tainted as it is by propaganda, as ‘political science’. Dr. Fauci might be considered the poster child of this new political breed.

What was big tech media’s reaction to this threat to the establishment message (which can be described as always wear a mask, hide at home, do not send your kids to school, fear other humans, and vaccinate with an experimental drug as soon as possible even if you are not at risk (young and healthy) or are already naturally immune (result of prior infection with COVID-19)? YouTube removed video coverage of Dr. Pierre Kory’s Senate testimony. It justified the censorship by claiming Dr. Kory’s statements were “misinformation”. To do so, YouTube’s management had to assume their “fact checkers” were more knowledgeable than Dr. Kory. Who are these censorious fact checkers? Might they have labelled Einstein’s Special Theory as “misinformation” in 1905? Facebook is just as bad. The Facebook entry on Ivermectin has a section on “COVID-19 misinformation” but no references to information supporting its use – no trials, research papers, frontline reports from doctors, or other empirical observations.

What was the reaction of big pharma to this threat? Typical is a statement issued by Merck on 2/4/21: “It is important to note that, to-date, our analysis has identified:

No scientific basis for a potential therapeutic effect against COVID-19 from pre-clinical studies;

No meaningful evidence for clinical activity or clinical efficacy in patients with COVID-19 disease, and;

A concerning lack of safety data in the majority of studies”.

Merck was the original Ivermectin patent holder but their patent expired in 1996. They generate insignificant to no revenue from the drug these days and have declined to participate in trials for other diseases. The only way Merck's scientists could have failed to identify a potential therapeutic effect and meaningful evidence of clinical efficacy was by not reading any of the literature produced over the preceding year. Furthermore, billions of doses of Ivermectin have been prescribed. Merck used to enjoy a major market share, so the company is well aware of the drug's outstanding safety profile. It is safer than aspirin. Merck's entire statement was highly misleading, perhaps even to the level of criminally misleading, and calls into question whether or not the company is being run at a publicly acceptable ethical standard. Merck did not name their scientists who came to such fantastic conclusions. I doubt any scientist would want his name associated with such an indefensible statement. This is a terrible stain on Merck's reputation.

What was the reaction of three letter agencies and governments? The FDA still has not reviewed data to support use of ivermectin in COVID-19 patients to treat or to prevent COVID-19. As of July, it still opposed Ivermectin to for either treatment or prevention of COVID-19 (see: <https://www.fda.gov/consumers/consumer-updates/why-you-should-not-use-ivermectin-treat-or-prevent-COVID-19>). The South African government banned the importation or use of Ivermectin on 12/24/20. On May 10, 2021, it was forced to allow limited "compassionate use" of the drug after a peer reviewed study demonstrated its effectiveness. Ivermectin is currently allowed to be used in countries covering about a fifth of the world's population. Some state-run hospitals in the US refused to treat dying patients with Ivermectin and were taken to court by the families. The hospitals lost, were forced to start Ivermectin treatment, and the patients recovered. Under Obamacare, bureaucrats run hospitals in hierarchical fashion. Frontline doctors are now regulated from on high. Their ability to make decisions independently, based on their individual professional expertise, has been limited. Observance of the Hippocratic oath and Nuremburg Code has been compromised as a result.

In January, a meta-analysis of randomized control trials of COVID-19 treatment with Ivermectin was released. The study had been commissioned by the WHO. The paper demonstrated Ivermectin reduces death by 74%. As a prophylaxis, it is 85% effective. Dr. Andrew Hill, who led the analysis, stated that governments should secure their sources of Ivermectin before demand outstrips supply. He believed it would be immoral not to offer the treatment. Two other meta-analyses confirmed these results. They were independently conducted and were unsponsored. Yet the WHO continued to officially recommend against its use. On June 12, 2021, the Indian Bar Association served a legal notice on Dr. Soumya Swaminathan, chief scientist for the WHO, for "*running a disinformation campaign against Ivermectin*". The association has called for action under sections 302 (punishment for murder), 304 (II) (culpable homicide not amounting to murder), 88 (act not intended to cause death), 120 (B) (party to criminal conspiracy) and 34 (acts done by several persons in furtherance of a common intention) "and other provisions of the Indian Penal Code and under Disaster Management Act, 2005". In short, the IBA is accusing the WHO of running a global conspiracy against Ivermectin (one could infer, also any other cheap, effective, and widely available treatment).

As of mid-June, the WHO has no advice or recommendations for early treatment apart from recommending against self-medication. If you do not heal in the first week, when symptoms are generally mild, by the time you have to go to the hospital with breathing problems, your chances of dying have increased significantly. The use of Ivermectin and other repurposed drugs, could prevent that. As its safer than paracetamol, Ivermectin should be available over the counter.

In March this year, The NY Times ran a story that a trial had proved "Ivermectin had no effect". This was the Lopez-Medina trial, which was published in JAMA. Vaccine manufacturers had paid the researchers to conduct this trial. The researchers gave Ivermectin to both arms of the trial, instead of running a proper placebo group. Dosage was changed three times. It was conducted in an area where Ivermectin is widely used by the general population. The volunteers were mainly young and healthy. Volunteers were allowed on the trial as long as they had not taken Ivermectin in the preceding five days. Only 3% contracted COVID-19 and exhibited symptoms, yet the trial concluded that Ivermectin was ineffective. This was yet another junk science hit job that the MSM willingly accepted as gospel.

In May 2021, Michael Capuzzo published a 15-page article titled “The Drug That Cracked COVID” (see: <https://COVID19criticalcare.com/wp-content/uploads/2021/05/The-Drug-that-Cracked-COVID-by-Michael-Capuzzo.pdf>). Capuzzo noted, “India is demonstrating how effective Ivermectin treatment is. In states that banned Ivermectin use, such as Tamil Nadu, the COVID-19 death toll has been highest. In states that introduced Ivermectin, deaths rapidly dropped. Tamil Nadu relied on Remdesivir, which was proven next to useless for COVID-19 over a year ago.” The Indian government has now authorized the use of Ivermectin in early treatment. Researchers at the All-India Institute of Medical Science (AIIMS) found that using Ivermectin as a prophylactic reduced cases among health care workers by 83% in the following month. Mexico City has been using Ivermectin for several months. A research paper issued by Mexico City Health, claims that hospitalizations have been reduced by 56% to 73%.

The latest study is by Bryant et al. The researchers’ conclusion was that “Moderate-certainty evidence finds that large reductions in COVID-19 deaths are possible using ivermectin. Using ivermectin early in the clinical course may reduce numbers progressing to severe disease. The apparent safety and low cost suggest that ivermectin is likely to have a significant impact on the SARS-CoV-2 pandemic globally”. The paper can be downloaded from:

https://journals.lww.com/americantherapeutics/Abstract/9000/Ivermectin_for_Prevention_and_Treatment_of.98040.aspx)

If Ivermectin were to be recognized by the FDA as an effective treatment, Pfizer and Moderna’s experimental vaccines would probably have to be removed from the market under current regulations. For an emergency use authorization to be legal, “there must be no adequate, approved and available alternative to the candidate product for diagnosing, preventing or treating the disease or condition”. If Ivermectin were to be accepted as an effective, cheap, and widely available treatment, the mRNA vaccines would have to be withdrawn and complete level 4 trials before requesting FDA approval. For Pfizer and Moderna, these vaccines are a multi-billion business. Alternatively, Congress could change the law to allow both vaccines and treatments.

Who is the second largest contributor to the WHO’s budget? That would be Bill Gates. When President Trump suspended US donations, Gates became the largest contributor. What has been the major focus of the Bill and Melinda Gates Foundation (BMGF) over the last couple of decades? That would be global vaccination campaigns. Does Bill Gates profit from significant investments in vaccine development? Yes. Does Bill Gates exert significant influence at the WHO? Yes. Does the foundation suffer from potential conflicts of interest? Yes. Has the foundation helped finance vaccination programs that were improperly conducted (such as failure to obtain proper consent) and that led to the deaths of minors? Yes. For instance, a mass vaccination of Indian children with Merck’s Gardasil was funded by BMGF. After five children died an investigation by Indian officials produced a scathing report that documented multiple ethical violations.

Philanthropy by the world’s rich and powerful is to be welcomed but should adhere to high ethical standards and avoid the appearance of any conflict of interest, particularly of a monetary nature. An article on the Gardasil scandal by India Times can be downloaded from:

<https://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/controversial-vaccine-studies-why-is-bill-melinda-gates-foundation-under-fire-from-critics-in-india/articleshow/41280050.cms>.

27 RCT’s, at least 7 meta-analyses, and many observational trials in hospitals, demonstrate Ivermectin is highly effective. It is also very cheap, widely available, and off-patent. On February 20, the British Ivermectin Recommendation Development Meeting ran a meta-analysis and near unanimously strongly recommended Ivermectin for use as both a prophylactic and in all stages of treatment. The report was sent to the WHO, the NIH, CDC, FDA, the Germans, the French, and the NHS.

It is not just Ivermectin that has been suppressed as a treatment. In the spring of 2020, all Western medical authorities recommended against use of steroids with COVID, on the basis steroids had worsened mortality in SARS and MERS. At least, that is what they believed. However, in March 2020, a study by expert chest radiologists was published in the Journal of Radiology. They had reviewed all the early X-rays from Wuhan.

The paper concluded that COVID causes a cryptogenic organizing pneumonia, which is not a viral disease. This is lung injury caused as a consequence of the virus, not by the virus itself. Basically, collagen fills air sacs, perhaps in reaction to cellular debris left over from the virus. This phenomenon is not peculiar just to COVID, since 30% to 60% of SARS victims were found to have organizing pneumonia when autopsied. Organizing pneumonia tends to cause low oxygen levels when patients otherwise look fine. Outside of SARS, MERS, and now COVID, it is usually fairly rare, so most doctors are not familiar with the symptoms and just assumed that the pneumonia their patients were experiencing from COVID had to be viral. They were wrong. The traditional treatment for organizing pneumonia is anticoagulants, plus high and pulse doses of corticosteroids for long duration with slow tapering. Dr. Meduri, who is perhaps the world's greatest authority on corticosteroids, carefully reviewed the largest, best studies from the SARS and MERS epidemics. He evaluated the available statistics more carefully than the rest of the medical community and concluded steroids actually demonstrated a massive benefit in both epidemics. The reason the Chinese hospital which treated the six Tongguan miners used anticoagulants and steroids in 2012 was probably due to China's practical experience of treating SARS patients with steroids back in 2002-3. Dr. Meduri's paper was published in April 2020, titled *Rationale for Prolonged Corticosteroid Treatment in the Acute Respiratory Distress Syndrome Caused by Coronavirus Disease 2019* (see: https://journals.lww.com/ccejjournal/fulltext/2020/04000/rationale_for_prolonged_corticosteroid_treatment.18.aspx). Dr. Pierre Kory produced a paper on this subject in April 2020 and had it rejected by six journals. The peer reviewer at CHEST demanded a randomized trial; in the middle of a pandemic he rejected frontline evidence from an expert in the field and demanded he go through the long process of a randomized test, where half the patients would be denied a life-saving treatment. Dr. Kory has emphasized that steroids, which are anti-inflammatory, are effective later on in treatment, after hospitalization, when inflammation develops. The first seven to ten days of infection are the viral stage, when steroids should not be used. Dr. Kory prefers to use methylprednisone; trials in Iran, Italy, USA, China, and Spain have all demonstrated it is highly effective.

A month ago, if a Facebook account had posted an accusation that the Administration was conspiring in secret with the CDC, FDA, MSM, and big tech social networks to prevent dissemination of COVID-related information to the general public that conflicted with the government's agenda, Facebook's fact checkers would have been alerted. At a minimum they would have tagged the posting as false. More likely, it would have been censored and the offending account warned to mind his ways or risk being banned from the site. Yet such a claim has now been proven to be factually 100% correct. On July 15 and again on July 16, White House Press Secretary Jen Psaki admitted that the White House is working in league with Facebook to ensure "correct narratives" are promoted. The White House has been "flagging problematic posts" for Facebook to censor. Psaki stated, "We are regularly making sure social media platforms are aware of the latest narratives dangerous to public health that we and many other Americans are seeing across all of social and traditional media". Psaki stated that the White House is flagging "specific posts" and, even worse, specific individuals. It is not just Facebook that has been happy to conspire with the White House. Psaki also said the White House has been asking social networks to change their algorithms to promote "quality information". That would mean the Administration is asking these nominally private companies to algorithmically bury postings that run contrary to the government's 'Pravda'. Furthermore, Psaki went on to state the White House was informing all the major platforms of anyone the White House deems to be a major offender, so that he can be banned from all sites in unison. The White House's policy is that "you shouldn't be banned from one platform and not others". It looks like the banning of President Trump was a trial run. They got away with that, so now feel secure to censor all Americans under the pretext of a public health emergency. This is obviously a gross violation of the First Amendment. The government of the United States does not have the right to define on our behalf what is 'problematic' versus 'quality' or 'a dangerous narrative' versus a government sanctioned safe narrative, and then censor accordingly. The government's presumption appears to be that the public is just too dumb to think and evaluate for itself; the government must intrude to prevent us from being hurt as a result of our own stupidity; in such matters the individual cannot be the judge, but the State only.

Government instructing a nominally free press and controlling Internet content is to be expected in a totalitarian dystopia, such as North Korea or Xi's China but here in the US? It is laughable that left-wing MSM spent the last four years constantly accusing President Trump of being a fascist. Anyone who has actually studied the rise of fascism and its close cousin, national socialism, would know such accusations were ridiculous. On the other hand, many of the Biden Administration's policies are consistent with the early stages of implementing a fascist state. In particular, control of media and silencing of opposition were key fascist strategies. Hitler's Propaganda Ministry issued directives to what was left of the free press to control content and suppress any opposition to the Nazi's agenda. In an interview with the New York Times in 1944, Vice-President Henry Wallace noted that "fascism is a worldwide disease", and the "greatest threat to the United States will come after the war, within the United States itself". He went on to predict that "American fascism will not be really dangerous until there is a purposeful coalition among the cartelists, the deliberate poisoners of public information". Wallace cited coalitions of corporate 'cartelists' as the primary risk because Mussolini's fascist economic policy was based on corporatism – a partnership between the government and corporations organized into cartels, with the State by far the senior partner. The closest approximation to this system operating today can be found in communist China. Although the CCP is communist by name, it is almost entirely fascist in practice.

What is largely forgotten nowadays is both Hitler and Mussolini were socialists, so on the extreme left of the political spectrum. Mussolini was originally a member of the Italian Communist Party. Giovanni Gentile, the author of fascism's official doctrine, wrote in 1929, "Fascism as a consequence of its Marxian and Sorelian patrimony... conjoined with the influence of contemporary Italian idealism" (*Origini e dottrina del fascismo*, pg. 58). Before the war, Mussolini in particular was extremely popular in left-wing American 'progressive' circles. FDR was a great admirer and sent advisers to Italy to study Mussolini's administration. It vexed FDR that the Constitution constrained him from controlling the economy to the degree Mussolini had achieved. Mussolini likewise admired FDR and the two maintained regular correspondence during the 1930s. It was only after the war that fascism acquired the 'right-wing' label. Since fascism placed state and the collective paramount over the individual (as all socialist doctrines do), dismissed capitalism, marginalized traditional religion, presented fascism as a new religion, and rejected traditional governance based on Enlightenment philosophy, its policies were left-wing. Fascism was Marxism cured of Marx's greatest misconceptions, adapted to Italian social and economic realities. Its emphasis on national pride and individual duty to the state, coupled with an aggressive foreign policy, have been cited as reasons to consider fascism a right-wing ideology - but on this basis, one would have to refer to Stalin's USSR or Xi's China as "right-wing".

The dominant Italian corporations enthusiastically backed Mussolini, as the government-corporate partnership he instituted cemented their dominant positions. Mussolini defined fascism "as an organized, centralized, authoritarian democracy" but Mussolini's 'democratic' government cancelled democratic elections. So did Hitler and the National Socialists. The following is a rearrangement of relevant quotes from Benito Mussolini's *The Doctrine of Fascism*, which was most likely actually written by Giovanni Gentile. Though my practice is to print both fascism and state in lower case, Mussolini naturally capitalized them both. As these are his words, I have preserved his practice:

If liberalism spells individualism, Fascism spells government. For Fascism, the State is absolute, individuals and groups relative. The State educates the citizens to civism, makes them aware of their mission, urges them to unity; its justice harmonizes their divergent interests. The Fascist State lays claim to rule in the economic field no less than in others; it makes its action felt throughout the length and breadth of the country by means of its corporative, social, and educational institutions, and all the political, economic, and spiritual forces of the nation, organized in their respective associations. The Fascist State organizes the nation, but it leaves the individual adequate elbow room. It has curtailed useless or harmful liberties while preserving those which are essential. The Fascist State expresses the will to exercise power and to command. In such matters the individual cannot be the judge, but the State only.

Is America sliding towards a system that shrinks individual rights to "adequate elbow room"? Who decides what is adequate? How fast might that space contract?

Conspiracy to Ignore Effective Prophylactics – Vitamin D

“Why do we not hear the truth? Because we do not speak it” - Publilius, *Moral sayings*

There is absolutely no downside to taking vitamin D supplements. Over the last two decades the WHO and national medical bodies have been waging a campaign to encourage the public to monitor their vitamin D levels and ensure they are adequate. Vitamin D provides numerous known benefits to the body and likely many more we have yet to identify. Unfortunately, a significant percentage of the world's population suffers from vitamin D deficiency. Once the Jinping Pandemic took hold, it soon became evident that patients with low vitamin D levels were at significantly higher risk of an adverse outcome – i.e. severe illness or death.

On 2 April 2020, Grant et al. published in *Nutrients* *Evidence that Vitamin D Supplementation Could Reduce Risk of Influenza and COVID-19 Infections and Deaths*. This was a study of the entire existing literature on Vitamin D. Results from thousands of authors were analyzed. The paper recommended “people at risk of influenza and/or COVID-19 consider taking 10,000 IU/d of vitamin D3 for a few weeks to rapidly raise 25(OH)D concentrations, followed by 5000 IU/d. The goal should be to raise 25(OH)D concentrations above 40–60 ng/mL (100–150 nmol/L)”.

On 27 May 2020, Eugene Merzon et al. submitted *Low plasma 25(OH) vitamin D level is associated with increased risk of COVID-19 infection: an Israeli population study* for publication. The peer review acceptance process delayed its publication until July 20.

On 5 August 2020, Hao Ma et al. submitted *Habitual Use of vitamin D supplements and risk of coronavirus disease 2019 (COVID-19) infection: a prospective study in UK Biobank* for publication. It took until November 20 to be accepted and was finally published online in January 2021.

In July 2020, Weir et al. published ‘Does Vitamin D deficiency increase the severity of COVID-19?’. The following is from the extract: “Based on these findings, we ask three questions. Do patients hospitalized with severe COVID-19 illness have lower vitamin D and Treg levels than COVID-19 positive patients whose illness is milder and who remain quarantined at home? Does vitamin D supplementation increase Tregs in these patients? Does vitamin D supplementation in the general population (particularly those who are vitamin D deficient) reduce hospitalization (or days in hospital) when COVID-19 occurs? If vitamin D has beneficial effects against COVID-19, it would follow that the severity of the disease should lessen in the Northern hemisphere as exposure to increasing sunlight on the skin in springtime increases endogenous production of vitamin D through the photolysis of 7-dehydrocholesterol. Our opinion is that if vitamin D does in fact reduce the severity of COVID-19 with regard to pneumonia/ARDS, inflammation, inflammatory cytokines, and thrombosis, then supplements would offer a relatively easy option to decrease the impact of the pandemic”.

On 4 September 2020 Ariel Sharel et al. released a preprint of *The link between vitamin D deficiency and COVID-19 in a large population*, which was not yet peer reviewed.

On 10 September 2020, Linda Benskin published *A Basic Review of the Preliminary Evidence That COVID-19 Risk and Severity Is Increased in Vitamin D Deficiency*. The extract stated: “Two causal modeling studies and several analyses of variance strongly supported the hypothesis that vitamin D deficiency is a causal, rather than a bystander, factor in COVID-19 outcomes. Three of the four studies whose findings opposed the hypothesis relied upon disproven assumptions. The literature review also found that prophylactically correcting possible vitamin D deficiency during the COVID-19 pandemic is extremely safe. Widely recommending 2,000 IU of vitamin D daily for all populations with limited ability to manufacture vitamin D from the sun has virtually no potential for harm and is reasonably likely to save many lives”.

On 14 September 2020, Dr. Anthony Fauci stated in an interview, “If you are deficient in vitamin D, that does have an impact on your susceptibility to infection. So, I would not mind recommending, and I do it myself taking vitamin D supplements”.

On 30 October 2020, Griffin et al. submitted a paper titled *Vitamin D and COVID-19: evidence and recommendations for supplementation*. It was accepted by the Royal Society on November 18 and published in December. The extract stated:

“We urge UK and other governments to recommend vitamin D supplementation at 800–1000 IU/day for all, making it clear that this is to help optimize immune health and not solely for bone and muscle health”.

On 3 December 2020, Italian researchers published *Vitamina D nella prevenzione e nel trattamento del COVID-19: nuove evidenze*. It can be downloaded from:

https://www.accademiadimedicina.unito.it/images/img/pdf/156_documento_COVID_vitamina_D.pdf.

In December 2020, over 200 scientists sign an open letter urging widespread increased vitamin D intake. The letter stated, “Rates of vitamin D deficiency <20ng/ml exceed 33% of the population in most of the world, and most estimates of insufficiency <30ng/ml are well over 50% (but much higher in many countries).³ Rates are even higher in winter, and several groups have notably worse deficiency: the overweight, those with dark skin (especially far from the equator), and care home residents. These same groups face increased COVID-19 risk.” The evidence was comprehensively reviewed (188 papers) through mid-June [Benskin ‘20] & more recent publications are increasingly compelling [Merzon et al ‘20; Kaufman et al ‘20; Castillo et al ‘20]. (See also [Jungreis & Kellis ‘20] for deeper analysis of Castillo et al.’s RCT results.)”.

On 22 January 2021, 73 French authors with the support of six national scientific societies published an open letter titled ‘*Effet bénéfique de la vitamine D dans la COVID: quelles sont les données?*’ (see:

<https://www.larevuedupraticien.fr/article/effet-benefique-de-la-vitamine-d-dans-la-COVID-quelles-sont-les-donnees>).

In January 2021, Karl Pflieger posted *Roll Call of Credible Experts Advocating Vitamin D for COVID-19* (see: <https://vitamindforall.org/rollcall.html>). He concluded that:

1. There is clear consensus that evidence is now sufficient to recommend action without waiting for more data.
2. There is clear consensus that vitamin D deficiency is important for COVID-19 and should be urgently fixed.
3. Most recommend vitamin D for both prevention and treatment of COVID-19.
4. There is almost unanimous agreement to achieve at least 20ng/ml (50nmol/L) serum levels.
5. There is clear consensus to recommend daily intakes above current government guidelines, though amounts span a wide range from 800-5000 IU/day. Almost everyone emphasizes the safety of 4000 IU/day.

It is not just vitamin D that has been purposefully marginalized by authorities, academia, and the MSM throughout the pandemic. After President Trump mentioned his use of hydroxychloroquine (HCQ) as a prophylactic back in June 2020, the MSM ridiculed him and a number of junk science reports were rushed to publication on both sides of the pond that all concluded HCQ was worthless. Typical of such hit jobs was *Effect of Hydroxychloroquine in Hospitalized Patients with COVID-19: Preliminary results from a multi-centre, randomized, controlled trial* by two Oxford-based doctors. Based on how HCQ works, it can only be expected to act as a prophylactic prior to infection by COVID or in the very early stages of the disease, prior to major symptoms developing. This Oxford study was run on a cohort of severely ill, hospitalized patients, about 25% of whom died within weeks. The paper concluded that HCQ was completely ineffective. Basically, the entire study was a sham to discredit HCQ. It should never have been conducted on hospitalized patients. What was required was a large, randomized trial on the general, uninfected, non-hospitalized population.

President Trump’s ‘Operation Warp Speed’ worked extraordinarily well. It brought novel vaccines from the drawing board to market in less than a year. The FDA’s normal approval process can take ten years. However, it looks very much as if the ‘deep state’ made the political decision to commit to a single strategy of mass vaccination of the entire population. Any potential alternative approach, that would inevitably compete with or even derail Washington’s agenda, was subjected to ‘Operation Deep Six’.

The Contergan Scandal

“Is it safe?” – Dr. Szell (Laurence Olivier) to Babe (Dustin Hoffman), in the film *The Marathon Man*

In the aftermath of WWII and the Korean War, PTSD and sleeplessness were common globally. One seventh of Americans were prescribed tranquilizers and sleeping pills. In some markets, such as Germany and Japan, the demand was even higher. There is a mental price to be paid for losing a war and having your country occupied by foreign powers. In 1957, the German drug company Chemie Grünenthal began marketing a new sedative to counter anxiety and sleeplessness under the trade name contergan. It was advertised as having the advantage of being the first sedative not to be based on barbiturates, to have no side effects, not to be at all toxic, and as being so safe it could even be used by pregnant women.

In 1960 an Australian doctor, William McBride, began prescribing off-label use of the drug to alleviate morning sickness. Other doctors around the world soon followed suit. Many other off-label benefits were discovered. Doctors prescribed contergan to treat asthma, diabetes, autoimmune diseases, macular degeneration, cancers, and even children with coughs or common colds. By 1960, contergan was being marketed in 46 countries in volume almost matching aspirin. It was treated as a completely safe miracle drug with very wide application.

In November 1961, pediatrician Widukind Lenz in Germany reported to Grünenthal that he had identified an alarming number of severe birth defects in babies delivered by women who had taken contergan during pregnancy. The same year, Dr. McBride reported similar findings to Distillers Company Limited in Scotland, which licensed the Grünenthal drug under a different brand name in both the UK and Australia. These reports were initially ignored by both companies until a German newspaper ran an article that reported 161 mothers who had been prescribed the drug in Germany had given birth to babies with severe abnormalities. At that point, both Grünenthal and Distillers were forced to cease distribution. Within a year it had been banned in most countries.

In the US, Richardson-Merrell had submitted an NDA for Grünenthal's drug in 1960, under the trade name kevodon. Richardson-Merrell's trial involved over 1,000 doctors who issued more than 2.5 million tablets to ~20,000 patients, about 3,760 of whom were women of childbearing age and at least 207 of whom were pregnant when the drug was prescribed. That is about the same scale of trial as Pfizer's Covid vaccine, except Pfizer's involved only 40,000 injections, rather than 2.5 million tablets. Pfizer's trial was for a new drug using a new technology and lasted just a few months before BN602 was approved for emergency use, whereas Richardson-Merrill's test ran for over a year and was for a drug that had already been massively prescribed globally for over three years. The drug would have received NDA approval for general over-the-counter sale but for the objections of one woman at the FDA. Her name was Dr. Frances Kelsey. She had only recently been hired by the FDA and this was her first project. Despite the fact that the drug had been massively prescribed internationally for over three years, Dr. Kelsey refused to issue an approval. Her objection was on the grounds of inadequate testing, particularly with regard to the issue of whether or not the drug could cross the placenta. Although she was pressured by both Richardson-Merrill and her superiors to relent, she gamely held her ground until late 1961, when the discovery of birth abnormalities in Germany and Australia assured the application would have to be withdrawn. The likelihood is that kevodon would have been approved by early 1962, despite Dr. Kelsey's continued objections, had not the deformities been publicized in Germany.

Grünenthal's drug had originally been developed in WWII by German scientists. Otto Ambros was Grünenthal's head of research. He had worked at IG Farben during the war, where he developed and experimented with nerve gases. Records indicate that by 1944, IG Farben had discovered the thalidomide formula. Jewish prisoners appear to have been used for lab experiments. It is a matter of public record that Bayer, which was then a division of IG Farben, negotiated with the Auschwitz commandant for the sale of 150 female prisoners. One letter in the Auschwitz files requested “with a view to the planned experiments with a new sleep-inducing drug we would appreciate it if you could place a number of prisoners at our disposal”. Such stories should

serve as a reminder that superior intellect does not grant immunity from human vices. History is replete with the horrors inflicted by high functioning sociopaths.

Scientists can be heroes too. In 1962, Dr. Kelsey was honored by President Kennedy for her stubborn efforts and went on to enjoy a long and distinguished career at the FDA before retiring in 2005. She passed away in her home country of Canada in 2015, at the fine old age of 101. Her memory is held in such high regard, an award is given by the FDA in her name each year. However, the CDC's current leadership appears to have forgotten her.

Officially, about 20,000 children were victims of thalidomide worldwide. About half did not survive birth. As a result of the tragedy, FDA regulations were significantly tightened by Congress in 1962. Unofficially, the death toll was probably several-fold higher. A common practice in British hospitals was to take a thalidomide baby into a cold corridor and lay it on the concrete floor. The mother was never allowed to see the child and was told it had been a stillbirth.

Conspiracy to Force Universal Vaccination

"Where you have a concentration of power in a few hands, all too frequently men with the mentality of gangsters get control."
-Lord Acton

The FDA issued guidance to the pharmaceutical industry that sets out the data and justification required for the agency to issue an emergency use authorization (EUA). Here is a key passage from that document:

"Based on this declaration and determination, FDA may issue an EUA after FDA has determined that the following statutory requirements are met (section 564 of the FD&C Act (21 U.S.C. 360bbb-3)) (Ref. 3):

- The chemical, biological, radiological, or nuclear (CBRN) agent referred to in the March 27, 2020, EUA declaration by the Secretary of HHS (SARS-CoV-2) can cause a serious or life-threatening disease or condition.
- Based on the totality of scientific evidence available, including data from adequate and well-controlled trials, if available, it is reasonable to believe that the product may be effective to prevent, diagnose, or treat such serious or life-threatening disease or condition that can be caused by SARS-CoV-2.
- The known and potential benefits of the product, when used to diagnose, prevent, or treat the identified serious or life-threatening disease or condition, outweigh the known and potential risks of the product.
- There is no adequate, approved, and available alternative to the product for diagnosing, preventing, or treating the disease or condition."

In short, a vaccine could not receive an EUA unless it could be proven to be an effective preventive measure against serious or life-threatening infection by SARS-CoV-2, that the immune benefit outweighed both known and potential risks of vaccination, and there was no approved product available that could instead be used to prevent or adequately treat the condition.

I will endeavor to demonstrate that the use of mRNA vaccines in pregnant women certainly violates the third condition; that extending vaccinations to children and infants certainly violates the first, second, and third condition; and that the wisdom of vaccinating healthy young adults is questionable.

First, let us get a grip on the scale of the threat COVID-19 has presented to the US population. We know that some survivors may suffer some long-lasting organ damage that will impact lifespans, but data is not yet available that would allow this cost to be quantified. It should also be noted that a large percentage of the American public willfully inflicts even greater punishment on their bodies as a result of freely chosen lifestyle choices - such as drug abuse, alcohol abuse, obesity, poor dietary choices, dangerous driving, or a sedentary lifestyle. If nature inflicts one more dent in life-expectancy, not of greater scale than preexisting problems, is that justification for the government to order the economy shut down? That is not without cost either. Failed businesses and lost jobs have inflicted enormous financial and mental health tolls. Would it be reasonable for the government to order universal vaccination if COVID only inflicted injury, rather than death? I would expect such an order would be almost universally regarded as an unwarranted over-reach by authority. For these reasons, I will ignore the issue of potential long-term organ damage inflicted by COVID and just consider death statistics.

We know that COVID has preferentially killed those with multiple pre-existing conditions. Most victims in the over-65 population suffer at least one pre-existing condition. That is a natural penalty of a long life. The vast majority of the under-65s who were counted in the COVID death statistics also had pre-existing conditions. According to a CDC report last September, only 6% of death certificates listed just COVID-19. On average there were 2.6 other conditions/ causes listed. However, there is no way yet of estimating how long these victims had to live, absent a COVID-19 infection. Thus, the only statistic we have available initially is the number of deaths with COVID listed as a contributing cause. COVID has been taking the entire blame.

The table below was prepared using data from Statista and the Heritage Foundation. It illustrates that for children and young adults, the pandemic has been a minor risk. These statistics indicate that only 2 out of every 100 deaths in the under-25 demographic can be attributed to COVID. For this demographic – which includes infants, school age children, and university students – everyday life is 50 times as dangerous as COVID. Yet the geniuses running the nation’s universities closed classes and ran stringent quarantining programs. Teachers’ unions across the country forced public schools to close for an entire year.

US POPULATION			PRE-COVID US DEATH RATE PER YEAR	EXPECTED ANNUAL NON- COVID DEATHS	COVID INVOLVED DEATHS	PERCENTAGE OF TOTAL	COVID INVOLVED DEATHS AS % OF EXPECTED DEATHS
AGE		MILLIONS					
FROM	TO						
	<1	3.91	557.9	21,812	45	0.0%	0.2%
1	4	15.67	24.0	3,765	23	0.0%	0.6%
5	14	40.99	13.3	5,444	72	0.0%	1.3%
15	24	42.69	70.1	29,933	648	0.1%	2.2%
	<25	103.26	59.0	60,955	788	0.2%	1.3%
25	34	45.93	128.9	59,183	2,922	0.6%	4.9%
35	44	41.65	194.8	81,117	7,711	1.7%	9.5%
45	54	40.88	395.9	161,863	21,251	4.6%	13.1%
55	64	42.44	886.9	376,393	54,134	11.8%	14.4%
	<65	274.16	269.7	739,511	86,806	18.9%	11.7%
65	74	31.49	1783.0	561,471	99,019	21.5%	17.6%
75	84	15.97	4387.2	700,634	128,192	27.9%	18.3%
85		6.61	13458.3	889,596	146,217	31.8%	16.4%
>0		328.23	880.8	2,891,212	460,234	100.0%	15.9%
As of July 1, 2019			Per 100K pop.		Up to 2/2/21		
Source: Statista			Source: Statista		Source: Heritage Foundation		

The educational establishment claimed these restrictions – which significantly damaged the education of an entire US generation and cost millions of parents in two-income households the loss of one income – were instituted primarily to ‘protect the children’. Clearly that was not the case. They were imposed to protect the faculty and/or for political leverage to achieve extra funding or other long-sought goals. It is particularly ironic that California’s union forced home schooling on families for over a year and simultaneously campaigned to outlaw home schooling by parents

Consider the record in the UK. On July 8, researchers from four of the country’s top universities published pre-print studies online. The results will be provided to the WHO to “inform shielding guidance for young people as well as decisions about the vaccination of teenagers and children, not just in the UK, but internationally”, according to Dr. Russel Viner, an author on two of the studies. In the UK, vaccines have not yet been cleared for children, whereas back in May the Biden Administration authorized vaccinations for children as young as 12 and their plan is to extend the approval process all the way down to 6-month-old infants. Do facts justify officialdom’s rush to inoculate our children?

What did these UK studies conclude? Remember, the very best medical statistics on COVID are found in the UK. The UK’s testing and record keeping has been far superior to the US. In the first year of the pandemic, 61 children in the UK died with COVID. After “differentiating between those who died of SARS-CoV-2 infection and those who died of an alternative cause but coincidentally tested positive”, researchers determined only 25 were killed by COVID, out of a population of 12 million children. During that time, 3,141 children died of other causes. Thus, living represented 99.2% of a British child’s daily risk, COVID just 0.8%. Children faced 126 times as much risk from other causes. Of the 25 children who died, 19 had an underlying chronic condition. Only six children with no known preexisting condition died; that is one in every two million children in the population. During that same period, 124 children committed suicide and 268 died as a result of trauma. Up until February 2021, 5,830 children had been admitted to hospital with COVID-19, of whom, 251 ended up in

an ICU (4.3% of the hospitalized). That is roughly 1 in every 50,000 children requiring intensive care. Over 367,000 children were admitted to hospital for other causes during the same period, so COVID represented about 1.6% of a typical child's risk of hospitalization. Living a fulfilling life and accepting life's numerous risks are inextricably intertwined – and involves risks 61 times as dangerous as COVID. Fortunately, COVID's additional impact is so negligible for children, it almost does not register. So the risk of a healthy British child dying from COVID in 2020 was about one in 2 million. Including those with preexisting health issues, one in 480,000 died, one in 48,000 required an ICU, and one in 2000 was hospitalized.

As the UK suffered a slightly higher overall mortality rate than the US, indicating the pandemic was of comparable severity, COVID statistics for US children should be similar as well. Yet the CDC currently maintains that “vaccination can help schools safely return to in-person learning as well as extracurricular activities and sports”. Europe's schools returned to in-person learning a year ago, once it became evident children were neither at great personal risk nor could be considered major carriers of the disease. The record in Europe proves it is already safe for the children, so the meaning of “safe for schools” in this context is “safe for faculty”. Vaccinations are available for teachers and staff. Once vaccinated, their risk drops to near zero as well. Yet when California's schools at long last reopened on June 12 (just in time for summer vacations), K-12 children were still required to wear masks indoors. There is no scientific evidence that masks can play a significant role in reducing infections, particularly indoors. The studies I have reviewed indicate that masks may confer a 10% to at most 20% reduction in the rate of transmission at a societal level. That is a very generous estimate. On the other hand, there is overwhelming scientific evidence that wearing a mask throughout the day is dangerous, particularly for active children. Damp face masks act as petri dishes for bacteria and interruption of natural breathing can cause elevated CO2 levels in the bloodstream. That can be particularly dangerous for children with heart or respiratory issues. So California's children are being forced to not only face constant discomfort in the classroom but also having avoidable health risks imposed on them, just to provide teachers that extra bit of comfort level.

Though over 80% of US COVID-related deaths were in the over-65 age group, the increased risk of death imposed by the arrival of COVID was relatively consistent from middle-age on up. The 35-44 age group's COVID-related death toll was 9.5% of what would have been expected from all other causes. For older deciles, risk of death was increased by between 13.1% and 18.3%. This should be an overstatement of risk, since some proportion of COVID victims expired primarily due to their comorbidities, rather than COVID itself. For instance, a heart attack victim who suffered no preceding COVID symptoms but who just happened to test positive for COVID on a 40-cycle PCR test post-mortem, most likely died of a heart attack that was totally unconnected to his asymptomatic COVID status. Yet COVID would have been entered on his death certificate. COVID represented the greatest threat to the 75-84 age group but at 18.3% of expected annual deaths, the risk was equivalent to that faced in 67 days of pre-COVID everyday life. One unavoidable fact of life is that getting old is dangerous, though it is preferential to the only alternative available.

The purpose of vaccinating an individual is to provide a meaningful degree of protection – ideally complete immunity - against an infection that would threaten severe illness, disability, or death of that individual. We do not vaccinate against minor inconveniences, such as the common cold. We enjoy a highly developed immune system that needs to be exercised to remain effective. Broadly vaccinating against minor ailments would not just provide little to no measurable benefit, it would risk weakening our immune systems, leaving us more vulnerable to other pathogens. As a society, we have never promoted vaccination of people who are not at-risk on the grounds their subsequent immunity will protect unvaccinated individuals who are at-risk. It is up to at-risk individuals to take the initiative to protect themselves. Their bodies are their responsibility. We do have universal vaccination programs for children, but these are to immunize against pathogens that are a significant risk to all – such as tetanus (not transmissible) or measles (highly transmissible). These points were all mainstream and well-accepted until 2020, at which point a collective mania suddenly infected governments, media, social platforms, healthcare bureaucracies, and even many medical experts. An official global dogma emerged that demanded universal vaccination of the world's entire population with new experimental drugs that had been rushed to “emergency use” approval in a matter of months. The establishment has embarked on

a campaign to drive for rapid vaccination of 100% of the world's population and the ethical standard of 'informed consent' has been largely abandoned to facilitate that goal. Women of child-bearing age are being vaccinated without being informed that long term reproductive side-effects of these experimental vaccines have not yet been evaluated. Have the medical community and pharmaceutical companies forgotten the thalidomide disaster? Pregnant women have been vaccinated without warning them that mRNA will produce spike proteins throughout their bodies, not just around the injection site. The pharmaceutical companies are well aware that these vaccines do spread throughout the body. The vaccine does not stay localized in the arm muscle as advertised. The splitting day-long headache that is so many experience after the second shot is due to spike proteins being manufactured in the lining of blood vessels in the brain. That can cause inflammation or even blood clots. Evidence is mounting that this is why reported serious side effects have been so varied. Where a blood clot may form is totally random. What does a fetus experience? Just a nasty headache that passes after a day or is permanent damage, even miscarriage a possibility?

In April, Shimabukuro et al. published an article titled '*Preliminary findings of mRNA Covid-19 vaccine safety in pregnant persons*' in the New England Journal of Medicine. Tom Shimabukuro M.D., M.P.H., M.B.A., is the deputy director of the CDC's Immunization Safety Office and heads the COVID-19 vaccine safety team for the CDC. Shimabukuro's team found no "obvious" indication of vaccines inducing additional risk in pregnancy. However, table 4 of the supplement provided statistics from the VAERS reporting system. Between December 14 and February 28, 163 pregnant women reported to VAERS. 134 were in their first or second trimester and 29 in their third. 155 reported normal side effects that are not pregnancy specific - such as pain, headaches, chills, fever, dizziness, etc. 66 reported events that were pregnancy specific. For the group in their first or second trimester, 46 miscarriages and one preterm birth were reported. The 22-week preterm died. That is a total of 47 deaths out of 137 pregnancies, giving a fatality rate of 34%. The normal rate of miscarriages from known pregnancies is below 10% (for known + unknown, may be as high as 25% to 30%). For the 29 women in their third trimester, 3 reported stillbirths. Stillbirths average about 3 per thousand births, so these women suffered thirty-four times the normal rate. Now, since a woman who suffers no or only minor side effects from the vaccine is typically not going to report to VAERS, whereas a woman who loses her child is far more likely to, VAERS is going to accumulate data that produce statistics well above true risk levels. As of mid-June, VAERS had recorded thousands of side-effects related to pregnancies, including 1,096 abortions (VAERS lists miscarriages as abortions). Unfortunately, VAERS does not collect statistics on the number of pregnant women vaccinated. However, there is another CDC database, called the V-safe registry, which does collect such data. The V-safe web site states "If you are pregnant, you can receive a COVID-19 vaccine. There is currently no evidence that any vaccines, including COVID-19 vaccines, cause fertility problems. However, data are limited about the safety of COVID-19 vaccines for people who are pregnant". So the CDC admits that it does not yet have enough data to know whether or not these vaccines are safe for a fetus, yet the Biden Administration has been campaigning all year to mass vaccinate the population, including healthy women who are at close to zero risk from COVID-19, irrespective of their pregnancy status. There is an important moral issue at stake here. Should a society gamble on the health of its unborn children in this manner? As of July 6, the V-safe database reported that 130,435 pregnant women had been inoculated. That is likely only a small percentage of the true total, as there are close to 4 million births per year in the USA. About 42% of the population has been fully vaccinated already, so unless pregnant women have been resisting government overtures, well over a million have been fully vaccinated. At least a third had effective pre-existing T-cell protection (from exposure to coronaviruses prior to 2020) and probably over 20% had contracted COVID-19, so had fully developed natural immunity. Studies conducted this year have confirmed that vaccination provides no measurable additional benefit beyond that conferred by natural immunity. In fact there is strong evidence that naturally acquired immunity is far superior to vaccination. For the rest, as most pregnant women are under the age of 40, the risk from COVID-19 was mild. Should they not have been advised to wait until their pregnancies had run their course? Should not the CDC have been advising caution until such time as enough data has been collected? Should not the CDC have advised doctors to first test women for SARS-CoV-2 antibodies and T-cell immunity before going ahead with vaccination? Perhaps close to half the women vaccinated received no meaningful supplemental immunity beyond what nature had already endowed.

As of late June, the CDC was tracking 5,103 women in a pregnancy registry. These pregnancies will provide the first meaningful statistics. Before that study has concluded, our medical system has rushed blindly ahead. It has exposed over a million fetuses to an experimental vaccine, knowing full-well that the vaccine conferred relatively little to even no benefit to the mother. It may be that these vaccines will prove to be 100% safe to an unborn child but that does not excuse such unethical behavior by the establishment. Certainly, it violates a core medical ethic observed for hundreds of years. It is not honorable behavior. It cannot even be defended as rational. It is not sane. For the entire history of our species, the highest priority in every society worldwide has been the protection of women and children. Has modern man lost his moral compass? As far as the safety of expectant mothers and unborn children is concerned, the White House, the CDC, and the FDA have been utterly cavalier. This ought to be a major scandal, with the MSM grilling White House Press Secretary Jen Psaki daily. There should be calls for relevant department heads to be held accountable.

Shimabukuro et al.'s April report, which concluded there is no reason to be concerned, was based on 3,958 pregnant women who signed up for the V-safe Pregnancy Registry. However, Shimabukuro's paper claimed that between 10% and 26% of pregnancies end in miscarriage. That statistic is misleading. Although it has been estimated that up to 30% of pregnancies end in miscarriage, the majority of those miscarriages are silent. In such cases, a woman never even realized she was pregnant. If a woman signed up for the V-safe Pregnancy Registry, it stands to reason that she knew she was pregnant. That realization generally occurs at least four weeks to as long as 12 weeks after conception. The rate of loss for known pregnancies is under 10%. Although the risk of loss is still 25% at four weeks, at seven weeks it is under 9%. After ten weeks of gestation, the probability of a later miscarriage is just 2.5% and after 14 weeks, under 1% (see: <https://datayze.com/miscarriage-chart>). Shimabukuro study covered 1,132 women in their first trimester and 1,714 in their second. Assuming they were equally distributed across each trimester, 1,867 would have been in their first 20 weeks and 139 miscarriages could have been expected (7.4%, using datayze probabilities). The actual number was 104 (5.6%). Strangely, Shimabukuro only compared the number of miscarriages with the number of live births. That is absolutely pointless, since so many of the pregnancies still have not reached full term; once they do, his reported percentage will drop towards 5.6%. His result was a comparison of the number of miscarriages in women who enrolled in their first 20 weeks with the number of births from a different group of women who enrolled in their third trimester. That is a totally meaningless statistic. What was he playing at? This is the head of the CDC's vaccine safety group. He should have at least a basic understanding of statistics. He knew what he was supposed to be measuring and ought to know how to calculate the relevant statistic. Even a competent high school student ought to be able to catch his error. Did Shimabukuro publish a meaningless statistic with the object of allaying women's fears? 21 doctors coauthored this paper. What were they thinking? They ought to know better. Shimabukuro's paper concludes that there are no "obvious" signals of safety concerns. My conclusion is that Shimabukuro did not conduct a thorough enough investigation to reach such a conclusion. I assumed an equal distribution of participants across each trimester because Shimabukuro did not provide any granularity finer than pigeonholing by trimester. 98 of the 139 expected miscarriages were due to 404 women who I assumed to be in their first 5 weeks of pregnancy when enrolled. They had an expected 24.2% loss rate. The early stage of pregnancy is very risky. Only 41 miscarriages were expected from the 1,463 assumed to be over five weeks into their pregnancy (2.8% loss rate). If the distribution of Shimabukuro's expectant mothers was actually skewed towards later term, with a low proportion in the first seven weeks, then 104 miscarriages could actually be elevated above expectation. My conclusion is that Shimabukuro's study is yet another case of shoddy science, with at least a dash of propaganda applied at the critical point, that ended up being accepted by a major journal in support of a political narrative. It lacks the level of data precision required to come to a confident conclusion and the most important statistic presented to support the safety profile is invalid. This was an article, not peer reviewed. It ought to fail a thorough review process (see: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8117969/bin/NEJMoa2104983_appendix.pdf).

If the Jinping Pandemic had delivered the zombie apocalypse, the extreme reaction by authorities would have been justified. However, COVID-19 is not the zombie apocalypse, the Black Death, or the Spanish Flu. For the under-17 demographic, COVID-19 is less dangerous than the annual flu. According to the Mayo Clinic, "most

children have mild symptoms or no symptoms. As of June 9, there have been a grand total of 314 deaths in the USA in the U-17 age bracket that involved COVID-19. Once a thorough analysis is conducted, I would not be surprised to see a similar pattern to the UK experience revealed – over half were actually due to other causes and only one in ten did not have serious preexisting conditions. Keep in mind that last year, motorcycle accident victims were being reported as COVID casualties if the corpse tested positive – and they were being tested. Washington was paying hospitals a premium for COVID patients, so it was in their self-interest to maximize reported counts. In the US, COVID deaths were not understated.

For those who died, obviously that was a matter of significant importance. Likewise for grieving family and friends. However, if we are to react as a society, we need to judge the threat at a societal level, not individual. We elect politicians to make those difficult decisions on our collective behalf and have a right to expect their decision-making process to be reasonably rational. So, what was the scale of this threat, in societal terms? There are approximately 68 million Americans under the age of 17. Even if we assign all 314 deaths solely to COVID, that is a death toll of just 0.00046%. I have not messed up the decimal point. That really is four ten-thousandths of one percent risk of dying. Over 300 people a year die in boating accidents. We do not ban boating. Over 3,500 drown every year. We do not ban swimming. To the contrary, we encourage children to learn to swim. Schools teach swimming and compete in swimming competitions. Yet the US closed down its classrooms for the year, supposedly to protect the children from the scourge of COVID-19. Hundreds of thousands of two-income families were reduced to one income, as a parent (typically mom) was forced to quit work and stay home to care for her children.

If the probability of a child being killed by COVID is almost zero and serious side effects are also very rare (so rare that no statistics appear to be available), then how large would a pharmaceutical company's trial need to be to ascertain whether or not a net medical benefit would be provided by its vaccine? If 100,000 children had been monitored from February 2020 until June of this year, there would have been about a 50% probability that one would have died with COVID involved. For 100,000 healthy children with no serious preexisting conditions, the probability would have been about 5%. By the end of last year, researchers estimated over 25% of Americans had been exposed to COVID, probably close to 30%. To be conservative, let's assume just 20,000 of the 100,000 children had been exposed. That gives us a death toll of one in every 40,000 infected children or one in every 400,000 if we limit to just healthy children with no preexisting conditions. One would think that the FDA would not authorize use of a novel experimental drug on adolescents unless the developer can demonstrate a similar low risk profile – i.e. the vaccine needs to be SAFER than immunization via natural exposure to COVID-19. Serious side effects (including death) should be less than one in 40,000 for all children, one in 400,000 for healthy children. What did the FDA demand of Pfizer/BioNTech before approving the experimental vaccine on May 10 for use in children as young as 12? Pfizer's trial enrolled 2,260 adolescents between the ages of 12 and 15, half of whom received a saltwater placebo. So a mere 1,130 received BNT162. The FDA approved the drug for use on children as young as 12 based solely on that tiny trial. Is there evidence of intelligent, rational life still to be found at the FDA? Have the FDA and CDC given up on practicing real science and adopted in its place 'political science' to satisfy their masters in DC? In my opinion, the FDA and Pfizer conspired to run a woefully underpowered test for the task at hand. It was inadequate to justify approval. They presented the results to an overly trusting American public as sufficient to label the drug as safe. Perhaps I am wrong, in which case Pfizer should be able to explain why my reasoning is incorrect.

On July 12, Moderna announced it has begun recruiting about 1,000 expectant mothers for a trial to determine the safety profile of its vaccine during pregnancy. That is welcome news, as it does confirm that the pharmaceutical companies at least do recognize their experimental vaccines are not yet proven safe for a fetus and are prepared to study the issue. However, Moderna may well seek approval based just on this one trial. My opinion is that the drug should not be declared 'safe' based just on the results of such a small trial. Pregnant women should be fully informed, not conned. Meanwhile, the political establishment is still advertising the drugs as "safe" for all on the basis that no serious side effects have been substantiated. They have been failing to properly inform women that proper studies have yet to be conducted. On such reasoning, one would assume walking through a minefield is safe until enough victims have stepped on mines to prove otherwise.

Moderna's 1,000-woman study will be concluded by December 2023. By the time those results are published, the Biden Administration's campaign will have succeeded in convincing millions of women to be vaccinated during pregnancy. The Administration is taking a flyer, assuming the vaccines do prove to enjoy an excellent safety profile. Fingers crossed.

Let us consider the possibility that these vaccines are not as safe as our politicians like to assume. If BNT162 causes a serious side effect, even death, in one out of every two-thousand children vaccinated, what is the probability this would have been detected by Pfizer's trial? Roughly 43%. That means there was over a 50% chance Pfizer's phase 3 trial would have missed that level of risk. There are 17 million children between the age of 12 and 15. With universal vaccination and a side-effect that occurs in 1 in 2,000 vaccinations, over 7,000 children would be impacted. Pfizer and the FDA decided to make do with an underpowered trial. They rolled the dice, gambling with our children's lives. The placebo group in Pfizer's trial suffered a mere 16 symptomatic COVID-19 cases versus none in the vaccinated group. Pfizer used that fact as sufficient justification to request vaccine approval. The FDA concurred. However, none of the 16 infected with COVID suffered serious conditions. If the vaccine prevented 16 children from stubbing their toe, would we be pushing universal vaccination in the name of preventing stubbed toes? Pfizer may have provided strong evidence that its vaccine will provide immunity to children but that is insufficient to justify its use. Pfizer has not demonstrated that vaccination of children is superior and safer to their gaining natural immunity via natural infection. The 16 children who experienced symptomatic COVID-19 are now every bit as immune as the 1,130 who were vaccinated; perhaps their natural immunity is superior (there are sound scientific reasons to believe this is likely so and studies to date have confirmed that to be the case). What about the safety profile? We know the safety profile of natural exposure to COVID. Up until February 1 of this year, the risk of someone under the age of 25 dying with COVID in the US was of the order of 1 in 130,000. In the UK, risk of ICU admittance for a child was 1 in 50,000 and being hospitalized 1 in 2,000. Now, we do not know precisely how many under-25s were infected over that first year but an estimate of 25% to 30% is likely in the ballpark. At 30%, the probability of death from infection for the under-25 demographic would be roughly 1 in every 40,000 infected and ICU admittance about 1 in 15,000.

What did Pfizer conclude about BNT162's safety profile? After the first trial (16 years up) concluded in December 2020, Pfizer reported that "The frequency of any severe systemic event after the first dose was 0.9% or less. Severe systemic events were reported in less than 2% of vaccine recipients after either dose, except for [severe] fatigue (in 3.8%) and [severe] headache (in 2.0%) after the second dose". Pfizer concluded, "a two-dose regimen of BNT162b2 conferred 95% protection against COVID-19 in persons 16 years of age or older. Safety over a median of 2 months was similar to that of other viral vaccines".

Severe events in around 2% of volunteers might be cause for concern (2% of 60 million children under the age of 15 is 1,200,000), especially as four volunteers in the trial developed facial paralysis. That might have been caused by brain or nerve injury. The 2% of volunteers who complained of severe headaches may have suffered severe inflammation in the brain's blood vessels. Yet the CDC and FDA both assured the public their vaccines are completely safe. We were told only relatively mild side effects should be expected. The MSM parroted that message without seriously analyzing the claim. However, Pfizer's literature noted "adverse reactions in participants 16 years of age and older included pain at the injection site (84.1%), fatigue (62.9%), headache (55.1%), muscle pain (38.3%), chills (31.9%), joint pain (23.6%), fever (14.2%), injection site swelling (10.5%), injection site redness (9.5%), nausea (1.1%), malaise (0.5%), and lymphadenopathy (0.3%). So 55.1% of the vaccinated suffered headaches and 2% suffered very severe headaches. My partner took the Pfizer vaccine and suffered the worst headache of her life. It lasted two day and the pain overnight was so intense she could not sleep. Our local pharmacy told us that was a common side effect and not to be worried. Once the mass vaccination program gathered steam, evidence mounted that Pfizer's technical literature had only identified a very small subset of the broad range of side effects the vaccines could inflict.

Pfizer's testing to gain approval for use in 12- to 15-year-old adolescents was too low powered to reliably identify side effects with an incidence rate of less than one in a thousand. The volunteers were also only

monitored for two months before approval. Reports to the general public via the MSM, CDC, FDA, etc. did admit to “mild” side effects, limited to pain at the injection site, tiredness (78%), headache, chills, muscle pain, fever (24%), and joint pain. Over three-quarters of vaccinations cause one or more of these effects.

By mid-May, over 600,000 children had been vaccinated. Reports of more serious adverse reactions began to be noticed, including myocarditis (heart inflammation), pericarditis, chest pain, shortness of breath, heart palpitations, blood clots, strokes, and multisystem inflammatory syndrome. In March, Pfizer announced a 2-year clinical trial for infants as young as 6-months up to 11-year-old children. I have been told the company was offering parents an inducement of as much as \$2,000 to volunteer their children.

On 30 April 2021, Lei et al. published a paper titled *SARS-CoV-2 Spike Protein Impairs Endothelial Function via Downregulation of ACE2* in *Circulation Research*. In an interview with SALK NEWS, co-author Professor Uri Manor explained, “A lot of people think of it as a respiratory disease, but it’s really a vascular disease. That could explain why some people have strokes, and why some people have issues in other parts of the body. The commonality between them is that they all have vascular underpinnings”. The Salk paper not only demonstrated that SARS-CoV-2 attacks the vascular system but also – and this is critically important – that the spike protein alone contributes to that vascular damage. The spike protein is like an autonomous military drone tasked to seek out and destroy its prey. The prey of a spike protein is your ACE2 cells, which line the vessel walls of your circulatory system. The spike attaches to cells and damages them. The body’s immune system reacts to the invader but the response causes inflammation (see: <https://www.salk.edu/news-release/the-novel-coronavirus-spike-protein-plays-additional-key-role-in-illness/>).

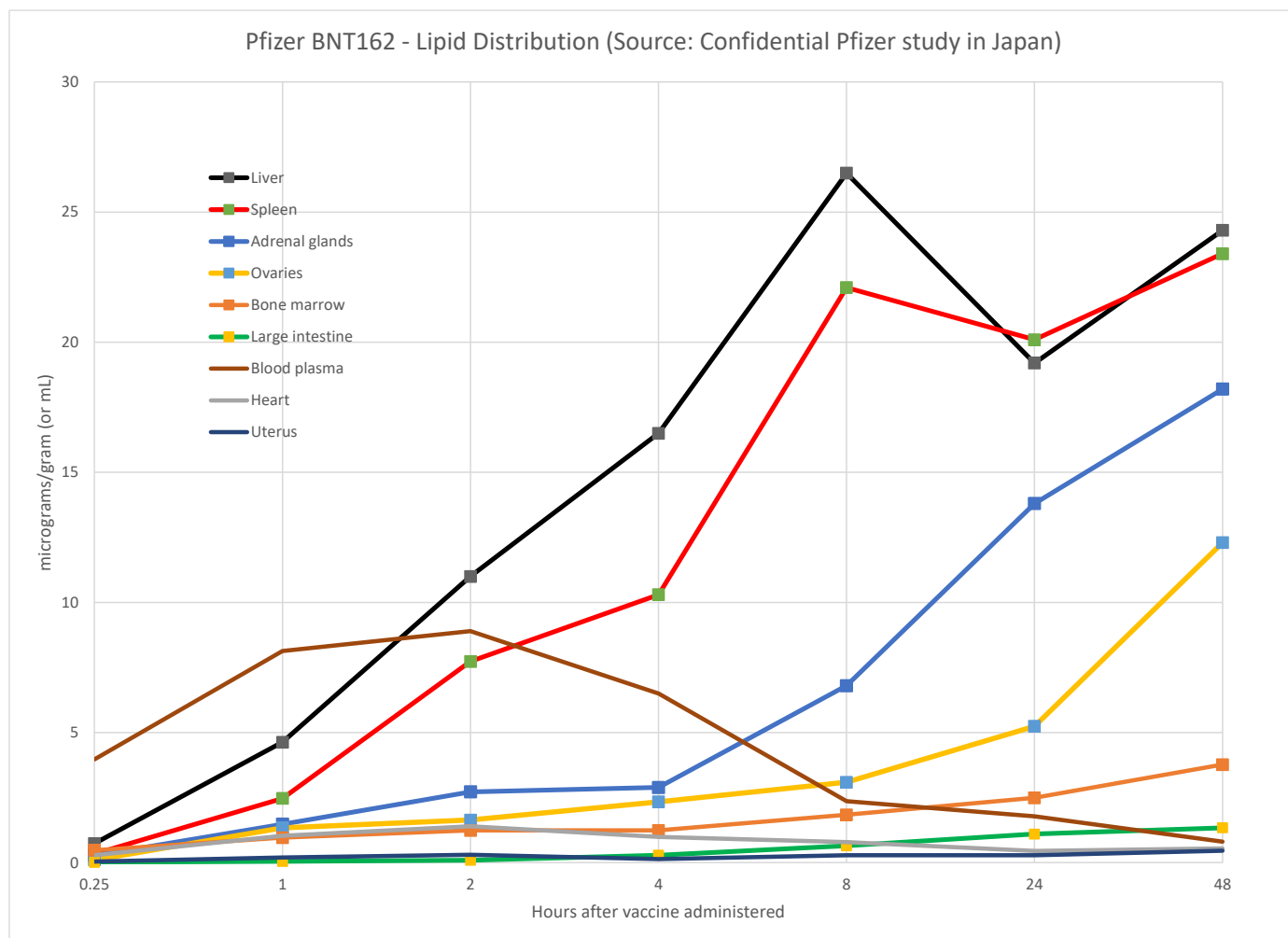
Pfizer’s vaccine is based on a lipid nanoparticle–formulated, nucleoside-modified mRNA that encodes a modified version of the spike protein of a SARS-CoV-2 strain isolated in Wuhan. Wang Nianshuang, a research associate at the University of Texas in Austin, designed the synthetic spike that was adopted by both Moderna and Pfizer for use in their vaccines. In an interview Wang explained, “It took me a weekend to design more than a dozen genome codes for the spike protein – including ones that created mutations that would lock it into the pre-fusion shape”. Instructions to create this modified spike are encoded in mRNA, which is encapsulated in the stabilizing lipid nanoparticle. The nanoparticle is designed to survive immune countermeasures long enough for it to enter a cell and release its mRNA package. The cell’s own ribosomes then set about following instructions to produce the modified spikes. These spikes cannot reproduce, as they are not a full viral package. Nor should they actually enter ACE2 cells after binding since they are fused into the wrong shape. They cannot reconfigure the spike after cleavage. However, the volume produced is enough to do meaningful damage. As Professor Manor explained “If you remove the replicating capabilities of the virus, it still has a major damaging effect on the vascular cells, simply by virtue of its ability to bind to this ACE2 receptor”. If Pfizer’s vaccine remained localized in shoulder muscle, the damage would also be localized to muscle only but that is not what happens. Pfizer knew in its early testing that the vaccine spreads through the vascular system within an hour of inoculation. The FDA knew too but decided to ignore that inconvenient wrinkle. Maybe they crossed their fingers and hoped for the best. Lei et al.’s paper can be downloaded from: <https://www.ahajournals.org/doi/pdf/10.1161/CIRCRESAHA.121.318902>.

The CDC’s website still offers a public informational piece titled “Understanding mRNA COVID-19 Vaccine”, which states, “COVID-19 mRNA vaccines give instructions for our cells to make a **harmless** [my bolding] piece of what is called the “spike protein.” The spike protein is found on the surface of the virus that causes COVID-19.” Professor Manor states spikes are dangerous, but the CDC tells us they are completely harmless. Both cannot be correct.

The public has been assured the vaccine dose remains localized at the injection site, yet Pfizer’s own research proves it begins to migrate throughout the body within minutes. Sometime last year, a Pfizer team in Japan conducted research on the biodistribution of its two chosen lipid nanoparticles subsequent to injection. Pfizer’s management chose to keep the findings confidential. Although the public was not given access to the research results, the WHO and FDA should have been privy to the 13-page report. The only reason we know this

research was conducted is thanks to Dr. Byram Bridle, who obtained a copy of the report via a freedom of information request to Japan's regulatory agency. The chart above is based on data provided in that report. In an interview this June, Dr. Bridle stated "We made a big mistake. We didn't realize it until now. We thought the spike protein was a great target antigen, we never knew the spike protein itself was a toxin and was a pathogenic protein. So by vaccinating people we are inadvertently inoculating them with a toxin."

As a result of the design flaw that allows lipids to carry mRNA throughout the vascular system. Within a matter of hours, mRNA reaches the brain, kidneys, liver, digestive system, lymph nodes, pancreas, reproductive system, lungs, eyes, ears, etc., and sets about invading cells, which are tricked into manufacturing modified spikes. Pfizer uses two lipids, ALC-0519 and ALC-0315, to encapsulate the modified mRNA, so as to protect it from the body's immune response for as long as required. The mRNA, called BNT162, has to last long enough to enter a cell, where ribosomes will accept its instructions to manufacture spike proteins. Pfizer discovered that after injection, about 80% of the lipids are rapidly distributed throughout the vascular system, rather than remaining localized at the injection site. Concentrations form in the liver, spleen, adrenal glands, ovaries, and bone marrow. About 60% of ALC-0315 and 20% of ALC-0519 pass through the liver. 50% of ALC-0159 ends up being excreted in feces as unchanged drug but only 1% of ALC-0315. Neither is excreted in urine. Where does the ALC-0315 go? Possibly it just accumulates in the liver and is ultimately broken down there. Lower concentrations were found in the large intestine, stomach, kidneys, heart, brain, and uterus. Basically, spikes can be produced anywhere in the circulatory system, from head to toe, rather than just in the shoulder. The hijacked cell is damaged, which causes an inflammatory immune response. Once produced, spikes circulate in the vascular system and attach randomly to ACE2 cells, where the immune system also has to respond, causing yet more cellular damage and inflammation. Side effects are thus highly varied and random in nature.



By contrast, when you catch COVID-19 naturally, the virus remains localized in the pharynx for perhaps a week. If the body's immune system fails to defeat it there, it will spread into the lungs, where damage will cause bleeding, allowing virus to then enter the blood stream. It may then completely overwhelm your immune system and kill you. However, your immune system does get a week or two to get up to speed, designing and producing antibodies, before the virus starts to attack your circulatory system and vital organs. With Pfizer's mRNA vaccine, spikes are being produced all over your body within hours. The immune system is caught unprepared. Like Pearl Harbor, there is no warning. A toxin is being injected directly into the patient's bloodstream. The level of spike proteins generated by vaccination is much, much lower than in an advanced infection but it is still sufficient to do damage. The location where damage occurs is random in nature and widespread immediately, rather than localized to the upper arm muscle as advertised. Making matters worse, both spike proteins and lipid nanoparticles are small enough to penetrate the blood-brain barrier. Normal vaccines cannot. That barrier insulates the brain and spinal cord from foreign bodies. If lipids are able to fuse with brain cells, they could potentially trigger degenerative diseases over time.

Scientists have been trying to deliver drugs across the blood-brain barrier for many years, with no success that I am aware of. However, preclinical studies in animal models have demonstrated that nanoparticles can effectively cross the barrier. A 2017 study of mice treated against influenza with a lipid encapsulated mRNA vaccine found that the mice were effectively immunized. However testing for mRNA distribution found 5680 ng/ml at the muscle injection site, 2120 in proximal lymph nodes, 117 in distal lymph nodes, 87 in the spleen, and 0.4 ng/ml in the brain. This is consistent with the European Medicines Agency's findings for the Moderna vaccine, which tested rats and detected mRNA in all tissues except the kidneys. In that case, mRNA/lipids crossed the BBB at 2% to 4% of the concentration found in plasma. What happens after the lipid packages get into the brain is as yet unknown. If nanoparticles attach to glial cells or neurons, there could be a cytotoxic T-cell response. Whereas the body can repair blood vessels, it does not regenerate neurons.

If toxic events have occurred as a result of nanoparticles crossing the BBB in patients vaccinated with either Moderna's or Pfizer's lipid nanoparticles, then we would expect to see something worse than just severe headaches, tinnitus, clots, and hemorrhaging occurring. These are all related to vasodilation or damage to blood vessel walls, rather than an actual crossing of the BBB. One sign would be cases of encephalitis. There have been a few reports of encephalitis related to severe cases of COVID-19. Have there also been cases reported after mRNA vaccination? Based on the data available as of my VAERS download in mid-June, 53 cases of encephalitis and 79 cases of encephalopathy have been reported.

ACE2 is cardio protective. ACE2 cells are found in abundance throughout the vascular system, including the brain's vascular system. When the immune system destroys alien material and clears damaged cells, inflammation occurs. Damaged cells can cause bleeding and blood clotting. Blood clots can lead to strokes. In the brain, inflammation of blood vessels causes headaches. Professor Amanda Ellison of Durham University describes the risk factor involved in serious headaches thus:

"Blood is toxic to brain tissue and so is kept separate through the blood-brain barrier. If a blood vessel leaks or breaks, this results in a hemorrhage and the death of the brain tissue the blood seeps into. So, if our blood vessels dilate beyond comfortable limits, the sensory receptors will fire off signals to the brain, which we interpret as pain. Headaches are an early warning system."

Severe inflammation stresses vessels and can lead to bleeds. Bleeds through the blood-brain barrier can lead to random brain damage, including but not limited to: strokes, amnesia, catatonia, confusion, behavioral changes, lethargy, dizziness, loss of balance control, tinnitus, loss of muscle control, paralysis, an inability to speak, deafness, blurred eyesight, temporary blindness in one or both eyes, permanent blindness, blockage of electrical signals to the heart, Parkinson's symptoms, nervous disorders (such as burning sensation in the skin), brain swelling (encephalitis), coma, and death. The VAERS reporting system has recorded all these side effects in patients vaccinated by either Pfizer's or Moderna's experimental mRNA vaccines. Last year, any patient who died with COVID was assumed to have died of COVID. This year, any death or side effect that

occurs soon after vaccination is assumed to be natural until proven otherwise. COVID was always considered guilty. The vaccines are always presumed innocent. In terms of evaluating risk, the authorities have not been maintaining a level playing field.

In mid-June, I downloaded a spreadsheet from VAERS. Over half a million patients had reported side effects, with up to four effects listed per patient. I organized the records by symptom and then grouped them by category – brain, heart, vascular, kidneys, etc. I am still only halfway through the alphabet but have recorded over 650,000 reported symptoms. Many are relatively minor, such as headaches, pain, vomiting, itchy scalp, or diarrhea. However there is a pattern of brain related and heart related issues, a number of which are very serious. In addition, the drug may be precipitating cases of spontaneous miscarriage. Over 60,000 symptoms involving altered behavior, emotions, or sensations have been reported. Dizziness is the most common. Excluding the 71,755 reports of headaches, over 13,000 symptoms involve brain damage or damage to the nervous system. Over 2,000 people suffered facial paralysis (four did in Pfizer's original trial as well). Over 1,700 developed balance disorder. Over 1,500 suffered strokes. Over 900 developed dysstasia (difficulty standing). There were 500 cases of dyskinesia (involuntary muscle spasms). Over 500 spontaneous abortions were recorded and another 577 that were listed simply as abortions (VAERS does not break out miscarriages as a separate category). Only 45 babies under the age of one have died from COVID. The vaccines may already have killed 10 to 20 times as many unborn babies – or maybe not. Has anyone bothered to properly analyze at what stage of the pregnancies these miscarriages and stillbirths occurred? There were over 9,400 reports of vision and eye problems, including 2,148 cases of blurred vision, 380 cases of double vision, 180 cases of eye hemorrhage, 164 cases of blindness in one eye, and 768 cases of total blindness. Over 1,600 people lost their sense of taste and over 1,100 their sense of smell. 1,375 of the vaccinated went deaf. Over a thousand suffered deep vein thrombosis and over a thousand suffered nose bleeds. Over 14,000 people reported shortness of breath and more than 30,000 heart related effects were recorded. The most common, at over 14,000, was chest pain or discomfort but there were also 52 heart attacks, 43 cardio-respiratory arrests, 142 cardiac arrests, and 38 acute respiratory failures. Numerous blood pressure irregularities were reported. Over 250 people turned blue, which is due to a lack of adequate oxygen being delivered throughout the body. There were over 15,000 cases of vomiting and 10,000 cases of diarrhea. 1,308 individuals suffered anaphylactic shock. 19 cases of brain death were reported and 3,661 deaths.

The VAERS system is very crude and there is no easy way to back out natural events that were destined to occur with or without vaccination. People do die from heart attacks or strokes every day of the year, so some number will succumb just days after vaccination by mere unfortunate coincidence. However, this pattern of so many side effects that would be caused by random bleeds or clotting in the brain I judge to be a serious concern that needs to be studied and answered.

A more recent press release from Pfizer cautioned that:

“Severe allergic reactions, including anaphylaxis, have been reported following the Pfizer-BioNTech COVID-19 Vaccine during mass vaccination outside of clinical trials.

Additional adverse reactions, some of which may be serious, may become apparent with more widespread use of the Pfizer-BioNTech COVID-19 vaccine.

Available data on Pfizer-BioNTech COVID-19 Vaccine administered to pregnant women are insufficient to inform vaccine-associated risks in pregnancy.

Data are not available to assess the effects of Pfizer-BioNTech COVID-19 Vaccine on the breastfed infant or on milk production/excretion”.

As noted above, despite the warning from Pfizer that it has not yet tested BNT162's risk to pregnant women or their fetus, the CDC has continued to promote the vaccines as safe even for pregnant women. The entire upper management of the CDC ought to be fired and publicly disgraced for such horrendously unethical conduct. Is the organization devoid of both institutional memory and ethical standards? Has it forgotten the

thalidomide scandal, how Dr. Kelsey stood alone to prevent that disaster being inflicted on US mothers? If unusual heart conditions and blood clots in the brain are being noticed already, despite the fact the concentration of lipids in these regions ought to be low (according to Pfizer's Japanese data), what could the long-term impact be on the liver, spleen, ovaries, and bone marrow, where the concentration is much higher? Will we see bone cancers spiking (pun intended) ten years from now? Will the vaccine significantly damage a generation of women suffer significant damage to their eggs, with reduced fertility and increased rates of miscarriages a result? The only study to date is from 36 couples in Israel. The study was conducted by Orvieto et al. at the IVF Fertility Clinic in Sheba. Orvieto could not identify any problem but a 36 couple trial is under-powered. As matters stand, most doctors do not appear to be at all concerned about reproductive risks – but the doctors of 65 years ago also saw no risk in prescribing thalidomide to pregnant women. Most doctors believe the vaccines to be safe and are advising patients accordingly. For example, Dr. Laura Morris of the University of Missouri Health Care stated publicly that “There is no plausible reason — no medical or scientific mechanism — for this vaccine to interact with a woman's reproductive organs or have any interaction with an egg that's been released or fertilized.” That would be great if she were correct. However, I seriously doubt that she and most other doctors are aware of Pfizer's confidential Japanese research, which was not released to the general medical community. There is also the issue of federal regulations concerning investigational drugs. Under federal regulation CFR312.7a, “A sponsor or investigator, or any person acting on behalf of a sponsor or investigator, shall not represent in a promotional context that an investigational new drug is safe or effective for the purposes for which it is under investigation”. Although the mRNA vaccines have been granted emergency use authorization, they are still investigational drugs, so should not be advertised simply as “safe”. There should be a caveat added to explain how limited the testing has been to date. Otherwise doctors are not providing for proper informed consent, which is a violation of their code of ethics.

Over 100 million Americans have been vaccinated and a mass vaccination program inevitably will result in some awful unintended side effects for a small minority. As long as that minority is just a very small fraction of those who receive a substantial life-saving benefit, society accepts the trade-off. For older adults and those with severe pre-existing conditions, the immediate benefit of gaining immunity is significant, whilst there is only a low probability of suffering a near-term major side-effect. The potential risk of (as yet unknown) long-term side-effects are not anywhere near as important for an 80-year-old as for a 16-year-old. By contrast, whereas the risk for minors of death from COVID is of the order of one in 40,000 to one in 50,000 infections and risk of serious complication one in several thousand, their risk of myocarditis soon after vaccination appears to be quite a bit higher.

Myocarditis is an extremely dangerous heart inflammation that can lead to long term heart damage. Israel first started reporting cases of young adults and children suffering myocarditis within four days of vaccination back in April. Authorities then estimated the risk at about 1 in 50,000 vaccinations but that has now dropped to around 1 in 2,500. Shortness of breath and chest pain are initial signs of myocarditis. How many of the 14,483 US adults who reported shortness of breath and 14,101 who experienced chest pain or discomfort via the VAERS system (as of mid-June) actually suffered heart damage? That is an open question but if damage had already been identified in adults as of April, children should have been assumed to also be at risk as. Yet on May 10, the FDA extended the EUA for Pfizer's BNT162 to adolescents aged 12 to 15. FDA Commissioner Dr. Janet Woodcock issued a press release that stated, “Today's action allows for a younger population to be protected from COVID-19, bringing us closer to returning to a sense of normalcy and to ending the pandemic. Parents and guardians can rest assured that the agency undertook a rigorous and thorough review of all available data, as we have with all of our COVID-19 vaccine emergency use authorizations.” In my opinion Dr. Woodcock either lied to parents and guardians or is guilty of gross negligence and thus should be fired. The agency did not demand a sufficiently rigorous trial by Pfizer (it was grossly underpowered). The FDA thus compromised by accepting inadequate data from Pfizer as a basis for issuing an EUA. The FDA also either did not analyze ALL available data or chose to just ignore Israel's report. Early reporting in the US indicates that when only 9% of vaccinations had been administered to the under-24 age group, they had reported 53% of myocarditis cases. It appears this risk is at least six times as high for the young. Remember, the old are

already susceptible to heart inflammation. Hearts typically last for around 700 million beats. Once you get over 600 million, risks begin to rise, particularly for the grossly overweight, smokers, heavy drinkers, drug addicts, etc. So if 91% of vaccinations are in the over-24 category, we ought not to be surprised if they are found to account for 99% of heart related adverse side effects. However, with myocarditis they only accounted for 47%.

On June 10, Dr. Shimabukuro published a safety update that addressed the myocarditis issue (see: <https://www.fda.gov/media/150054/download>). An emergency meeting of the CDC's Advisory Committee was announced and Shimabukuro told the press, "At that time, we'll update the data, further evaluate myocarditis following mRNA vaccination and assess benefit/risk analysis". On June 23, Jeff Landry, the Attorney General of the State of Louisiana, addressed a letter to Dr. Shimabukuro on this issue. He complained that the CDC was still claiming these cases had no causal connection with mRNA vaccination and that most patients "quickly felt better". Landry noted that over 1,200 cases in the under-30 demographic had already been identified. Landry stated, "current data is clearly insufficient to support the CDC's statements regarding the scope of risk". He also complained that "The CDC's handling of this issue and its process for collecting data also indicates the incidence could be severely under-reported". On June 29, Shay, Shimabukuro, and DeStefano published *Myocarditis Occurring After Immunization With mRNA-Based COVID-19 Vaccines* (see: <https://jamanetwork.com/journals/jamacardiology/fullarticle/2781600>). The paper suggested that myocarditis cases were occurring at a rate of less than one in every 100,000 vaccinations. He failed to refer to the Israeli data, which had estimated the risk at about 1 in 50,000 vaccinations back in April but that has now dropped to around 1 in 2,500.

Other serious side-effects have already been established. For example, a study of 64,900 vaccinated medical employees found that 2.1% reported acute allergic reactions. A serious reaction involving anaphylaxis occurred at a rate of 247 per million (Blumenthal et al., 2021), which is over 21 times the rate the CDC initially reported (see: <https://ijvtpr.com/index.php/IJVTpr/article/view/23/51>). Numerous others are suspected but are still awaiting statistical confirmation or dismissal. As yet unknown long-term effects – possibilities include autoimmune conditions, cancers, or brain disorders - may not appear for several years or even decades.

The FDA and CDC should have known about this heart risk as far back as 21 December 2020. That day, Avolio et al. published a paper titled '*The SARS-CoV-2 spike protein disrupts the cooperative function of human cardiac pericytes - endothelial cells through CD147 receptor-mediated signaling: a potential non-infective mechanism of COVID-19 microvascular disease*'. The paper can be downloaded from: <https://www.biorxiv.org/content/10.1101/2020.12.21.423721v1.full.pdf>. Both Avolio's paper and Lei's paper appear to have been ignored. Presumably, Pfizer's Japanese research was also ignored. Perhaps the political impetus to rush ahead with mass vaccination of the entire population was just too powerful to resist.

Those who oppose the prevailing dogma can pay a high personal price. For instance, in Canada, the University of Saskatchewan recently fired Dr. Francis Christian after he released a statement which expressed concerns about giving COVID vaccines to children and advocated ensuring that proper informed consent should first be obtained from parents (Canada has been allowing children to be vaccinated without parental consent). Dr. Christian is pro-vaccine, but he also believes in maintaining proper professional ethical standards. In our current woke, politically correct world, such dissent from the orthodoxy of the moment is a sin. He was not only fired by the university but is also being subjected to an investigation by the College of Physicians and Surgeons of Saskatchewan. Perhaps one day sanity will return. The likes of Dr. Christian then will rightly be regarded as heroes, in the tradition of fellow Canadian, Dr. Frances Kelsey, and Wuhan's Dr. Li.

In the US, the FDA and CDC are still running a national advertising campaign to encourage parents to vaccinate their children. The campaign states that the vaccines are perfectly safe. This month the FDA did finally add a warning of the risk of myocarditis to the information packet parents receive but it also continues to maintain that the benefits of vaccinating children dwarf the risks. How can that be so when the risk to children from COVID is almost zero? Fauci appeared on NBC this month and recommended children as young as 2 years old should be masked at day care or school, until such time as vaccines can be approved for them and

administered. He confirmed that the government's policy is to ultimately approve vaccinations of 6-month-old babies. His justification? Otherwise they could become infected and bring the virus home to their families. What he failed to note is that any family members at risk should be vaccinated by now, hence safe (if the pharmaceutical companies' claims are true). Perhaps Fauci and the FDA's staff need to be sent back to school for some remedial math. In mid-June, the VAERS system had recorded only 759 cases of myocarditis and pericarditis across all age groups. By late June, the CDC had identified over 1,200 post-immunization cases in just the under-30 age group. VAERS has been overwhelmed with the volume of adverse symptoms being reported and is hopelessly backlogged. Numbers will rise. As myocarditis is just one of hundreds of side effects associated with both mRNA vaccines (I have been citing Pfizer but Moderna's vaccine suffers from similar complications), perhaps it would be wise to pause this ill-considered rush to vaccinate every child in the land. The "follow-the-science" Biden Administration is currently launching a door-to-door campaign to pressure parents into ensuring everyone in their household is vaccinated. There is never a mention that young, healthy people who have already recovered from a bout of COVID already have a high level of immune protection. Is the Administration disregarding the Nuremberg Code's rule for fully informed consent?

This is the first time mRNA vaccines have been administered to the healthy. It is a new technology that has only previously been used for cancer patients. No one knows ahead of time what side effects might occur over the long haul. Scientists can only guess. It takes time to tell, perhaps as long as decades. Perhaps the vaccine generated antibodies will induce an ADE response against a future mutated variant of SARS-CoV-2. We might learn that spike antibodies cause an autoimmune response by attacking natural proteins. Spikes or lipid nanoparticles that succeed in crossing the blood-brain barrier may in time cause degenerative brain diseases. In short, the rollout does not come without risks. Paraphrasing Donald Rumsfeld, there are known unknowns and likely unknown unknowns too. Thus these vaccines, which are still in a trial status, should not be promoted for use on children who have close to zero risk of serious illness. As a society, we should prioritize the protection of children. Experiment on the old and those with serious pre-existing conditions. They have the most to gain and the least to lose.

How effective are mRNA vaccines when measured against naturally acquired immunity? Israel, which has been the testbed for mRNA vaccines, is already providing empirical evidence. The country's government worked out a deal with the pharmaceutical companies for Israel to be prioritized with early distribution sufficient to vaccinate the entire adult population. Mass vaccinations began on December 18, 2020. In exchange, Israel committed to maintaining a strong monitoring and reporting system. In effect, the entire adult population of Israel is being used for a phase 3 trial. As of July 14, 60.2% of the population had been fully vaccinated. Israel is currently suffering a new COVID wave, this time from the D variant. The country has a population of 9.2 million and has reported 842,000 COVID-19 recovered cases since February 2019. Since March, Israel has been offering vaccinations to victims who recovered from COVID 90-days after full recovery. I am going to assume that none has yet done so. Thus we have 5,538,000 fully vaccinated, 842,000 known recovered and unvaccinated, and 2,820,000 who have not been vaccinated. The latter group consists of people who either have not yet contracted COVID or, if they did so, suffered an asymptomatic case or too mild to bother reporting. There should be a similar proportion in the vaccinated cohort. Thus we have 60.2% fully vaccinated, 9.2% with natural immunity via exposure, and 30.6% unprotected. If the vaccination is as effective as natural immunity, then the number of D variant infections of vaccinated Israelis should be no more than 6.5 times the number of infections from the 842,000 recovered victims known to have natural immunity. If the vaccine is totally ineffective, we would expect to see about 60% of the cases occurring in vaccinated individuals. So far in this wave, Israel has reported 7,700 new cases of the D variant. Only 72 cases (0.9%) were second infections in the recovered and unvaccinated group. Over 3,000 were fully vaccinated (39.0%). That is a >43 to 1 ratio, indicating natural immunity is far superior to vaccination. This evidence supports the argument that governments should not be rushing to vaccinate children. We should instead allow them to catch the disease and gain superior natural immunity. Testing can be conducted when they become adults and those who still have no natural protection could then choose to be inoculated. The pharmaceutical companies had advertised their mRNA vaccines as being well over 90% effective at preventing infection, yet the current D wave in Israel

indicates the effectiveness at preventing realized infection is 67%, whereas the natural immunity afforded by prior exposure is 95%. At the Hertzog Hospital in Jerusalem, Dr. Kobi Haviv stated on August 5 that 95% of his severe patients are vaccinated and between 85% and 90% of hospitalized victims are fully vaccinated but as he only has 72 patients, I would not want to draw conclusions from such a small sample. The number of deaths in this wave is still running around just one to two per day, versus over 60 per day at the peak last January. As the number of deaths in this wave accumulates over time, if it is found that almost all the victims are non-vaccinated, we could conclude that although vaccines do not guarantee immunity, they do offer enough protection to keep symptoms relatively mild. Also, if the number of deaths per day does not pick up appreciably, we would have clear empirical evidence that it is not necessary for a society to inoculate 90% of its population. It is sufficient to ensure the most vulnerable are protected. The proponents of the Barrington Declaration would thus be proven correct. Members of the media, government authorities, and scientists who ridiculed their advice, as well as big tech that censored them, ought then to follow the example of England's Henry II. A public display of penance will be due. Of course, that will not happen as today's leaders are masters of evading personal responsibility. Their ethical standards are pre-medieval.

It should be noted that at the peak of the pandemic in mid-January, daily cases in the US were running at ~254,000 and deaths at ~3,500, so deaths were running at 1.4% of cases. As of August 3, the 7-day moving average of cases is ~92,300 and deaths 394; that is down to 0.4%, making the D variant less than a third as deadly as prior waves. That is probably due to a combination of lower lethality and better treatment regimens. 70% of the US population has been vaccinated. Probably 20% to 30% of non-vaccinated have already caught COVID over the last 18 months, so actually have superior immunity to vaccination. Thanks to exposure to other coronaviruses, about 30% of the population had pre-existing T-cell defenses that are effective enough to ensure either no or just mild symptoms upon infection. Most of the elderly and those suffering from severe pre-existing conditions have been vaccinated, even those who had recovered from a bout of COVID. So the risk exposure at a societal level is now relatively minor. The current panic emanating from the White House and bureaus such as the CDC and NIH is uncalled for. They are not following the physical science. Political science primarily guides them.

One of the serious complications with COVID-19 is long-hauler syndrome. By March 2020, reports from China identified this phenomenon. Victims appear to recover and then a month later symptoms reappear, often of a far more severe nature. Some patients who had been sent home after relatively mild cases, returned to hospital a month later and died. Doctors initially suggested patients had been reinfected. However, it soon became evident that the original infection was responsible. Since then we have learned that long haul symptoms can last as long as 15 months. Somewhere between 10% and 30% of known COVID cases become long haulers and the symptoms can be crippling for months on end. The cause had remained a mystery until a group of researchers led by Dr. Bruce Patterson managed to identify the mechanism at work. Dr. Patterson discovered that long haulers express elevated levels of non-classical monocytes (a form of white blood cell) and that these monocytes contain the S1 domain of the spike protein. This is very strange, since monocytes ought to only have a life of about 24 hours. They may last a week or so in the case of a severe immune condition, but a 15-month life is, I believe, unheard of. Yet this is what is happening. Dr. Patterson did not find RNA, so the spikes are not being reproduced; nor has he identified the full spike protein. As of July, he has only identified the S1 portion, which is that part of SARS-CoV-2 responsible for binding to ACE2 cells. The S1 and S2 portion are cleaved apart prior to the virus achieving cell entry and the S2 portion manages delivery of RNA into the cytoplasm, so it may be that the S1 portion is the only portion that remains to be swept up by monocytes. These 'spiked' monocytes are capable of causing inflammation anywhere in the body. That explains why long haulers have reported such diverse symptoms; well over 200 have been identified to date. This is also indirect evidence of why mRNA vaccines appear to be causing hundreds of different side effects, as the immune response to the artificial spikes introduced by vaccination is inflammatory too. Dr. Patterson has had great success treating long haulers with a combination that includes Ivermectin, a CCR5 antagonist, and statins. On the one hand, Dr. Patterson's findings are a negative for mRNA vaccines, as he is confirming that the spike alone (not the full virus and with no RNA) is cytotoxic, thanks to an inflammatory cytokine immune

response to its presence. On the other hand, he has found Ivermectin to be an effective treatment against the inflammatory response. Dr. Patterson's paper is titled *Persistence of SARS CoV-2 S1 Protein in CD16+ Monocytes in Post2 Acute Sequelae of COVID-19 (PASC) Up to 15 Months Post-Infection* (see: <https://www.biorxiv.org/content/10.1101/2021.06.25.449905v1.full.pdf>).

Another paper well worth reading is *Worse Than the Disease? Reviewing Some Possible Unintended consequences of the mRNA Vaccines Against COVID-19* by Stephanie Seneff and Greg Nigh. It was published in the International Journal of Vaccine Theory, Practice, and Research in May 2021 (see: <https://katohika.gr/wp-content/uploads/2021/05/23-Article-Text-102-1-10-20210514.pdf>).

As a private citizen with no medical qualification whatsoever, I am still entitled to an opinion. My view is the FDA should be advising against mRNA vaccination of anyone under the age of 30, particularly women, until such time as adequate data becomes available and methods of preventing or treating serious vaccination side-effects have been established. As of the end of July, over 15,000 vaccine associated deaths have been recorded in the EU drug adverse events database (EudraVigilance) and over 7,000 in the US and UK databases. Those 22,000 cases ought to have been carefully analyzed and explained before proceeding to pediatric trials. Also, the Janssen vaccine, Ad26.COVS.2, should not be used for American Indians or Alaskans as the efficacy is just 31.7%, per Janssen's February 26 briefing document. For some reason, the CDC forgot to advise doctors of this fact (see: <https://www.fda.gov/media/146217/download>, page 27).

My personal decision is to wait for final results on Novavax's NVX-CoV2373 vaccine. It may prove to be a superior option. As I was exposed to COVID-19 last year, my natural immunity should still be quite effective, even against the new variants. NVX-CoV2373 uses a conventional protein delivery system with a low dose of a spike protein stabilized in the prefusion configuration. The vaccine directly delivers this modified version of the spike protein, whereas Pfizer and Moderna's mRNA vaccines invade cells, deliver an mRNA package, which then instructs the cell's ribosomes to manufacture modified spikes. The volume produced is not precisely controlled. It varies from person to person. As already noted, since the lipids that encapsulate their mRNA packages do not remain localized in shoulder muscle but 80% instead quickly spreads throughout the vascular system, the mRNA manufacturing process can take place in the vascular lining of the brain, heart, or other critical organs. Novavax also incorporates what it calls a Matrix-M adjuvant to carry the spike protein. The 40-nanometer sized adjuvant enhances humoral and cellular responses to vaccines and appears to have a good safety profile. In April, Novavax published (not yet peer reviewed) results of a phase 2 trial of its malaria drug, R21/MM. The trial demonstrated drug efficacy of $\geq 75\%$. R21/MM is similar to another malaria drug, RTS,S/AS01, which has demonstrated only 36.3% efficacy after 4 doses. The primary difference between the two candidates is the addition of Novavax's Matrix-M adjuvant in R21/MM. Novavax's adjuvant sets NVX-CoV2373 apart from all other COVID vaccines and the conventional direct delivery of the spike avoids known and unknown risks that may be associated with mRNA.

Novavax's report was titled *High Efficacy of a Low Dose Candidate Malaria Vaccine, R21 in 1 Adjuvant Matrix-M™, with Seasonal Administration to Children in Burkina Faso*. It can be accessed at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8121760/pdf/main.pdf>.

The lab study of the effectiveness of the Matrix-M adjuvant in mice can be found at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5899102/pdf/12026_2018_Article_8991.pdf.

The published results of Novavax's phase 3 NVX-CoV2373 study can be accessed at: <https://www.medrxiv.org/content/10.1101/2021.05.13.21256639v1.full.pdf>.

So far, the safety profile of NVX-CoV2373 does appear to be superior to Pfizer's. However, one case of myocarditis was recorded and Novavax did warn that the trial had too few participants to reliably identify rare side effects. NVX-CoV2373 is the first vaccine "to demonstrate high vaccine efficacy (86.3%) against the B.1.1.7 variant in a phase 3 trial". B.1.1.7 is the Kent variant, now known as alpha. NVX-CoV2373 also demonstrated efficacy against the B.1.351 (beta, South African) variant. That is all good news, though I have

not yet seen any report on how well it handles the B.1.617 (delta, Indian) variant, which is now dominant in the US. Delta has a P681R mutation which both accelerates virus fusion and provides significant resistance to vaccine produced neutralizing antibodies. Also, although the furin cleavage site begins at codon 682, this mutation at codon 681 appears to also increase the level of successfully cleaved S2 units – i.e. a higher percentage of spike proteins are able to successfully penetrate cells. On July 29, the New York Times published an article about a CDC leaked report on the D variant. The NYT reported, “Detailed analysis of the spread of cases showed that people infected with Delta carry enormous amounts of virus in their nose and throat, regardless of vaccination status”. That would be consistent with antibody-dependent enhancement (ADE) occurring. Let us hope that is not the case. If it is, the young and healthy might well be better off not getting vaccinated but instead choosing to risk exposure, on the basis that natural immunity will prove to be superior against future variants.

On 10 December 2020, at the World Press Freedom Conference, the world’s leading press outlets agreed to further restrict press freedom by extending press censorship to the subject of COVID-19 vaccinations. The press already had an agreement known as the Trusted News Initiative (TNI), which prevents ‘false’ information from being reported in an election cycle. Thanks to the TNI, the MSM was able to spike a Russian disinformation campaign involving a planted laptop that was presented as belonging to Hunter Biden. Thank heavens they banded together and rendered that conspiracy ineffective. Hunter is a good boy. His daddy told us he is the brightest person you could ever hope to meet. If that fake news had been peddled to the ignorant masses a month before the election, it might have resulted in the wrong man winning. Hunter would never be involved in shady deals with Ukrainian and Russian oligarchs, be awarded sweetheart business partnerships with Chinese asset managers funded by the CCP, sell access to the Vice President without registering as a foreign agent, or pay daddy’s bills on the side as a means of slipping a 10% commission to the big guy. It was all a Kremlin inspired disinformation campaign. Another story the press squelched is old Joe being paid \$900,000 by Penn University in 2017 and 2018 for a chair that did not require him to teach classes or even appear for lectures. That was about twice the salary of a full-time, tenured professor. Joe was worth it, even if he didn’t do anything for students. Would anyone believe that Penn U. failed to disclose \$70 million in gifts it received from China since 2017? That was not worth reporting either. It was totally unrelated to Joe. The fact the gifts were made to the new Biden Center for Diplomacy and Global Engagement was a mere coincidence. The general public can remain confident the TNI agreement will never be abused to make sure media’s chosen candidate emerges victorious.

The TNI has now been extended to encompass the COVID-19 vaccination effort, supposedly to combat the spread of harmful vaccine disinformation. I guess we were at risk of a vaccine disinformation pandemic if they had not acted to protect us. TNI signatories include AP, AFP, BBC, CBC, The European broadcast Union, Facebook, The Financial Times, First Draft, Google, YouTube, The Hindu, Microsoft, Reuters, Twitter, and The Washington Post. The first step they took to ensure ‘fake news’ on this subject could no longer be disseminated was to fail to report on their agreement. They are secretly protecting us. They know better. They are our betters. At least, they believe they are. Certainly, they are collectively attuned to Aldous Huxley’s timeless adage that “Great is truth, but still greater, from a practical point of view, is silence about truth”.

My conclusion is that government authorities have been conspiring with the MSM and big tech platforms to force upon the public an irrational, unethical, immoral, and unnecessarily dangerous vaccination strategy. What renders this conspiracy utterly evil is its blatant disregard for the safety of children, infants, and the unborn. Fauci and the leadership at the CDC and FDA should know better and ought to be ashamed of themselves. The NIH owns 50% of the Moderna vaccine patent. Agency scientists who worked on the development can collect up to \$150,000 per year in royalties. Does this not have the appearance of creating a potential conflict of interest for the bureaucracy? Might money influence an FDA decision to approve a drug if friends over at the NIH each earn \$150,000 extra per year as a result? The NIH also receives royalties for remdesivir. By 8 May 2020, I had concluded remdesivir was next to useless based on early results in China, yet the NIH still recommends its use. As of July, remdesivir was still the only drug approved by the FDA for treating COVID. The NIH is now neutral as regard Ivermectin (an improvement from their opposition up until February 2021)

and still recommends against the use of HCQ and azithromycin, even in non-hospitalized patients in the early stages of the disease.

The unholy alliance between government authorities and big tech/media should also be of great concern, as it constitutes an outflanking of First Amendment protections. Mussolini established a High Commission for the press in 1929, promising it would not interfere with press freedom. His son, Galeazzo Ciano, later set up and then ran the Ministry of Popular Culture. Hitler copied Mussolini but combined the two ministries into one, which he named the Ministry of Propaganda and Public Enlightenment. Hitler's ministry hounded the German equivalents to Fox News and Tucker Carlson out of business but left the equivalents of CNN and the NY Times



nominally independent, as long as they were good boys and did as instructed. The CCP operates a similar system in China.

It should be remembered that Mussolini was not at first a dictator. He began as an anti-capitalist syndicalist. He was opposed to state ownership of industries. He promised to balance the budget. But the idea that industries and the entire economic system should be brought under government control appealed to both business leaders and the general public. Mussolini agreed with the populous that chaotic free markets should be planned and directed by central authority. Surely this ought to be superior to unconstrained capitalism? In 1920s Italy, experts and public alike believed

production, labor, credit, logistics, etc. would better be directed by the state, as they are in China today. Mussolini was faced with the problem of revitalizing a failing economy. The public was demanding change, state control was a popular option, and El Duce had to find a way to deliver. He first developed the Fascist Corporative System, then the Corporative State. In the first stage, trade syndicates and union syndicates were combined into corporatives, which planned and controlled industries under the watchful eye of the State. In effect, management sat on one side of the table, union representatives on the other, and the State chaired the proceedings from the head of the table. In the event of a stalemate, the State would cast the deciding vote. In the second stage, Mussolini abolished the Chamber of Deputies (equivalent to the House of Representatives) and put in its place the Chamber of Fasces and Corporations. This Mussolini referred to as the Corporative State. Progressives elsewhere in Europe and the US were greatly impressed. FDR was quite a fan, but that pesky US Constitution prevented him from emulating Mussolini's bold innovations.

In summary, fascism, as instituted by Mussolini, still allows a capitalist economic organization (unlike Lenin's USSR). The government is responsible for strategically directing the economy but day to day operations are handled at the corporative (collective) level, according to rules laid down by the State. Inevitably, politicians turn to debt financed projects to prop up employment, so debt to GDP rises to ever higher levels over time. As Hayek warned in *The Road to Serfdom*, under any form of socialism, "Every activity must derive its justification from conscious social purpose. There must be no spontaneous, unguided activity, because it might produce results which cannot be foreseen and for which the plan does not provide". The entire populace ends up being organized into various groups that can be supervised and controlled by the state bureaucracy.

Mussolini could not countenance media criticism. The system required a conforming public. In this respect, Xi's China is a modern version of pre-war Italy. Mussolini spent heavily on infrastructure projects, such as schools, roads, rail, government buildings, community works such as swimming pools, and larger projects, such as draining the Pontine Marshes. The Weimar Government in Germany was also big on infrastructure spending, much of which did not offer the prospect of a positive return on capital. Hitler continued the practice but devoted a greater proportion to military buildup and infrastructure that supported military operations, such as autobahns. Xi Jinping's 'one belt, one road' plan is likewise more focused on strategic benefits than return on capital.

Addendum:

On July 17, doctors for Covid Ethics sent a letter to tens of thousands of doctors in Europe (see: <https://principia-scientific.com/four-new-discoveries-about-safety-and-efficacy-of-covid-vaccines/>).

The following is a selection of key points from the letter:

“Rapid and efficient memory-type immune responses occur reliably in virtually all unvaccinated individuals who are exposed to SARS-CoV-2. The effectiveness of further boosting the immune response through vaccination is therefore highly doubtful. Vaccination may instead aggravate disease through antibody-dependent enhancement (ADE)”.

“Spike protein molecules were produced within cells that are in contact with the bloodstream—mostly endothelial cells—and released into the circulation. This means that a) the immune system will attack those endothelial cells, and b) the circulating spike protein molecules will activate thrombocytes. Both effects will promote blood clotting. This explains the many clotting-related adverse events—stroke, heart attack, venous thrombosis—that are being reported after vaccination”.

“Several studies have demonstrated that circulating SARS-CoV-2-specific IgG and IgA antibodies became detectable within 1-2 weeks after application of mRNA vaccines. This memory response indicates pre-existing, cross-reactive immunity due to previous infection with ordinary respiratory human coronavirus strains. Memory-type responses have also been documented with respect to T-cell-mediated immunity. Overall, these findings indicate that our immune system efficiently recognizes SARS-CoV-2 as “known” even on first contact. Severe cases of the disease thus cannot be ascribed to lacking immunity. Instead, severe cases might very well be caused or aggravated by pre-existing immunity through antibody-dependent enhancement”.

“The goal of the vaccination is to stimulate production of antibodies to SARS-CoV-2, but we now know that such antibodies can and will be rapidly generated by everyone upon the slightest viral challenge, even without vaccination”.

[Upon 2nd injection], “spikes are produced and protrude into the bloodstream that is already swarming with both reactive lymphocytes and antibodies. The antibodies will cause the complement system and also neutrophil granulocytes to attack the spike protein-bearing cells. The possible consequences of all-out self-attack by the immune system are frightening”.

“Attempts to develop vaccines to the original SARS virus, which is closely related to SARS-CoV-2, repeatedly failed due to ADE. The vaccines did induce antibodies, but when the vaccinated animals were subsequently infected with the virus, they became more ill than the unvaccinated controls. The possibility of ADE was not adequately addressed in the clinical trials on any of the COVID-19 vaccines”.

“Certain cells of the immune system take up antibody-tagged microbes and destroy them. If a virus particle to which antibodies have bound is taken up by such a cell, but it then manages to evade destruction, it may instead start to multiply within the cell. Overall, the antibody will then have enhanced the replication of the virus. Clinically, this antibody-dependent enhancement (ADE) can cause a hyperinflammatory response (a “cytokine storm”) that will amplify the damage to the lungs, liver and other organs of our body”.

Though I do not subscribe to the view that vaccine antibody response is ineffective, these points all support the case made here as to why approval of novel mRNA vaccines for inoculation of pregnant women, children, and infants, when only woefully inadequate data have been presented to the FDA, as to benefit provided versus safety risk inflicted, is dangerous, unethical, and a violation of both the Nuremberg Code and the FDA’s own regulations. I would add that Shi Zhengli herself was coauthor on a paper published in March 2020, *Molecular Mechanism for Antibody-Dependent Enhancement of Coronavirus Entry*. Another coauthor was Du Lanying at the LFKRI in New York. I wondered at the time if the paper was a warning from Shi for the West to be aware that ADE is possible when dealing with a SARS-like virus. Vaccines do have the potential to backfire.

How to Decline and Fall

“Something is rotten in the state of Denmark” – Shakespeare, *Hamlet* (Act I, Scene IV)

Authorities that repeatedly mislead or outright lie to the general public with ease ought to expect their credibility to evaporate over time. Once public trust is lost, it cannot be easily recovered. It may never be regained. Significant erosion of trust in various authorities has been broadly evident on both sides of the Atlantic for decades but the last few years, previously highly respected institutions have been exposed as untrustworthy, inept, or both. This should be a matter of great concern for both the general public and the institutions that have been suffering crumbling credibility. One would think that leadership would be cognizant of the risks they have been running and take remedial action. Yet the behavior of authorities and institutions (particularly the press) over the last five years indicate they operate with a flagrant disregard for such civil niceties as honesty and ethical conduct, way beyond anything one would expect to observe outside of totalitarian police states and highly corrupt third world regimes.

Historically, here in the US, although national politicians have commonly been held in fairly low regard - which can be regarded as healthy, on the basis that public pressure can check the tendency of absolute power to corrupt absolutely - most institutions have enjoyed at least a reasonable level of public respect. The FBI has generally been regarded as a highly skilled guardian of the law of the land, not a domestic version of the CIA that might conspire to topple a democratically elected president. The IRS has always wielded terrifying power, but the public expected it would only be employed in a politically neutral fashion to collect taxes according to the law; past presidents had occasionally strayed and utilized it to harass political opposition, but such abuses had been few and far between. The Justice Department was not expected to violate the law, imaginatively reinterpret long settled law, fabricate false evidence, coach witnesses, or hide exculpatory evidence from the defense. The NSA was understood to be the world champion collector of intelligence – internationally, not domestically. The public could assume that senior military's officers had been promoted on the basis of demonstrated operational excellence; citizenry never expected a president to purge the top brass to ensure adherence to a domestic political agenda promoted solely by his party. Statistics issued by government agencies could generally be trusted. Most high-level professions have earned substantial public trust by consistently delivering a high standard of expertise. Scientists were expected to dedicate their careers to advancing knowledge, with little to no regard for political dogma. American universities were the envy of the world. Doctors could be relied upon to honor their Hippocratic oath. The public did not worry about potential unreliability of basic utility services. Local police departments, like any institution, were not perfect but honest citizenry regarded police as allies, not enemies. Media presented the police as heroic upholders of the law, whether on TV (e.g. *Dragnet*, *Ironside*, *Hawaii Five-0*, *T.J. Hooker*), in film (e.g. *Dirty Harry*, *Silence of the Lambs*), or in print. Local government valued and supported their police departments. As over 16 million sons and daughters served overseas during WWII, of whom over a million either died or were wounded, the military was presented as a force of heroes drawn from every walk of life (e.g. *The Longest Day*, *Sands of Iwo Jima*, *The Cruel Sea*, *Soldiers of Orange*). No one would have dreamed of presenting the US military as a refuge for a dangerous cabal of violent extremists, inspired by the likes of Hitler and the Ku Klux Klan, intent on overthrowing the government to institute a racially pure “white supremacy”. The press had a well-earned reputation for uncovering real political scandals and was not suspected of manufacturing rank falsehoods to support advocacy of a political or social agenda. Papers had their biases, but they were relied upon to report on, rather than suppress, important news. Media was trusted to report a reasonably accurate rendition of actual events rather than total fictions, based on all the information gleaned from sources, rather than cherry picking data and distorting facts to conform to a pre-conceived agenda. Before six corporations gained control of 90% of the MSM, outright lying and fabrication of wholly false narratives was not a daily norm, nor was censorship of truth or opinions that conflicted with dogma. Outlets may have more heavily favored one party but were not widely regarded as a cooperating propaganda arm of that party. Internet social platforms emerged over the last two decades as open forums for free debate, not proto-versions of Xi's Great Internet Wall of China.

Erosion of public trust in government is not a new phenomenon. Washington's reputation suffered in the 1960s and 1970s - thanks to issues such as the Vietnam War, Watergate, Iran, oil embargoes, and stagflation – but polls that have been conducted repeatedly over the years indicate trust deteriorated rapidly in the 1990s and has deteriorated further in this century. For instance, the National Election Study has been conducted since 1958. In its first year, 73% of respondents trusted the government 'to do the right thing most or all of the time'. In 1976 only 33% of respondents still trusted government to that degree. Watergate and Vietnam had taken their toll. In 1980 the response was 25%. The majority of the citizenry trusted President Carter to muck things up most of the time. There was a recovery into the high 40% range during the Reagan presidency, but the Iraq war and the Clintons knocked trust to an all-time low of 17% in 1994. The early years of the George Bush presidency saw trust rebound to 60% but by 2008 it was back down to 17%. The media's campaign against the Iraq war was far more effective opposition than Saddam Hussein. Obama achieved a new low of just 10% in 2011. Despite the media's vitriolic hatred of Trump, his early approval rating was nearly triple their chosen one's. Trump peaked at 27% in April 2020, before relentless criticism of his pandemic response began to erode public support. The latest poll, taken in April of this year, found 24% of respondents still trusting Washington to 'do the right thing most or all of the time'. Unfortunately, that is a pathetic bump up for the first year of a new administration and Biden's people have been advancing crackpot policies on so many different fronts the last six months that one has to believe the next poll will register quite a drop. In short, in my lifetime we have gone from a quarter of Americans doubting their government to just a quarter trusting - and coming polls will likely register further deterioration. A recent Gallup poll ranked the honesty and ethical standards of Congress dead last of all professions surveyed, with 63% of the population disgusted.

The loss of trust in DC is a serious threat to the future stability of the union. Unfortunately, it is not the only crack developing in our social cohesion. Nationwide, reliable delivery of basic services has been taken for granted. However, deterioration has been evident over recent decades due to underfunded maintenance, inadequate new investment, and legal hurdles (EPA, Green movement, climate change legislation, NIMBY, ESG). For instance, in California's Central Valley, farmers have suffered water rationing for decades yet no solution has been proposed. The U.S. Bureau of Reclamation manages the Central Valley Project, which irrigates about a third of California's farmland. In February, the Bureau allotted farmers 5% of contracted supply. In May it cut allocations for agricultural use to zero "until further notice". The 2012-2016 drought cost farmers close to \$4 billion and tens of thousands of jobs. This drought will likely be even more expensive. Farmers do not have enough political clout. The political establishment is city dominated. We should try to keep in mind that although only 2% of Americans are farmers, 100% of us rely on food. Farms are more essential than Google and Netflix.

Also in California, the electrical grid is now inadequate for peak loads during summer heat waves. Problems are not limited to just the progressively green West. Texas suffered a catastrophic grid failure several months ago. There were 3 major grid failures in the US and Canada over the 24 years between 1965 and 1988 but 33 in the four years between 2006 and 2009 (Data from *Major Power Outages in the US, and around the World* – James McLinn Rel-Tech Group; definition of 'major outage': over 30,000 customers affected and over 1 million customer hours lost). For the 2010-2021 period, 31 major US outages are listed in Wikipedia.

What should also be of concern is the fact that the public has been losing trust in a number of previously well-regarded professions. The medical profession, accountants, and engineers have maintained their high ethical and professional reputations over the last four decades but media, the legal profession, the financial industry, corporate management, big tech, and teachers have suffered significant loss of trust.

In 2010, a Pew Research poll found 68% of respondents had a positive view of big tech and 18% negative. The same poll in 2019 returned 50% positive and 33% negative. A more recent Pew survey found that 73% of respondents are not confident social media companies prevented misuse of their platforms to influence the 2020 election. 47% favored additional government regulation of their sites. Opinions are shaped by an individual's political affiliation. For instance, in 2010, 39% of polled Democrats believed the national news media had a net positive impact on the country, whilst only 24% of Republicans agreed. In 2019, the same

Pew Research poll found 38% of Democrats still had a favorable opinion but 90% of Republicans considered news media to be a negative influence.

Percent of respondents expressing a low or very low opinion of a profession's honesty and ethical standards			
Gallup poll	~1976	~2000	~2020
Nurses		2%	1%
Military officers		1%	
Doctors	10%	8%	3%
Engineers	4%	3%	3%
Accountants		6%	4%
Grade-school teachers	2%	7%	
High-school teachers	5%	10%	
Firefighters	17%	12%	10%
Clergy	7%	7%	15%
Judges		13%	16%
College professors	8%	5%	17%
Police officers	12%	11%	18%
Building contractors	22%	19%	20%
Local officeholders	36%	16%	20%
Bankers	9%	11%	21%
Labor union leaders	47%	33%	27%
Lawyers	27%	40%	30%
State officeholders	41%	19%	33%
Executives	20%	17%	36%
Car salespeople	47%	57%	37%
TV reporters	14%	30%	37%
Journalists	15%	26%	40%
Members of Congress	35%	21%	63%

(see: <https://news.gallup.com/poll/1654/Honesty-Ethics-Professions.aspx>)

A recent poll by the Reagan Institute found that a mere 21% of respondents have “a great deal of trust and confidence” in public education, 33% in public health officials (well done Dr. Fauci and the CDC), and 10% in Congress. My guess is that if the Institute had also asked respondents if they had “a great deal more trust and confidence in socialism than capitalism”, it would have been found that the majority of those still trusting state education and state health officials also favor socialism. A September 2020 poll conducted by the Victims of Communism Memorial Foundation found that American support for socialism has increased to 40%, up from 36% in 2019. Unfortunately, 49% of the Gen Z demographic (16-23 years old) supports socialism, up 9% from 2019’s result. State sponsored brainwashing in both high schools and universities is becoming increasingly effective.

The Reagan Institute survey also found that trust in the military has dropped from 70% in 2018 to just 56% this year. The greatest drop in trust is amongst Republican

voters. Why? What is not generally known, since the MSM failed to report on it and the Republican Party never bothered to raise a stink, is that President Obama purged the military’s officer corps from generals and admirals down to mid-tier officers. He removed anyone he believed was resistant to his gender and social justice policies. In his first five years, he fired officers at a rate of one every 8.8 days. The rate of dismissals was about 100 times as high as in the Bush years, though Bush had been fighting major conflicts in both Afghanistan and Iraq, where removal of poor performing officers was to be expected. In addition to the firings, Obama shuffled far more off to dead-end positions, where they were given a couple of years to gracefully take early retirement. Biden has now continued the process. His unprecedented stand-down order in February extended the purge to the lower ranks and began a process of reeducation of the entire military. During the 60-day stand-down, every member of the military was interviewed and encouraged to inform on the political views of other unit members. Soldiers were forced to watch videos that portray the US as a fundamentally systemically racist country and to take courses based around critical race theory (a neo-Marxist approach that is an offshoot of the Frankfurt School’s ‘critical theory’ technique, which was designed for the express purpose of destroying trust in established institutions). Morale has plummeted and officers have been resigning in disgust. At a speech in Tulsa, Biden clarified that the Administration believes “terrorism from white supremacy is the most lethal threat to the Homeland today. Not ISIS. Not Al Qaeda. White supremacists.” What is particularly ironic is that the USA is one of the most racially diverse and tolerant nations on Earth. Foreigners who immigrate to the US recognize this much better than the average American. The majority of Americans still have not travelled much outside the US. If you compare against societies in other countries around the world, there was next to no ‘systemic racism’ in America prior to Obama winning the presidency. That Obama himself was a closet racist was pretty clear. Anyone who happily spent two decades attending Reverend Jeremiah Wright sermons on black liberation theology will end up viewing society through a racial lens. Thus, his election portended a deterioration in race relations. Sure enough, it was Obama himself who turbocharged the development of government sanctioned systemic racism. The Biden Administration is largely staffed by Obama’s old team. After four years on the sidelines, they have picked up the baton once more and are furiously advancing Obama’s initiatives - particularly in schools, the military and financial institutions – probably

worried that their efforts may be derailed after the mid-terms. There's the irony, the administration is imposing systemic racism in the name of defeating systemic racism that previously was next to non-existent.

The impact of prioritizing 'woke' reeducation of the military over basic training and promoting on the grounds of equity rather than accomplishment would likely be easier to identify in the navy and air force than the army, on the basis that serious management deficiencies lead to far more expensive disasters in units responsible for technologically advanced equipment worth hundreds of millions to billions of dollars. A ship that sinks or a plane that crashes makes the evening news, whereas the death of an infantryman may only warrant note in his local newspaper. There have been a number of high-profile naval disasters in recent years. The Bonhomme Richard was gutted by a major fire in July 2020, whilst undergoing maintenance in San Diego. The USS Antietam was damaged by fire whilst on maneuvers in September 2020. The USS Fitzgerald collided with a container ship in June 2017. Commander Bryce Benson and Lt. Natalie Combs were held responsible. Both received letters of censure from the Secretary of the Navy, which effectively ended their careers. A letter of censure has no legal standing, so cannot be appealed. Punishing in this manner ensured the matter was closed without embarrassing court proceedings that might have seen defense attorneys argue that higher echelons were responsible for degraded systems, exhaustion, and lack of readiness. The Navy's official report on the incident listed crew exhaustion, skipped certifications, poor watch-standing, poor training, and inadequate manning amongst the causes. In August 2017, the USS John S. McCain collided with a tanker. The destroyer crossed into the path of the tanker, so was 100% at fault. 10 sailors were killed and damage ran into hundreds of millions of dollars. The Navy's report cited insufficient training, severe fatigue, and a lack of oversight as contributing factors. Several crewmembers assigned to bridge-watch had not been trained on the ship's steering system. The ship's captain pleaded guilty to a charge of dereliction of duty. He forfeited \$6,000 in pay and was allowed to submit his resignation from the service. The ship's second in command received a non-punitive letter of reprimand. The most recent article I have been able to find for U.S. military aircraft crashes dates from 27 November 2017. A Fox News investigation counted 22 noncombat crashes so far that year, up 38% from the same time in 2016. The number of deaths had more than doubled. The Navy's fleet of 200 T-45 training jets had to be grounded for seven months in 2017 due to a potentially fatal technical issue. Only half the B-1 and B-2 bomber fleets were airworthy due to lack of spare parts. Only 30% of the Marine Corps' older F-18s were airworthy. The Navy could only fly half of its 542 F-18 Super Hornets and only 31% were fully mission capable. In order to launch strikes on ISIS from three aircraft carriers, 100 F-18s had to be transferred from training squadrons and parts had to be cannibalized from other squadrons. Senator John McCain claimed that only four of 64 Air Force squadrons were combat ready. After 20 years of continuous warfare, equipment has been worn out, airframes are old, crews are exhausted, training has suffered, and maintenance has been skimmed due to budget cuts. In the fiscal 2010 budget, 80% of Obama's budget cuts targeted the military. Military spending was 20.1% of the federal budget that year. Spending rose in 2011 but was then cut four years in succession, for a total cut of 15% (in nominal dollars). That reduced spending from 4.4% of GDP to 3.3% and from 20.1% of the federal budget to 15.9%. By the end of 2015, the Navy had shrunk to 272 active ships. In January 2017, a Military Times/Institute for Veterans and Military Families poll found only 36% of troops surveyed approved of Obama's performance as commander in chief. For the 2021 year, President Biden is budgeting \$735 billion on military spending, which is 10.1% of spending. Of course, the budget is massively bloated right now as a result of the opportunity the pandemic has presented D.C., which never lets a crisis go to waste – or perhaps a more apt saying would be 'DC always lets crisis spending go on waste'. \$3,129 billion (47.8% of the budget) is expected to be deficit financed. However, if we look at forward years, military spending is expected to be 13.2% of spending in 2022 and will shrink each year to just 11.8% in 2030. So we have a toxic combination of the budget screw being tightened for another decade, military personnel and equipment exhausted by 20 years of continuous war, tensions rising on two fronts (Russia and China), and left-wing social programs inspired by the likes of Michel Foucault being prioritized over basic training. Symptomatic of the new priorities, a drag queen show was held at Nellis Air Force Base in June. This was a first – but probably not the last - for the Air Force. An Air Force statement to Breitbart News stated the event "provided an opportunity for attendees to learn more about the history and significance of drag performance arts within the LGBT+ community" and "ensuring our ranks reflect and are inclusive of the

American people is essential to the morale, cohesion, and readiness of the military. Nellis Air Force Base is committed to providing and championing an environment that is characterized by equal opportunity, diversity and inclusion". On December 7, 1941, naval personnel were readying for church or playing an early round of golf when Japanese planes commenced their assault. How embarrassing would it be for the top brass if next time the US is caught with its pants down, our forces are occupied by a compulsory drag show? Nellis is just 11 miles from Las Vegas. Any airman (or woman) interested in visiting a drag show has only to pop into town. It is utterly bizarre to host such an event at one of the most important air bases in the country, particularly one that trains pilots from friendly nations, including various Arab air forces.

The general public is becoming aware of what has transpired since the Obama years. It should be no surprise that conservative voters who have historically been firm supporters of the military are perturbed and have begun to lose trust in its leadership.

In his first months in office, Defense Secretary Lloyd Austin has prioritized the twin existential threats of climate change and white supremacy. In April he set up the Countering Extremism Working Group (CEWG) to spearhead a campaign to rid the military of "extremism" and purge "those enemies [that] lie within our ranks". The military has effectively declared war on itself. To lead the group, he appointed Richard Garrison as Senior Advisor on Human Capital and Diversity, Equity, and Inclusion. Garrison is an avid supporter of the 1619 Project. He has also publicly stated that all supporters of President Trump are de facto supporters of racism, extremism, and misogyny. Garrison has set up subcommittees with outside advisors. Most of the group's 18 members are in the ultra-left camp and six are radical Islamists. They include the NAACP, Mark Pitcavage and Ryan Greer from the Anti-Defamation League, Josh Zive, Hina Shamsi and Manar Waheed at the ACLU, Feiza Patel, Iman Boukadoum, Wael Alzayat and the SPLC's Susan Corke, Lecia Brooks and Heidi Beirich. Shamsi is not an American citizen. I have nothing against legal permanent residents, having been one myself for over 20 years, but when it comes to the military, surely only citizens should be advising the Secretary of Defense? The ADF considers Tucker Carlson to be a domestic extremist. Lecia Brooks was a leader of an illegal march by armed communists in Georgia last year. Beirich is a postmodernist. Postmodernism is a regurgitated form of Marxism, an utterly poisonous philosophy promulgated by French philosophers Jacques Derrida and Michel Foucault. Their teachings promote fragmentation and conflict in society. The goal is confusion and chaos. Beirich was awarded a doctorate from Purdue based on her studies of white nationalism and neo-fascism. She joined SPLC in 1999 and soon gained a reputation for employing "distortion, half-truths, cheap shots, smears, and character assassination". She is currently accused in federal court of employing a thief to steal a computer and then using the data retrieved from it to defame the owner (not Hunter Biden's laptop, that is another story entirely). Beirich's partner at the SPLC, Mark Potok, has admitted "our aim in life is to destroy these groups, completely destroy them". He was not referring just to white supremacists and neo-Nazis. The SPLC's targets are primarily socially conservative groups, such as the Center for Immigration Studies and the American College of Pediatricians. The SPLC currently employs supporters of Antifa, which is a fascist organization posing as anti-fascists. Ali Soufan may be a Qatari asset. Josh Zive is an outside counsel for the FBI's Agents Association. He has been pushing Congress to pass a domestic terrorism law that would allow prosecution on the grounds of political beliefs. The only former military officer is Lt. Colonel Michael Berry, who is General Counsel at First Liberty Institute, which takes cases to defend religious liberty. He may be the only Christian in Garrison's team. I suspect the First Liberty Institute might be on Mark Potok's hit list. Outnumbered seventeen to one, Berry is going to have a tougher time than Balian of Ibelin.

The Reagan Institute poll also found that trust in law enforcement has dropped from 50% in 2018 to 39% now. As in the military, police officers have been resigning in droves from "woke" city precincts such as in Seattle and Portland. Since the riots of last summer and the "defund the police" movement gaining traction, there has been an exodus of experienced officers from Democrat run cities to small towns and rural communities. This may seem an odd comparison, but an exodus of skilled workers from cities to the countryside is precisely what happened as the Roman Empire disintegrated. Roman emperors wasted enormous sums on vanity projects, the army, and numerous civil wars for hundreds of years. They could not safely tax the local population in Rome and Italy, so were apt to raise taxes in the provinces and debase the currency. Inflation resulted. Loss of

trust in the currency led to a substantial reduction in long distance trade. Communities began to resort to barter. Even the government began demanding payment of taxes in kind. In the late 3rd century, Emperor Diocletian attempted to “build back better” by enlarging the army, raising military pay, issuing a new currency, and placing price and wage controls on essential goods (Edictum de pretiis). To cut tax evasion, he built an enormous and cumbersome bureaucracy, which further increased the cost of running his Empire and hence also the tax burden on its citizenry. Naturally, farmers and traders hid their produce and shortages developed. Social unrest inevitably followed. Though violations of the edicts were punishable by death, prices still doubled in a few years thanks to Diocletian’s currency debasement. As more and more crafts and traders fled towns and cities, the emperor attempted to stem the exodus by mandating that workers and craftsman should remain tied to their professions on a hereditary basis. The public’s tax burden became so onerous that tradesmen and small farms could no longer survive. As workers could not escape the tax collector in towns and cities, the exodus to the great estates in the countryside continued. Conditions were so dire, families were prepared to sell themselves into slavery in exchange for safety, food, and shelter. Some even left the Empire to settle in barbarian lands. This is how the medieval system of serfdom first evolved; it developed out of the decline and fall of the Roman Empire. A quick summary by historian Will Durant of how Diocletian employed what today we would call socialist central planning can be found at: <https://erenow.net/ancient/durantromeacaesar/195.php>.

As far as secondary education is concerned, this year’s push to advance radical left-wing ideologies in the classroom may prove to be the last straw for many parents, particularly as it follows so closely on teachers abdicating their duty over the last year. Many parents are not going to be happy having their children indoctrinated in courses based on such subjects as Project 1619, CRT, critical pedagogy, and transgenderism (all pitching the oppressor vs oppressed narrative), whilst traditional courses in science, math, and literature are dropped to make way for the gospels of the likes of Paul Frere and Bill Ayers. Few will want their little angels ending up as well-trained members of a radical social justice warrior cult, with little hope of a successful career outside of community agitating or government bureaucracies. My suspicion is that education’s mad dash to the ultra-left, directed from on high by the Biden Administration (which is really the third and most extreme Obama Administration), will prove to be a bridge too far in the conservative heartland of America. Many school boards around the country may fall to grass-roots revolts by parent-led organizations over the next few years. Let us hope so – but it will be a long haul. Eisenhower’s warning comes to mind: “We face a hostile ideology - global in scope, atheistic in character, ruthless in purpose, and insidious in method. Unhappily, the danger it poses promises to be of indefinite duration. To meet it successfully, there is called for, not so much the emotional and transitory sacrifices of crisis, but rather those which enable us to carry forward steadily, surely, and without complaint the burdens of a prolonged and complex struggle - with [our children’s] liberty at stake”.

The main topics of this work have been evaluating the likelihood the pandemic was the result of a lab accident in Wuhan, providing circumstantial evidence that favors SARS-CoV-2 having been developed by gain of function experiments, perhaps as part of a military program, illustrating that the CCP has been covering up its culpability, and making the case that US federal authorities and numerous state and city administrations have conducted themselves in a manner that ranges somewhere between despicable and criminal. In particular, government authorities have been conspiring to force upon the public an irrational, unethical, immoral, and unnecessarily dangerous vaccination strategy, whilst simultaneously denying the public information on and access to effective prophylactics and treatments. Is a discourse on the irrational agenda of the woke left an unnecessary diversion from the story of the pandemic? I think not. The issues raised concerning the conduct of governments and institutions during the pandemic are extremely important, not just in terms of lives lost or damaged and the economic hit, but also due to the fact new powers have been assumed by authority without public assent. This power grab presents a longer-term threat against basic individual rights and liberties. If the entire war is lost, the resulting human suffering will dwarf what the world has experienced the last 18 months. The war is a conflict of ideas. The advocates of collective political philosophies – the various forms of socialism – are pitted against defenders of traditional liberal philosophy, as fully developed by the Enlightenment and brought to fruition by the establishment of the United States.

As the title 'How to Decline and Fall' suggests, this chapter is a quick discourse on how to destroy a civilization from within. The issue of social division inflicted by an ultra-left-wing ideology that is rooted in the poisonous teachings of Karl Marx and his successors, such as the Frankfurt School and the French postmodernists, who developed new strategies to bring about a universal communist Utopia, is thus cogent for this final chapter. A growing distrust in authority weakens the bonds that keep civilized society civilized. Government's proclivity to impose unnecessarily draconian restrictions during the pandemic, whilst also conspiring to ensure effective treatments remained sidelined until after vaccines were rolled out, has done more than cripple the economy and cause unnecessary suffering and death. Public trust has been fast evaporating and that damage will long outlast the pandemic. For every unpopular government action, the public does react. Unlike Newton's Third Law, the reaction may not be precisely equal and opposite. Stable societies tend to be extraordinarily tolerant of government abuse. Problems mount, resentment increases and, like a dam under stress, nothing much seems to happen. That is, until accumulated stress reaches a breaking point, at which instant in time the entire edifice suddenly comes crashing down. Some event – often completely unexpected - acts as a singularity. Sometimes the tipping event is entirely domestic, other times externally applied. Often, appallingly dumb decisions by inept leadership can be blamed for allowing events to abruptly spiral out of control.

In July, South Africa plunged into what looks like the beginnings of a race war. Even police have been caught participating in the looting. About a decade ago, I spent a month in Cape Town, which is an incredibly beautiful part of the world. Even back then one could see the country was heading towards anarchy. My family's South African relatives would not allow us to visit Johannesburg, as it was much too dangerous to drive through various townships. The only uncertainty I had upon leaving Cape Town was how long it would take for chaos to erupt. Over the following decade, our relatives all immigrated to England. These days, it is easier for Cape Town high schools to hold reunions in London than in their hometown. The recent looting in KwaZulu-Natal and Gauteng has been well planned, not spontaneous. Typically, transportation was arranged for 2,000 to 3,000 Zulus, who were then bused to a single town, which was then systematically looted. Businesses owned by successful minorities (mostly white or Indian owned) were then torched. Depots and warehouses were also ransacked and trucks torched, with the object of crippling logistics and hindering restocking. The South African police are called saps for good reason. They are corrupt, understaffed, and useless. For years they have been selling their own weapons and ammunition to criminal gangs. Now they find themselves short of both. Indian communities have not been able to rely on the saps, so have had to protect themselves. They have been erecting barbed wire barriers at off ramps and otherwise blocked access roads to their towns. The Indians are well-armed and have been shooting looters on sight. Communities not attacked by looters have been stockpiling food and basic supplies, since nationwide shortages are now inevitable. The organizing brains behind this chaos are likely supporters of recently imprisoned Zuma. When I visited South Africa, one of the strange habits I noticed was that almost everyone I met would immediately launch into a condemnation of the president. I would be told he was utterly corrupt, so stupid it was embarrassing, he had destroyed reliability of the electrical power generation, and he was sucking the country dry. It was not just the white and Indian communities who felt that way. Blacks too would denounce him just as readily. After that was off their chest, you could have a regular conversation. Somehow Zuma managed to stay in power until 2018; now he has been thrown in jail, where he belongs, for contempt of court - but only for 15 months.

Also in July, Cuba experienced the largest anti-government demonstrations in decades. In Venezuela, Maduro is losing control of the country to armed gangs. The economy failed years ago and hyperinflation has reduced the population to barter. Maduro has repeated all of Emperor Diocletian's blunders. Diocletian had an excuse as his experiments were then novel but, 1600 years later, Maduro should know better. Venezuela ought to serve as a lesson to the rest of the world that electing a bus driver to the highest office in the land is asking for trouble. Which begs the question, is it better to elect a man in terminal mental decline?

Civil discontent has been rising in Europe too. Paris saw mass demonstrations on Bastille Day against Macron's new regulation demanding a requirement for "vaccine papers" to be produced to permit entry to any bar or restaurant. My understanding of international law is that mandating vaccination with an experimental vaccine is prohibited by Article 1 of the Nuremberg Code. Yet Macron is effectively telling the populace that

“impfstoff macht frei”. There have been similar demonstrations in Greece as well. Even the Dutch have been rioting this year. The Netherlands suffered the worst violence in 40 years in January when protests erupted against a curfew the government had imposed to slow the pandemic’s spread. In numerous countries the public’s patience has been worn thin by the accumulated damage of extended lockdowns, arbitrary and amateurish management of the pandemic by government, and a growing perception that the government’s chosen expert advisors cannot be trusted. Science hasn’t been followed, it has been prostituted to political ends. Such a combination of lost trust and mounting resentment in authority renders any society vulnerable to unrest. As social cohesion frays, the damage from relatively minor events is amplified. Growing economic and social instability may provide an unscrupulous party the opportunity to establish tyrannical power. On the world stage, an unpopular US government may be perceived as weak by other powers. If any conclude the risk of US military intervention has receded to an acceptably low level, one may seize what it believes to be a golden opportunity to expand.

There are many examples from history of monumental consequences emerging from a seemingly minor error of judgment by authority in the handling of an unexpected or apparently trivial event. For instance, Britain’s East India Company was brought to the verge of bankruptcy in the early 1770s by smugglers of (duty free) Dutch tea. Parliament reacted to the company’s financial plight by passing the Tea Act of 1773. This granted the company a North American monopoly and allowed it to sail directly from India to New England ports, which cut shipping costs and avoided duties in British ports. As a result, the company was able to reduce its selling price in New England by nine pence per pound, undercutting smuggled tea. Business immediately boomed. The volume of tea legally imported to New England tripled in 1773 and duty collected doubled. The new law appeared to be a great success. However, though all taxes and royalties on the colonies had been repealed by this time, with the sole exception of a three pence per pound duty on tea, there was still festering resentment amongst the colonial elite against trade policies imposed by London. The Tea Act allowed the East India Company to not only monopolize shipping but also select its own warehouses and merchants. Thus, although a saving of nine cents per pound was welcome news for colonial housewives, for merchants who had been making a living off the smuggling trade it spelled financial disaster. London had crippled their business at the stroke of a pen. Thus, it was not imposition of a new tax that caused the Boston Tea Party. Rather, it was imposition of mercantilist terms of trade that granted a monopoly advantage to a British company at the expense of local businessmen. Those hurt by the new act initially organized passive resistance in all New England ports. That proved to be relatively ineffective. Wives liked their tea nine pence cheaper. In December they upped the ante by launching the Boston Tea Party. Parliament reacted by garrisoning troops in Boston and also ordered the port closed ‘pour encourager les autres’. Punishing an entire city was unjust and proved to be a monumental political blunder. Resentment spread and colonists started stockpiling weapons and ammunition. In 1775 a detachment of British troops marched to Concord to destroy such a stockpile and were met by armed militia. In this famous case, what is not widely appreciated is that the tipping point was created by successful smugglers reducing a great company to near financial ruin. The political reaction set off a chain of events that resulted in triggers being pulled at Concord and culminated in the formation of the United States of America. Parliament succeeded in saving the East India Company as planned. They just had not expected it to be at the extraordinarily high cost of precipitating a revolution and losing New England. Who would have predicted that cutting the price of tea by nine pence would bring a population to the boil?

Another example is from the summer of 1914. It is common knowledge that the Archduke Ferdinand would not have been assassinated if his driver had not taken a wrong turn, reversed onto a side street to turn around, and stalled the car right in front of a café. By pure chance, one of six Serbian revolutionaries who had bungled an earlier assassination attempt happened to have stopped at the same café. As the car stalled, he stepped onto the sidewalk, was confronted by the stationary car, pulled out his pistol and fired two shots. The Archduke and his wife Sofia were killed. The assassination of the Austrian heir set in motion a chain of events that led to a world war and the demise of four empires. However, the murder did not make war inevitable. That honor belongs to the bungled diplomacy of Britain’s Lord Grey.

Today we know the German leadership had been planning for an offensive war to cripple Russia. The assassination provided an excellent pretext to execute on that plan. Austria had been itching for an opportunity to humiliate Serbia. As Berlin guaranteed support should the Russians intervene, Vienna was prepared to risk invading Serbia. Russia had little choice but to come to Serbia's aid. The French would not be allowed to remain neutral, since Germany had to eliminate the French threat in the west first, before marching east to deal with Russia. As long as Berlin desired war, the other four powers – Austria, Serbia, Russia, and France really had no freedom of action. They were pawns. There was only one European power in a position to deter Berlin from mobilizing. That was Great Britain. What is not generally appreciated is that if Britain's Liberal government had handled its diplomatic negotiations with Berlin in a decisive and professional manner, Germany would have restrained Austria and not declared war on Russia and France. The Cabinet's cardinal sin was to delay until too late the decision that it would declare war if Germany invaded Belgium. It needs to be noted that the declaration of war was made by Asquith's Cabinet alone, without the House being permitted to vote on the issue (see: <http://hansard.millbanksystems.com/commons/1914/aug/03/statement-by-sir-edward-grey>). Thus the blame can only be laid on Asquith and his Cabinet. The threat of Britain declaring war should have been Foreign Secretary Lord Grey's diplomatic trump card. However, it was only handed to Grey by the Cabinet after the great powers' diplomats had folded their chairs and already set the generals loose. By then it was too late for deterrence.

Dr. Strangelove, in the movie by the same name, notes that "deterrence is the art of producing in the mind of the enemy... the fear to attack". In the movie, the Soviets had constructed a doomsday device that would be automatically triggered if war broke out. Strangelove reminds Soviet Ambassador Desadeski that "the whole point of the doomsday machine is lost if you keep it a secret! Why didn't you tell the world, eh?" To which Ambassador Desadeski replies "It was to be announced at the Party Congress on Monday. As you know, the Premier loves surprises." A day too late is a day too late. The Premier was delivered a surprise – but not one he wanted.

On 4 July 1914, Count Heinrich von Tschirschky, the German ambassador in Vienna, told Vienna that "Germany will support the Monarchy through thick and thin, whatever action it decides to take against Serbia. The sooner Austria-Hungary strikes, the better" (See: *Germany's Aims in the First World War* by Fritz Fischer). This was the famous 'blank check' that provided Vienna the confidence necessary to launch an invasion of Serbia, though that would inevitably precipitate war with Russia. On July 10, Austrian Foreign Minister Berchtold informed Tschirschky that an ultimatum was being prepared with "unacceptable demands". The ultimatum was shown Tschirschky on July 14 and he reported to Berlin that it "would almost certainly be rejected and should result in war" (see: https://www.age-of-the-sage.org/history/ultimatum_serbia.html). Jagow informed Ambassador Lichnowsky in London that Germany's strategy was to ensure the Austrians did invade Serbia and his job was to ensure the British believed Berlin was acting in good faith to find a diplomatic solution.

On July 23, the ultimatum was delivered to Belgrade. Serbia responded early on the 27th, agreeing to almost all the conditions. Despite this near capitulation, Berchtold presented the declaration of war to Emperor Franz Josef for his signature that evening. The same day, Lord Grey met with Ambassador Lichnowsky in London and proposed a conference of ambassadors of the great powers. Chancellor Bethmann-Hollweg delayed until nearly midnight before passing on the British offer to Tschirschky at the German Embassy in Vienna. Bethmann also informed Tschirschky: "As we have already rejected one British proposal for a conference, it is not possible for us to refuse this suggestion also a limine. If we rejected every attempt at mediation the whole world would hold us responsible for the conflagration and represent us as the real warmongers. That would also make our position impossible here in Germany, where we have got to appear as though the war had been forced on us. Our position is the more difficult because Serbia seems to have given way very extensively. We cannot therefore reject the role of mediator; we have to pass on the British proposal to Vienna for consideration, especially since London and Paris are continuously using their influence on Petersburg" (see: *Germany's Aims In The First World War* by Fritz Fischer, pg. 70).

Count Szögyény, the Austrian ambassador in Berlin, recorded that von Jagow had warned him although Berlin might pass on British proposals to Vienna, Germany was “decidedly opposed to consideration of them”. Jagow also made clear that Germany’s strategy was to ensure Britain did not find common cause with Russia and France, and that Austria should do nothing that would interfere with continuation of direct negotiations between Berlin and London. Unbeknownst to Lord Grey, he was being played by Berlin. Bethmann and von Jagow also ensured Emperor Wilhelm did not get to read Serbia’s reply until too late. Although it had been received by noon on the 27th, it was not shown to Kaiser Wilhelm until the 28th. The Kaiser’s immediate comment was “that eliminates any reason for war”. He requested that the Foreign Ministry should pressure Vienna to open negotiations with Belgrade. Bethmann sabotaged the effort. He instructed Tschirschky that: “You must most carefully avoid giving any impression that we want to hold Austria back. We are concerned only to find a modus to enable the realization of Austria-Hungary’s aim without at the same time unleashing a world war, and should this after all prove unavoidable, to improve as far as possible the conditions under which it is to be waged”.

When Austria declared war on Serbia on July 28, Lord Grey still had no decision from Asquith’s Cabinet on whether or not they would allow Britain to become embroiled in a continental conflict and if so, what would constitute sufficient cause for a declaration of war. That day, John Burns, an anti-war member of the Cabinet, recorded in his diary that they met and “decided not to decide”. Grey could only warn Germany’s ambassador in London, Count Lichnowsky, not to assume Britain would stand aloof if Germany invaded France. Lichnowsky in turn could only inform Chancellor Bethmann of his opinion England would likely declare war. All the key German leaders – Chancellor Bethmann, Secretary of State von Jagow, Chief of German Staff Moltke, and Kaiser Wilhelm – dismissed Lichnowsky’s many warnings over the following week and remained convinced right up until Germany declared war on France that Britain would remain neutral.

Germany’s Schlieffen Plan was to invade France, swinging through Belgium to outflank French fortifications, to quickly beat her as in 1870, and then turn on Russia. The plan hinged on attacking France before Russia fully mobilized and advanced. The German leadership was confident it could beat those two powers in succession but was not prepared to face Britain as well. That reduced the likelihood of quickly defeating France and then Germany would face a war on three fronts – east, west, and at sea. That level of opposition was rightly regarded as likely insurmountable. So keeping Britain neutral was a key to the plan’s successful execution.

On the evening of July 29, still confident that Britain would remain neutral, Bethmann revealed to the British ambassador in Berlin, Sir William Goschen, that Germany planned to invade France via Belgium. He assured Goschen that German forces would merely pass through Belgium and that, once victorious, Germany would not demand any French metropolitan territory. It appears Bethmann expected such an assurance would allay Albion’s greatest fear – occupation of the channel ports by Germany’s High Seas fleet - but the communication had the opposite of the intended effect. Yet still Asquith’s Cabinet dithered.

On July 31, Grey again verbally warned Lichnowsky that “if France becomes involved, we shall be drawn in”. The Cabinet’s continued failure to make a definitive decision on grounds for war left Grey reduced to issuing such ineffectual ‘demi-threats’, which lacked the power and resolve of a formal statement delivered by the British Ambassador in Berlin directly to von Jagow. The four key German leaders remained confident that Britain would stand aside. Berlin went ahead and issued an ultimatum to Russia demanding a cessation of its mobilization within 12 hours.

By August 1, Austria was shelling Serbia and Russia had ignored Berlin’s ultimatum. Germany commenced its mobilization and declared war on Russia that afternoon. From that point on, Grey could continue talking with Lichnowsky but to little purpose, as the window for a diplomatic solution had closed. War against Russia had commenced, so Germany had to also declare war on France within days. The French army had to be eliminated quickly, so that the bulk of Germany’s army could safely be sent east. France understood the danger and began mobilizing the same day.

With Austria and Germany already at war with Serbia and Russia, France mobilizing, and Germany's plan to swing through Belgium already revealed, Asquith's Cabinet decided not to commence dispatch of a British expeditionary force to the continent and forbade Winston Churchill from fully mobilizing the navy. It did, however, permit Grey to issue an even sterner oral warning. Asquith must never have read Hamlet. Grey cautioned Lichnowsky that a violation of Belgium's neutrality would likely cause Britain to declare war. If the Foreign Office had replaced the word 'likely' with 'will', put it in writing, and had it delivered by Ambassador Goschen to von Jagow on July 31, Chancellor Bethmann would still have been able to call a stop to the Austrians before they advanced into Serbia. Due to their weak logistics, the Austrian army would not be ready to advance before August 12, a full eight days after Germany invaded Belgium. Both Lord Grey and Kaiser Wilhelm had independently made a "stop in Belgrade" proposal, whereby Austrian forces would halt at Belgrade and then allow a settlement to be negotiated at an international conference. Bethmann had not yet declared war on Russia. He knew fighting a three front war had not been planned for precisely because it was considered too difficult to win.

On August 2, Berlin sent an ultimatum to Brussels demanding free passage of its army through their territory and, without waiting for a reply, launched an attack on Belgium's Longwy border fort. Asquith's Cabinet finally made up its mind – sort of. That evening, Grey informed the French that Britain would go to war if Germany violated Belgium neutrality but still failed to tell Germany. The next day Germany declared war on France.

On August 4, German forces advanced across the Belgian border en masse. At 9:30 a.m. GMT, the Foreign Office sent a telegram to Ambassador Goschen which instructed him to tell von Jagow that Britain "was bound to protest against this violation of a treaty to which Germany is a party". The telegram arrived at the embassy at 3:00 p.m. and Goschen met with von Jagow within an hour or two (see: <https://www.sothebys.com/en/buy/auction/2020/the-collection-of-a-connoisseur-history-in-manuscript/world-war-i-goschen-typescript-document-to-von>). Goschen asked if it was possible to call the German forces back, to which von Jagow answered, "no". At 2:00 p.m. GMT Lord Grey telegraphed an ultimatum to Berlin. Chancellor Bethmann was about to be delivered a surprise – but not one he wanted. Goschen received the telegram at 6:00 p.m., met with von Jagow, and then requested a meeting with Chancellor Bethmann. At 10:15 p.m., a junior Foreign Office official by the name of Lancelot Oliphant was handed a typed declaration of war and instructed to deliver it to Ambassador Lichnowsky. At 11:05 p.m. a second declaration of war was delivered by Harold Nicholson, another junior official. Thus Britain declared war with Germany three times the same night!

The record is clear. Asquith's Cabinet refrained from issuing a written ultimatum to Germany until the evening of August 4 and less than six hours later declared war. The issue justifying a declaration of war was violation of Belgium's neutrality. From a deterrence standpoint, would it not have been logical to make that clear before German troops crossed the border, rather than after? Goschen had informed London on the night of July 29 that Germany planned to march through Belgium. According to Lloyd George's memoirs, "The Cabinet was hopelessly divided – fully one third, if not one half, being opposed to our entry into the war. After the German ultimatum to Belgium the Cabinet was almost unanimous." Yet the Cabinet had been informed of the German intent on the morning of July 30. If Asquith wanted to avoid war, he needed to deter Germany from crossing the Belgian border. The only possible way of doing so was by making it crystal clear Germany trade would be blockaded by the Royal Navy, its colonies seized, and British forces would fight beside France. Asquith's time for prevarication and procrastination had run out. His options had shrunk to two – rise to the occasion and try to avert war by threatening war or continue to dither and be sure to end up at war within the week. There was nothing to be gained and everything to be lost by delaying until after the fact. If some in the Cabinet had clung to the vain hope that the continental powers would pull back from the brink, Germany's declaration of war against Russia on August 1 should have put paid to that notion. Lord Grey was well aware of Germany's strategic limitations, particularly its need to defeat France first. He knew Germany would declare war on France within a few days and that the advance would traverse Belgium. It was the responsibility of Grey and Asquith to convince the rest of the Cabinet to decide, one way or the other, that day. If they had voted to stay on the sidelines, nothing needed to be done. However, if they decided a violation of Belgian neutrality would be

a *cassus belli*, communicating that decision to Berlin immediately had the prospect of forcing Bethmann to pull back from the brink. Once armies had engaged, it was too late. If Goschen had delivered that single page ultimatum to Bethmann just four days earlier than he did, the entire history of the 20th century would have been completely different – no WWI, no Russian Revolution, no Great Depression, no WWII, no Iron Curtain, no CCP victory, no Cold War. There would be no Xi Jinping at the helm of China today, rapidly transforming the country into a dysfunctional, dystopian, totalitarian nightmare once again. It also makes little sense that the Cabinet would not commit early to support France, yet was prepared to declare war in support of Belgium, since a French loss would have resulted in Germany occupying the French Channel and Atlantic ports. That would have been a greater strategic threat than German occupation of Belgium's ports; WWII proved that to be the case. One can only conclude that Asquith and Grey were not up to the task at hand. Unfortunately, it is the general populace upon which inadequate leadership inflicts disaster. The days of kings leading their men into battle are no more.

Just twelve days before Asquith declared war, Bethmann had told the Kaiser, "It is impossible that England will enter the fray". Right up until the Cabinet delivered its ultimatum on August 4, Bethmann had been able to cling to that erroneous conviction, primarily because Asquith's Cabinet failed to make its intentions clear, even to Lord Grey. William Gladstone's Liberals had traditionally been the anti-war, anti-imperial, anti-colonial party. Perhaps that tradition contributed to their indecisiveness in the summer of 1914. Asquith's team blundered unprepared into a continental bloodbath and subsequently poorly managed the war effort.

Asquith himself was completely unsuited for this crisis. He read classics at Balliol. A command of ancient Greek was not of much use in 1914. He went on to read law. A sound knowledge of legal principles is helpful when drafting domestic legislation but does not prepare one for a diplomatic crisis and war. He spent seven years as an Oxford fellow and then spent seven years as a relatively unsuccessful barrister in a private practice. Friends noted that although he was bright and capable, he was not prepared to adjust his behavior to actively generate business. That illustrated he was incapable of modifying his behavior to take account of changed circumstances, with a goal of optimizing results. In 1886, more by luck than design, he was elected as a Liberal to Parliament by 2,863 to 2,489 votes. He proved to be an able politician, became Chancellor of the Exchequer in 1905 and Prime Minister in 1908, replacing Prime Minister Campbell-Bannerman after he resigned on the grounds of poor health. Between 1908 and 1914, Britain was at peace and the pressing issues of the day were mainly domestic, such as home rule for Ireland, votes for women, social programs, and labor issues. Asquith had a reputation for practicing an easy lifestyle, with much time set aside for traveling, golf, letter writing, and his twin passions of reading and conversation, particularly in the company of attractive women. Asquith was by nature indecisive and also a heavy drinker. By 1911 he showed all the signs expected of an alcoholic, though Bonar Law noted that "Asquith drunk can make a better speech than any of us sober". As war loomed, he had no military experience, little diplomatic experience, had never faced a crisis, and had a reputation for seeking middle-ground compromises in domestic matters at his own pace. When the crisis hit, he "used all his experience and authority to keep his options open", not realizing that his experience was poorly suited to the task at hand and his authority was but a flea before a steamroller. Time was pressing, options were closing, decisiveness was required. Unfortunately, Asquith was not a man who could switch tempo. He enjoyed his comfortably lifestyle, which was conducted at a detached and pedestrian pace. Even after war was declared, he could not bring himself to change his character and behavior. A year into the war, one of his lady friends, Helen Maud Holt, teased him "Tell me, Mr. Asquith, do you take an interest in the war?" By December 1916 he had lost the support of both the Conservative opposition and enough of his own colleagues to ensure his demise. He was replaced as prime minister by Lloyd George. Lord Newton met with Asquith a few days after his departure from Downing Street and described him as "suffering from an incipient nervous breakdown and before leaving the poor man completely collapsed". A week before, Duff Cooper had described in his diary a dinner with Asquith where "the P.M. more drunk than I have ever seen him, (...) so drunk that one felt uncomfortable ... an extraordinary scene". Asquith was in an alcoholic haze whilst Britain's soldiers were being slaughtered in the trenches.

Why did Parliament allow Asquith to mismanage the war effort for two years before dismissing him? It was well known he was a raging alcoholic and incipiently incapable of abandoning his leisurely lifestyle to dedicate 100% of his energy to managing the war effort. Over 8.5 million men fought for the British Army in the war. Nearly a million died and over 2 million were injured. My great-grandfather lost his arm to a German shell and died at a relatively young age, quite possibly as a result of poisoning from the shrapnel still inside his body. Two of my great-uncles were amongst the 400,000 British soldiers who died in the foolishly conceived Somme campaign. It only takes a visit to the war memorial in any British town or village to appreciate there was nothing particularly unusual about my family's sacrifice. In the combatant nations, 30% of young men aged 18 to 22 in 1914 died during the war and 60% were wounded. The British political establishment was prepared to commit 3 million allied soldiers against 1.8 million Germans in the summer of 1916 yet could not bring itself to first act against the one man whose indecisiveness had condemned an entire generation to slaughter.

The pressure of the war not only destroyed Asquith's career and health, he also managed to doom his own party. At the next election, held just three months after the Armistice took effect, the Liberals lost 236 of its 272 seats in Parliament. It was all downhill from there. A century later, the Liberal Democrats (rebranded after a merger with the SDP) hold a mere 12 seats. That was a minor toll compared with the war's political aftermath in Germany, Russia, Italy, Turkey, and the Austro-Hungarian Empire.

Asquith's pathetic performance in the summer of 1914 can be contrasted with JFK's handling of the 1962 Cuban Missile Crisis. On October 18, 1962, General Maxwell Taylor, the Chairman of the Joint Chiefs, urged Kennedy to destroy the Cuban SAM sites. Kennedy instead decided to initiate a naval quarantine, which would prevent additional missiles from reaching Cuba, whilst allowing more time for negotiation. At a meeting with the joint chiefs the next day, General Curtis LeMay, head of the Strategic Air Command, opposed JFK's naval blockade and forcefully recommended bombing Soviet missile sites and airfields. He even insinuated JFK's quarantine decision was as weak as Chamberlain's appeasement at Munich. Army Chief of Staff General Earle Wheeler went even further. He urged the president to authorize air strikes and a naval blockade, followed by a ground invasion. JFK recognized that the blockade was not guaranteed to work but that if the US bombed bases or invaded, "Khrushchev will not take this without a response". He was concerned that the Soviets would attack Jupiter missile bases in Turkey, which would require a NATO response and could lead to nuclear conflict, or that Berlin would be lost. The president's diplomatic and strategic skills saved the world that day. Taking the advice of his 'military experts' would have doomed us all.

Saturday October 27 is generally considered the most critical day in the crisis. An initial offer from Khrushchev had been received on Friday night. It offered removal of Russian missiles from Cuba in exchange for an American commitment not to invade. This had been followed by a second letter that morning, which contained unacceptable additional demands, including removal of Jupiter missiles from Turkey. That morning, it was McGeorge Bundy and Edward Martin who had the clever idea now known as the Trollope Ploy. This was to respond to Khrushchev's first letter and ignore the second. JFK's Special Advisor for Soviet Affairs, Llewellyn Thompson, helped convince the president that Khrushchev might accept an offer that merely promised never to invade Cuba. Thompson key insight was "he's already got this other proposal [the first letter], which he put forward. The important thing for Khrushchev, it seems to me, is to be able to say "I saved Cuba. I stopped an invasion"". RFK, Bundy, and Sorensen all backed Thompson's opinion and managed to convince the president to give it a try. This was the crucial step in advancing negotiations to the eventual agreement.

That afternoon, General Maxwell Taylor, Chairman of the Joint Chiefs, informed the president that the Joint Chiefs had met earlier in the day and recommended the invasion fleet should sail the following Monday, just two days hence. During the discussion that followed, JFK said, "I'm not convinced yet of the invasion" and General Taylor interjected with his personal view that the White House needed to be "ready to invade but make no advance decision on that". News then arrived that Rudolf Anderson had been killed when a Russian SAM downed his U2. McNamara, Nitze, and General Taylor all recommended at least taking out the offending SAM site. JFK alone appreciated the order may have been given locally, without approval from Moscow. Gilpatric disagreed. He told the president "To have a SAM site, with a Russian crew, fire, is not an accident". We now

know JFK was correct. His caution avoided an unnecessary escalation. Khrushchev was livid when he was informed of the shootdown and immediately ordered that no more firings were to take place without his direct approval.

Robert Kennedy played another key role later that evening when he met with Ambassador Dobrynin and conveyed JFK's pledge to remove the Jupiter missiles from Turkey within a short time after the crisis was resolved but that Khrushchev would have to trust JFK's word as, for both domestic and NATO political reasons, the president could not agree to any formal public commitment. Khrushchev received JFK's written response the next day. He knew the invasion fleet was ready to sail but had no way of replying to the White House through diplomatic channels in time – there was no hot-line in those days. So Khrushchev instead read his reply, which accepted the US terms, over Radio Moscow. We were fortunate in 1962 that both Khrushchev and JFK feared war and, unlike Lord Grey in 1914, found a path to a diplomatic solution before control had to be handed to the generals. However, it was only after Soviet records were made available to historians in the 1990s that we discovered the most dangerous moment on that Saturday occurred when a Russian submarine almost launched a nuclear torpedo against the USS Randolph, an American aircraft carrier. Late in the afternoon, American destroyers on the blockade line detected a Soviet submarine flotilla and began dropping practice depth charges to force them to surface. Three did so but the fourth, B-59, stayed deeply submerged. The submarine's commander, Captain Savitsky, believed he was being depth charged and that war had broken out. The boat's batteries were low, the air conditioning had failed, the sub had become unbearably hot, and the CO2 level was rising. Captain and crew were operating under great pressure – both barometric and mental. Savitsky decided to sink the American aircraft carrier before the destroyers finished him off. The boat's political officer agreed with the captain's decision to immediately launch a nuclear torpedo. On the other three submarines in the flotilla, it only took the captain and political officer to authorize such a strike. However, by good fortune, the commander of the entire four boat flotilla, Vasili Arkhipov, happened to be aboard B-59. By regulation, he also had a vote and unanimous agreement was required. He refused to approve the launch. Although Arkhipov was the flotilla commander, he was only second in command on B-59, yet he was also able to calm the captain and convince him to surface and set course for Russia. That crisis and Arkhipov's fortuitous intervention were completely outside the control of either the Kremlin or the White House. Compared with both Kennedy and Khrushchev, whose roles as leaders of their respective nations are well understood, Arkhipov is almost unknown today. Yet on the 40th anniversary of the crisis, Thomas Blanton, the director of the National Security Archive at George Washington University, accurately stated, "a guy called Vasili Arkhipov saved the world". Fate smiled on us that day; the right man was on the right boat. The odds were just one in four.

How well might Joe Biden and Kamala Harris handle such a crisis? Six months ago Biden could still get from point one to three when answering a question, these days he sometimes loses his track after uttering the word "one". Harris is completely unqualified for the presidency, and I do not believe I am alone in thinking her a very creepy and untrustworthy individual. Her office appears to be riven by discord and she is not held in high respect. Does she have any proven capability to lead a team operating under great stress? What about the quality of the Joint Chiefs today? General Milley does not inspire confidence. He is certainly no Omar Bradley. Does Biden have a group of 'wise men' he can rely upon for sound advice? Secretary of State Anthony Blinken is already an unmitigated disaster. Like John Kerry, he appears to believe that rushing into summits with no groundwork accomplished ahead of time is preferable to careful planning and negotiation at the embassy level before engaging. It was rank stupidity on the part of Blinken to conduct a summit with the Chinese after just two months on the job. Nothing positive could be achieved so early. Then he insulted China at the commencement of the summit, which pretty much ensured it would turn into a debacle. Blinken proved he is not just unqualified for the job, he is an utterly incompetent amateur. Now he has asked the U.N. to investigate "the scourge of racism, racial discrimination, and xenophobia" in the US; was that to demonstrate a consistent level of incompetence? Who is he working for? Iran? China? Cuba? It would be comical but for the fact the price that has to be paid for poor leadership in a crisis is the blood of a nation's youth. Maybe Blinken would be better suited managing diversity training for the Air Force? He couldn't do too much damage organizing drag shows.

An excellent example of a leader issuing a decisive threat that successfully deterred a nuclear conflict occurred during the Sino-Soviet border conflict in 1969. This little remembered war began over a border dispute along the Ussuri River. On 2 March 1969, Chinese troops ambushed a Russian patrol on Zhenbao Island. The Russians were caught unawares and 58 of their soldiers were killed. A major battle developed over possession of the island and the conflict wore on into August, with the Chinese refusing to even take calls from Premier Alexei Kosygin. Mao had an inexhaustible supply of cannon fodder and could continue to tolerate the heavy losses his army was suffering to superior Russian weaponry. Brezhnev realized the war was too distant and Mao's reserves too vast for Russian forces to win a conventional conflict. He was frustrated by Mao's refusal to even open a dialog, so began planning a nuclear strike. It was at this point that President Richard Nixon intervened. He informed Brezhnev that a nuclear strike against Beijing would be regarded as a *cassus belli*. The US would launch a nuclear response. Brezhnev backed down.

On September 2, Kosygin attended Ho Chi Minh's funeral in North Vietnam and Mao used that as an opportunity to pass a message that he was ready to negotiate. Nixon's intervention convinced Mao it was in his interest to develop a friendly relationship with the US. Beijing started hinting that it was open to a diplomatic initiative. Nixon and Kissinger seized the opportunity, which led to the historic visit to Beijing in 1972.

Why did Mao instigate the initial border ambush? There are a couple of theories. One is that Mao was faced with domestic issues related to the Cultural Revolution. Another is that he wanted to demonstrate to America that China could be a worthwhile ally. Whatever his reason, a localized conflict came close to escalating beyond his control. Nixon saved him. In 1914, Asquith was no Nixon; he failed to deter Germany. Not that Bethmann did any better. He used every intrigue possible to keep Britain out of the war but ended up failing.

Another seemingly inconsequential event that precipitated political upheavals of global scale was the opening of a border gate between Austria and Hungary during the Pan-European Picnic (a peace demonstration) in August 1989. That led to the fall of the Berlin Wall, German reunification, the breakup of the Warsaw Pact and Eastern Bloc, the disintegration of the USSR, a bungled military coup, the collapse of the Communist Party of the Soviet Union, Gorbachev's resignation on Christmas Day 1991, and the formal dissolution of the USSR a day later. It all began with the simple opening of a gate.

Events from decades or centuries ago may seem of little relevance today, until one takes note that last year Xi Jinping repeated Mao's tactic of a surprise border attack. This time it was Indian troops along the Himalayan border who were ambushed. As a result, there are now 400,000 troops facing each other along a contested border at the top of the world. As Winston Churchill noted, "Those who fail to learn from history are doomed to repeat it". If Xi is today's Bethmann, will Taiwan prove to be our Belgium some years from now? Is Biden our Asquith? Probably not. He will likely be forced to resign. Alzheimer's is a dreadful disease. Biden then may be our Campbell-Bannerman and Kamala Harris our Asquith - what an awful prospect.

A storm is gathering in the East. Xi has eliminated political opposition and cemented his position for life, in even more brutal fashion than Mussolini in 1925 or Hitler in 1933-34. He is *de facto* emperor of China, determined to reunite all Han under his control - *ein Volk, ein Reich, ein Fuhrer*. As threats mount, our country needs to be united behind a government it can trust. Instead we have an administration intent on dividing the nation into warring tribes. It has been staffed by Obama retreads, selected primarily on the basis of diversity. Relevant experience and a record of proven excellence do not appear to have been prerequisites for Biden's Cabinet. When a dominant power appears weakened, internally divided, and lacking resolve, the danger of an offensive war being launched by an emerging power increases.

If Xi Jinping is preparing for war, he would likely cut the flow of Chinese capital to North America, Australia, NATO countries, and India. The expected post-pandemic resurgence of Chinese investment in 2021 will not materialize. It will be directed instead to Africa, the Middle East, Central Asia, and socialist regimes in Central and South America. Beijing might seek to damage US financial markets as a form of asymmetric warfare. An increase in Internet hacking targeting financial systems and utilities might occur. The Peoples bank of China will need to substantially reduce reliance on the dollar for international trade. The expropriation of Ant Financial

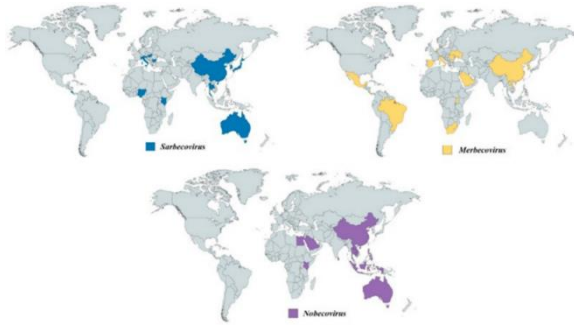
from Alibaba (where ownership control was transferred to the eight Princelings), the end of Hong Kong's financial independence, the recent DiDi new issue debacle, and the attack on private education, all illustrate that for Xi, domestic issues already take priority over continued access to foreign capital markets. In July, Congress passed sanctions that have to be observed by Hong Kong branches of financial institutions (H.R. 7440). Xi responded by passing a law that forbids Hong Kong institutions from complying. Will Western institutions be forced to withdraw from Hong Kong? It appears impossible to remain and also abide by both sets of laws.

The Chinese navy will want to protect sea lanes from the Middle East, through Singapore's Malacca Strait, into the South China Sea but that is still an impossible task. The PLA will need military facilities at ports and airfields in key strategic locations, such as Cambodia, Sri Lanka, Pakistan, Ethiopia, Somalia, Oman, Aden, and Iran. To supply those facilities will require upgraded rail and road links from Lanzhou to Kashgar, then onward through the 4,700-meter high Kunjerab Pass, across Gilgit-Baltistan (northern region of Kashmir occupied by Pakistan), to Islamabad and from there to Tehran. Road and rail links from Islamabad to the ports of Gwadar and Karachi would need to be upgraded. It would be advantageous to construct an oil and gas pipeline from terminals in Gwadar to Kashgar. Although such a pipeline would be completely uneconomic - costing ~\$15 per barrel to pipe oil to eastern China versus \$2 by sea - it would have the strategic benefit of circumventing the Malacca Strait bottleneck. The ERGS pipeline went online last year, importing gas from Siberia. The CAGS pipeline supplies ~40% of China's imported gas. All this work is either completed or under way. If Xi is planning for war, the PLA will want the Tajikistan, Uzbekistan, and Krygyzstan sections completed too.

India's Ladakh Province sits on the flank of the Kashgar – Islamabad corridor. The PLA might want to create a pretext to move an entire army into permanent barracks high up in the Himalayas near the border with Ladakh. That would allow large numbers of Chinese troops to be trained and acclimatized to operating at high altitude. Logistics sufficient to support, say, 200,000 troops could be established. Airfields could be built and heavy equipment, such as artillery, missile batteries, and tanks moved in. That army would be positioned close to the vulnerable Gilgit-Baltistan corridor. Once fully established, Beijing might then pressure Pakistan to formally annex Gilgit-Baltistan, with a promise of support should India react militarily. Of course, China would want to delay on that move until after US forces have quit Afghanistan. This is no longer abstract theory. It describes events that have occurred over the last year. It is not just along the Indian border that military actions have been initiated by Xi. There is no way the military coup in Myanmar would have gone ahead without at least a nod of approval from Xi. The timing of the coup, on February 1, just days after Biden was sworn in, indicates it was timed as a test of the new administration's capability to diplomatically respond. The only question is, was the coup General Min Aung Hlaing's idea or was it planned in China? With a friendly military government running Myanmar, the Kyaukpyu Deep Sea Port project should continue to be developed, although it will be uneconomic and of little use to Myanmar. For the PLA, it will offer a strategic outlet to the Indian Ocean that avoids the Malacca Strait.

In this scenario, think of Xi as Bethmann, Islamabad as Vienna, and Gilgit-Baltistan as Serbia. Bethmann's goal was to invade Russia. Xi's is to conquer Taiwan. Operations in Myanmar and the Himalayas are preparatory steps to protect and project China's western flank. As Mark Twain supposedly quipped "History never repeats itself but it rhymes". From a Western perspective, this is the nightmare scenario. Unfortunately, much of the preparation described above has either already been accomplished or is in the process of being developed. As long as the US Navy is seen by the CCP as being strong enough to enforce a naval blockade on China - assuming the White House is sensible enough to credibly wave that stick as a deterrent - war can probably be avoided. What we do not want to happen, should a crisis develop, is for the White House to be as paralyzed and indecisive as Asquith's Cabinet, with a Secretary of State as ineffective as Lord Grey, who was still fiddling with his pawns on the back row when von Jugow advanced queen to diplomatic checkmate. It is not in the American public's interest for Xi to discover the hard way - like Bethmann in Belgium, Hitler in Poland, Galtieri in the Falklands, or Saddam in Kuwait - that easily subjugating your target does not mean you have succeeded in winning the war. My best guess is that the world is at 'occupation of the Rhineland' stage,

with a minimum of three years, more probably five, before Xi will be ready to invade Taiwan. If credible deterrence is not displayed, he will invade. He has already made that intent crystal clear.



The Jinping Pandemic may or may not have been initiated by accidental release of a pathogen that was developed in a military gain of function project. Either way, the pandemic has demonstrated the enormous military value of biological weaponry. It might well be that the next release will be planned, rather than an accident. Australia, Mexico, Spain, and Italy are all home to large bat populations that carry coronaviruses. Intelligence services should monitor for any attempts by the Chinese to gather viral samples from foreign sources.

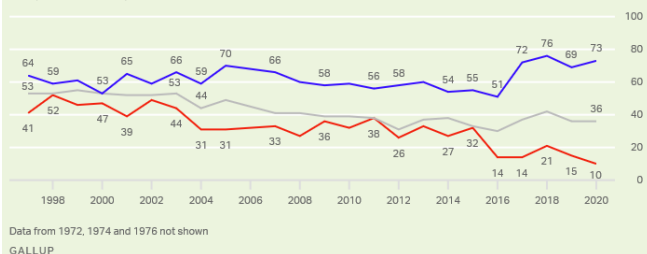
Meanwhile, back in the US, the Democratic Party's behavior post-election has been similar to the CCP's in Wuhan. The Party has been doing all in its power to prevent thorough audits of the presidential election results. What have they been trying to hide? The press has supported the Democrats' claim that this was the fairest election of all time. Supposedly there was absolutely no evidence any fraudulent activity – though hundreds of witnesses have made sworn statements they observed similar skullduggery occurring in all the key swing states. It appeared to be highly organized and well-prepared. The press claim that accusations of cheating were “completely unfounded” is about as credible as their debunking of the lab theory, their hit job on Ivermectin, or their assurance that Hunter Biden's laptop was a Russian disinformation campaign. Polls after the election indicated over 30% of Democrats believed their Party had been up to no good. It is for good reason that the MSM ranks just above rock-bottom Congress in US polls. In a Gallup poll released in September 2020, only 9% of Americans expressed “a great deal” of trust in media and 60% “little to no trust”. This poll has been taken annually since 1972. In 1998, 52% of Republicans and 59% of Democrats trusted

Americans' Trust in Mass Media, by Political Party

In general, how much trust and confidence do you have in the mass media -- such as newspapers, TV and radio -- when it comes to reporting the news fully, accurately and fairly -- a great deal, a fair amount, not very much or none at all?

% Great deal/fair amount

■ Republicans ■ Independents ■ Democrats



media “a great deal or fair amount”. By 2016, 86% of Republicans and 70% of Independents had little to no trust in media, whereas 51% of Democrats still maintained “a great deal or fair amount” of trust. In 2020, 73% of Democrats, 36% of Independents, and just 10% of Republicans trusted media at least a fair amount. These trends indicate the MSM has been swinging ever more to the extreme left over the last two decades. The MSM may be trusted by a record three-quarters of Democrats but at the cost of alienating the 25% of Americans who identify as Republican and two-thirds of the 44% who identify as Independent.

Personally, I am far more concerned about US media disinformation than Russian interference. My generation learned to live with Russian propaganda. We lived in the Cold War for decades; communist propaganda was to be expected and was relatively easy to identify and counter with that greatest of all disinfectants – the truth. Russia has not been a major concern since the collapse of the Warsaw Pact. Domestic media, on the other hand, needs to be reasonably reliable. A healthy democracy requires an independent 4th estate. If the 4th becomes an adjunct of the 2nd, our children's future is destined to be dystopian.

By law, election records must be maintained for 22 months. However, since the election, data files have been purged, ballot envelopes have been destroyed, and at least one secure facility that stores ballots has been broken into. Audits grinding ahead in Georgia and Maricopa County are beginning to bear fruit. There is evidence that over 70,000 Maricopa County mail-in ballots may have been fraudulent. They were never mailed. This is consistent with statements by witnesses who saw pallets of printed ballots, unfolded, not in envelopes, being brought into polling stations in the wee hours of the morning, after Republican observers had been turfed out. It was not just Maricopa County where such activities were witnessed. The password for Internet access to

the Maricopa County Dominion election machines was the same as in two other swing states. That made it pretty simple for a group of trained professionals in a single office in DC to remotely access and tamper with election data in multiple states. No hacking was required. Maricopa County wiped clean the records of who accessed their Dominion machines remotely (similar to Xi bulldozing the Wuhan wet market – destroy forensic evidence wherever possible) but my understanding is that Georgia's are still intact. This process moves at a snail's pace but it is advancing. Evidence is starting to emerge which indicates the Democratic Party conducted an epic fraud that, if ultimately proven, would be the greatest American political scandal of all time. President Biden and Vice-President Harris would lose all legitimacy.

If these audits do uncover a well-crafted conspiracy to tip the election by fraudulent means in five key swing states, we could be heading towards a constitutional crisis by the end of this year or early next. That would not be good news for the stock market. In 1974 the Watergate Scandal came to the boil. For the stock market, it was one of the worst years on record.

Even without a constitutional crisis, the Biden Administration appears to be heading for record low approval ratings. Biden and the Democrats accused Trump of a completely bungled response to the pandemic, though it was four Democrat controlled states in the Northeast that managed to achieve by far the worst death statistics worldwide, primarily by forcing COVID patients into nursing homes, refusing treatment to all prior to the onset of serious conditions, and intubating the seriously ill. Over 40% of patients died in New York hospitals at the height of the first wave. The MSM supported Biden's narrative and his promise that he had a plan that would work. Yet he commenced his presidency by opening the southern border to millions of illegal immigrants. They are brought to the border in convoys by the drug cartels, at a cost of over \$6,000 per refugee. Crowded together for over a month on the journey from Central America, a few initially infected with COVID ends up being as much as 20% by the time they reach the border. Few get tested by ICE. They are crowded together in cages near the border, the polar opposite of 'social distancing'. Biden is using the US Air Force to then fly refugees, even those who have been tested and found positive, all over the country. The Administration has effectively removed all decision making from ICE and put various NGOs in control. It is the NGOs, not ICE, who decide which immigrants will be held on account of prior criminal convictions. This is Obama's "community organizing" run amok. At the same time, the Administration is advocating reimposition of mask and social distancing mandates on the US population, even for young children, and is investigating various means by which it may be able to impose universal vaccination. A year ago, both Harris and Biden stated they would not trust the safety of vaccines authorized by the Trump FDA. Both mRNA vaccines were approved last December, by the Trump FDA. The logical disconnects across the Administration's policies are obvious to all.

Are we entering an Orwellian nightmare of doublethink under the watchful eye of Old Uncle? Will the Administration soon announce a Ministry of Truth charged with eliminating 'misinformation' and 'hate speech' from social media? Orwell described doublethink as "To know and not to know, to be conscious of complete truthfulness while telling carefully constructed lies, to hold simultaneously two opinions which cancelled out, knowing them to be contradictory and believing in both of them, to use logic against logic, to repudiate morality while laying claim to it, to believe that democracy was impossible and that the Party was the guardian of democracy, to forget whatever it was necessary to forget, then to draw it back into memory again at the moment when it was needed, and then promptly to forget it again: and above all, to apply the same process to the process itself -- that was the ultimate subtlety: consciously to induce unconsciousness, and then, once again, to become unconscious of the act of hypnosis you had just performed". That pretty accurately describes the conflicting messaging over masks and vaccines since the pandemic hit our shores.

The reopening of the border was an incredible gift to the drug cartels. What does the Administration and Democratic Party get in return? Yes, it is expected that they will ultimately gain millions of new voters, but is that enough to justify such a crazy, unpopular policy? What did they get from the cartels? Shouldn't there be a quid pro quo? At \$6,000 revenue per refugee to the cartels, why not demand a 10% import duty to be paid into a numbered Cayman Islands account? At an expected 2 million refugees this year, that would create a \$1.2 billion slush fund ahead of the midterms. I am not claiming any knowledge of such a criminal conspiracy taking

place. I am merely pointing out that, logically, a completely unscrupulous political party – and there are plenty of those around the world – would demand its cut. The question is, how unscrupulous has the Democratic Party become in its lust for power? Two years ago, the question would not have come to mind but that was before Governor Cuomo took a series of actions that, to all appearances, ensured nursing home occupants were killed by COVID as rapidly and in as large numbers as possible. The only reason I can think of as to why he might have planned to do so, was to blame Trump and thus increase the likelihood of a Democrat victory in the November election. The Democrats did indeed subsequently accuse Trump of being responsible for every single COVID death and the MSM was happy to play along. Alternatively, Cuomo was just a bungling, tyrannical fool, who had no idea forcing COVID patients into nursing homes might spread the disease like wildfire amongst our most vulnerable. Maybe there's another explanation I haven't yet thought of. Perhaps the Governor will explain when he writes his memoirs. If justice is served, he should have plenty of time to put pen to paper in a jail cell – but that may be asking too much.

Although the Biden family may have been involved in various questionable dealings in Ukraine and China, and Hillary Clinton was accused of running a pay-for-play scheme through the Clinton Foundation when she was Secretary of State during the first Obama term, I have not seen any press accusations in recent decades of major political figures involved with drug cartels. However, back in the 1980s, when Bill Clinton was governor of Arkansas, his state mysteriously became the major conduit for cocaine shipments into the US, and the shipments were linked to a CIA operation from of a remote airstrip near Mena. I first heard of the CIA operation in 1985, when my boss, William O'Neil, was invited to the White House to meet Ronald Reagan. Whilst there, he was shown a room in the basement where Lieutenant Colonel Oliver North was managing the effort to ship guns to rebels in Nicaragua. A year later, the Sandanistas managed to shoot down one of the CIA's planes. Eugene Hasenfus survived the crash and various incriminating documents that linked the operation to the federal government were recovered. That led to the Iran-Contra scandal, which almost became a second Watergate. The Reagan presidency survived. North was convicted of conspiring to defraud the United States, though the conviction was later reversed on appeal.

Barry Seal, a former member of the US Army Special Forces, was a part of the CIA's Mena operation. What may not have been realized back in Washington was that Seal and his associates had decided to run drugs back into America on the return trip from Nicaragua. They had CIA cover, so were immune to either federal or state investigators. Mena became the major conduit for cocaine imports. IRS Agent Bill Duncan and Russell Welch, an Arkansas police investigator, investigated the goings-on at Mena from 1981 to 1986. They amassed what they believed was enough information to bring charges against Seal, but U.S. Attorney Michael Fitzhugh refused to prosecute the case, even though Duncan had prepared 29 federal indictments for money laundering through Mena. What Duncan and Welch did not realize was, Seal was working for the CIA and was also a DEA informant. In early 1986, Seal was assassinated by the Medellin Cartel in Baton Rouge. After his death, U.S. Attorney General Edwin Meese received a letter from the Louisiana attorney general which estimated Seal had "smuggled between \$3 billion and \$5 billion of drugs into the U.S.". One of Seal's aircraft, 'the Fat Lady', was the one downed by the Sandanistas with Hasenfus onboard. Duncan later testified that the IRS "withdrew support" for his investigation and later instructed him to "withhold information from Congress". In 1988, a grand jury was held in Hot Springs, but no indictments were returned. The jury did not bother to subpoena Welch. Duncan intimated that "as soon as Mr. Fitzhugh got involved, he was more aggressive in not allowing the subpoenas and in interfering in the investigative process." The IRS later determined that Seal's earnings from the Mena operation were not illegal, due to the fact he was employed by the CIA and DEA.

What did Bill Clinton know of the Mena operation? After he won reelection as governor of Arkansas in 1983, the Reagan Administration would have had to inform him of the official CIA gun-running operation but was he aware of the illicit drug trafficking? In March 1995, the London Sunday Telegraph reported that Larry Patterson, an Arkansas state trooper who worked on the governor's security detail, testified under oath that he and other officers "discussed repeatedly in Clinton's presence" that "large quantities of drugs [were] being flown into the Mena airport, large quantities of money, large quantities of guns". Patterson, Roger Perry, and two other troopers were also interviewed by The American Spectator in December 1993 for an article that initiated the

'Troopergate Scandal'. There were so many scandals during the first few years of the Clinton presidency, I think the public became jaded by scandal overload. The MSM allowed all the various stories to peter out.

A fellow by the name of Dan Lasater was Bill Clinton's friend, major campaign contributor, and favored bond broker for all Arkansas State bond issues. Despite the fact that Lasater's firm had major tax problems, had been censured by the Arkansas state securities regulator and by the NASD, Clinton routed all the state's bond business through Lasater from 1983 until 1986. In 1985, state police began investigating Lasater for cocaine trafficking. The FBI subsequently also launched an investigation. In October 1986, Lasater was indicted on drug charges, was sentenced to 30-months but ended up spending a mere six months in prison, as Bill pardoned him in 1990. Roger Clinton – Bill Clinton's half-brother - worked for Lasater. Roger was convicted of selling cocaine but was also pardoned by Bill, on his last day as president in January 2001. In 1995, Terry Read and John Cummings published *Compromised: Clinton, Bush and the CIA*. According to the authors, Bill Clinton was taking a 10% commission on the CIA's illicit drug running operation. They also claimed Lasater was used to launder Bill's payoffs from the CIA operation. Lasater was famous around Little Rock for the lavish parties he would throw. According to Larry Nichols, who was Director of Marketing for the Arkansas Development Finance Authority there would be "huge piles of it [cocaine] at the parties (...) and they would give it to young girls". Reports of Lasater's parties and his habit of inviting girls from the local high school were published in a number of national papers in the early 1990s but most of the press just ignored the story. At O'Neil, we hired a new secretary in 1992 who happened to be a recent high school graduate from Little Rock. I asked her what she knew of Lasater's parties. Although she had never attended one herself, she confirmed that many of her fellow students did frequent the parties whilst underage and the drug, alcohol, and sexual activity was as described in the few press stories that had been published. Doc DeLaughter, the Arkansas police investigator who ran the Lasater case publicly confirmed that underage girls were offered cocaine in exchange for sex. He took statements from a number of girls, including Patti-Anne Smith, who was 16 when Lasater hooked her on cocaine. In the early 1990s, the best MSM reports on Dan Lasater and the Clinton involvement came from Ambrose Evans-Pritchard of the London Sunday Telegraph. In 1997 he published *The Secret Life of Bill Clinton*, which describes Lasater's drug-related activities in detail. Bill Clinton was reported to be a frequent visitor to those parties, was observed using cocaine himself, and was also a frequent user of Lasater's private jet, which (if memory serves) was nicknamed 'the white powder express'. Evans-Pritchard was later denied a visa by the Clinton State Department.

The best coverage of Mena was by the London Sunday Telegraph. The Wall Street Journal and Washington Times also ran articles on the scandal but political pressure did succeed in burying at least one exposé. In January 1995, a major article on the involvement of three administrations in the Mena operation was set to run in the Washington Post. It had been written by Dr. Roger Morris and Sally Denton. Morris had served on the National Security Council and Denton had headed UPI's special investigative unit. They were both highly credible authors on federal matters. The article had passed legal review, the executive editor had approved publication, then three days before publication it was cancelled by Managing Editor Roger Kaiser. By that time, it was next to impossible to get a left-leaning MSM outlet to cover the story.

Bill Clinton's friendship with Jeffrey Epstein hit the news recently and supposedly he shared more than just a private jet with Ghislaine Maxwell, proving you can't expect an old dog to drop his errant ways.

Although there is absolutely no information I know of to suggest the current administration is taking kickbacks from the cartels for drug and human trafficking at the southern border, the history of Mena in the 1980s is enough to justify suggesting it is possible something similar may be happening again. Is there a better motive to justify the Biden Administration's crazy policy at the southern border? Future voters? No, that doesn't add up, since the policy loses them votes, particularly in Arizona and Texas. Cuban immigrants in Florida are not particularly happy about the Administration telling Cuban refugees arriving by boat, they will not be allowed entry into the US. There is a logical disconnect between closing one border to real refugees fleeing a communist dictatorship, whilst opening another to all-comers. At least, there is until one realizes that the cartels manage that refugee flow. Those who try to make it to the Mexican border without a cartel ticket, don't.

If DC does become embroiled in a constitutional crisis, the danger of mischief abroad could be expected to increase substantially. Even if the election audits in Arizona and Georgia prove nothing untoward, the Administration still looks set to lose the support of millions of conservative Democrat and Independent voters. Middle-of-the-road Americans are becoming increasingly angered by left-wing provocations, such as support of BLM and Antifa, gender policies that have become a direct assault on women's rights, brainwashing in both schools and the workplace by critical race theory advocates, the southern border debacle, censorship in the MSM and on social media platforms, cancel culture, disrespect of the country, the flag, and the national anthem, and government infringement of civil liberties during the pandemic. The degree of anger can already be measured in terms of falling ratings for CNN, professional football and basketball, and viewership of the Olympics. Twitter, Facebook, Google's YouTube, Google's search engine, and other social sites should be monitored for indications of conservatives and moderates beginning to abandon them in favor of new alternatives which will surely emerge over time. President Trump put together a list of 'woke' corporations for conservatives to boycott, including Coca Cola, Delta, UPS, and Merck. We will have to see whether or not such targeting will have a meaningful impact. Advocating an individual should use the power of his (or 70% of the time, her) purse to cancel 'cancel culture' is true to the Enlightenment principle that 'we the people' decide.

A US president requires the support of Congress, the MSM, and the majority of the populace when taking significant action overseas. The American people are tired of war and, as in the inter-war years, are becoming increasingly insular. If Beijing, Moscow, or Tehran see Biden as being both short on mental acuity and political capital, they may sense an opportunity to take actions that would have been considered too risky during the Trump presidency. Obvious potential flashpoints are more aggressive Chinese naval actions in the South China Sea, more intense provocations against Taiwan's air space, a tightening of Beijing's grip in Hong Kong, further military action in the Himalayas, China supporting a Taliban regime in Afghanistan (land access to Iran), an increase in CCP-sponsored Internet hacking against strategic targets, or a Russian move to split the Donbas region from Ukraine.

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Glenn Shadrake