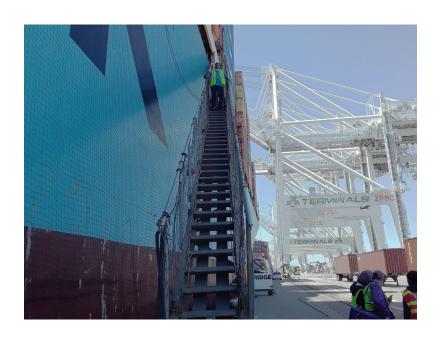


AMERICAN CHEMICAL SOCIETY VOLUME LXXXIII NUMBER 6

CALIFORNIA SECTION June 2021



Port of Oakland hands across the sea, see page 4

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Structural and biophysical characterization of function and aggregation in the extremely long-lived proteins of the eye lens

Monday – June 14th, 2021 – 5:00 to 6:00 PM PDT Online Zoom Event

The crystallin proteins that make up the refractive medium of the vertebrate eye lens must remain soluble and stable for a lifetime. These proteins maintain their short-range order without strong intermolecular interactions even at concentrations above 400 mg/mL in humans and closer to 1000 mg/mL in fish. Structural and biophysical studies in professor Martin's group seek to discover how the crystallins function in the healthy lens and what happens when they aggregate, causing cataract disease. Professor Martin's group has solved NMR and crystal structures for the structural lens protein human γS -crystallin and several aggregation-prone variants, including some associated with hereditary cataract and others that mimic age-related damage. Professor Martin will also discuss the development of new NMR instrumentation and methodology to investigate the transparent hydrogel state of concentrated crystallin proteins, which is difficult to study using standard techniques for either solid-state or solution NMR.

The presentation will be followed by Q & A.

RSVP here!

Zoom link to be shared with attendees the day of the event.

Our Distinguished Panelist:



Professor Rachel Martin University of California, Irvine

The event is FREE and open to the community. More information at: calacs.org or email mozafari.mina20@gmail.com

Note from the Editor

On behalf of *The* Vortex, its supporters, and the California Section, we wish you a wonderful summer. The next Vortex will be published in September. Don Maclean will be the new Editor. I wish him as good an experience in this capacity as was afforded to me.

In case some of you want to know why I am resigning, it is because the project that I have been working on the last 5 years or so is close to being launched. I simply need more time to focus my thoughts and energy. I will keep you updated. I never liked listening to advice, so I will not give any. I can say that this has been the best time of my life. Talk with you later, Lou.

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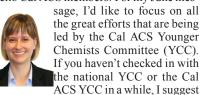
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Chair's Message

Hello Cal ACS members! For my June mes-



you do so! In the past year and a half, the Cal ACS YCC has grown exponentially.

First. I'd like to introduce our Cal ACS YCC Social Chair, Raina Kasera. Raina organized an online trivia and networking event in March, with the help of Silicon Valley ACS. This event actually led to YCC connections all over the US, and is the reason our section is now connected to the Southeastern Louisiana University (SELU) student ACS chapter. Raina deserves a lot of credit for connecting with student chapters and continuing to plan events, like the event on May 25 with H.N. Cheng and SELU. Raina has also been training a lot of our incoming YCC chairs, and is currently training a few of us on how to use a new software for our Vortex issues.

Next, I'd like to introduce Alex Bruefach, our Industrial Chair for Cal ACS YCC. She has organized a series of networking / happy hour events this spring, with a cumulative attendance of over 50 students. She has focused on careers in environmental science, biotechnology, and worked with other professional organizations (SETAC) to expand the outreach for some of these events. Alex is also the co-organizer of our College Application and Professional Success (CAPS) Program. The program identifies high school students in the East Bay and pairs them with college mentors. The entire group meets up to nine times in a semester to go over topics like resume writing, mock interviews, college essays, etc.

Finally, our Fall Career Event, our second YCC career event, will also take place this fall. More details to come!

Our YCC has received a YCC starter grant for many of these activities. Fanny Frausto, the Career Development Chair within Cal ACS YCC, and our current Chair-Elect, has worked on identifying additional volunteers for Cal ACS YCC. Through some of her outreach efforts, we now have three undergraduates from UCSC helping with YCC media and event planning. One volunteer helps with the new YCC bi-monthly newsletter. The YCC newsletter highlights upcoming Cal ACS YCC events and national YCC events. Right now, over 100+ people have signed up to receive this newsletter! Way to go team!

Other items worth mentioning: the Cal ACS YCC has initiated a connection with UC Berkeley chemistry organizations, like ACS@Berkeley and the Chemistry Graduate Student Life Committee (CGLC). Our Cal ACS YCC also has several career networking events/panels upcoming in this

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fall - including a government panel event that will inform students about government career opportunities. You can keep up with all the Cal ACS YCC events by visiting our re-vamped website: https://calacs.org/committees/ycc/ or signing up for the newsletter with at the following link: http://eepurl.com/hva9lb

I'd like to thank our YCC team for all their hard work and would like to encourage all of our readers to get involved with YCC! We do need professionals to speak to students, and provide career advice, and we plan events around these topics. Hope to hear from you soon!

Hands across the Sea.

Vaccinating Seafarers aboard container ships at the Port of Oakland

Lou Rigali

Do you ever wonder what life is like for the seafarers on those container ships sitting in the Bay waiting to get unloaded or loaded



at the Port? I got a chance to find out the last couple of weeks. The above picture show John Claassen in the orange vest and the Vaccination team doing intake aboard the ship.

It stated when I overheard a phone conversation, where my friend, John Claassen was being told that something was impossible. "What's that about John?" I asked. That was not a question for John, it was a call to action. John started to share that the seamen go from port to port and are never able to get off the ship because of the pandemic regulations. Even when they get back to their home port, there is likely to be no vaccines, only more time spent in quarantine.

John is Chairman of the Board of IMC

(International Maritime Center) a 501 C-3 non profit interfaith organization providing chaplaincy services and working to provide for the health and

welfare of seafarers throughout the world. These centers are a respite, a home away from home, a change of scene, a place to meet seamen from other ships or catch a ride into town to go shopping. The centers have several vans and will drive the seafarers to a Walmart or where ever. they want to go.

For the last year and half the pandemic has curtailed the work at these centers because the seafarers cannot leave the ships and take advantage of the services. John had been thinking how can the Center be of service under these

conditions? Could the center be a place where Seafarers get vaccinated? Now I understand what the basis for the "It's not possible" statement. John would have to get permission from Homeland Security, Port of Oakland, Alameda County, State of California, the unions and ship owners and their agents and ship captains.

Quickly John starts making phone calls. To know John is to know he is a fourth generation Rotary Club member, an important and enthusiastic organizer who got AC transit to give free bus passes to school kids, and is active as an advocate for the homeless population in Oakland using his experience in building a 100 bed homeless shelter under the freeway

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All That Glitters...? Part 4 Bill Motzer

Introduction

Although gold (Au) is a scarce crustal metal, significant concentrations occur as Aurich deposits, such as the "Mother Lode" (ML): a classic term defining a specific geographic area of California Au deposits with similar geology, ore mineralogy, and geochemistry. The ML is also a grouping of gold occurrences in quartz veins along a 130-mile (209 km) linear trend in the foothills of Mariposa, Tuolumne, Calaveras, Amador, and Eldorado counties in northcentral California. The ML is not a single quartz vein, but a series of north-northwest (N-NW) linked veins dipping about 60 degrees east along the Melones Fault Zone (MFZ). Veins (Figure 1), range up to 10 feet (\sim 3 m) in width, formed in 1.0-mile (\sim 1.6 km) wide belt cutting schists, slates, greenstones, granites, and granite gneisses. In the Central Eureka Mine area (near Sutter Creek, CA), the ML is approximately 1,600 feet (~488 m) wide. Erosion of these veins formed most of the placer deposits sought by the first gold rush miners.

Placer Deposit Characteristics and Formation

Alluvial placer deposits generally form in moderate to high energy fluvial depositional environments where gradients tend to flatten and river velocities decrease, particularly at the inside of river meanders, below rapids and falls, beneath boulders, and in vegetation mats. Therefore, placers are composed of silt and sand to cobbleand boulder-sized gravel and conglomerate containing white quartz clasts; sand and sandstone are of secondary importance.

Placer deposits may contain either gold, with minor platinum group metals (PGM) or PGM with minor gold in grains and nuggets. Gold occurs with very little silver

(Ag) and PGM occurs as platinum-iron and/or osmium-iridium alloys. Gold forms flattened flakes with rounded edges and as extremely fine-grained flakes ("flour") gold (Figure 2). Nuggets are commonly irregular and rarely equi-dimensional (see geochemical characteristics below). Placers also contain heavy minerals that form black sands containing magnetite, ilmenite, and chromite and vellow sands containing zircon and monazite. Material densities range from 1.5 to 1.6 g/cm³ (dry) and 1.96 to 2.0 g/cm³ (wet); porosities are high. Placer deposits are typically tabular and elongate with highly variable shapes and lithology. Ore zone pay streaks comprise only a small part of these deposits, typically from ~ 1.0 – 30 m wide to $\sim 10 - 1,000$ m long. Deposit ages range from Cenozoic to Holocene.

Ore Controls are quite variable with highest gold values at the base of gravel deposits where various gold "traps" occur, i.e., natural riffles in the floors of river or stream in fractured or foliated bedrock or in bedding planes, where such structures are transverse to the water flow. Gold may also concentrate within gravel deposits above clay layers that constrain the downward migration of gold particles.

Gold Geochemical Characteristics

Gold generally occurs in two forms:

- (1) Primary (hypogene) gold deposited and/or precipitated from high-temperature hydrothermal fluids originating deep in the crust commonly associated with intruding magma or from shallower meteoric water. Most primary gold ores are Au-Ag alloys (electrum), with Au/Ag ratios greater than (>) 1.0. Primary Au typically contains from 5 to 20% Ag, but in some deposits, it may be almost pure; in other cases, silver may exceed 50%.
- (2) Secondary (supergene) gold occurs when primary Au is remobilized or dissolved as Au-complexes from several organic and inorganic ligands subsequently precipitated in surface or weathering environments. It also may form from bacterial reduction in Au-chlorides

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occurring in saline Au-rich groundwater where visible gold plates are precipitated at the water table as nanoparticles (\sim 100 – 300 μ m), ultimately producing hexagonal and triangular gold crystals as small as 50 nm. Most fine or placer gold is secondary, nearly pure with high fineness, having less than (<) 1% Ag. Secondary Au occurs in soil, deep regolith, stream sediments, and placers, often forming delicate structures.

Placer Au may also form as nuggets generally having Au–Ag alloys chemically similar to primary Au; commonly, Ag depletion occurs on crystal boundaries where exterior surfaces are exposed to weathering. Physical crystallography analysis of nuggets also indicates a hypogene origin because many nuggets have internal even-textured, polycrystalline fabrics, with crystals often



Figure 1: Mother Lode Au quartz vein(s) in the Lincoln Gold Mine, Sutter Creek, CA. Active gold mining occurred from 1852 to 1952 with 2.343 million ounces (oz) extracted from eight mines. Data from Sutter Gold. Photo by W.E. Motzer, 2006,

exhibiting both coherent and incoherent twinning. Such textures have also been confirmed in Au-Ag metallographic studies characteristic of thermal annealing at temperatures >250°C. These similarities show a definite hypogene origin for nuggets. Therefore, nugget's relative abundance in superficial environments is due to physical concentration by weathering of primary ores and subsequent fluvial transport.

Gold Rush (ML) Placer Deposit Origins

Placer gold deposits in and west of the ML are believed to have been deposited from paleo-rivers originating and draining as far east as western Nevada. Most of the eroded sediments were transported westward across the future Sierra Nevada and deposited in the Great Valley of central and northern California. The gold placers (aka: Eocene Auriferous Gravels) primarily overly Oligocene rhyolitic ash-flow tuffs of northern California and adjacent NW Nevada, which unconformably overly Mesozoic and/or Paleozoic basement. These in turn, are overlain by Miocene ancestral Cascade volcanic rocks. However, in some areas farther to the west, auriferous gravels only occur in paleo-valleys. Most gold in the lower reaches of the Eocene paleo-valleys was probably eroded from gold-bearing quartz veins occurring in the main ML and in scattered deposits occurring as far east as Lake Tahoe.

The actual grades and total tonnage for the Eocene auriferous gravels can only be estimated because of early mining methods by itinerant miners were by panning and sluicing followed by hydraulic mining, dredging, and then drift mining of buried alluvial placers. It's these methods that contributed to the environmental pollution that's found today and I'll discuss this in my next article.



Figure 2: Examples of California placer gold. Photo from California Geological Survey on-line collection at: http://www.consrv.ca.gov/cgs/geologic_resources/gold/Pages/Index.aspx.



Science has become a cartel

There's a reason the medical establishment dismissed the lab leak theory

By Matthew Crawford

The idea that SARS-CoV-2 was engineered in a laboratory, and then escaped accidentally, always had a certain plausibility. The virus first appeared in Wuhan, China, where there is a laboratory that conducts research on bat coronaviruses — one of only a handful in the world to do so. Yet this possibility was dismissed quite forcefully and from the beginning of the outbreak by prominent virologists.

Now that same lab-leak hypothesis appears to be on the verge of acceptance as the most likely. Such reversals happen; it is the nature of science. In an emergency, it is understandable that a research community might commit to one theory over another, even if prematurely, in order to focus its intellectual energies and resources. Surely that's what happened here.

But there may be more to the story. On 2 May, the veteran science reporter Nicolas Wade published a long, detailed account of the career of the lab-leak hypothesis. His reporting appears to have triggered a cascade of defections, not simply from a consensus that no longer holds, but from a fake consensus that is no longer enforceable.

Now 18 scientists have signed a letter in the journal Science with the title "Investigate the origins of COVID-19". The New York Times notes that "Many of the signers have not spoken out before." "Speaking out" is an odd locution to use in a scientific context; one expects to find it in a story about a whistle blower. If, during the Covid fiasco, scientists have not felt free to speak their minds, then we have a serious problem that goes beyond the immediate emergency of the pandemic. Regardless of how the question of the virus's origins is ultimately decided, we need to understand how the political drama surrounding the science played out if we are to learn anything from this pandemic and reduce the

likelihood of future ones.

By now the reader will have heard of "gain of function" research and the hazards it poses. A large number of scientists came together in July 2014 as the Cambridge Working Group to urge that "Experiments involving the creation of potential pandemic pathogens should be curtailed until there has been a quantitative, objective and credible assessment of the risks, potential benefits, and opportunities for risk mitigation, as well as comparison against safer experimental approaches." Later in 2014, the Obama administration issued a moratorium on this type of research, partly in response to some "bio-safety incidents" that occurred at federal research facilities.

But before the ban went into effect, the National Institute of Allergy and Infectious Diseases (NIAID) funded some gain-of-function research which, through an intermediary nonprofit and subcontracting arrangement, came to be conducted at the Wuhan Institute of Virology. The moratorium was lifted during the Trump administration, apparently at the urging of Anthony Fauci, and a 2019 renewal of the 2014 research grant did include gain-of-function research on bat coronaviruses. SARS-CoV-2 exhibits biological signatures consistent with the plan of research laid out in the grant.

Doing such research requires extreme safety precautions, and these make it very cumbersome to do the work. You have to wear what is essentially a space suit, and every task is burdened with procedures that slow the work down dramatically. Meanwhile, scientists are competing with one another to publish first.

As Wade notes, researchers have an incentive to carry the work out under less restrictive safety standards, and therefore to downplay the risks when applying for grants. And indeed the work at Wuhan was

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Choosing a PhD Program & an Advisor

July 13th, 2021 12:00 - 1:00 PM (PT)

A co-sponsored online event between ACS California Section and AWIS East Bay

The event will include a presentation followed by a Q&A session.

The decision to do a PhD is exciting, but can be overwhelming. Much appears to be at stake in where to attend and-more importantly-whom to choose as an advisor. In this seminar and discussion, Prof. Lipomi from UC San Diego will offer his thoughts on selecting a PhD program and an advisor who will give you the best chance of flourishing personally, professionally, and scientifically.



Prof. Darren J. Lipomi earned his bachelor's degree in chemistry with a minor in physics as a Beckman Scholar at Boston University in 2005. He earned his PhD in chemistry at Harvard University in 2010, with Prof. George M. Whitesides. From 2010 - 2012, he was an Intelligence Community Postdoctoral Fellow in the laboratory of Prof. Zhenan Bao at Stanford University. He is now a professor in the Department of NanoEngineering and Program in Chemical Engineering at the University of California, San Diego. He also hosts a podcast, "Molecular Podcasting with Darren Lipomi" and associated YouTube channel (Darren_Lipomi) that together have nearly 10,000 subscribers. These venues serve as a resource to students, postdocs, and other early-career researchers. His research website is lipomigroup.org.

RSVP here!

Zoom link to be shared with attendees the day of the event.

The event is FREE and open to all.

More information at: calacs.org or email taheri@ucdavis.edu

Gifts & Donations

Thank you to all the members and organizations for their generous donations. They help support the programs noted in Chair's message and others. Donations to the California Section are tax deductible. Lou Rigali, LR101898@aol.com

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Chevron and oil fields around the world

Once again a locally based International company makes the local and international news. It is awkward to call out a company like Chevron who is a neighbor and whose past and present employees are neighbors, friends, and colleagues. Chevron has also been a generous supporter for some of the out-reach programs of the Section.

I can appreciate the efforts to be a good neighbor. But today, being a good neighbor means not only locally but everywhere we have a significant presence or influence because we are all connected. I acknowledge that not everyone has that perspective. There are people whose childhood experience was not nurturing and they are left with ideas that no one cares for them, and with a world view of "me vs you" rather than you & me".

The current issue is Chevron's involvement with the gas and oil fields in Myan-

Seafarers continued from page 4)

in Stockton 40 years ago, and a dozen or so other community projects. A first call is made to David Modersbach who is in charge of the Alameda County's outreach vaccinations group for the unsheltered. Dave has a core group of 10-15 people with professional medical training. Dave loves John's idea, however but not too keen on walking up 4 stories on shaky shipside stairs with equipment. He quickly confirms that the County will authorize a two week pilot starting in two days and his crew very interested in going aboard, ship stairs and all.

Meanwhile John is busy tying up all the loose ends. He had the cooperation of Chris Maourgos Port Manager and Agent to the shipping companies and the roll-up-your sleeves Samantha (Sam) Leavens is an ITF Inspector, a worldwide organization dedicated to maintaining seafarer rights. Chris and Sam track what ships are entering the Bay, where they will be docking and when do they leave; all important details because the ships are in and out in 2-3 days. Sam was also key

mar which are the major funding source for the Fascist military that are killing people who oppose them and some that are friends and family members of American citizens.

That makes the connection a little closer to home. It also brings up memories about my family. My grandfather emigrated to the US to keep his son, my father, from being inducted into the Italian Blackshirts, The Voluntary Militia for National Security (Italian: Milizia Volontaria per la Sicurezza Nazionale) of the Military regime in Italy back in the thirties. I never thought of thanking my grandfather for saving my father nor all the people in Italy that helped him leave.

You can read the allegations and comments in The New York Times, The Bangkok Post, and the East Bay Times.

in helping navigate the security protocols around the docks and most importantly her position as an inspector with world wide authority to enforce Seafares' rights. This authority helped the captains look favorably on the process albeit slightly disruptive of their routine.

A special shout out to Seth Gomez, a pharmacist, who organized the vaccination team into a friendly and efficient force for good. About 80 grateful seafarers were vaccinated each day.

The crew on the ship that I boarded were mostly Ukrainian, crews on other ships were from India and the Philippines. Language differences were not a problem Most understood enough English and laughed when the obligatory health question was asked if they were pregnant or breast feeding.

The ports of Sacramento and Stockton are checking and plan to run a similar procedure. I am touched as were friends who heard the story of how John reached out with a caring and meaningful gesture to complete strangers because he though it was the right thing to do.

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not conducted at the highest safety standard. In this, there may have been a subtle form of collusion. There is no need to posit a conspiracy, one need only take note of the shared incentives. It is other members of the guild who conduct the review process that decides the allocation of research funds; they are unlikely to insist upon more stringent safety standards — which would have to apply to themselves as well. Research communities have internal competition, but also collective interests.

Wade points out that the "consensus" that Covid must have an entirely natural origin was established by two early pronouncements, one in The Lancet in February 2020 and the other in Nature Medicine in March 2020. These were op-eds, not scientific papers. Both spoke with certainty about matters which it was impossible to be certain about. Wade writes: "It later turned out that the Lancet letter had been organized and drafted by Peter Daszak, president of the EcoHealth Alliance of New York. Dr Daszak's organisation funded coronavirus research at the Wuhan Institute of Virology. If the SARS2 virus had indeed escaped from research he funded, Dr. Daszak would be potentially culpable. This acute conflict of interest was not declared to the Lancet's readers. To the contrary, the letter concluded, "We declare no competing interests."

In other words, the guy who was orchestrating research on bat coronaviruses at the lab in Wuhan corralled other scientists, with similar professional interests, into making a declaration to the effect that anyone who mentions the (obvious) possibility that the pandemic (which started in Wuhan) might have a connection to this research could only be doing so with bad intentions. This seems a bit thuggish.

The yawning gap between the actual state of knowledge at the time and the confidence displayed in the two letters should have been obvious to anyone in the field of virology. And indeed, there were scientists from outside the guild, but in fields adjacent enough to speak competently,

who said as much. The Lancet and Nature Medicine letters were in fact anti-scientific in spirit and intent. Yet the pronouncements had the effect of shutting down inquiry that was not only legitimate, but urgently needed.

Wade notes that "in today's universities speech can be very costly. Careers can be destroyed for stepping out of line. Any virologist who challenges the community's declared view risks having his next grant application turned down by the panel of fellow virologists that advises the government grant distribution agency."

This is consistent with everything we know from the sociology of science. With the centralisation and bureaucratisation of scientific funding, defection from a well-institutionalised consensus is even more costly now than it was when Thomas Kuhn wrote The Structure of Scientific Revolutions. He showed that it is almost always from outside a research community that challenges arise. Progress happens when a prevailing scientific consensus is revealed to rest on the loyalties and intellectual affinities of an established research milieu, and not simply on correspondence with reality.

Something is left unexplained in the consensus view, and to focus on this lacuna is to be an outsider. Reliably, such challenges are fought tooth and nail by the research empire built on the encrusted consensus. The scientific paradigm they are invested in is typically superseded only when the scientists sitting atop the institutional hierarchy literally die, or retire. It is not "antiscience" to acknowledge this. Rather, the point is that one has to keep in mind that scientists are human beings first.

That much is old news. But in the catastrophe of the Covid pandemic, something novel and disturbing comes into view. A peculiar form of intellectual intimidation has become prominent in public life in general, and science has not been spared. The letter in <u>The Lancet</u> stated, "We stand

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together to strongly condemn conspiracy theories suggesting that Covid-19 does not have a natural origin."

The invocation of "conspiracy theory" has become a reflex by which incumbents in many domains seek to arrest criticism. They have had to do a lot of this over the last 10 years, as the internet has broken the knowledge monopolies by which institutional credibility is maintained.

As I wrote in a previous essay, policy challenges from outsiders presented through fact and argument, offering some picture of what is going on in the world that is rival to the prevailing one, are not answered in kind, but are met rather with denunciation that is highly moralised. Epistemic threats to institutional authority are resolved into moral conflicts between good people and bad people.

What is significant is how effective the early, pre-emptive declarations of scientific consensus in The Lancet and Nature Medicine were in garnering media enforcement of public opinion on the matter. The "fact checkers" of PolitiFact used these statements to shut down any discussion of the lab leak hypothesis. In effect, it appears the scientists who were signatories to the two letters may have been acting as a classic research cartel. Such behavior is common enough in science. But because of the political environment, they were able to use the magic words "conspiracy theory" to trigger a wider epistemic immune reaction in high-prestige opinion.

Because this reaction had achieved a kind of automaticity during the Trump years, the guild of virologists could deploy it for their own purposes, directing establishmentarian ire against a perfectly reasonable course of inquiry. At the risk of understatement, such inquiry would have brought unwelcome attention to the US-funded virus work in Wuhan in particular, and gain of function research in general.

As the evolutionary biologist turned cultural critic Bret Weinstein (who specialises in bats, as it happens) has pointed out, the resulting moratorium on pursuing the lab leak hypothesis may have been quite con-

sequential, as an engineered virus behaves differently from a naturally evolved one, and this has implications for how it can best be fought.

Since April 2020, he has been insisting that a possible lab origin for the virus be kept on the table. Notably, his avenue of communication is his YouTube channel. Likewise, Nicholas Wade's powerful and widely circulated article appeared, not in any national outlet, but on the blog site Medium. (It has since been republished by the Bulletin of Atomic Scientists, not an organisation within the orbit of virology or public health.) Only now has "the nation's newspaper of record" and other organs of acceptable opinion been dragged into acknowledging what may be the most important story of the pandemic.

The letter in Science calling for an investigation concludes by rejecting "anti-Asian sentiment". Clearly, this was thought necessary. When the lab leak hypothesis has been mentioned at all in the legacy press, the "conspiracy theory" has often been juxtaposed with reporting on anti-Asian hate crimes, thereby subsuming an urgent scientific question to the Trump-era morality play.

Journalism suffered a general intellectual collapse during the Trump administration, as many have noted on the Left and Right alike. The moral grandeur of #Resistance appearstry. The great imperative was to keep underlining the divide between good people and bad people. What we have learned is that a Manichaean atmosphere of moral sorting is intimidating, and therefore provides the perfect cover for "informal pacts of mutual protection," to borrow a phrase from Martin Gurri.

Matthew B Crawford has degrees in physics and political philosophy. He is a senior fellow at the University of Virginia's Institute for Advanced Studies in Culture.

This essay appeared in full on the Un-Herd website, https://unherd.com/aboutunherd/

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