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#### Plan: In a democracy, a free press ought to prioritize objectivity over advocacy when reporting on vaccines.

#### Objective journalism is not blind transcription but rather necessitates a commitment to the facts that solves misinformation.

Alan Sunderland, 9-9-2015, [Alan Sunderland is the ABC's head of editorial policy, having previously worked as the head of policy and staff development with ABC News. A journalist for 32 years, he began as an ABC cadet in 1979 before spending more than 20 years as an on-the-road reporter with the ABC and SBS. His experience includes five years as political editor with SBS in Canberra, and two Walkley Awards for news reporting. He returned to the ABC, and to news management, in 2005.], "Objective reporting: It has never been more necessary," ABC News, <https://www.abc.net.au/news/2015-09-10/sunderland-objective-reporting-has-never-been-more-necessary/6764320> //SLC PK

I very rarely disagree with my esteemed former colleague Jonathan Holmes ([Objective reporting: It's a thing of the past](http://www.theage.com.au/comment/the-objective-middle-ground-is-death-for-modern-media-20150907-gjhamh.html)) on matters of journalism, but it's time to speak up for the endangered and misunderstood discipline of objective reporting.

On one matter, Jonathan is absolutely right. The notion of objective reporting is seen by many as out of fashion and out of date. Fine in theory, but in the real world it is either impossible to achieve or 'too bloody dull'.

It is often parodied as a recitation of facts devoid of context or colour, leading to 'he said/she said' stories that list the views of the usual suspects on a topic but leave the reader, listener or viewer none the wiser about who's right and who's wrong. The reporter responsible for such stories is employing the 'view from nowhere', pretending they neither know nor care about the matters they are reciting.

That is certainly a problem, and we see plenty of examples of it. But that's not objective journalism, that's just bad journalism. Anyone who simply collects facts and sets them down is not a reporter. That's not journalism, it's stenography.

It has always been the case that reporters need to sift through facts, weigh them up, make editorial judgements about their relative strength and importance, and then present them in a way that illuminates the truth of a matter. It's not called 'editorial' content for nothing.

This process of making editorial judgements about facts is fundamental to great journalism. It explains why a program like Four Corners can expose what is going on inside the greyhound racing industry or 7-11 stores without in any way compromising its commitment to objective journalism. Or why 7.30 can deliver a series of stories exposing underpayment and exploitation of postal workers. The journalism is passionate, compelling and influential. It also happens to be in the best tradition of objective journalism.

It doesn't involve abandoning a commitment to impartiality and following your own whims and preoccupations. Nor does it involve handing out undigested facts by the truckload and leaving a bewildered audience to try and make sense of it.

What it does involve is gathering information without fear or favour, weighing and assessing that information and then reaching a conclusion based on the evidence. It involves a conscious and disciplined process where the evidence is not misrepresented or suppressed if it doesn't suit a preconceived opinion. A process where the reporter examines and challenges his or her own assumptions and blind spots as well as everyone else's.

Conclusions arrived at using this process are all the stronger for it. The passion and purpose that drives good journalism comes from the facts and not from rhetoric, spin or sophistry.

The key here is what tools a reporter uses in this process of weighing the evidence. You can rely on your own prejudices and preconceptions, picking the facts that support your opinion and ignoring the ones that don't. Or you can try to set aside your own views and instead be led by the facts, by what you uncover as you turn over an issue and examine all sides.

I say 'try' deliberately, as this kind of work is hard. Being objective as a reporter is not a state of perfection like sainthood or barracking for Richmond. It is a discipline. Like so many important skills, it takes constant practice and can always be improved. At the ABC we are committed to this discipline, and we are always looking for ways to reflect on it and improve it. But at its best it means that the passion and power of what we produce is driven by the facts we uncover, not by the personal views we hold.

After all, we expect scientists to examine the evidence on issues like climate change or cancer research, and reach conclusions based on rigorous and professional judgements rather than their opinions or their hunches. We expect a similar objectivity from our judicial system, from our police and from many other professionals who serve the public. I haven't heard too many calls for us to accept, for example, that judges will always have their own views on matters and so they might as well just decide cases based on their own opinions rather than the evidence. We know they are fallible human beings like the rest of us, but we ask them to do their best to set their views aside and do their job.

We should ask no less of reporters. It is difficult and we should continue to expect failures along the way. But in this information rich, connected world, it has never been more important. We are assailed on all sides by information presented to us by those with hidden agendas, causes to push and products to sell. To wade into the ocean of digital information these days is to feel manipulated, pressured and overwhelmed by 'facts' that have been twisted and misrepresented to suit someone else's opinion. What we need are at least some people who are trying to cut through the manipulation and the spin and let the facts do the talking.

If media organisations need to stand for something, that'll do for me.

#### Specifically in the context of COVID—debunking alternative facts and providing balanced preemptive and reactive analysis solves.

Stephan Lewandowsky and Philipp Schmid, 10-22-2021, [Stephan Lewandowsky is the Chair in Cognitive Science at the University of Bristol. Philipp Schmid is a psychologist and postdoctoral researcher at the University of Erfurt, Germany], “How to fight COVID vaccine misinformation?, ”How to fight COVID vaccine misinformation?”, Al Jazeera, <https://www.aljazeera.com/opinions/2021/10/22/fighting-vaccine-misinformation> //SLC PK

Opposition to vaccination is as old as vaccination itself. Although vaccines save five lives every minute, and even though 85 percent of children worldwide are vaccinated against diphtheria, tetanus, and whooping cough, some people are resisting the life-saving shots. A range of factors contribute to vaccine opposition – from fear of needles or side effects to conspiracy theories involving governments or the pharmaceutical industry.

Although anti-vaccination activists ultimately have never prevailed, when they find a temporary foothold in a society, vaccination rates can decline, and preventable illnesses increase.

The COVID-19 pandemic illustrates everything we know about vaccines and opposition to vaccines. The development of safe COVID-19 vaccines has provided us with the tools to combat the pandemic, and with 6.5 billion doses already administered, and more being administered at the rate of 22 million per day, there is light at the end of a dark tunnel.

On the other side of the ledger, the pandemic not only caused the death of millions, but it also created a toxic legacy of misinformation and conspiracy theories that has mobilised opposition to vaccinations. This is unsurprising based on what we know about human behaviour. When people suffer a loss of control over their lives or feel threatened, they invariably become more vulnerable to believing conspiracies. And if there is one thing a pandemic is good at, it is to create fear and loss of control.

Although this opposition has not prevented many countries from reaching very high vaccine uptake – for example in Spain, nearly 80 percent of the population has been fully vaccinated, with Italy and France not far behind – it cannot be ignored because anti-vaccination activists are increasingly resorting to intimidation and threats of violence against healthcare personnel. In the United Kingdom, police are now protecting some mobile vaccination stations, and in Germany, a man attacked healthcare workers because they refused to issue him a vaccination certificate without giving him the shot.

In the United States, attitudes towards vaccinations have become so politicised, with several Republican leaders voicing opposition to vaccines, that there is now a striking gap in uptake between states depending on which way they vote. States that lean towards the Democrats have high uptake, with Massachusetts and Vermont topping at 78 percent, whereas those that lean Republican lag behind, with West Virginia bringing up the rear at 48 percent. Perhaps most concerning, there are growing signs that American anti-vaccination campaigners have joined forces with the extreme right and other conspiracy theorists.

Given the obvious risk to public health posed by anti-vaccination movements, what can communicators and politicians do to respond?

First, leadership matters. When deciding about a complex issue like vaccination, laypeople generally rely on advice from trusted opinion leaders, which may be experts, media personalities or politicians. However, when issues become politically polarised, the question of whom to trust may become a matter of partisanship rather than expertise. In fact, evidence shows that the willingness to get vaccinated against COVID-19 among Republicans varies as a function of who recommends getting vaccinated – Donald Trump or Joe Biden. Thus, it is crucial that opinion leaders understand their effect on individuals’ health decision-making and put public health before partisan divide. It is therefore important that some Republicans speak out in favour of vaccination.

Nonetheless, even when leaders issue clear messages, some individuals will carry on with publicly questioning the effectiveness and safety of vaccinations, almost inevitably by spreading information that is outright false or highly misleading. The messages of these science deniers do the most damage when left uncorrected.

Fortunately, research shows that the effect of messages of science deniers can be mitigated by providing fact-based corrections or by unmasking logical flaws. The recent Debunking Handbook provides hands-on advice for practitioners on how to structure debunkings and write promising corrections. The importance of debunking has been recognised by various health authorities around the globe. For example, the World Health Organization debunks emerging myths surrounding COVID-19 on its website and through its social media channels as part of its Myth Busters initiative.

Reactive approaches like debunking can only be one building block in the fight against misinformation. In analogy to fighting a virus, policymakers should not rely on treatments alone but should invest in prevention measures: psychological vaccines against misinformation exist that warn individuals about the threat of disinformation and provide people with strong counterarguments.

In numerous experiments, those psychological vaccines have been shown to build up resistance to misinformation. Psychological vaccines have been developed in the form of simple text-based warnings or short videos, as well as appealing online games. For example, the free-to-play Go Viral! game confronts players with myths surrounding COVID-19 in a playful manner and thus prepares players for real dangers.

Psychological vaccines are crucial as a prevention measure.

Unfortunately, these approaches have not been implemented on a wide scale at the beginning of the pandemic. Therefore, to minimise damage, it is sometimes necessary to remove false information from users’ information channels – that is, “deplatforming” matters. For example, YouTube is taking down conspiratorial material that targets individuals. One conspiratorial video that gathered millions of views when first posted became irrelevant within two weeks of it being removed by YouTube.

Finally, fighting misinformation is also about providing more high-quality information. It is crucial to report potential side effects of vaccinations accurately. However, communicators, including journalists should weigh evidence and focus on the bigger threat for public health, that is, the risk of the disease.

In fact, information about individual risks of COVID-19 can influence even strongly hesitant people. Moreover, risk communication should also highlight social benefits. Showing people what the pandemic means for members of risk groups targets people’s natural empathy and evidently increases the willingness to participate in prevention measures. Stories about the tragedies of this pandemic can make people experience what all the abstract numbers mean. Again, not all stories work the same in all audiences. That is why tailored communication approaches were and are central to effective health communication in times of crisis.

#### Vaccine skepticism is still on the rise—latest and most comprehensive studies show a robust statistical trend. Only engagement with scientific, fact-based reporting solves misinformation.

Stephen R. Neely PhD et. al, Christina Eldredge PhD, Robin Ersing PhD, Christa Remington PhD, 10-20-2021, [Neely is the Undergraduate Program Coordinator & Associate Professor at the SPA at USF, Eldredge is the Assistant Professor of Health Informatics at USF, Ersing is the School Director & Associate Professor at the SPA at USF, Remington is the Assistant Professor of Public Administration at the USF], “Vaccine Hesitancy and Exposure to Misinformation: a Survey Analysis”, Journal of General Internal Medicine, <https://link.springer.com/article/10.1007/s11606-021-07171-z#author-information> //SLC PK

In the pre-pandemic era, the World Health Organization (WHO) labeled vaccine hesitancy as one of the “top ten threats to global health” in 2019.[20](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR20) Despite being one of the most effective methods for infectious disease control, Americans have become increasingly skeptical of vaccinations, with vaccine rates declining notably in the past decade.[21](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR21) Factors such as a previous study correlating MMR vaccination with autism, and the misinformation which followed, may have played a role in this trend.[22](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR22) Our study found that only 57.8% of survey respondents were fully vaccinated at the time of their participation in this survey. Herd immunity vaccination percentage requirements for COVID-19 in a population is an area of emerging research; however, the observed 57.8% is far less than required for herd immunity in diseases such as measles (95%) and polio (80%) according to the WHO. Furthermore, the WHO considers herd immunity by pathogen exposure unethical due to potential suffering and mortality.[23](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR23)

Understanding the reasoning behind vaccine hesitancy is an important step in effectively targeting public health messaging. Our survey found that the three most common reasons that respondents give for holding off on receiving the COVID-19 vaccine are (1) the potential for side effects, (2) the speed at which the vaccine was created, and (3) surprisingly, a lack of confidence in the vaccine’s effectiveness. While the potential for side effects is a reasonable concern, the benefits of COVID-19 vaccines have shown to be greater than the potential risks. Furthermore, despite the speed at which the vaccine was developed, the Center for Disease and Control notes that the safety monitoring of the COVID-19 vaccine development was “the most intense safety monitoring in U.S. history”.[24](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR24) The findings suggest that amplifying these messages will continue to be an important task for public health professionals moving forward.

Interestingly, 20.6% of the survey respondents felt that vaccines were not effective despite the positive clinical trial results and “real world” research to support their efficacy.[25](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR25) It is not clear whether this belief itself is related to misinformation; however, it does indicate that current methods of public health messaging regarding vaccination efficacy may be inadequate. Given that 24.3% of unvaccinated respondents in this study indicated they were unsure whether they would undergo vaccination, increasing public health messaging efforts to reach this portion of the population who are “open” to considering vaccination should be paramount.

Our findings also suggest that vaccine hesitancy may be driven in large part by the increasing politicization of public health policy, which appears to have reached its zenith in the case of COVID-19.[7](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR7),[26](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR26) Our survey results highlighted a significant difference in the rate of vaccination based on political affiliation, with nearly three-quarters of self-identified Democrats being vaccinated (73.4%), compared with less than two-thirds of Republicans (58.5%) and political Independents (56.5%). Even when accounting for additional demographic factors and misinformation exposure, political affiliation was a very strong predictor of vaccination. This presents a unique challenge for public health messaging, as politicization makes it more likely that consumers will seek informational cues from political thought leaders rather than health professionals.

Furthermore, our findings affirm that widespread exposure to misinformation is a barrier to consumer health education on the vaccine and its benefits. In the survey results, those health information consumers with more exposure to misinformation regarding the COVID-19 vaccine were less likely to be vaccinated. Furthermore, the rate of vaccination among respondents continued to decline with exposure to two or more misinformation themes. Although the timing of misinformation exposure could not be determined by the survey, the results suggest that misinformation may play a very important role in vaccination status. This conclusion is consistent with other research on COVID-19 vaccine hesitancy. For example, a recent study found a 6.4% point decline in vaccination with exposure to misinformation in the USA and a 6.2% point decline in the UK.[27](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR27)

Of particular concern is the proliferation of political and conspiratorial misinformation, which we found to have the most substantial relationship to vaccine hesitancy. In some cases, we found a 20% lower rate of vaccination among those exposed to specific conspiratorial claims, such as the COVID-19 virus being created to increase vaccine sales and the Russian president’s daughter dying from a COVID-19 vaccine. The strong relationship between these claims and vaccine hesitancy further underscores the effects of politicization on the COVID-19 pandemic (and public health efforts in general). The tendency of conspiratorial claims to be circulated and amplified among closed circles of like-minded partisans means that these types of misinformation are often difficult for public health officials to identify, and even more difficult to combat.[28](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR28) The documented propensity of information consumers to self-select partisan media sources[29](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR29),[30](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR30) is believed to result in political echo chambers wherein these types of misinformation are easily amplified.[31](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR31) Strategic and targeted messaging will be essential in order to increase vaccine acceptance among individuals exposed to these types of misinformation.

With these findings in mind, we note that public health officials and healthcare providers should remain diligent in their efforts to identify and understand evolving objections, both rational and misinformed, that patients have about the COVID-19 vaccine. To address patient concerns about vaccine safety, they may opt to facilitate open discussions about vaccine fears through community outreach efforts or via social media and other outlets. Research has shown that acknowledging fears regarding difficult issues can promote trust in the messenger of the information.[32](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR32) Trust in public health messaging is especially important during public health emergencies when information is dynamic and rapidly evolving. Because political affiliation is so strongly correlated with vaccine hesitancy, this means that utilizing political figures to promote reliable information may be an essential means of increasing vaccination rates within those ideological groups.

In this instance, targeted and consistent messaging from Republican leaders in particular will be necessary to overcome politicized vaccine hesitancy.[33](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR33) While reporting shows that many Republican political leaders have been vaccinated against COVID-19, they have thus far been less inclined to promote vaccination among their political adherents. Recent attempts to promote vaccination on the part of Republican thought leaders such as Sean Hannity and Senate Minority Leader Mitch McConnell have been a positive step,[34](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR34) though these messages have been somewhat muted by simultaneous rhetoric and efforts against vaccine and mask mandates in various high-risk settings.[35](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR35) More consistent messaging on the part of Republican leaders will be necessary to ensure increased rates of vaccine acceptance. Public health officials can help to facilitate these efforts by partnering with willing political leaders at the local, state, and national levels.

Another potential strategy may include encouraging hesitant patients to reengage with their primary care providers, who are well-positioned to communicate reliable vaccine-related information. Recent studies have found personal appeals from practicing physicians to be more effective than institutional communications for promoting public health guidance.[36](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR36) However, only 32.3% of respondents to this survey reported having a conversation with their own primary care provider about COVID-19 vaccination. Among other factors, the politicization of the COVID-19 pandemic has resulted in increased reliance on “political cues” on the part of many information consumers, at the expense of conversations that would typically be sought with one’s most trusted healthcare providers. A proactive campaign on the part of public health officials and political leaders to direct patients back toward these provider-patient conversations may help to overcome some cases of vaccine hesitancy.

Lastly, we note that the increased role of social media in health information seeking has likely also played a significant role in the widespread exposure to misinformation observed in our study. Evidence from recent studies show that health consumers have relied heavily on social media to learn and stay informed about the COVID-19 pandemic.[10](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR10),[37](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR37) Studies have also found alarming rates of misinformation about COVID-19— both medical and political — being circulated on social media platforms such as Facebook and Twitter.[38](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR38),[39](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR39) In order to counteract these trends, public health professionals will need to become increasingly savvy in their use of social media to anticipate, identify, and respond to health-related misinformation. Preliminary evidence suggests that such interventions may be effective. For example, one study found that corrective infographics created by the World Health Organization were effective in reducing scientific misperceptions about COVID-19 prevention.[40](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR40) In another study from early 2021, those engaging with more credible, scientific sources on social media reported a greater likelihood of undergoing vaccination.[10](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8528483/#CR10) Expanding social media presence on the part of both public health organizations and individual practitioners may help at least in part to offset the rapid spread of misinformation associated with social networking sites.

#### This is not just true of COVID—misinformation harms trust in vaccines writ large.

Heidi J. Larson, 10-16-2018, [Heidi J. Larson is professor of anthropology, risk and decision science at the London School of Hygiene & Tropical Medicine.], "The biggest pandemic risk? Viral misinformation," Nature, <https://www.nature.com/articles/d41586-018-07034-4> //BC+PK

A hundred years ago this month, the death rate from the 1918 influenza was at its peak. An estimated 500 million people were infected over the course of the pandemic; between 50 million and 100 million died, around 3% of the global population at the time.

A century on, advances in vaccines have made massive outbreaks of flu — and measles, rubella, diphtheria and polio — rare. But people still discount their risks of disease. Few realize that flu and its complications caused an estimated 80,000 deaths in the United States alone this past winter, mainly in the elderly and infirm. Of the 183 children whose deaths were confirmed as flu-related, 80% had not been vaccinated that season, according to the US Centers for Disease Control and Prevention.

I predict that the next major outbreak — whether of a highly fatal strain of influenza or something else — will not be due to a lack of preventive technologies. Instead, emotional contagion, digitally enabled, could erode trust in vaccines so much as to render them moot. The deluge of conflicting information, misinformation and manipulated information on social media should be recognized as a global public-health threat.

So, what is to be done? The Vaccine Confidence Project, which I direct, works to detect early signals of rumours and scares about vaccines, and so to address them before they snowball. The international team comprises experts in anthropology, epidemiology, statistics, political science and more. We monitor news and social media, and we survey attitudes. We have also developed a Vaccine Confidence Index, similar to a consumer-confidence index, to track attitudes.

Emotions around vaccines are volatile, making vigilance and monitoring crucial for effective public outreach. In 2016, our project identified Europe as the region with the highest scepticism around vaccine safety (H. J. Larson et al. EBioMedicine 12, 295–301; 2016). The European Union commissioned us to re-run the survey this summer; results will be released this month. In the Philippines, confidence in vaccine safety dropped from 82% in 2015 to 21% in 2018 (H. J. Larson et al. Hum. Vaccines Immunother. https://doi.org/10.1080/21645515.2018.1522468; 2018), after legitimate concerns arose about new dengue vaccines. Immunization rates for established vaccines for tetanus, polio, tetanus and more also plummeted.

We have found that it is useful to categorize misinformation into several levels. Among the most damaging is bad science: people with medical credentials stoking overblown or unfounded fears. The canonical example is the 1998 publication by infamous former physician Andrew Wakefield purporting to show a link between autism and the measles, mumps and rubella (MMR) vaccine. Despite having his licence revoked and his work retracted, Wakefield persists in campaigning against the vaccine. Expert consensus alleges that his efforts have contributed to persistent vaccine anxieties and refusals, including a 2017 measles outbreak in Minnesota. Had Wakefield been disciplined and his article retracted 12 months after publication rather than 12 years, we might not be remarking that this year marks the twentieth anniversary of its publication.

The second-most-dangerous category includes those who see anti-vaccine debates as a financial opportunity for selling books, services, or other products. (Wakefield, who maintains that financial concerns have not affected his research and that he has been unfairly vilified, gave paid testimony against the vaccine and filed a patent that allegedly stood to become more valuable were the vaccine to be discredited.)

The next tier of damaging misinformation comes from those who see anti-vaccine debates as a political opportunity, a wedge with which to polarize society. Multiple reports this year found that Russian trolls and bots used emotional, angry language to spread misinformation and exacerbate the divisions between those for and against vaccines (see D. A. Broniatowski et al. Am. J. Pub. Health 108, 1378–1384; 2018).

Next are ‘super-spreaders’, who propagate misinformation through social media to like-minded vaccine-questioners. A common claim is that suspected adverse reactions to vaccines (typically coincidences) are confirmed reactions. Finally, there is misunderstood or inadequate information that might be circulating generally.

Targeted social media can combat misinformation. Both Denmark and Ireland faced groups broadcasting testimonies on social media and television news of young girls alleged to have been harmed by human papillomavirus (HPV) vaccination. In Denmark, national immunization rates fell from over 90% in 2000 to under 20% in 2005.

In response, Danish public-health officials emphasized the risk of disease, and promoted stories of people who had lost wives and mothers to cervical cancer. They also created a Facebook page for answering parents’ questions. Ireland’s social-media efforts used similar tactics to rebuild HPV-vaccine confidence; numbers for 2018 show an increase of 6% for vaccine uptake from 2017.

No single strategy works for all types of misinformation, particularly among those who are already sceptical. Educational materials and resources are important, but limited; health officials and educational campaigns often fall short because they craft messages based on what they want to promote, without addressing existing perceptions. Dialogue matters. Strategies must include listening and engagement. We have to get better at this: if a strain as deadly as the 1918 influenza emerges and people’s hesitancy to get vaccinated remains at the level it is today, a debilitating and fatal disease will spread.

#### COVID vaccine skepticism supercharges the internal link—it specifically spills outwards into broader vaccine mistrust.

Chloe Taylor, 1-26-2022, [Chloe is a news assistant at CNBC], “Covid vaccine skepticism may be fueling ‘worrisome’ rise in wider anti-vax sentiment, doctors say”, CNBC, <https://www.cnbc.com/2022/01/26/covid-vaccine-skepticism-fueling-wider-anti-vax-sentiment-doctors-say.html> //BC+PK

Skepticism toward Covid-19 vaccines could be fueling a “worrisome” rise in broader anti-vax sentiment, doctors have said.

Professor Liam Smeeth, a physician and director of the London School of Hygiene and Tropical Medicine, told CNBC he was concerned that vaccine hesitancy around Covid was “creeping into” sentiment toward other vaccines.

“I’m concerned it’s making people think: ‘oh, well, maybe the measles vaccine isn’t great either, and maybe these other vaccines aren’t great,’” Smeeth said in a phone call. “And we don’t have to see much of a drop in measles vaccine coverage in the U.K. to get measles outbreaks.”

He noted that there had been outbreaks of the disease when vaccination rates dropped in Britain in the 1990s and early 2000s.

In the late 1990s, claims that vaccines caused autism “turned tens of thousands of parents around the world against the measles, mumps and rubella vaccine,” according to the Lancet medical journal. In 2010, the journal retracted a 12-year-old article linking vaccines to autism, and studies have proven vaccines do not cause Autism Spectrum Disorder.

‘Jar full of wasps’

London-based Smeeth said measles vaccination rates only needed to drop a little below 90% for the disease to become a problem.

Measles is a highly contagious, serious viral illness that can lead to complications such as pneumonia and inflammation of the brain. Before widespread use of the measles vaccine, major epidemics broke out approximately every two to three years and the disease caused an estimated 2.6 million deaths each year, according to the WHO.

In the U.K. last year, 90.3% of two-year-olds were vaccinated against measles, mumps and rubella. A year earlier, 90.6% of children of the same age had been given the vaccine.

In the U.S., 90% of children were vaccinated against measles by the age of two in 2019, according to figures from the World Bank, marking a decrease of 2 percentage points from a year earlier. More recent data for the U.S. is not available.

Between 1988 and 1992, that figure fell from 98% to 83% in the U.S., and stayed below 90% for four years. In the U.K., the measles vaccination rate for two-year-olds dipped below 90% in the late 1990s and did not recover until 2011.

“Measles is like a jam jar full of wasps that is raging to get out,” Smeeth warned. “The minute vaccine coverage drops, measles will reappear. So that is a worry, that that [Covid anti-vax sentiment] and that dent in confidence is seeping across into other vaccines. That is a real worry.”

‘Devastating’ changes

Gretchen LaSalle, a physician and clinical assistant professor at Washington State University’s Elson S. Floyd College of Medicine, told CNBC that the politicization of Covid and its vaccines, as well as a lack of understanding of vaccine ingredients and public health, had had “devastating” effects.

In 2020, LaSalle completed the American Academy of Family Physicians Vaccine Science Fellowship. As part of the program, she helped carry out a survey of more than 2,200 people, tracking their attitudes toward immunizations.

Covid vaccines were first administered in December 2020 in the United States.

“In living through the Covid-19 pandemic and seeing the devastating effects on lives and livelihoods with their own eyes, our theory was that people would be reminded of the vital importance of vaccination and that their confidence would increase,” LaSalle told CNBC in an email.

But 20% of respondents told LaSalle’s team they had become less confident in vaccines during the pandemic.

“This decrease is worrisome,” LaSalle said. “For illnesses like measles that require a very high percentage of the population (typically around 95%) to be immune in order to limit the spread, a decrease in vaccination percentages by even 5 to 10% could be devastating.”

#### Vaccines solve future pandemic outbreaks but mass vaccination is key.

Shantell M. Kirkendoll, 7-7-2021, [University Communications], "New universal coronavirus vaccine could prevent future pandemics," University of North Carolina at Chapel Hill, <https://www.unc.edu/posts/2021/07/07/new-universal-coronavirus-vaccine-could-prevent-future-pandemics/> //BC+PK

Scientists at the University of North Carolina Gillings School of Global Public Health have developed a vaccine that could be effective against COVID-19, its variants — and a future coronavirus pandemic.

While no one knows which virus may cause the next outbreak, coronaviruses remain a threat after causing the SARS outbreak in 2003 and the global COVID-19 pandemic.

According to a study published June 22 in Science, the vaccine designed at UNC-Chapel Hill protected mice from the current SARS-CoV-2 coronavirus, plus a group of coronaviruses known to make the jump from animals to humans.

The lead study authors are David R. Martinez, a postdoctoral researcher at UNC Gillings School of Global Public Health and a Hanna H. Gray Fellow at the Howard Hughes Medical Institute, and Ralph Baric, an epidemiologist at UNC Gillings School of Global Public Health and professor of immunology and microbiology at the UNC School of Medicine, whose research has led to new therapies to fight emerging infectious diseases.

“Our findings look bright for the future because they suggest we can design more universal pan coronavirus vaccines to proactively guard against viruses we know are at risk for emerging in humans,” Martinez said. “With this strategy, perhaps we can prevent a SARS-CoV-3.”

Researchers at UNC-Chapel Hill are playing a key role in coronavirus vaccine development. After testing the effectiveness of the first generation of COVID-19 vaccines, they pivoted to look at a second-generation vaccine: one that targets sarbecoviruses, Baric said.

Sarbecoviruses, part of the large family of coronaviruses, are a priority for virologists after two caused devastating diseases in the past two decades: SARS and COVID-19.

The team’s approach started with mRNA, which is similar to the Pfizer and Moderna vaccines used today. But instead of including the mRNA code for only one virus, they welded together mRNA from multiple coronaviruses.

When given to mice, the hybrid vaccine effectively generated neutralizing antibodies against multiple spike proteins, which viruses use to latch onto healthy cells, including one associated with the Delta variant B.1.351, first discovered in South Africa.

“The vaccine has the potential to prevent outbreaks when used as a variant is detected,” said Baric, a trailblazer in pandemic preparedness who advocates proactive, rather than reactive, tracking of emerging coronaviruses.

The paper includes data from mice infected with SARS-CoV and related coronaviruses and the vaccine prevented infection and lung damage in mice. Further studies could put the vaccine on track for human clinical trials next year.

The lead authors worked with a team of scientists from UNC-Chapel Hill, Duke University School of Medicine and the University of Pennsylvania Perelman School of Medicine.

The National Institutes of Allergy and Infectious Disease at the National Institutes of Health and the North Carolina Policy Collaboratory, with funding from the North Carolina General Assembly, supported the study.

#### Otherwise, future pandemics and bioterrorism cause extinction.

Walter Dodds, 12-3-19, [Division of Biology, Kansas State University], "Disease Now and Potential Future Pandemics," PubMed Central (PMC), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7120200/> //BC+PK

Emergent Pandemics and Superbugs

One of the worst worldwide pandemics was the “Spanish” flu that started in 1918. It killed about 3% of the world population and infected about 1/6 of all people. The bubonic plague in the 1300s infected about 1/4 of the Earth’s human population and killed an estimated 13%. The “swine” flu (H1N1) started in 2009 and infected about 1/4 of humanity but killed less than a hundredth of 1% of our population. Scientists have traced the first widespread series of cases of HIV/AIDS to 1981, but the disease probably jumped into humans in the early 1900s. Since then, about 1% of people on Earth are living with HIV, and about 1.5 million people per year die because of AIDS. About 2% of the human population deaths each year is from AIDS-related causes worldwide. Waves of disease are a regular occurrence throughout human history and becoming more common.

Recently the world has been concerned (terrified) about Ebola. Symptoms include fever, severe headache, muscle pain, weakness, fatigue, diarrhea, vomiting, abdominal (stomach) pain, unexplained hemorrhage (bleeding or bruising), and death. This disease has been simmering in Africa for decades. Outbreaks have occurred in sub-Saharan Africa regularly since 1976; in 2014, an outbreak started in Guinea and jumped to other African countries in weeks and then to countries around the world killing over 10,000 people. In 2019 almost 2000 people died in the Democratic Republic of the Congo, and stopping the disease there has been difficult because of warfare; this outbreak has spread to Uganda. The ease of global movement and increased travel continue to increase the potential for spread of the disease. What if this disease evolves to an even more easily transmitted form? There is no treatment or vaccine (although some promising vaccines are being developed).

Disease epidemics that do not kill a large proportion of the human population are common. In the 1700s there were 13 epidemics and in the 1800s 12, with 5 pandemic influenza epidemics in the 1900s. The data suggest that roughly every 10–20 years, there are epidemics with some mortality that infect a quarter to a third of the world’s population.

You could argue that disease has not wiped out humans yet, so it will not in the future. Unfortunately, science has documented cases where diseases cause the extinction of an entire species. For example, people have inadvertently moved a fungal disease around the world that kills amphibians (frogs and salamanders). This disease is leading to numerous species extinctions globally. I have seen the effects of this disease first hand in Panama.

We studied the consequences of the fungal disease killing all adult frogs leading to loss of all the tadpoles in Panamanian mountain streams. Scientists had already documented that the disease was moving through North America to South America through Central America. The disease kills frogs in high-elevation areas and moves through lower-elevation areas without killing most animals. We knew that the area we were working in was going in the direct path of the disease, so we set up a before-after experiment to understand the effects.

On our first visit to the mountain stream, there were frogs everywhere. We needed to be careful not to step on them as we walked the trails. Each square yard of stream bottom had up to a hundred tadpoles. Twenty frog species used the streams for reproduction, and many of these species were entirely restricted to cooler areas with high altitude on this particular volcanic mountain. From sunset to sunrise, the jungle was a riot of frog choruses. There were fantastically colored adult frogs including the stunning black and white Panamanian Golden Frog, a species that has special meaning for Panamanians. We made our measurements on the stream, and enjoyed the frogs.

Two years later the disease had swept through as it progressed through the country from Costa Rica. When we drove up to the stream for the “after disease infection” experiment, it was immediately clear that it was different. Hoping against hope, I went down to the stream, but there were no tadpoles and no adult frogs on the banks. It was very quiet and sad. The stream had dense growths of algae because no tadpoles were eating it and the absence of the tadpoles fundamentally changed the way the stream functioned. In the end, maybe 100 species will go extinct from this disease.

Through this and other examples, we know that some diseases have driven animals and plants to extinction [31]. In Hawaii, 16 cases of bird extinctions have come about at least in part because of diseases. Numerous mammals and birds have gone extinct from diseases alone or in combination with other factors such as habitat loss [32]. Thus, it is not impossible that humans could suffer the same fate. The conditions that could lead to such a tragedy are making it more likely that such a disease could infect the human population.

Throughout human history, new nasty diseases have arisen. Many of them have jumped into humans from other species. Whenever a particularly virulent disease has infected a human, and killed most of the people exposed to it, the population of people infected was small and disconnected from the rest of humanity. Epidemiology tells us that the incidents that were formerly isolated now have the potential to sweep across the globe and cause massive death and suffering.

We are increasing the conditions under which such diseases can arise and transmit to people (ever more intimate contact with wildlife, dense livestock production). Losses of biodiversity caused by humans also are predicted to increase the transmission of infectious human diseases [33]. It is no wonder that new diseases like Avian flu, H1N1 , Ebola, and SARS are popping up with alarming regularity. Adding to the worry, viral evolution is unpredictable, and a new deadly strain of virus could arise from laboratories working on viruses that are presumably safe and contained. In this case a newly virulent strain could arise, escape, and become a pandemic [34].

At the same time, new diseases challenge the safety of people and the ability to treat such diseases increases. We can develop vaccines rapidly. Antiviral drugs are available that work at least well enough to decrease mortality. However, only those people in developed countries are able to afford or even have access to methods to protect from sickness and death from these infections. As usual, the poorer people of the world will suffer the worst of globalization, increased population, greater chance of new diseases, and unequal distribution of basic health care.

Go to:

Bioterrorism, Biological Warfare, and Accidents

In late 2011 and early 2012, two laboratories, one at the University of Wisconsin-Madison, USA, and the other at Erasmus MC in Rotterdam, the Netherlands, found out how to make avian flu (H5N1) transmissible in ferrets. This research ignited a firestorm of controversy because the deadly virus could also spread among humans much more easily. The researchers submitted the work for publication but journals held up the release of the papers because of fears that people with bad intent (bioterrorists or countries willing to employ biological warfare) could use the information to transform this and other viruses to more deadly forms. Ultimately, the journals published the work, as eventually the information would get out. This is the way science works, once the general concept for an important idea is out, somebody else is certain to replicate the experiment. Thus, information on how to create a deadly disease is ever more available.

Accidental release from existing research facilities is also a concern. The deadliest diseases known to humanity are stored and researched in containment facilities found around the world. Smallpox has killed people for at least 3000 years, and following vaccination, it was completely eradicated from human populations in the 1970s. A number of laboratories still keep cultures. In 1978, one person died from exposure to the virus in a British laboratory. After that, scientists transferred all cultures to two laboratories, one in Russia and one in the United States. Entire generations have reached adulthood with no exposure to the disease; if smallpox was ever released by accident or on purpose (a scientist with PhD-level training could potentially re-create it from the known genetic sequence), it could cause massive mortality.

In 1979, the Sverdlovsk military facility accidentally released anthrax causing 100 human deaths. Soviet researchers probably isolated this highly virulent strain of anthrax from rodents in the Soviet city of Kirov. The facility had likely accidentally released the bacterium at least once previously. Anthrax is able to survive as dry spores, and Soviets were presumably producing it to arm biological weapons.

While research on diseases is necessary to learn about causes and cures of the diseases that influence humans, such research comes with a cost. The ability to contain these diseases in research settings is plagued with the problem of potential human error. In addition, the possibility of terrorist attacks on such facilities is perhaps remote, but real.

In 1984, followers of Bhagwan Shree Rajneesh in Oregon released salmonella into 10 restaurant salad bars sickening 751 people in an attempt to keep them from voting in a local election in which the cult had candidates. Luckily, nobody died in this incident, but it does illustrate that people can be capable of bioterrorism.

In June of 1993, members of the Aum Shinrikyo cult sprayed anthrax from the top of an eight-story building in the heart of Tokyo. Fortunately, the disease did not take hold. The strain they used was not very deadly, and they had problems with a sprayer so the dispersion of the disease was not as effective as they had hoped. This group had previously set up multiple laboratories and had experimented with the toxin for botulism, cholera, and Q fever (a dangerous bacterial disease carried by livestock). They also previously sponsored a trip to the Democratic Republic of Congo that was an attempt to bring back an isolate of Ebola. This apocalyptic cult eventually released the chemical weapon Sarin in the Tokyo subway killing 12 people and sickening thousands.

While both these examples are unusual cases, we are entering a world where a few crazy people or one crazy country could do tremendous damage to humanity if they had access to the right materials and knowledge. Such knowledge is becoming commonplace. Every year academia cranks out numerous PhDs around the world with the technical expertise to build a deadly virus with the right equipment, chemicals (reagents), and knowledge of the sequence. At the same time, technology to work with DNA sequences is getting cheaper, easier to use, and more broadly available. With a million dollars and proper training, it is now possible to create designer diseases.

We should consider motives in this discussion as well. A terrorist who wanted to kill many people but wanted to discriminate victims would not only need to create a disease but also vaccinate or protect all the people they did not want to die. While a few doses of a disease placed appropriately could quickly spread around the world, creating many doses of vaccine is a far more daunting and expensive task. Thus, it seems unlikely that any of the major terrorist groups would be able to create a disease and vaccinate large numbers of people before releasing the disease without being detected first. Such a task is not completely out of the question for a small country such as North Korea.

There are insane people who just might try to take down the entire human race. The mass shooting in a movie theater in Denver in 2012 was carried out by a neuroscience PhD student. This individual could have had the technical ability to create a novel disease. A scenario where such a person creates and releases a deadly virus is conceivable. Quite a bit of preparation and disaster training would be necessary to stop transmission of an infectious agent once it was released [35].

#### Democratic support for vaccines in East Asia are key to deter Chinese aggression in India and Africa but low vaccination rates prevents success

Ramani 7/23 [(Samuel, a tutor of politics and international relations at the University of Oxford, where he received a doctorate in 2021. He is the author of a forthcoming book on Russia’s foreign policy toward Africa.) “Vaccines Are Japan’s New Tool to Counter China” Foreign Policy, 7/23/2021. https://foreignpolicy.com/2021/07/23/vaccine-diplomacy-covid-japan-china-competition/] BC

Despite the worsening pandemic at home, Japan’s vaccine diplomacy has gained traction thanks to the country’s desire to burnish its image as a humanitarian aid donor and capitalize on China’s faltering vaccine diplomacy. On June 16, Japan supplied 1 million locally produced AstraZeneca vaccine doses to Vietnam. A week later, the country pledged 2 million additional AstraZeneca doses to Taiwan and Vietnam, and 1 million doses each to Thailand, Malaysia, Indonesia, and the Philippines. Japan has also provided $14.8 million in medical equipment to India and donated another $9.3 million in cold storage facilities for India’s vaccines. Beyond the Indo-Pacific region, Japan has provided $39 million in grants to the United Nations Children’s Fund, which expands Africa and Latin America’s access to vaccines, and recently unveiled the COVID-19 Crisis Response Emergency Support Loan for developing countries.

Although Japan’s vaccine diplomacy has gained much less attention than Russia or China’s efforts, Tokyo’s vaccine and medical aid provisions could have profound geopolitical consequences. Japan’s public health assistance has amplified its challenge against China in Southeast Asia, further consolidated its partnerships with India and sub-Saharan Africa, and could increase the appeal of its signature governance model, which prizes individual responsibility and limited government interference. These trends will likely persist beyond the pandemic and pave the way for more intense competition between China and Japan over the next decade.

Japan’s vaccine delivery announcement to Southeast Asia followed major setbacks for China’s vaccine diplomacy in the region. China’s Sinovac vaccine provides only 50 percent protection in contrast to its U.S.-made counterparts. Meanwhile, Beijing’s “Health Silk Road” vision, which included Indonesia as a major hub for vaccine clinical trials, faltered during the first half of this year. Sinovac’s vaccine production reached only half of its expected level, resulting in smaller-than-expected shipments to Cambodia, Laos, Thailand, and the Philippines. The rapid upsurge of COVID-19 cases in Indonesia, which included the deaths of at least 10 doctors who were fully vaccinated by Sinovac, shook public trust in Chinese-made vaccines throughout Southeast Asia. Filipino President Rodrigo Duterte, who was an early champion of Chinese-made vaccines, apologized for taking the unapproved Sinopharm vaccine and asked the Chinese ambassador in Manila to send back 1,000 doses of the jab.

As confidence in Chinese vaccines waned, the Quadrilateral Security Dialogue (or the “Quad”)—comprised of Japan, India, the United States, and Australia—devised plans to export vaccines across the Indo-Pacific. During the March 12 Quad meeting, the four countries agreed to ship 1 billion vaccine doses to the Indo-Pacific region by the end of 2022. India was the Quad’s leading vaccine distributor in early 2021, but its spiraling infection rates in the spring gave Japan the chance to assume this mantle.

Japan has used its influence in the Quad to encourage the equitable and apolitical distribution of vaccines, distinguishing it from China.

Japan has used its influence in the Quad to encourage the equitable and apolitical distribution of vaccines, distinguishing it from China, which has pressured vaccine recipients over their relations with Taiwan. Japanese Foreign Minister Motegi Toshimitsu has insisted vaccine deliveries be decoupled from diplomatic goals. The country has also championed the “fair distribution” of vaccines regardless of whether the recipient countries are allies or partners. Japan’s policy prescriptions were broadly accepted by Quad countries, although the Biden administration’s initial prioritization of vaccine deliveries to U.S. allies blurred this consensus.

Since China and Japan’s vaccine diplomacy campaigns often target the same countries, they sharpen preexisting competition between the two nations for infrastructure projects and access to local manufacturing sectors. Japan has used its networks with Southeast Asia’s major economic powers, such as Thailand, Indonesia, and the Philippines, to thwart their entry into a Chinese-led economic order. Meanwhile, former Japanese Prime Minister Shinzo Abe’s “quality infrastructure” vision abroad has allowed Japan to preserve its investment advantage over China’s Belt and Road Initiative in Southeast Asia. Doubts about the quality and production efficiency of Chinese manufacturing, which were exposed by China’s botched vaccine deliveries in Southeast Asia, could spill over to construction and infrastructure as well as bolster the advantage of Japanese companies.

Vaccine deliveries have strengthened Japan’s image as a reliable partner for Southeast Asian countries and led to more comprehensive security cooperation. A 2017 Ipsos Indonesia poll revealed 89 percent of Association of Southeast Asian Nations (ASEAN) residents view Japan as a friendly country and 91 percent of ASEAN residents regard Japan as a reliable friend. For instance, Duterte’s praise of the “deep friendship” between Japan and the Philippines, which followed Japan’s donation of 1 million AstraZeneca vaccines earlier this month, aids Tokyo’s efforts to frame itself as a crisis-proof partner for Southeast Asian countries. Duterte’s friendship rhetoric was followed by the first air-to-air training exercises between Japan and the Philippines.

Although Japan’s vaccine distributions are concentrated in Southeast Asia, its medical aid provisions could strengthen its partnership with India and boost its image relative to China in Africa.

Japan’s COVID-19 medical assistance to India has further ensconced its image in New Delhi as an aid donor and partner in times of crisis. Development assistance has played an instrumental role in strengthening cooperation between the two countries. In 1958, India became the first country in the world to receive Japanese official development assistance, and in 2004, India became its largest recipient. After Japan supplied emergency aid to India this April, Indian Prime Minister Narendra Modi asked Suga to visit New Delhi once the situation stabilized and claimed the India-Japan partnership will strengthen international stability in the post-pandemic world order. This contrasts with tensions between China and India, which have persisted in spite of their de-escalation agreement on the Ladakh border.

Vaccine deliveries have strengthened Japan’s image as a reliable partner for Southeast Asian countries and led to more comprehensive security cooperation.

The goodwill created by Japan’s solidarity with India could spill over to the economic and security spheres. As Western countries seek to reduce their dependence on Chinese pharmaceuticals, Japan and India are likely to work together on creating an integrated alternative supply chain. And as Japan-India cooperation on public health occurs within the Quad, it will strengthen the bloc’s cohesion. It has also facilitated the expansion of Tokyo-New Delhi cooperation on Indian Ocean security. The India-Japan maritime bilateral exercise in the northern Arabian Sea last September and the “Free and Open Indo-Pacific” drill this June underscore Japan and India’s use of bilateral security cooperation to complement Quad exercises.

Meanwhile, due to Western countries’ delayed response to Africa’s COVID-19 outbreak, China’s vaccine diplomacy has gained traction throughout the continent. But it hasn’t always boosted China’s image. The upsurge of COVID-19 cases in Seychelles, for instance, which relied extensively on Chinese-made vaccines, mirrors trends observed in Southeast Asia.

Japan is stepping in. It bucked the trend of G-7 disengagement from COVID-19 in Africa by donating $1 million to fight the pandemic under the auspices of the African Union’s Joint Continental Strategy and making strides toward its goal of training 120,000 African health care workers. The Noguchi Memorial Institute for Medical Research in Accra, Ghana, which combatted Ebola, also expanded its role in combatting infectious disease in West Africa. This builds on Japan’s longstanding track record of providing development assistance in Africa, which began with the establishment of the Tokyo International Conference on African Development in 1993.

Japanese public health investments also strengthen the Asia-Africa Growth Corridor—an economic partnership agreement among India, Japan, and multiple African countries—which seeks to reduce the dependence of African countries on Chinese development assistance. As African countries, such as Kenya and Zambia, struggle to pay off their mounting debt burdens to China, Japan’s focus on building strategic partnerships in Africa and no-strings-attached humanitarian assistance during the COVID-19 pandemic could expound on the breakthroughs it has made on the continent.

Japan’s medical diplomacy complements the growing appeal of its governance model in the Global South. As Japan had the lowest COVID-19 infection and mortality rate of any G-7 country, it has actively promoted its success on the international stage. In May 2020, Abe hailed the “Japan model,” which slowed COVID-19’s spread in six weeks. The Japan model emphasized individual responsibility by relying on personal compliance with mask-wearing recommendations and contact-tracing guidelines, and it eschewed sweeping government interventions, such as lockdowns. Hitoshi Oshitani, a prominent Japanese virologist, became the Japan model’s global ambassador and extolled its Three Cs—avoiding close spaces, crowds, and close-contact situations—through regular speeches and interviews. This model appeals to entrenched views in countries throughout the Global South—such as Sri Lanka and Malaysia, which tend to view lockdowns as unnecessarily disruptive to economic development—and is unlikely to be discredited by Japan’s recent uptick in COVID-19 cases.

The contrast between Japan’s pandemic mitigation model and China’s use of stringent lockdowns sharpens the rivalry between both countries on international governance. Japan’s governance model hinges on the premise that safety and freedom can coexist, which differs markedly from China’s sacrifice of liberty for security. Although the efficacy of China’s pandemic mitigation measures received widespread praise in the Middle East and Africa during the early stages of the pandemic, the opacity of China’s COVID-19 response and uncertainties about the virus’s origins have tarnished its success. A 14-country Pew Research Center survey last October revealed negative perceptions of China were their highest on record. In addition to bolstering its time-tested reputation as an international aid donor, which crystallized during the 1980s, Japan’s synthesis of effective pandemic management at home and medical aid allows it to capitalize on negative impressions of China’s COVID-19 response.

Notwithstanding Japan’s low vaccination rates and upsurge of cases ahead of the Tokyo Olympics, Japanese medical diplomacy during the pandemic has been a resounding success. As China’s vaccine diplomacy falters and soft power erodes, Japan’s vaccine and medical assistance provisions could deepen its partnerships in the Global South and enhance the prestige of its flagship governance model.

#### Quad influence in East Asia is key to prevent Chinese hegemony – fostering collaboration between India, Japan, and other regional players is uniquely key to maintain a US counterweight in the region

Riback 20 [(Emerson, a Fellow at Robson Program for Business, Public Policy & Government at Emory) “The Real Game of Thrones: How the U.S. Can Retain Primacy Over China in New Era of Great Power Competition” Emory Goizueta Business School, 3/2020] BC

In a “Pillars of Survival” world, an economic approach is only half the battle. Creating security arrangements provides the other half. After all, particularly for small but strategic players within the Indo-Pacific region, economic connection with the United States will be beneficial only to the extent these countries don’t suffer from China’s military might. The boxer Mike Tyson, of course, summarized this reality: "Everybody has a plan until they get punched in the mouth."47

To prevent China from establishing hegemony in East Asia, the United States must maintain a robust military presence in the region. This means the United States will need to form a coalition of willing nations to assist in balancing China’s growing military heft. Such a policy would recognize the implausibility of establishing military dominance within the region – a reality the United States has not faced since the end of the Cold War – and instead would focus on deterring Chinese misbehavior and ensuring other significant interests remain intact, such as freedom of navigation

While China currently does not possess the capability to militarily dominate its neighbors, 48 it has shown a willingness to intimidate them and take unilateral action when it finds international law unsatisfactory. Most brazenly, China has sought to establish a large security buffer zone through its nine-dash line territorial claims in the Southeastern Pacific. China has gone so far as to create artificial islands in the Paracel and the Spratlys to enforce its claims – and then went further, militarizing the islands after Xi’s explicit 2015 pledge in the White House Rose Garden against militarization and following The Hague’s Tribunal Court’s 2016 ruling that declared China’s territorial claims on the islands illegitimate. Instead, China has doubled down and now considers these South China Sea islands as its sovereign territory. 49 If China’s nine-dash line claims are realized, neighboring nations will be excluded from accessing resources within their exclusive economic zones (EEZ), have their freedom of navigation threatened, and be increasingly vulnerable to Chinese coercion. In recent years, Chinese threats have turned to action: China has sought to enforce its territorial claims by using its Coast Guard to harass – and sometimes even ram – foreign vessels operating in the South China Sea. Additionally, China has issued threats to countries in the region, such as Vietnam, when these countries attempt to extract natural resources such as oil, gas, or fish. 50 Understanding the enormous regional power imbalance, China has strategically enforced its territorial claims in the South China Sea. Such behavior, while rational, blatantly disregards international laws and norms and demonstrates the need for a U.S. counterweight in the region.

Tactics

To create an effective counterweight in Asia, the U.S. must seek a coalition of partners with overlapping strategic interests. The U.S. simply does not have the resources or the political will to balance China by itself. The key members of this strategic partnership should be comprised of the “Quad”: India, Japan, Australia, and the United States.51 These nations each share various concerns about China’s rise and openly welcome a greater U.S. presence in the Indo-Pacific region. The strategic impetus for the Quad should be fairly obvious: Japan and Australia are long-time treaty allies that share concerns about China’s growing clout in the region and creeping territorial ambitions; India is the only country in the world comparable in population to China and consequently represents the most effective, long-term counterbalance to a strong China. India has watched with growing alarm as China has increased its presence in South Asia – historically India’s neighborhood – and greatly increased its strategic relationship with Pakistan, India’s primary rival; concerned about the prospect of Chinese encirclement, India has welcomed an increased U.S. presence. Simultaneously, the United States must also be highly aware of each nation’s unique strategic interests, politics, and histories, as these factors will guide their willingness to cooperate and will sometimes act as a hindrance to greater cooperation. This is particularly the case with India, which cherishes its strategic autonomy, as was demonstrated during its leadership role in the non-alignment movement during the Cold War – famously refusing to formally choose sides between the global Super Powers. India’s tradition of strategic autonomy has frustrated U.S. attempts to increase the two countries’ strategic partnership through increased military and economic cooperation.52 Even with these obstacles, for each nation in the Quad, China represents each country’s overwhelming strategic challenge in the coming decades. Because of this overlapping interest in preventing Chinese hegemony, the Quad should represent the core foundation of the United States’ security infrastructure in Asia.

For the U.S. coalition’s next layer, the United States should seek engagement with smaller regional players that also share concern about China’s increasing clout but are more vulnerable to Chinese retaliation. These include countries such as the Philippines, Vietnam, and Indonesia. These three nations have encountered China’s newfound assertiveness in the South China Sea and are worried about their growing power disparity with China. As a result, these nations will continue to hedge between the United States and China. However, if the United States fails to establish a credible deterrent against additional Chinese coercion in the region, these nations will fall into China’s orbit.

#### China will use power aggressively

Jennifer Lind 18, Associate Professor, Department of Government, Dartmouth College, March/April 2018, “Life in China's Asia,” Foreign Affairs, Vol. 97, No. 2

It may be tempting to believe that China will be a relatively benign regional hegemon. Economic interdependence, one argument goes, should restrain Chinese aggression: because the legitimacy of the Chinese Communist Party (CCP) rests on economic growth, which depends on trade, Beijing would maintain peaceful relations with its neighbors. Moreover, China claims to be a different sort of great power. Chinese officials and scholars regularly decry interventionism and reject the notion of "spheres of influence" as a Cold War relic. Chinese President Xi Jinping has said that his country has "never engaged in colonialism or aggression" thanks to its "peace-loving cultural tradition." In this view, life in China's Asia would not be so different from what it is today. But this is not how regional hegemons behave. Great powers typically dominate their regions in their quest for security. They develop and wield tremendous economic power. They build massive militaries, expel external rivals, and use regional institutions and cultural programs to entrench their influence. Because hegemons fear that neighboring countries will allow external rivals to establish a military foothold, they develop a profound interest in the domestic politics of their neighborhood, and even seek to spread their culture to draw other countries closer. China is already following the strategies of previous regional hegemons. It is using economic coercion to bend other countries to its will. It is building up its military to ward off challengers. It is intervening in other countries' domestic politics to get friendlier policies. And it is investing massively in educational and cultural programs to enhance its soft power. As Chinese power and ambition grow, such efforts will only increase. China's neighbors must start debating how comfortable they are with this future, and what costs they are willing to pay to shape or forestall it.

#### Rise sparks US China war.

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Ryan, "The Tipping Point: Has the U.S.-China Relationship Passed the Point of No Return?," Oct 26, nationalinterest.org/feature/the-tipping-point-has-the-us-china-relationship-passed-the-14168?page=3

Conflict between a rising power and an established power is not inevitable as most realist scholars suggest. However, in every relationship, there is a tipping point or a point of no return, and China and the United States are rapidly approaching this point. As traditional diplomatic outlets have done little to resolve the more challenging issues presently affecting the Sino-American relationship, these two great powers have been increasingly relying on their military capabilities and hard power tactics. That’s especially true in the South China Sea, which is one of the single greatest points of contention between China and the United States. While there is a realization on both sides of the Pacific that a kind of strategic stability is necessary to prevent great power conflict, both China and the United States remain unwilling to compromise and make the kind of meaningful concessions required to move the relationship further from confrontation and conflict and closer to cooperation and rapprochement. Instead, these two countries are drawing lines in the sand and preparing for the worst. Failed pursuit of strategic stability China’s proposed solution to the Sino-American strategic stability issue is the “new model of major-country relations,” which encourages the United States and China to avoid confrontation and conflict, respect one another’s political systems and national interests—specifically China’s core interests—and pursue win-win cooperation. China is exceptionally enthusiastic about this proposal and brings it up at every high-level Sino-American meeting. Chinese enthusiasm for the “new model of major-country relations” can be explained in a number of different ways. American acceptance of China’s proposal would facilitate Beijing’s rise, legitimize the Chinese Communist Party (CCP) as a leader for national strength and revival and reduce the likelihood of American containment. As acceptance of the “new model of major-country relations” would create an international environment conducive to China’s rise, it would essentially allow China to become the preeminent power in Asia without great power competition or conflict. This proposal also has the potential to put China on par with the United States, to elevate it to an equal status, one acknowledged by the United States. Not only would American recognition of China’s strength and power have effects abroad, but it would also stoke Chinese nationalism and strengthen CCP leadership at home. Furthermore, this new model is a means of establishing a new code of conduct for the Sino-American relationship that is more in line with Chinese national interests, opening the door for the creation of a Chinese sphere of influence in Asia and, potentially, a Sino-centric regional order. Prior to the recent meeting between Xi Jinping and Barack Obama, Xi announced that China’s proposed “new model of major-country-relations” would be an important discussion point for the meeting, but, while this proposal was brought up during the meeting, no clear progress was made. Because U.S. leaders believe that the “new model of major-country relations” is not in America’s best interests, the United States has repeatedly dismissed China’s proposal. As the hegemonic power, the United States maintains its power by dominating global politics; to accept a geopolitical framework alternative proposed by a strategic rival requires sacrificing a certain amount of power and influence. Along those same lines, acceptance of China’s proposal might give other states in the international system the impression that the United States is in decline and on the losing end of the classic “Thucydides trap.” Outside of traditional power politics, the call for the United States to respect China’s “core interests”— as many Chinese and foreign scholars have noted—is a loaded statement. While the United States is not opposed to respecting a state’s national interests, it tends to be unwilling to respect national interests which are highly contested, which is the situation for the majority of China’s “core interests.” In addition to traditional Chinese national interests, such as Taiwan, Tibet, and Xinjiang, China’s “core interests” also cover most of its territorial claims in Asia. The United States is concerned that China’s “new model of major-country relations” is a ploy designed to trick the United States into acknowledging China’s extensive territorial claims and undercutting the interests of American allies and long-time strategic partners in the Asia-Pacific region, which would likely result in the weakening of the American-led “hub-and-spoke” security structure, a security framework China hopes to replace with its New Asian Security Concept. There are also suspicions in the United States that China’s proposal is a call for the creation of spheres of influence, a concept to which the Obama administration has been consistently opposed. America’s approach to Sino-American strategic stability is to have China and the United States focus on cooperation and agree to avoid letting competition in one area affect cooperation and collaboration in others. In many ways, this resembles China’s old “shelving disputes and pursuing joint development” strategy for Asia. As this kind of strategy is the geopolitical equivalent of sweeping dirt under the rug, it is only effective to a point. Eventually, the dirt spills out. Sooner or later, unaddressed problems surface. At best, this approach is only a temporary stop on the road to functional strategic stability. At worst, this approach has already outlived its usefulness. China views this strategy as an attempt by the United States to avoid addressing China’s demands that the United States acknowledge China’s rise to great power status and redefine the relationship accordingly, which only encourages the already strong Chinese desire to push forward the “new model of major-country relations.” China and the United States are at an impasse regarding strategic stability. While both states have made commitments and promises to prevent great power conflict, neither China nor the United States has developed a reasonable or implementable solution for Sino-American strategic stability. Thus, competition continues unmanaged, unchecked and confrontation is steadily evolving into conflict. Drawing Lines in the “Sea” The problems pushing the Sino-American relationship towards conflict are numerous and diverse, but if you are looking for the issue most likely to cause conflict, you need look no further than the South China Sea. China perceives the territorial disputes in this area as issues in which aggressive foreign state actors led by the United States are threatening China’s territorial sovereignty. For China, because of its history, territorial sovereignty issues implicate regime survival in a way that transcends all other quarrels and disagreements. The United States, on the other hand, views China’s territorial claims and actions to bolster those claims as Chinese expansionism, aggression against American allies and strategic partners, and a threat to the guiding principles of the liberal world order—which the United States views as crucial for the preservation of America’s global hegemonic power. The situation in the South China Sea has been steadily escalating for several years now. In April, 2014, American defense secretary Chuck Hagel met with Chinese defense minister Chang Wanquan. During the meeting, Hagel said, “All parties should refrain from provocative actions and the use of intimidation, coercion, or aggression to advance their claims. Such disputes must be resolved peacefully and in accordance with international law.” Chang replied, “I’d like to reiterate that the territorial sovereignty issue is a Chinese core interest. On this issue, we will make no compromises, no concessions. Not even a tiny bit of violation will be allowed.” The inability to discuss openly or compromise on this issue has made it impossible to resolve and has led to escalation and increased tension. In the aftermath of this meeting, China began investing heavily in island construction and land reclamation activities in disputed waters. As these activities have stirred up a lot of dust in the region, the United States has demanded that China abandon its present course of action, insisting that it is provocative and negatively impacting regional peace and stability. Not only has China dismissed America’s demands, it has also increased its military presence in contested areas in order to establish anti-access zones. While China claims that its actions are within the scope of international law, the United States asserts that Chinese actions are in violation of the law of the sea and laws for the regulation of the international commons. China argues that the South China Sea issue is a territorial sovereignty issue, yet the United States regards this issue as a freedom of navigation dispute, as well as a fight for the preservation of the international legal system—a cornerstone for the American-led liberal world order. In August of this year, the United States launched its new Asia-Pacific Maritime Security Strategy, which aims “to safeguard the freedom of the seas, deter conflict and escalation, and promote adherence to international law and standards.” The Asia-Pacific region is now at the heart of the American naval security agenda. In response, Chinese foreign ministry spokesperson Hong Lei said that China “opposes any country’s attempt to challenge China’s territorial sovereignty and security under the pretext of safeguarding navigation freedom.” Responding to Chinese criticisms of America’s new regional maritime security strategy, American Defense Secretary Ashton Carter stated, “Make no mistake, we will fly, sail, and operate wherever international law permits…We will do that at times and places of our choosing.” In 2014, the United States carried out “freedom of navigation” exercises in various parts of the world and challenged the territorial claims of 18 different countries; however, the United States has yet to officially challenge China’s claims in the South China Sea. But, that may soon change, as the United States is currently considering sending American naval vessels within 12 nautical miles of China’s artificial islands in order to force China to end its land reclamation activities. Such plans are considered aggressive, dangerous and extremely provocative by the Chinese. A recent Global Times editorial read, “China mustn’t tolerate rampant US violations of China’s adjacent waters and the skies over these expanding islands. The Chinese military should be ready to launch countermeasures according to Washington’s level of provocation.” The article further stated, “If the US encroaches on China’s core interests, the Chinese military will stand up and use force to stop it.” The article stated plainly, “If the US adopts an aggressive approach, it will breach China’s bottom line, and China will not sit idly by.” Other reports from this newspaper, a state-sponsored Chinese media outlet, have made it clear that if the bottom line for the United States is that China must end all of its land reclamation activities in the South China Sea, then war is inevitable, which suggests that this issue may be the tipping point for the Sino-American relationship. How the United States and China choose to move forward on this issue will permanently redefine the relationship between these two great powers. Granted, this may just be saber rattling, but even if that is the case, this issue is still decidedly zero-sum—which increases the likelihood of conflict. For China, political preservation and a potential Chinese sphere of influence are on the line, and for the United States, the liberal world order and American hegemony are at stake. Sooner or later, this trying issue will need to be resolved, and regardless of whether it is resolved through diplomacy or military force, it will take a toll on the geopolitical influence of either one or both countries. Were the international institutions for collective security strong enough to handle situations like this when they arise—and if China and the United States were willing to establish a new relationship model which addresses each country’s respective security concerns and encourages effective collaboration—it might actually be possible to resolve this issue peacefully. But given current circumstances, this is little more than idealism and wishful thinking. As there is currently no clear solution to this problem that would allow both countries to walk out of this situation with their heads held high, these two states are pondering the unthinkable. Depending on each country’s level of commitment and resolve, this situation may have already passed the tipping point. The outcome of the geopolitical power struggle between China and the United States will almost certainly be decided in the South China Sea. Some have suggested that the South China Sea issue is not a Sino-American issue. On the contrary, it is the most pressing Sino-American issue. One side will either choose to back down or be forced to back down. No matter how everything plays out in the South China Sea, geopolitics in the Asia-Pacific region will never be the same again.

#### A US-China war ends all life on earth

Sharman 2017 – Citing professor of Chinese studies and director of King's College London's Lau China Institute & Prof of Politics @ U of Warwick  
Jon, "US would go into any war with China with 'unparalleled violence', warn experts," www.independent.co.uk/news/world/americas/us-china-war-be-end-of-life-earth-nuclear-weapons-apocalypse-steve-bannon-donald-trump-white-house-a7561821.html

US and China have been engaged in a back-and-forth dispute over military build-up and territorial claims in the region for some years. In December the US said it would base its deadliest fighter jets in Australia, and days later China seized an unmanned US Navy drone. It followed a diplomatic spat around then-President-elect Trump's congratulatory phone call with Taiwan's Prime Minister Tsai Ing-wen, which broke with decades of US policy. Mr Trump has been forthright about China's influence, blaming it for the loss of American jobs. The war of words recently heated up when a Chinese military official was quoted as saying talk of war with the US under Mr Trump "are not just slogans, they are becoming a practical reality". Trevor McCrisken, associate professor of politics and international studies at the University of Warwick, said that if war broke out "we would be looking, I would imagine, at World War Three". He said: "I really do think that would be the end of life as we know it on Earth. "From a global strategic risk level I would say the last thing you want is war between the United States and any of the major powers because of the risks of escalation, obviously the potential for nuclear weapons to be used. The likelihood of nuclear exchange between the two principals involved is high." But, he added, the "overwhelming view of most policy-makers in Washington since at least the late 1970s" favours a form of "cooperative, if competitive" relationship with China. Dr Peter Roberts, director of military sciences at the Royal United Services Institute, said: "America would take military losses. They would lose thousands and thousands [of personnel]. But China would be utterly defeated. If America goes to war, it wages war in its totality. They would go to this with unparalleled violence and energy." The US has an "overall competitive edge" partly due to technological superiority, Dr Roberts said, but also because the four branches of its military—Army, Navy, Marine Corps and Air Force—are trained to work closely together. "It's demonstrated how it can use all those arms to deliver military victory," he said. In contrast, China's services operate "individually" and also have less, and less recent, combat experience compared to their American counterparts. "There's a huge difference between someone who's been in combat before, and someone who hasn't," Dr Roberts said, comparing the potential confrontation to one between Greek hero Achilles and farmers recruited from the fields. Kerry Brown, professor of Chinese studies and director of King's College London's Lau China Institute, said: "US naval superiority is massive. And if we are talking just military, then for sure, a conflict right beside China would hurt China more than the US. "It would, of course, totally upend supply routes, however, and probably cause a global recession. So it would, no matter who won in terms of military outcomes, be lose-lose and cut against the logic of self interest of both the US and China." Professor Brown added: "We have to expect this war of words to simply get worse. The best outcome is that the two sides ultimately compromise—China acts more responsibly, and stops its adventurism, and the US concedes it more space. The worst outcome would be a misunderstanding that would lead to real conflict."

#### Nuke war causes extinction – Ice Age, famines, and war won’t stay limited

Edwards 17 [Paul N. Edwards, CISAC’s William J. Perry Fellow in International Security at Stanford’s Freeman Spogli Institute for International Studies. Being interviewed by EarthSky. How nuclear war would affect Earth’s climate. September 8, 2017. earthsky.org/human-world/how-nuclear-war-would-affect-earths-climate] Note, we are only reading parts of the interview that are directly from Paul Edwards -- MMG

In the nuclear conversation, what are we not talking about that we should be?

We are not talking enough about the climatic effects of nuclear war. The “nuclear winter” theory of the mid-1980s played a significant role in the arms reductions of that period. But with the collapse of the Soviet Union and the reduction of U.S. and Russian nuclear arsenals, this aspect of nuclear war has faded from view. That’s not good. In the mid-2000s, climate scientists such as Alan Robock (Rutgers) took another look at nuclear winter theory. This time around, they used much-improved and much more detailed climate models than those available 20 years earlier. They also tested the potential effects of smaller nuclear exchanges. The result: an exchange involving just 50 nuclear weapons — the kind of thing we might see in an India-Pakistan war, for example — could loft 5 billion kilograms of smoke, soot and dust high into the stratosphere. That’s enough to cool the entire planet by about 2 degrees Fahrenheit (1.25 degrees Celsius) — about where we were during the Little Ice Age of the 17th century. Growing seasons could be shortened enough to create really significant food shortages. So the climatic effects of even a relatively small nuclear war would be planet-wide. What about a larger-scale conflict? A U.S.-Russia war currently seems unlikely, but if it were to occur, hundreds or even thousands of nuclear weapons might be launched. The climatic consequences would be catastrophic: global average temperatures would drop as much as 12 degrees Fahrenheit (7 degrees Celsius) for up to several years — temperatures last seen during the great ice ages. Meanwhile, smoke and dust circulating in the stratosphere would darken the atmosphere enough to inhibit photosynthesis, causing disastrous crop failures, widespread famine and massive ecological disruption. The effect would be similar to that of the giant meteor believed to be responsible for the extinction of the dinosaurs. This time, we would be the dinosaurs. Many people are concerned about North Korea’s advancing missile capabilities. Is nuclear war likely in your opinion? At this writing, I think we are closer to a nuclear war than we have been since the early 1960s. In the North Korea case, both Kim Jong-un and President Trump are bullies inclined to escalate confrontations. President Trump lacks impulse control, and there are precious few checks on his ability to initiate a nuclear strike. We have to hope that our generals, both inside and outside the White House, can rein him in. North Korea would most certainly “lose” a nuclear war with the United States. But many millions would die, including hundreds of thousands of Americans currently living in South Korea and Japan (probable North Korean targets). Such vast damage would be wrought in Korea, Japan and Pacific island territories (such as Guam) that any “victory” wouldn’t deserve the name. Not only would that region be left with horrible suffering amongst the survivors; it would also immediately face famine and rampant disease. Radioactive fallout from such a war would spread around the world, including to the U.S. It has been more than 70 years since the last time a nuclear bomb was used in warfare. What would be the effects on the environment and on human health today? To my knowledge, most of the changes in nuclear weapons technology since the 1950s have focused on making them smaller and lighter, and making delivery systems more accurate, rather than on changing their effects on the environment or on human health. So-called “battlefield” weapons with lower explosive yields are part of some arsenals now — but it’s quite unlikely that any exchange between two nuclear powers would stay limited to these smaller, less destructive bombs.

### Fw

#### The standard is maximizing expected wellbeing.

#### Prefer it:

#### 1] Actor specificity:

#### A] Aggregation – every policy benefits some and harms others, which also means side constraints freeze action.

#### Extinction is a distinct phenomenon that requires prior consideration

Burke et al 16 Associate Professor of International and Political Studies @ UNSW, Australia, 2016 (Anthony, Stefanie Fishel is Assistant Professor, Department of Gender and Race Studies at the University of Alabama, Audra Mitchell is CIGI Chair in Global Governance and Ethics at the Balsillie School of International Affairs, Simon Dalby is CIGI Chair in the Political Economy of Climate Change at the Balsillie School of International Affairs, and, Daniel J. Levine is Assistant Professor of Political Science at the University of Alabama, “Planet Politics: Manifesto from the End of IR,” Millennium: Journal of International Studies 1–25)

8. Global ethics must respond to mass extinction. In late 2014, the Worldwide Fund for Nature reported a startling statistic: according to their global study, 52% of species had gone extinct between 1970 and 2010.60 This is not news: for three decades, conservation biologists have been warning of a ‘sixth mass extinction’, which, by definition, could eliminate more than three quarters of currently existing life forms in just a few centuries.61 In other words, it could threaten the practical possibility of the survival of earthly life. Mass extinction is not simply extinction (or death) writ large: **it is a qualitatively different phenomena that demands its own ethical categories.** It cannot be grasped by aggregating species extinctions, let alone the deaths of individual organisms. Not only does it erase diverse, irreplaceable life forms, their **unique histories** and **open-ended possibilities**, but it **threatens the ontological conditions of Earthly life**.

IR is one of few disciplines that is explicitly devoted to the pursuit of survival, yet it has almost nothing to say in the face of a possible mass extinction event.62 It utterly lacks the conceptual and ethical frameworks necessary to foster diverse, meaningful responses to this phenomenon. As mentioned above, Cold-War era concepts such as ‘nuclear winter’ and ‘omnicide’ gesture towards harms massive in their scale and moral horror. However, they are asymptotic: they imagine nightmares of a severely denuded planet, yet they do not contemplate the **comprehensive negation** that a mass extinction event entails. In contemporary IR discourses, where it appears at all, extinction is treated as a problem of scientific management and biopolitical control aimed at securing existing human lifestyles.63 Once again, this approach fails to recognise the reality of extinction, which is a **matter of being and nonbeing**, not one of life and death processes.

Confronting the enormity of a possible mass extinction event requires a total overhaul of human perceptions of what is at stake in the disruption of the conditions of Earthly life. The question of what is ‘lost’ in extinction has, since the inception of the concept of ‘conservation’, been addressed in terms of financial cost and economic liabilities.64 Beyond reducing life to forms to capital, currencies and financial instruments, the dominant neoliberal political economy of conservation imposes a homogenising, Western secular worldview on a planetary phenomenon. Yet the **enormity, complexity, and scale** of mass extinction is so huge that humans need to **draw on every possible resource in order to find ways of responding**. This means that they need to mobilise multiple worldviews and lifeways – including those emerging from indigenous and marginalised cosmologies. Above all, it is crucial and urgent to realise that extinction is a **matter of global ethics**. It is not simply an issue of management or security, or even of particular visions of the good life. Instead, it is about staking a claim as to the goodness of life itself. If it does not fit within the existing parameters of global ethics, then it is these boundaries that need to change.

9. An Earth-worldly politics. Humans are worldly – that is, we are fundamentally worldforming and embedded in multiple worlds that traverse the Earth. However, the Earth is not ‘our’ world, as the grand theories of IR, and some accounts of the Anthropocene have it – an object and possession to be appropriated, circumnavigated, instrumentalised and englobed.65 Rather, it is a complex of worlds that we share, co-constitute, create, destroy and inhabit with countless other life forms and beings.

The formation of the Anthropocene reflects a particular type of worlding, one in which the Earth is treated as raw material for the creation of a world tailored to human needs. Heidegger famously framed ‘earth’ and ‘world’ as two countervailing, conflicting forces that constrain and shape one another. We contend that existing political, economic and social conditions have pushed human worlding so far to one extreme that it has become almost entirely detached from the conditions of the Earth. Planet Politics calls, instead, for a mode of worlding that is responsive to, and grounded in, the Earth. One of these ways of being Earth-worldly is to embrace the condition of being entangled. We can interpret this term in the way that Heidegger66 did, as the condition of being mired in everyday human concerns, worries, and anxiety, to prolong existence. But, in contrast, we can and should reframe it as authors like Karen Barad67 and Donna Haraway68 have done. To them and many others, ‘entanglement’ is a radical, indeed fundamental condition of being-with, or, as Jean-Luc Nancy puts it, ‘being singular plural’.69 This means that no being is truly autonomous or separate, whether at the scale of international politics or of quantum physics. World itself is singular plural: what humans tend to refer to as ‘the’ world is actually a multiplicity of worlds at various scales that intersect, overlap, conflict, emerge as they surge across the Earth. World emerges from the poetics of existence, the collision of energy and matter, the tumult of agencies, the fusion and diffusion of bonds.

Worlds erupt from, and consist in, the intersection of **diverse forms of being** – material and intangible, organic and inorganic, ‘living’ and ‘nonliving’. Because of the tumultuousness of the Earth with which they are entangled, ‘**worlds’ are not static, rigid or permanent. They are permeable and fluid**. They can be **created**, **modified** – and, of course, destroyed. Concepts of violence]