## 1NC – DA

#### WTO is near consensus on fisheries subsidies – success will require continued focus, flexibility, and cooperation among members

WTO 7/15 [(World Trade Organization) “WTO members edge closer to fisheries subsidies agreement,” News and Events, 7/15/2021] JL

During an all-day meeting with 104 ministers and heads of delegation, WTO members pledged to conclude the negotiations soon and certainly before the WTO's Ministerial Conference in early December, and to empower their Geneva-based delegations to do so. Members also confirmed that the negotiating text currently before them can be used as the basis for the talks to strike the final deal.

“I feel new hope this evening. Because ministers and heads of delegation today demonstrated a strong commitment to moving forward and doing the hard work needed to get these negotiations to the finish line. I applaud you for this. In 20 years of negotiations, this is the closest we have ever come towards reaching an outcome — a high-quality outcome that would contribute to building a sustainable blue economy,” said Director-General Ngozi Okonjo-Iweala.

“One fundamental conclusion that I draw from your interventions today is that members are ready to use the text as the basis for future negotiations. A second takeaway from today was that there is universal agreement about the importance of the food and livelihood security of artisanal fishers in developing and least developed countries. The prospect for a deal in the autumn ahead of our Ministerial Conference has clearly improved.”

The UN Food and Agriculture Organization estimates that one-third of global fish stocks are overfished and most of the rest is fully exploited. This is up from 10% in 1970 and 27% in 2000. Depleted stocks threaten the food security of low-income coastal communities, and the livelihoods of poor and vulnerable fishers who must go further and further from shore only to bring back smaller and smaller hauls.

Each year, governments hand out around $35 billion in fisheries subsidies, two-thirds of which go to commercial fishers. These subsidies keep at sea vessels which would otherwise be economically unviable. World leaders in 2015 made a fisheries subsidies agreement by 2020 part of the Sustainable Development Goals and trade ministers reaffirmed this pledge in 2017.

The negotiations on fisheries subsidies disciplines have been ongoing for nearly 20 years. Although there has been recent progress thanks to the intensive work that led to the development of the negotiating text on which members are working, the lack of political impetus in the talks to close the remaining gaps inspired Director-General Okonjo-Iweala to call this meeting of ministers.

Among the thorniest issues to resolve has been how to extend special and differential treatment to developing and least developed country WTO members while preserving the overall objective of enhanced sustainability of the oceans. Ministers said that the livelihoods and food security of poor and vulnerable artisanal fishers in developing and least developed countries were of great importance, as was preserving the sustainability objective of the negotiations.

Amb. Santiago Wills of Colombia, who chairs the Rules Negotiating Group overseeing the fisheries subsidies negotiations, said he had received some valuable inputs from the discussions. He now has greater clarity on the path forward and the next steps that would be required to harvest an agreement. He will be consulting with the Director-General and WTO members about charting the path forward for the next stage of the talks.

“I am very heartened by the responses and messages that we have heard today. What we sought from ministers today was political guidance to help close these negotiations soon. And we did hear that guidance. We have been given the ingredients to reach a successful conclusion; a commitment to finish well ahead of our Ministerial Conference a text that can be the platform for this final stage of the negotiations and fully empowered heads of delegations in Geneva. This represents a real success,” said Amb. Wills.

The Director-General said that delegations needed to prepare for an intensive period of line by line negotiations.

“As we enter this new phase of text-based discussions, the responsibility to conclude these negotiations is truly in the hands of members. To get from here to an agreement, it will be your job to find the necessary trade-offs and flexibilities. A successful outcome by MC12 is ultimately your responsibility,” she said. “The world is watching. The fisheries subsidies negotiations are a test both of the WTO's credibility as a multilateral negotiating forum and of the trading system's ability to respond to problems of the global commons.  If we wait another 20 years, there may be no marine fisheries left to subsidise — or artisanal fishing communities to support.”

#### IP disputes fragment WTO unity and trade off with subsidies negotiation

Patnaik 3/12 [(Priti, journalist in Geneva, Switzerland, master’s in Development Studies from The Graduate Institute in Geneva and a master’s in Business and Economic Reporting from New York University) “Could Vaccine Nationalism Spur Disputes At The WTO?” Geneva Health Files, 3/12/2021] JL

To protect domestic manufacturers and constituencies, countries may resort to filing disputes, if only to send a signal to other members, experts believe. To be sure, this is not only about vaccines. Going forward, export restrictions on raw materials can have implications for therapeutics as well. So the threat of a dispute may be a tool to deal with competition for scarce medical products during the pandemic, experts say.

Although trade restrictive measures are short-sighted and not a preferred policy option, governments see them as powerful instruments to meet political goals, to send a message to domestic stakeholders, sources said.

“My hunch is that all countries are sort of sitting on both sides of the fence. On the one hand, governments would like to maintain the discretion and the ability to impose export restrictions if they need to or if they think they need to. Whether that is medical products or personal protective equipment. On the other hand, everybody dislikes it when other countries impose export restrictions. So I think there is enough of an incentive for countries to sit down and negotiate,” one legal expert noted.

Sources also pointed to political declarations last year where WTO members came together and said that they would not impose restrictive trade measures. “In order to be constructive, countries decided that they were going to signal to members that will not introduce exports restrictive measures even though it may be expedient to do so,” one trade expert said. The way out, some feel, is to find solution to placing limits on export restrictions.

It is not just trade restrictive measures that could result in trade disputes. The heated political discussions on the TRIPS waiver at WTO is also aggravating the potential for disputes, according to experts involved in litigations in international trade in Geneva. Therefore these ostensibly independent processes, can catalyse disputes.

“The waiver discussion is very heated and it is aggravating the discussion on the EU's export restrictions. If the waiver succeeds, then the opposing members cannot do anything about it. So they will be looking at other ways to beat up on behavior they do not like on the COVID-19 front,” one trade law expert said.  Do not rule out disputes against supporters of the TRIPS waiver proposal, in case the waiver is adopted, the source added.

In their statement at the WTO General Council meeting last week, the EU said, “In order to ensure that vaccines and their ingredients are not directed to export destinations in unjustified volumes, the European Union had no choice but to introduce a transparency mechanism on Covid-19 vaccine export transactions.” The EU has said that the measures are WTO-consistent.

It added “Since the entry into force of the scheme on the 1 February, we have received 150 requests for export authorisation. All of them have been accepted. I repeat, all of them.” This week, the European Commission extended transparency and authorisation mechanism for exports of COVID-19 vaccines.

The EU is also a part of the Ottawa Group proposal on Trade and Health that also spells out commitments towards export restrictions. (See also *E.U. Exports Millions of Covid Vaccine Doses Despite Supply Crunch at Home*)

“Members bring disputes all the time, even when they know that it's going to take a long time to get a result and often they bring a dispute as leverage for negotiations. Filing a dispute does not mean they are looking for a solution. It does not mean the dispute will be litigated all the way to the end,” a trade lawyer said.

It could also result in a negotiated arrangement, like it was in 2001 in the U.S.-Brazil case. “Why did the U.S. bring a case against Brazil? It gave them leverage in negotiations, and to satisfy domestic stakeholders,” the lawyer added.

The impasse at the Appellate Body may not be a deterrent for countries to dissuade countries from bringing a dispute, some believe.

“The Appellate Body not being functional is not a problem. Countries have recourse to Article 25 under the Dispute Settlement Understanding (DSU) that provides for ‘expeditious arbitration as a alternate means to dispute settlement’,” a source involved in the WTO litigation process said. (The EU, for example, is a signatory to the Multi-party interim appeal arbitration arrangement, MPIA.)

While disputes may take up precious energy and resources of members already stretched in fighting to address the pandemic, it may likely be a strategy to address trade protectionism. Not all agree.

“I think the law is not really an answer here, I hate to say that because I'm a lawyer. But I really don't think the law is an answer because the law is so generically drafted right that and it's politically so sensitive. Which WTO panel will tell a member that restricting vaccines is not legitimate? It will ultimately harm the legitimacy of the trading system,” the person added.

#### Overfishing collapses biodiversity

DUJS 12 [(Dartmouth Undergraduate Journal of Science, official open access science journal of Dartmouth College, publishing original scientific research, multidisciplinary review articles, and science news) “The Threats of Overfishing: Consequences at the Commercial Level,” 3/11/2012] JL

According to marine ecologists, overfishing is the greatest threat to ocean ecosystems today (1). Overfishing occurs because fish are captured at a faster rate than they can reproduce (2). Advanced fishing technology and an increased demand for fish have led to overfishing, causing several marine species to become extinct or endangered as a result (3, 4). In the long-term, overfishing can have a devastating impact on ocean communities as it destabilizes the food chain and destroys the natural habitats of many aquatic species (2).

In the past, fishing was more sustainable because fishermen could not access every location and because they had a limited capacity for fish aboard their vessels. Today, however, small trawlers and fishing boats have been replaced by giant factory ships that can capture and process extremely large amounts of prey at a given time (2). These ships use sonar instruments and global positioning systems (GPS) to rapidly locate large schools of fish (1). Fishing lines are deployed with thousands of large hooks that can reach areas up to 120 kilometers deep. The trawling vessels and machines can even reach depths of 170 kilometers and can store an extraordinarily large volume of fish. Each year, these huge trawling ships comb an area twice the size of the United States. They use massive nets 50 meters wide with the capacity to pull the weight of a medium-sized plane (2). They also have several plants for processing and packing fish, large freezing systems, fishmeal processing plants, and powerful engines that can carry this enormous fishing gear around the ocean. Because these ships have all the equipment necessary to freeze and tin fish, they only need to return to their base once they are full. Even when the ships are filled, however, the fish are often transferred to refrigerated vessels in the middle of the ocean and are processed for consumption later (4). As such, industrial fishing has expanded considerably and fishermen can now explore new shores and deeper waters to keep up with the increased demand for seafood. In fact, it has been reported by the United Nations Food and Agricultural Organization (FAO) that over 70 percent of the world’s fisheries are either ‘fully exploited’, ‘over exploited’ or ‘significantly depleted’ (5). The annual total global catch of fish is 124 million metric tons, which is equivalent in weight to 378 Empire State Buildings (2).

Fishing gear is often non-selective in the fish it targets. For example, any fish that are too big to get through the mesh of a net are captured. Therefore, overfishing does not only threaten the species of fish that is targeted for food, but also many non-target species. As a result, these other species, including marine mammals and seabirds, are accidentally caught in the fishing gear and killed (6). For example, for every ton of prawn caught, three tons of other fish are killed and thrown away. Those in the trade refer to this practice of inadvertent catching of other species as bycatch (4). The FAO has pointed out that about 25 percent of the world’s captured fish end up thrown overboard because they are caught unintentionally, are illegal market species, or are of inferior quality and size. Many of the fish caught this way include endangered and over exploited species, 95 percent of which are eventually thrown away (2). Bycatch is not just limited to just unwanted fish, but rather affects all types of marine life, including whales, dolphins, porpoises, fur seals, albatrosses, and turtles. For example, tuna fisheries are indirectly responsible for the deaths of an estimated one million sharks annually due to bycatch. Small cetaceans, such as dolphins and porpoises, are also targets of bycatch as they are often caught in fishing nets. In fact, hundreds of dolphin corpses are washed up on the beaches of Europe every year, bringing attention to the growing scale of this problem (6).

Many modern fishing methods are also irreversibly destructive. For example, bottom trawling, a technique that uses extremely wide nets armed with heavy metal rollers, can crush everything in the path of the gear, destroying fragile corals, smashing rock formations, and killing several tons of fish and animals as bycatch (7). As such, these practices can wreak havoc on delicate marine ecosystems.

Not surprisingly, it has been reported that industrial fishing takes between only 10 and 15 years to wipe out a tenth of whichever species it targets (2). In fact, several marine species have already been fished to commercial extinction, and this number is rapidly increasing (1). One of the reasons for this is that the regulation of fishing vessels and the fishing industry is universally inadequate. Roughly two-thirds of the ocean is free of laws and fishing vessels only follow the laws ratified by their country of origin. However, most fishing countries have not ratified any international convention to protect the sea or marine life (2). Moreover, fishing factory ships and companies are given access to fisheries before the long–term impact of their fishing practices is understood (1).

Today, the number of fish caught worldwide is actually shrinking as the fishing industry is in decline from many years of overfishing (2). The year 1988 was the first time in human history that global wild fish catches dropped and they have continued to fall ever since. In European waters, four out of every five known fish stocks are already beyond safe biological limits (7). Illegal and unreported fishing have also contributed a great deal to the depletion of the oceans and continues to be a serious problem.

A new study conducted by the International Union for Conservation of Nature (IUCN) found that 5 out of the 8 tuna species are at risk of extinction (8). All three species of bluefin tuna, for example, are threatened with extinction and are at a population that makes their recovery practically irreversible (2). The IUCN has also reported that freshwater fish are among the most endangered species, with more than a third facing extinction. Not surprisingly, among those at the greatest risk are species like the Mekong giant catfish, the freshwater stingray, and the European eel, which are used to make some of the most expensive caviars. The Mekong giant catfish is the closest to extinction, with as few as 250 left. Overfishing has reduced the numbers of Mekong freshwater stingray by over 50 percent in Southeast Asia and has reduced the giant Mekong salmon carp population by over 90 percent (9).

As previously mentioned, shark populations have also been greatly affected by overfishing. There are already more than 135 species of shark on the IUCN’s list of endangered animals and more are being added each year. For example, the number of scalloped hammerhead shark has decreased by 99% over the past 30 years. Other species recently added to the endangered list include the smooth hammerhead, shortfin mako, common thresher, big-eye thresher, silky, tiger, bull, and dusky (10). Besides being caught as bycatch, sharks are now also being targeted by commercial fishermen for their fins which can fetch a substantial price on the Asian food market. Sharks are particularly vulnerable to exploitation because they have long life spans, are exceptionally slow to mature (taking as long as 16 years in some cases), and are relatively unprolific breeders (11). Recent reports suggest that over fishing has caused a 90% decline in shark populations across the world’s oceans and up to 99% along the US east coast, which are some of the best managed waters in the world. Because sharks are at the top of the food chain, a decline in their numbers has devastating consequences on marine ecosystems (10).

Overfishing impacts not just the particular species that is exploited, but also damages other species of fish and disrupts local ecosystems. The stability of ecological communities depends largely on the interactions between predators and prey (12). Thereby, the balance of the food chain is disturbed when certain species are removed. As a result, many ocean species are disappearing and losing their habitats. The evolutionary process of marine species is also being altered, causing cycles of premature reproduction and relative decreases in the size of fish across generations. As predators diminish, the populations of smaller fish escalate because they were previously the food source of the bigger fish. In addition, the disappearance of these species affects many other species, like seabirds and sea mammals, which are vulnerable to the lack of food (2).

A recent study found that overfishing is also decreasing the genetic diversity of fish worldwide. Diversity is projected to be reduced further if overfishing continues at the same rate (13). This has serious effects on nutrient recycling in marine ecosystems because fish species vary widely in their rates of nitrogen and phosphorus excretion. As such, altering fish communities creates divergent nutrient recycling patterns and disrupts the functioning of the ecosystem. Recently conducted studies in lakes affected by overfishing show that loss of species contributes to a decline in nutrient recycling and destabilizes the ecosystem (14).

While it is often overlooked for other environmental issues, overfishing has historically caused more ecological extinction than any other human influence on coastal ecosystems, including water pollution (5). Unfortunately, due to a lack of data, the extent of this damage has only recently been recognized (15).

#### Continued biodiversity loss causes extinction

Carrington 18 [(Damian, the Guardian's Environment editor) "Humanity has wiped out 60% of a animal populations since 1970, report finds," The Guardian, 10/29/18] TDI

Humanity has wiped out 60% of mammals, birds, fish and reptiles since 1970, leading the world’s foremost experts to warn that the annihilation of wildlife is now an emergency that threatens civilisation.

The new estimate of the massacre of wildlife is made in a major report produced by WWF and involving 59 scientists from across the globe. It finds that the vast and growing consumption of food and resources by the global population is destroying the web of life, billions of years in the making, upon which human society ultimately depends for clean air, water and everything else.

“We are sleepwalking towards the edge of a cliff” said Mike Barrett, executive director of science and conservation at WWF. “If there was a 60% decline in the human population, that would be equivalent to emptying North America, South America, Africa, Europe, China and Oceania. That is the scale of what we have done.”

“This is far more than just being about losing the wonders of nature, desperately sad though that is,” he said. “T**his is** actually now jeopardising the future of people. Nature is not a ‘nice to have’ – it is our life-support system.”

“We are rapidly running out of time,” said Prof Johan Rockström, a global sustainability expert at the Potsdam Institute for Climate Impact Research in Germany. “Only by addressing both ecosystems and climate do we stand a chance of safeguarding a stable planet for humanity’s future on Earth.”

Many scientists believe the world has begun a sixth mass extinction, the first to be caused by a species – Homo sapiens. Other recent analyses have revealed that humankind has destroyed 83% of all mammals and half of plants since the dawn of civilisation and that, even if the destruction were to end now, it would take 5-7 million years for the natural world to recover.

The Living Planet Index, produced for WWF by the Zoological Society of London, uses data on 16,704 populations of mammals, birds, fish, reptiles and amphibians, representing more than 4,000 species, to track the decline of wildlife. Between 1970 and 2014, the latest data available, populations fell by an average of 60%. Four years ago, the decline was 52%. The “shocking truth”, said Barrett, is that the wildlife crash is continuing unabated.

Wildlife and the ecosystems are vital to human life, said Prof Bob Watson, one of the world’s most eminent environmental scientists and currently chair of an intergovernmental panel on biodiversity that said in March that the destruction of nature is as dangerous as climate change.

“Nature contributes to human wellbeing culturally and spiritually, as well as through the critical production of food, clean water, and energy, and through regulating the Earth’s climate, pollution, pollination and floods,” he said. “The Living Planet report clearly demonstrates that human activities are destroying nature at an unacceptable rate, threatening the wellbeing of current and future generations.”

The biggest cause of wildlife losses is the destruction of natural habitats, much of it to create farmland. Three-quarters of all land on Earth is now significantly affected by human activities. Killing for food is the next biggest cause – 300 mammal species are being eaten into extinction – while the oceans are massively overfished, with more than half now being industrially fished.

Chemical pollution is also significant: half the world’s killer whale populations are now doomed to die from PCB contamination. Global trade introduces invasive species and disease, with amphibians decimated by a fungal disease thought to be spread by the pet trade.

The worst affected region is South and Central America, which has seen an 89% drop in vertebrate populations, largely driven by the felling of vast areas of wildlife-rich forest. In the tropical savannah called cerrado, an area the size of Greater London is cleared every two months, said Barrett.

“It is a classic example of where the disappearance is the result of our own consumption, because the deforestation is being driven by ever expanding agriculture producing soy, which is being exported to countries including the UK to feed pigs and chickens,” he said. The UK itself has lost much of its wildlife, ranking 189th for biodiversity loss out of 218 nations in 2016.

The habitats suffering the greatest damage are rivers and lakes, where wildlife populations have fallen 83%, due to the enormous thirst of agriculture and the large number of dams. “Again there is this direct link between the food system and the depletion of wildlife,” said Barrett. Eating less meat is an essential part of reversing losses, he said.

The Living Planet Index has been criticised as being too broad a measure of wildlife losses and smoothing over crucial details. But all indicators, from extinction rates to intactness of ecosystems, show colossal losses. “They all tell you the same story,” said Barrett.

Conservation efforts can work, with tiger numbers having risen 20% in India in six years as habitat is protected. Giant pandas in China and otters in the UK have also been doing well.

But Marco Lambertini, director general of WWF International, said the fundamental issue was consumption: “We can no longer ignore the impact of current unsustainable production models and wasteful lifestyles.”

## 1NC – CP

#### CP: Member nations of the World Trade Organization should enter into a prior and binding consultation with the World Health Organization over reducing intellectual property protections for medicines deemed essential during public health emergencies of international concern. Member nations will support the proposal and adopt the results of consultation.

#### WHO says yes:

#### It supports vaccine waivers

Kimball 5/7 [(Spencer, news editor with CNBC.com) “WHO chief urges world to follow U.S. lead and support waiving Covid vaccine patent protections,” CNBC, 5/7/2021] JL

World Health Organization Director General-Tedros Adhanom Ghebreyesus on Friday urged other countries, particularly the Group of Seven industrialized nations, to follow the U.S. example and support a World Trade Organization motion to temporarily waive Covid-19 vaccine patent protections.

“Wednesday’s announcement by the U.S. that it will support a temporary waiver of intellectual property protections for Covid-19 vaccines is a significant statement of solidarity and support for vaccine equity,” Tedros said at a press briefing. “I know that this is not a politically easy thing to do, so I very much appreciate the leadership of the U.S. and we urge other countries to follow their example.”

#### It supports increasing the availability of generics and limiting TRIPS

Hoen 03 [(Ellen T., researcher at the University Medical Centre at the University of Groningen, The Netherlands who has been listed as one of the 50 most influential people in intellectual property by the journal Managing Intellectual Property, PhD from the University of Groningen) “TRIPS, Pharmaceutical Patents and Access to Essential Medicines: Seattle, Doha and Beyond,” Chicago Journal of International Law, 2003] JL

However, subsequent resolutions of the World Health Assembly have strengthened the WHO’s mandate in the trade arena. In 2001, the World Health Assembly adopted two resolutions in particular that had a bearing on the debate over TRIPS [30]. The resolutions addressed:

– the need to strengthen policies to increase the availability of generic drugs;

– and the need to evaluate the impact of TRIPS on access to drugs, local manufacturing capacity, and the development of new drugs

#### Consultation displays strong leadership, authority, and cohesion among member states which are key to WHO legitimacy

Gostin et al 15 [(Lawrence O., Linda D. & Timothy J. O’Neill Professor of Global Health Law at Georgetown University, Faculty Director of the O’Neill Institute for National & Global Health Law, Director of the World Health Organization Collaborating Center on Public Health Law & Human Rights, JD from Duke University) “The Normative Authority of the World Health Organization,” Georgetown University Law Center, 5/2/2015] JL

Members want the WHO to exert leadership, harmonize disparate activities, and set priorities. Yet they resist intrusions into their sovereignty, and want to exert control. In other words, ‘everyone desires coordination, but no one wants to be coordinated.’ States often ardently defend their geostrategic interests. As the Indonesian virus-sharing episode illustrates, the WHO is pulled between power blocs, with North America and Europe (the primary funders) on one side and emerging economies such as Brazil, China, and India on the other. An inherent tension exists between richer ‘net contributor’ states and poorer ‘net recipient’ states, with the former seeking smaller WHO budgets and the latter larger budgets.

Overall, national politics drive self-interest, with states resisting externally imposed obligations for funding and action. Some political leaders express antipathy to, even distrust of, UN institutions, viewing them as bureaucratic and inefficient. In this political environment, it is unsurprising that members fail to act as shareholders. Ebola placed into stark relief the failure of the international community to increase capacities as required by the IHR. Guinea, Liberia and Sierra Leone had some of the world's weakest health systems, with little capacity to either monitor or respond to the Ebola epidemic.20 This caused enormous suffering in West Africa and placed countries throughout the region e and the world e at risk. Member states should recognize that the health of their citizens depends on strengthening others' capacity. The WHO has a central role in creating systems to facilitate and encourage such cooperation.

The WHO cannot succeed unless members act as shareholders, foregoing a measure of sovereignty for the global common good. It is in all states' interests to have a strong global health leader, safeguarding health security, building health systems, and reducing health inequalities. But that will not happen unless members fund the Organization generously, grant it authority and flexibility, and hold it accountable.

#### WHO is critical to disease prevention – it is the only international institution that can disperse information, standardize global public health, and facilitate public-private cooperation

Murtugudde 20 [(Raghu, professor of atmospheric and oceanic science at the University of Maryland, PhD in mechanical engineering from Columbia University) “Why We Need the World Health Organization Now More Than Ever,” Science, 4/19/2020] JL

WHO continues to play an indispensable role during the current COVID-19 outbreak itself. In November 2018, the US National Academies of Sciences, Engineering and Medicine organised a workshop to explore lessons from past influenza outbreaks and so develop recommendations for pandemic preparedness for 2030. The salient findings serve well to underscore the critical role of WHO for humankind.

The world’s influenza burden has only increased in the last two decades, a period in which there have also been 30 new zoonotic diseases. A warming world with increasing humidity, lost habitats and industrial livestock/poultry farming has many opportunities for pathogens to move from animals and birds to humans. Increasing global connectivity simply catalyses this process, as much as it catalyses economic growth.

WHO coordinates health research, clinical trials, drug safety, vaccine development, surveillance, virus sharing, etc. The importance of WHO’s work on immunisation across the globe, especially with HIV, can hardly be overstated. It has a rich track record of collaborating with private-sector organisations to advance research and development of health solutions and improving their access in the global south.

It discharges its duties while maintaining a dynamic equilibrium between such diverse and powerful forces as national securities, economic interests, human rights and ethics. COVID-19 has highlighted how political calculations can hamper data-sharing and mitigation efforts within and across national borders, and WHO often simply becomes a convenient political scapegoat in such situations.

International Health Regulations, a 2005 agreement between 196 countries to work together for global health security, focuses on detection, assessment and reporting of public health events, and also includes non-pharmaceutical interventions such as travel and trade restrictions. WHO coordinates and helps build capacity to implement IHR.

#### Extinction – defense is wrong

Piers Millett 17, Consultant for the World Health Organization, PhD in International Relations and Affairs, University of Bradford, Andrew Snyder-Beattie, “Existential Risk and Cost-Effective Biosecurity”, Health Security, Vol 15(4), http://online.liebertpub.com/doi/pdfplus/10.1089/hs.2017.0028

Historically, disease events have been responsible for the greatest death tolls on humanity. The 1918 flu was responsible for more than 50 million deaths,1 while smallpox killed perhaps 10 times that many in the 20th century alone.2 The Black Death was responsible for killing over 25% of the European population,3 while other pandemics, such as the plague of Justinian, are thought to have killed 25 million in the 6th century—constituting over 10% of the world’s population at the time.4 It is an open question whether a future pandemic could result in outright human extinction or the irreversible collapse of civilization.

A skeptic would have many good reasons to think that existential risk from disease is unlikely. Such a disease would need to spread worldwide to remote populations, overcome rare genetic resistances, and evade detection, cures, and countermeasures. Even evolution itself may work in humanity’s favor: Virulence and transmission is often a trade-off, and so evolutionary pressures could push against maximally lethal wild-type pathogens.5,6

While these arguments point to a very small risk of human extinction, they do not rule the possibility out entirely. Although rare, there are recorded instances of species going extinct due to disease—primarily in amphibians, but also in 1 mammalian species of rat on Christmas Island.7,8 There are also historical examples of large human populations being almost entirely wiped out by disease, especially when multiple diseases were simultaneously introduced into a population without immunity. The most striking examples of total population collapse include native American tribes exposed to European diseases, such as the Massachusett (86% loss of population), Quiripi-Unquachog (95% loss of population), and theWestern Abenaki (which suffered a staggering 98% loss of population).

In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But many diseases are proof of principle that each worst-case attribute can be realized independently. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, natural evolution would be an unlikely source for pathogens with the highest possible levels of transmissibility, virulence, and global reach. But advances in biotechnology might allow the creation of diseases that combine such traits. Recent controversy has already emerged over a number of scientific experiments that resulted in viruses with enhanced transmissibility, lethality, and/or the ability to overcome therapeutics.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-2

#### WHO diplomacy solves great power conflict

Murphy 20 [(Chris, U.S. senator from Connecticut serving on the U.S. Senate Foreign Relations Committee) “The Answer is to Empower, Not Attack, the World Health Organization,” War on the Rocks, 4/21/2020] JL

The World Health Organization is critical to stopping disease outbreaks and strengthening public health systems in developing countries, where COVID-19 is starting to appear. Yemen announced its first infection earlier this month, and other countries in Africa, Asia and the Middle East are at severe risk. Millions of refugees rely on the World Health Organization for their health care, and millions of children rely on the WHO and UNICEF to access vaccines.

The World Health Organization is not perfect, but its team of doctors and public health experts have had major successes. Their most impressive claim to fame is the eradication of smallpox – no small feat. More recently, the World Health Organization has led an effort to rid the world of two of the three strains of polio, and they are close to completing the trifecta.

These investments are not just the right thing to do; they benefit the United States. Improving health outcomes abroad provides greater political and economic stability, increasing demand for U.S. exports. And, as we are all learning now, it is in America’s national security interest for countries to effectively detect and respond to potential pandemics before they reach our shores.

As the United States looks to develop a new global system of pandemic prevention, there is absolutely no way to do that job without the World Health Organization. Uniquely, it puts traditional adversaries – like Russia and the United States, India and Pakistan, or Iran and Saudi Arabia – all around the same big table to take on global health challenges. It has relationships with the public health leaders of every nation, decades of experience in tackling viruses and diseases, and the ability to bring countries together to tackle big projects. This ability to bridge divides and work across borders cannot be torn down and recreated – not in today’s environment of major power competition – and so there is simply no way to build an effective international anti-pandemic infrastructure without the World Health Organization at the center.

#### Should means must and is immediate

Summers 94 (Justice – Oklahoma Supreme Court, “Kelsey v. Dollarsaver Food Warehouse of Durant”, 1994 OK 123, 11-8, http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=20287#marker3fn13)

¶4 The legal question to be resolved by the court is whether the word "should"[13](http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=20287#marker3fn13) in the May 18 order connotes futurity or may be deemed a ruling in praesenti.[14](http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=20287#marker3fn14) The answer to this query is not to be divined from rules of grammar;[15](http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=20287#marker3fn15) it must be governed by the age-old practice culture of legal professionals and its immemorial language usage. To determine if the omission (from the critical May 18 entry) of the turgid phrase, "and the same hereby is", (1) makes it an in futuro ruling - i.e., an expression of what the judge will or would do at a later stage - or (2) constitutes an in in praesenti resolution of a disputed law issue, the trial judge's intent must be garnered from the four corners of the entire record.[16](http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=20287#marker3fn16) [CONTINUES – TO FOOTNOTE] [13](http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=20287#marker2fn13) "*Should*" not only is used as a "present indicative" synonymous with *ought* but also is the past tense of "shall" with various shades of meaning not always easy to analyze. See 57 C.J. Shall § 9, Judgments § 121 (1932). O. JESPERSEN, GROWTH AND STRUCTURE OF THE ENGLISH LANGUAGE (1984); St. Louis & S.F.R. Co. v. Brown, 45 Okl. 143, 144 P. 1075, 1080-81 (1914). For a more detailed explanation, see the Partridge quotation infra note 15. Certain contexts mandate a construction of the term "should" as more than merely indicating preference or desirability. Brown, supra at 1080-81 (jury instructions stating that jurors "should" reduce the amount of damages in proportion to the amount of contributory negligence of the plaintiff was held to imply an *obligation* *and to be more than advisory*); Carrigan v. California Horse Racing Board, 60 Wash. App. 79, [802 P.2d 813](http://www.oscn.net/applications/oscn/deliverdocument.asp?box1=802&box2=P.2D&box3=813) (1990) (one of the Rules of Appellate Procedure requiring that a party "should devote a section of the brief to the request for the fee or expenses" was interpreted to mean that a party is under an *obligation* to include the requested segment); State v. Rack, 318 S.W.2d 211, 215 (Mo. 1958) ("should" would mean the same as "shall" or "must" when used in an instruction to the jury which tells the triers they "should disregard false testimony"). [14](http://www.oscn.net/applications/oscn/DeliverDocument.asp?CiteID=20287#marker2fn14) In praesenti means literally "at the present time." BLACK'S LAW DICTIONARY 792 (6th Ed. 1990). In legal parlance the phrase denotes that which in law is presently or immediately effective, as opposed to something that will or would become effective in the future *[in futurol*]. See Van Wyck v. Knevals, [106 U.S. 360](http://www.oscn.net/applications/oscn/deliverdocument.asp?box1=106&box2=U.S.&box3=360), 365, 1 S.Ct. 336, 337, 27 L.Ed. 201 (1882).

Condo good:

1. **Neg flex – condo is key to allowing the neg to test the aff from multiple perspectives – that outweighs aff strategy – the aff gets infinite prep, but the neg is purely reactionary**
2. **Info processing – condo teaches us to think quickly and deal with overwhelming amounts of info – most real world. Simulating information overload best prepares students to cope—most valuable skill.**

## 1NC – NC

#### **Moral realism posits the existence of truths that hold independently of our evaluative attitudes – ought statements are an example**

Street 06 [(Sharon, Professor of Philosophy and Associate Chair of the Department of Philosophy at New York University) “A Darwinian Dilemma for Realist Theories of Value,” Springer, 2006]

The defining claim of realism about value, as I will be understanding it, is that there are at least some evaluative facts or truths that hold independently of all our evaluative attitudes.1 Evaluative facts or truths I understand as facts or truths of the form that X is a normative reason to Y, that one should or ought to X, that X is good, valuable, or worthwhile, that X is morally right or wrong, and so on.2 Evaluative attitudes I understand to include states such as desires, attitudes of approval and disapproval, unreflective evaluative tendencies such as the tendency to experience X as counting in favor of or demanding Y, and consciously or unconsciously held evaluative judgements, such as judgements about what is a reason for what, about what one should or ought to do, about what is good, valuable, or worthwhile, about what is morally right or wrong, and so on.

It is important to note that it is not enough to be a realist to claim that the truth of an evaluative judgement holds independently of one’s making that particular evaluative judgement. Antirealists can agree with that much. Consider, for example, a constructivist view according to which the truth of ‘‘X is a reason for agent A to Y’’ is a function of whether that judgement would be among A’s evaluative judgements in reflective equilibrium. This view is antirealist because it understands truths about what reasons a person has as depending on her evaluative attitudes (in particular, on what those attitudes would be in reflective equilibrium). Yet on this view, it is quite possible for someone to have a reason independently of whether she thinks she does, for whether she has a reason is not a function of whether she (presently) judges she has it, but rather a function of whether that judgement would be among her evaluative judgements in reflective equilibrium. Antirealists can therefore agree with realists that the truth of a given evaluative judgement holds independently of whether one makes that particular judgement. Where antirealists part ways with realists is in denying that there are evaluative truths which hold independently of the whole set of evaluative judgements we make or might make upon reflection, or independently of the whole set of other evaluative attitudes we hold or might hold upon reflection.

The kind of independence from our evaluative attitudes that realists endorse is what Russ Shafer-Landau has called stance-independence. 3 To illustrate: Realists of course agree that the evaluative truth that ‘‘Hitler was morally depraved’’ depends in part on Hitler’s evaluative attitudes in the sense that if Hitler had valued peace and universal human rights instead of dictatorial power and genocide, then it would have been false instead of true that he was morally depraved. But given that Hitler did value dictatorial power and genocide, value realists think that it is true, independent of all of our (and any of Hitler’s other) evaluative attitudes, that Hitler was morally depraved. According to realists, the truth that Hitler was morally depraved holds independently of any stance that we (or Hitler) might take toward that truth, whether now or upon reflection.

There are different brands of realism about value. What unites them is the view that there are evaluative facts or truths that hold independently of all our evaluative attitudes (now keeping in mind the qualification about stance-independence). What separates different kinds of realists from one another is how they construe the nature of these facts or truths. According to what I will call non-naturalist versions of value realism, evaluative facts or truths are not reducible to any kind of natural fact, and are not the kinds of things that play a role in causal explanations; instead, they are irreducibly normative facts or truths.4 This brand of realism has been gaining increasing numbers of adherents in recent years, and it lies squarely within the target of the Darwinian Dilemma.

In contrast to non-naturalist versions of value realism, the position I will call value naturalism holds that evaluative facts are identical with or constituted by (certain) natural facts, and that evaluative facts are the kinds of things that play a role in causal explanations.5 According to such views, much as water is identical with H2O, so evaluative properties are identical with certain natural properties, though we may or may not ever be able to provide a reduction telling exactly which natural properties evaluative properties are identical with (different naturalists taking different views on the possibility of such a reduction).6 Whereas non-naturalist versions of value realism lie straightforwardly within my target in this paper, it is a more complicated matter whether versions of value naturalism lie within my target. Answering this question requires making a distinction (in section 7) between versions of value naturalism which count as genuinely realist on my understanding and versions which don’t; my argument will be that the former, but not the latter, are vulnerable to the Darwinian Dilemma. Before introducing these complexities, however, it is important to get the fundamental dilemma for realism on the table.7

#### Pain’s badness is a contingent truth – if evolution favored those who pursued pain, our evaluative judgements would be different

Street 06 [(Sharon, Professor of Philosophy and Associate Chair of the Department of Philosophy at New York University) “A Darwinian Dilemma for Realist Theories of Value,” Springer, 2006]

Suppose, however, there is remaining doubt and some are still tempted by a realist position on the badness of pain so understood. It’s at this point that the Darwinian Dilemma arises again for the realist. To see how, suppose again that pain is given some definition according to which it is not a necessary feature of pain that we unreflectively experience it as counting in favor of what would avoid, lessen, or stop it. In that case, the following becomes a legitimate scientific question: given that it is perfectly conceivable that we all could have ended up taking pain sensations to count in favor of what would cause them and intensify them rather than in favor of what would lessen them and stop them, what explains the fact that such a huge percentage of us so consistently do the latter? Here, as in earlier cases, there is a powerful evolutionary answer. I’ve left it open how the person opting for the first horn of the Pain Dilemma is defining pain (so long as that definition makes no reference to the idea that pain is a sensation that we unreflectively take to count in favor of what would stop it). But if the proposed definition is to be plausible at all, then it will pick out (predominantly, one assumes) sensations associated with the sorts of bodily conditions that we normally consider painful, such as cuts, burns, bruises, broken bones, and so on. And it is of course no mystery whatsoever, from an evolutionary point of view, why we and the other animals came to take the sensations associated with bodily conditions such as these to count in favor of what would avoid, lessen, or stop them rather than in favor of what would bring about and intensify them. One need only imagine the reproductive prospects of a creature who relished and sought after the sensations of its bones breaking and its tissues tearing; just think how many descendants such a creature would leave in comparison to those who happened to abhor and avoid such sensations.

As in earlier cases, the realist faces a problem when confronted with such an explanation. For once again we see that there is a striking coincidence between the content of the independent evaluative truth posited by the realist, on the one hand, and the content that evolutionary theory would lead us to expect, on the other. The realist tells us that it is an independent evaluative truth that pain sensations (however he or she defines them) are bad, and yet this is precisely what evolutionary theory would have predicted that we come to think. And once again the realist is unable to give any good account of this coincidence. To insist that the coincidence is mere coincidence is implausible. The realist’s alternative, here as in earlier cases, is to defend some sort of tracking account, according to which we were selected to be able to discern independent evaluative truths, among them the truth that these pain sensations (however the realist is defining them) are bad. Yet here as in earlier cases, the tracking account is scientifically unacceptable. In order to explain why we came to think that these sensations are bad, we need make no reference whatsoever to the fact that they are bad; we need only point out how it tended to promote reproductive success to take them to be bad (due to their connection with bodily conditions that tended to diminish reproductive success).

The realist, then, is forced to the other horn of the Pain Dilemma. To salvage realism about the badness of pain, he or she is forced to understand pain as a sensation such that the creature who has it unreflectively takes that sensation to count in favor of whatever would avoid, lessen, or stop it. But now notice what this means. In order to salvage his or her view of pain as bad independently of our evaluative attitudes, the realist must admit that pain’s badness depends on its being a sensation such that the creature who has it is unreflectively inclined to take it to be bad. But this, in turn, is just to admit that its badness depends in an important sense on our evaluative attitudes in particular, on our being unreflectively inclined to take it to be bad. Pain may well be bad, in other words, but if it is so, its badness hinges crucially on our unreflective evaluative attitudes toward the sensation which pain is. The realist is thus forced to recognize the role of our evaluative attitudes in determining the disvalue of pain. Though initially plausible, it is a mistake to say that pain is bad independently of our evaluative attitudes. Pain, if it is plausibly to be construed as bad independently of our other evaluative attitudes, must be understood as a sensation such that we have a certain evaluative attitude toward it and it’s that evaluative attitude which (at least in part) makes the sensation bad.

#### Selective pressures have had a relentless impact on the content of our evaluative judgements – shared values and animal tendencies prove

Street 06 [(Sharon, Professor of Philosophy and Associate Chair of the Department of Philosophy at New York University) “A Darwinian Dilemma for Realist Theories of Value,” Springer, 2006]

To begin, note the potentially phenomenal costs and benefits, as measured in the Darwinian currency of reproductive success, of accepting some evaluative judgements rather than others. It is clear, for instance, how fatal to reproductive success it would be to judge that the fact that something would endanger one’s survival is a reason to do it, or that the fact that someone is kin is a reason to harm that individual. A creature who accepted such evaluative judgements would run itself off cliffs, seek out its predators, and assail its offspring, resulting in the speedy elimination of it and its evaluative tendencies from the world.13 In contrast, it is clear how beneficial (in terms of reproductive success) it would be to judge that the fact that something would promote one’s survival is a reason in favor of it, or that the fact that something would assist one’s offspring is a reason to do it. Different evaluative tendencies, then, can have extremely different effects on a creature’s chances of survival and reproduction. In light of this, it is only reasonable to expect there to have been, over the course of our evolutionary history, relentless selective pressure on the content of our evaluative judgements, or rather (as I discuss below) ‘‘proto’’ versions thereof. In particular, we can expect there to have been overwhelming pressure in the direction of making those evaluative judgements which tended to promote reproductive success (such as the judgement that one’s life is valuable), and against making those evaluative judgements which tended to decrease reproductive success (such as the judgement that one should attack one’s offspring).

The hypothesis that this is indeed very roughly what happened is borne out by the patterns of evaluative judgement that we observe in human beings today. There is, of course, a seemingly unlimited diversity to the evaluative judgements that human beings affirm. Yet even as we note this diversity, we also see deep and striking patterns, across both time and cultures, in many of the most basic evaluative judgements that human beings tend to make. Consider, as a brief sampling, the following judgements about reasons:

(1) The fact that something would promote one’s survival is a reason in favor of it.

(2) The fact that something would promote the interests of a family member is a reason to do it.

(3) We have greater obligations to help our own children than we do to help complete strangers.

(4) The fact that someone has treated one well is a reason to treat that person well in return.

(5) The fact that someone is altruistic is a reason to admire, praise, and reward him or her.

(6) The fact that someone has done one deliberate harm is a reason to shun that person or seek his or her punishment.

What explains the widespread human acceptance of such judgements? There are so many other possible judgements about reasons we could make so why these? Why, for instance, do we view the death of our offspring as a horror, rather than as something to be sought after? Why do we think that altruism with no hope of personal reward is the highest form of virtue, rather than something to be loathed and eliminated? Evolutionary biology offers powerful answers to these questions, very roughly of the form that these sorts of judgements about reasons tended to promote survival and reproduction much more effectively than the alternative judgements. The details of how survival and reproduction were promoted will vary depending on the evaluative tendency in question. In the case of judgement (1), for instance, the rough explanation is obvious: creatures who possessed this general evaluative tendency tended to do more to promote their survival than those who, say, had a tendency to view the fact that something would promote their survival as counting against it, and so the former tended to survive and reproduce in greater numbers. The explanation of evaluative tendencies in the direction of judgements such as (2) and (3) will be somewhat more complicated, drawing on the evolutionary theory of kin selection.14 The explanation in the case of evaluative tendencies in the direction of judgements (4), (5), and (6), meanwhile, will appeal to the biological theory of reciprocal altruism.15

For the sake of contrast, consider the following possible evaluative judgements:

(1) The fact that something would promote one’s survival is a reason against it.

(2) The fact that something would promote the interests of a family member is a reason not to do it.

(3) We have greater obligations to help complete strangers than we do to help our own children.

(4) The fact that someone has treated one well is a reason to do that individual harm in return.

(5) The fact that someone is altruistic is a reason to dislike, condemn, and punish him or her.

(6) The fact that someone has done one deliberate harm is a reason to seek out that person’s company and reward him or her.

If judgements like these ones that would, other things being equal, so clearly decrease rather than increase the reproductive success of those who made them predominated among our most deeply and widely held evaluative judgements across both time and cultures, then this would constitute powerful evidence that the content of our evaluative judgements had not been greatly influenced by Darwinian selective pressures. But these are not the evaluative judgements we tend to see; instead, among our most deeply and widely held judgements, we observe many like those on the first list many with exactly the sort of content one would expect if the content of our evaluative judgements had been heavily influenced by selective pressures. In this way, the observed patterns in the actual content of human evaluative judgements provide evidence in favor of the view that natural selection has had a tremendous influence on that content.

A further piece of evidence in favor of this view is the striking continuity that we observe between many of our own widely held evaluative judgements and the more basic evaluative tendencies of other animals, especially those most closely related to us. It does not seem much of a stretch, for example, to say that chimpanzees, in some primitive, non-linguistic sort of fashion, experience certain things in the world as calling for or counting in favor of certain reactions on their part. Moreover, the content of these evaluative experiences seems to overlap significantly with the content of many of our own evaluative tendencies. Like us, individual chimpanzees seem to experience at some basic motivational level actions that would promote their survival or help their offspring as in some way ‘‘called for.’’ More strikingly, and again at some basic motivational level, chimpanzees seem to experience the fact that another chimpanzee has helped them, whether by sharing food, grooming them, or supporting their position within the group hierarchy, as ‘‘counting in favor of’’ assisting that other individual in similar ways.16 While more work is needed to make such claims precise and subject them to thorough scientific testing, they have a strong basic plausibility, such that the conspicuous continuities between the basic evaluative tendencies of our close animal relatives and our own evaluative judgements lend further support to the view that evolutionary forces have played a large role in shaping the content of our evaluative judgements. We may view many of our evaluative judgements as conscious, reflective endorsements of more basic evaluative tendencies that we share with other animals.

#### **The Darwinian Dilemma makes moral realism impossible – the realist must defend judgements being true by pure coincidence or an anti-scientific account of evolution**

Street 06 [(Sharon, Professor of Philosophy and Associate Chair of the Department of Philosophy at New York University) “A Darwinian Dilemma for Realist Theories of Value,” Springer, 2006]   
Contemporary realist theories of value claim to be compatible with natural science. In this paper, I call this claim into question by arguing that Darwinian considerations pose a dilemma for these theories. The main thrust of my argument is this. Evolutionary forces have played a tremendous role in shaping the content of human evaluative attitudes. The challenge for realist theories of value is to explain the relation between these evolutionary influences on our evaluative attitudes, on the one hand, and the independent evaluative truths that realism posits, on the other. Realism, I argue, can give no satisfactory account of this relation. On the one hand, the realist may claim that there is no relation between evolutionary influences on our evaluative attitudes and independent evaluative truths. But this claim leads to the implausible skeptical result that most of our evaluative judgements are off track due to the distorting pressure of Darwinian forces. The realist’s other option is to claim that there is a relation between evolutionary influences and independent evaluative truths, namely that natural selection favored ancestors who were able to grasp those truths. But this account, I argue, is unacceptable on scientific grounds. Either way, then, realist theories of value prove unable to accommodate the fact that Darwinian forces have deeply influenced the content of human values. After responding to three objections, the third of which leads me to argue against a realist understanding of the disvalue of pain, I conclude by sketching how antirealism is able to sidestep the dilemma I have presented. Antirealist theories of value are able to offer an alternative account of the relation between evolutionary forces and evaluative facts an account that allows us to reconcile our understanding of evaluative truth with our understanding of the many non-rational causes that have played a role in shaping our evaluative judgements.

#### Our interpretation is that the aff must prove that states have a moral obligation to reduce IP for medicines.

#### Ought expresses a moral obligation

Dictionary n.d. [(Dictionary.com) “Ought”] JL

(used to express duty or moral obligation):

#### Ought statements assume moral realism

**Anscombe 58** [(G.E.M. Anscombe) Modern Moral Philosophy, The Journal of the The Royal Institute of Philosophy, 1/1958] DRD

The terms "should" or "ought" or "needs" relate to good and bad: e.g. machinery needs oil, or should or ought to be oiled, in that running without oil is bad for it, or it runs badly without oil. According to this conception, of course, "should" and "ought" are not used in a special "moral" sense when one says that a man should not bilk. (In Aristotle's sense of the term "moral" (ijfo/cds), they are being used in connection with a moral subject-matter: namely that of human passions and (non-technical) actions.) But they have now acquired a special so-called "moral" sense—i.e. a sense in which they imply some absolute verdict (like one of guilty / not guilty on a man) on what is described in the "ought" sentences used in certain types of context: not merely the contexts that Aristotle would call "moral"—passions and actions—but also some of the contexts that he would call "intellectual."

The ordinary (and quite indispensable) terms "should," "needs," "ought," "must"—acquired this special sense by being equated in the relevant contexts with "is obliged," or "is bound," or "is required to," in the sense in which one can be obliged or bound by law, or something can be required by law.

#### Prefer it:

#### Phil Ed – all of the debates that happen under their interp can still occur; we just also allow for debates about meta-ethics. Those debates are valuable -- saying “we have a moral obligation to do X” is useless if you can’t answer the argument that moral obligations don’t exist.

#### Ground – anti-moral realism is a key negative generic, especially on a topic where there’s an aff about every WTO member and kind of medicine, but no neg args that answer every aff

#### No offense –

#### Stale debates are inevitable because of generics like Nebel T, but generic meta ethics debates are better since they produce transferrable skills

#### Our interp filters out bad arguments – a prioris and paradoxes don’t negate since they don’t disprove that states have a moral obligation to do the plan

## 1NC – Case

### 1NC – !

#### Resilience and countermeasures prevent spread – distinct from burnout

Adalja 16

Amesh Adalja is an infectious-disease physician at the University of Pittsburgh, The Atlantic, June 17, 2016, “Why Hasn't Disease Wiped out the Human Race?”, https://www.theatlantic.com/health/archive/2016/06/infectious-diseases-extinction/487514/

But when people ask me if I’m worried about infectious diseases, they’re often not asking about the threat to human lives; they’re asking about the threat to human life. With each outbreak of a headline-grabbing emerging infectious disease comes a fear of extinction itself. The fear envisions a large proportion of humans succumbing to infection, leaving no survivors or so few that the species can’t be sustained.

I’m not afraid of this apocalyptic scenario, but I do understand the impulse. Worry about the end is a quintessentially human trait. Thankfully, so is our resilience.

For most of mankind’s history, infectious diseases were the existential threat to humanity—and for good reason. They were quite successful at killing people: The 6th century’s Plague of Justinian knocked out an estimated 17 percent of the world’s population; the 14th century Black Death decimated a third of Europe; the 1918 influenza pandemic killed 5 percent of the world; malaria is estimated to have killed half of all humans who have ever lived.

Any yet, of course, humanity continued to flourish. Our species’ recent explosion in lifespan is almost exclusively the result of the control of infectious diseases through sanitation, vaccination, and antimicrobial therapies. Only in the modern era, in which many infectious diseases have been tamed in the industrial world, do people have the luxury of death from cancer, heart disease, or stroke in the 8th decade of life. Childhoods are free from watching siblings and friends die from outbreaks of typhoid, scarlet fever, smallpox, measles, and the like.

**Intervening actors check**

**Zakaria 9—**Editor of Newsweek, BA from Yale, PhD in pol sci, Harvard. He serves on the board of Yale University, The Council on Foreign Relations, The Trilateral Commission, and Shakespeare and Company. Named "one of the 21 most important people of the 21st Century" (Fareed, “The Capitalist Manifesto: Greed Is Good,” 13 June 2009, http://www.newsweek.com/id/201935)

Note—Laurie Garrett=science and health writer, winner of the Pulitzer, Polk, and Peabody Prize

It certainly looks like another example of crying wolf. **After bracing ourselves for a global pandemic, we've suffered** something more like **the usual seasonal influenza**. Three weeks ago the World Health Organization declared a health emergency, warning countries to "prepare for a pandemic" and said that the only question was the extent of worldwide damage. **Senior officials prophesied that millions could be infected** by the disease. **But as of last week, the WHO had confirmed only 4,800 cases** of swine flu, with 61 people having died of it. Obviously, these low numbers are a pleasant surprise, but it does make one wonder, what did we get wrong? **Why did** the **predictions of a pandemic turn out to be so exaggerated**? Some people blame an overheated media, but it would have been difficult to ignore major international health organizations and governments when they were warning of catastrophe. I think **there is a** broader **mistake in the way we look at the world.** Once we see a problem, we can describe it in great detail, extrapolating all its possible consequences. But **we** can **rarely anticipate the human response to that crisis. Take** **swine flu. The virus** **had crucial characteristics** **that led researchers to worry that it could spread far and fast**. They described—and the media reported—what would happen if it went unchecked. **But it did not go unchecked**. **In fact, swine flu was met by an extremely vigorous response at its epicenter**, **Mexico. The Mexican government reacted quickly** and massively, quarantining the infected population, testing others, providing medication to those who needed it. **The noted expert on this subject,** Laurie **Garrett, says, "**We should all stand up and scream, **'Gracias, Mexico**!' because the Mexican people and the Mexican government have sacrificed on a level that I'm not sure as Americans we would be prepared to do in the exact same circumstances. They shut down their schools. They shut down businesses, restaurants, churches, sporting events. **They** basically paralyzed their own economy. They've suffered billions of dollars in financial losses still being tallied up, and thereby **really brought transmission to a halt." Every time one of these viruses is detected**, writers and **officials bring up the Spanish influenza** epidemic **of 1918** in which millions of people died. Indeed, during the last pandemic scare, in 2005, President George W. Bush claimed that he had been reading a history of the Spanish flu to help him understand how to respond. **But the world we live in today looks nothing like 1918. Public health-care systems are far better** and more widespread than anything that existed during the First World War. **Even Mexico, a developing country, has a first-rate public-health system**—far better than anything Britain or France had in the early 20th century.

#### Diseae outbreaks will be defeated with quarantines

**Szalai 7/26** [(Jennifer Szalai - author for the NYT) “The Extradordinary History (and likely busy future) of quarantine” The New York Times. 7-26-2021]

**Quarantine can be lifesaving**; it can also be dangerous, an exercise of extraordinary power in the name of disease control, a presumption of guilt instead of innocence.

In “Until Proven Safe,” a new book about quarantine’s past and future, Geoff Manaugh and Nicola Twilley do an impressively judicious job of explaining exactly why fears of quarantine are understandable and historically justified, while also showing how in coming years “we will almost certainly find ourselves more dependent on quarantine, not less.” Quarantine has to do with risk and uncertainty, and its logic is simple: “There might be something dangerous inside you — something contagious — on the verge of breaking free.”

**While medical advances have made some diseases more diagnosable** and less deadly, newfound knowledge can also accentuate the depths of our ignorance. The more we know, the more we know how much we don’t know — not to mention that **modern life, with escalating numbers of people and goods churning** their way **around the world**, has **increased the opportunities for contagion.**

Quarantine is distinct from isolation, even if the terms are often used interchangeably. Someone is isolated when they are known to be sick; **someone is quarantined when they might be but we cannot be sure**. Manaugh, an architecture and technology blogger, and Twilley, the co-host of a podcast about the science and history of food, bring an impressively wide range of interests to bear on a subject that involves not only infectious disease but also — in their ambitious yet seamless narration — politics, agriculture, surveillance and even outer space.

#### Quarantines solve climate change – COVID was responsible for the largest drop in emissions ever

**Alexander 20** [(Kurtis, a general assignment reporter for The San Francisco Chronicle, frequently writing about water, wildfire, climate and the American West. His recent work has focused on the impacts of drought, the widening rural-urban divide and state and federal environmental policy. Before joining the Chronicle, Alexander worked as a freelance writer and as a staff reporter for several media organizations, including The Fresno Bee and Bay Area News Group, writing about government, politics and the environment.) "Coronavirus has altered the global warming trajectory. But for how long?" San Francisco Chronicle, 5/20/20, https://www.sfchronicle.com/health/article/Greenhouse-gas-emissions-on-track-for-record-drop-15279312.php] TDI

The disruption caused by the coronavirus has been so profound that it’s altered the trajectory of global warming.

Not since World War II — and perhaps never before — have the emissions of heat-trapping gases dropped as much around the planet as they have during the COVID-19 outbreak.

The latest and most detailed study yet on the pandemic’s impact on climate pollution, published Tuesday and authored by the research group Global Carbon Project chaired by Stanford University’s Rob Jackson, finds that the Earth will see up to a 7% decrease in carbon dioxide this year. The dip is five times the decline in emissions in 2009, when the recession choked the world’s economy, and double what it was in 1992, after the fall of the Soviet Union.

The paper’s findings mirror other reports that have similarly found sharp drops in greenhouse gases recently. The emerging research also is in agreement that the lull will likely be short-lived and, at best, buy time before the most devastating effects of climate change take hold. The lockdown that has halted factories, energy plants and automobiles during the pandemic is already lifting, and without deliberate action, carbon-intense activities are bound to resume.

“That’s the danger here,” said Jackson, a professor of earth system science and senior fellow at Stanford Woods Institute for the Environment. “We’ve decreased emissions for the wrong reasons. Will they jump back up starting this fall, or could the virus allow us to rethink transportation and other parts of the economy?”

The answer to the question, say Jackson and others, may not be so straightforward. Greenhouse gases could rebound in some areas, and there could be lasting decreases in others.

Measuring heat-trapping gas emissions, for which carbon dioxide is a proxy, is not easy to do, especially in real time. The researchers at the Global Carbon Project analyzed daily economic activity in 69 countries from January through April and modeled the carbon pollution that likely resulted, then compared it to last year. The countries included have historically produced almost all of the world’s carbon dioxide.

The researchers found that China, the largest polluter, reduced emissions by nearly 24% on some days in mid-February. The United States, the second-largest polluter, cut emissions by nearly 32% for almost two weeks in mid-April. The European Union, including Great Britain, trimmed emissions by about 27% during the first week of April.

The dates of peak reductions varied in different parts of the globe because each locked down at a different time. The biggest cumulative drop in carbon dioxide was on April 7 and measured about 17%, according to the study.

While a variety of activity explains the declines, fewer people driving was the largest contributor worldwide. Less industrial pollution was also a big contributor.

Based on the observed drops in emissions, the researchers estimate that going forward, carbon dioxide will fall between 4% and 7% for the year worldwide, depending on how quickly countries end their lockdowns.

Jackson said the amount of the decline can be viewed as both considerable, given that it’s the largest ever seen, and humbling because it’s the minimum needed annually to put the planet on track to meet the Paris climate agreement — enough of a drop to prevent the global temperature from rising 2 degrees Celsius above preindustrial levels.

“We would need to do this every year,” he said.

The International Energy Agency recently projected an 8% dip in greenhouse gases for the year while the International Monetary Fund came up with an estimate closer to 6%. Both organizations said carbon pollution would likely rise again in 2021.

After the decline in emissions in 2009 of about 1.4%, the following year saw an increase of 5.1%.

The Global Carbon Project says there’s reason to think that at least some parts of the globe will try to prevent heat-trapping gases from bouncing back. Stimulus programs aimed at developing clean energy and new carbon-friendly ways of living adopted during the pandemic, such as working from home, could help limit emissions.

“Cities from Seattle to Milan are keeping roads closed to cars and letting them stay open to bikes and pedestrians even after the shelter-in-place,” Jackson said. “And maybe COVID-19 and stimulus funding will jump-start electric cars.”

#### Shutdowns solve climate change – substantially reduce emissions, air and water pollution, directs attention to climate

**Chow 20** [(Denise, a reporter for NBC News Science focused on general science and climate change) "Coronavirus shutdowns have unintended climate benefits: cleaner air, clearer water," NBC News, 3/18/20, https://www.nbcnews.com/science/environment/coronavirus-shutdowns-have-unintended-climate-benefits-n1161921] DRD

Concentrations of nitrogen dioxide in the atmosphere over Italy also fell precipitously, as they did in China. An analysis by The Washington Post found that the most dramatic drop was observed over northern Italy.

Nitrogen dioxide can irritate the lungs, and inhaling the pollutant can increase the risk of asthma and inflammation of the lungs. Although the noxious gas isn't thought to be a major contributor to climate change, studying its concentration in the atmosphere can help scientists understand other heat-trapping greenhouse gases that do drive global warming.

Jacqueline Klopp, co-director of the Center for Sustainable Urban Development at Columbia University in New York City, said she expects to see greenhouse gas emissions plummet across the board because of the quarantine measures.

"People were in their homes and really stopped a lot of the activities that lead to greenhouse gas emissions and other pollution," she said.

Early observations have shown that extreme social-distancing measures are likely also having an effect on air pollution at the city level in the U.S.

Jordan Wildish, a project director at Earth Economics, an environmental non-profit organization based in Tacoma, Washington, developed an online dashboard to track air quality in San Francisco, New York City and the Seattle area, comparing the measurements with figures from the same time last year.

In San Francisco, which is under shelter-in-place orders to control the spread of the coronavirus, the average concentration of fine particulate matter — tiny particles in the air that are dangerous because they can be breathed deeply into the lungs — over the past five days was almost 40 percent lower than the previous year.

In New York City, there was a 28 percent drop over the same period of time, and the Seattle-Tacoma-Bellevue saw a 32 percent decrease.

But experts warned that observed reductions are temporary and that as cities, countries and economies bounce back, so, too, will emissions — unless major infrastructure or societal changes are adopted.

Klopp said the pandemic could make companies and governments realize that other threats to humanity, including climate change, could be just as devastating and that it's imperative to develop protective measures.

**Warming causes extinction**

**Ramanathan et al. 17** [Veerabhadran Ramanathan is Victor Alderson Professor of Applied Ocean Sciences and director of the Center for Atmospheric Sciences at the Scripps Institution of Oceanography, University of California, San Diego, Dr. William Collins is an internationally recognized expert in climate modeling and climate change science. He is the Director of the Climate and Ecosystem Sciences Division (CESD) for the Earth and Environmental Sciences Area (EESA) at the Lawrence Berkeley National Laboratory (LBNL), Prof. Dr Mark Lawrence, Ph.D. is scientific director at the Institute for Advanced Sustainability Studies (IASS) in Potsdam, Örjan Gustafsson is a Professor in the Department of Environmental Science and Analytic Chemistry at Stockholm University, Shichang Kang is Professor, Cold and Arid Regions Environmental and Engineering Research Institute, Chinese Academy of Sciences (CAS); CAS Center for Excellence in Tibetan Plateau Earth Sciences, and Molina, M.J., Zaelke, D., Borgford-Parnell, N., Xu, Y., Alex, K., Auffhammer, M., Bledsoe, P., Croes, B., Forman, F., Haines, A., Harnish, R., Jacobson, M.Z., Lawrence, M., Leloup, D., Lenton, T., Morehouse, T., Munk, W., Picolotti, R., Prather, K., Raga, G., Rignot, E., Shindell, D., Singh, A.K., Steiner, A., Thiemens, M., Titley, D.W., Tucker, M.E., Tripathi, S., & Victor, D., authors come from the following 9 countries - US, Switzerland, Sweden, UK, China, Germany, Australia, Mexico, India, “Well Under 2 Degrees Celsius: Fast Action Policies to Protect People and the Planet from Extreme Climate Change,” Report of the Committee to Prevent Extreme Climate Change, September 2017, http://www.igsd.org/wp-content/uploads/2017/09/Well-Under-2-Degrees-Celsius-Report-2017.pdf] TDI

**Climate change is becoming an existential threat with warming in excess of 2°C within the next three decades and 4°C to 6°C within the next several decades. Warming of such magnitudes will expose as many as 75% of the world’s population to deadly heat stress in addition to disrupting the climate and weather worldwide. Climate change is an urgent problem requiring urgent solutions**. This paper lays out urgent and **practical solutions that are ready for implementation now, will deliver benefits in the next few critical decades**, and places the world on a path to achieving the longterm targets of the Paris Agreement and near-term sustainable development goals. The approach consists of four building blocks and 3 levers to implement ten scalable solutions described in this report by a team of climate scientists, policy makers, social and behavioral scientists, political scientists, legal experts, diplomats, and military experts from around the world. These solutions will enable society to decarbonize the global energy system by 2050 through efficiency and renewables, drastically reduce short-lived climate pollutants, and stabilize the climate well below 2°C both in the near term (before 2050) and in the long term (post 2050). It will also reduce premature mortalities by tens of millions by 2050. As an insurance against policy lapses, mitigation delays and faster than projected climate changes, the solutions include an Atmospheric Carbon Extraction lever to remove CO2 from the air. The amount of CO2 that must be removed ranges from negligible, if the emissions of CO2 from the energy system and SLCPs start to decrease by 2020 and carbon neutrality is achieved by 2050, to a staggering one trillion tons if the carbon lever is not pulled and emissions of climate pollutants continue to increase until 2030.

There are numerous living laboratories including 53 cities, many universities around the world, the state of California, and the nation of Sweden, who have embarked on a carbon neutral pathway. These laboratories have already created 8 million jobs in the clean energy industry; they have also shown that **emissions of greenhouse gases and air pollutants can be decoupled from economic growth**. Another favorable sign is that **growth rates of worldwide carbon emissions have reduced from 2.9% per year during the first decade of this century to 1.3% from 2011 to 2014 and near zero growth rates during the last few years. The carbon emission curve is bending, but we have a long way to go and very little time for achieving carbon neutrality**. We need institutions and enterprises that can accelerate this bending by scaling-up the solutions that are being proven in the living laboratories. We have less than a decade to put these solutions in place around the world to preserve nature and our quality of life for generations to come. The time is now.

The Paris Agreement is an historic achievement. For the first time, effectively all nations have committed to limiting their greenhouse gas emissions and taking other actions to limit global temperature change. Specifically, 197 nations agreed to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels,” and achieve carbon neutrality in the second half of this century.

**The climate has already warmed by 1°C. The problem is running ahead of us, and under current trends we will likely reach 1.5°C in the next fifteen years and surpass the 2°C guardrail by mid-century with a 50% probability of reaching 4°C by end of century**. Warming in excess of 3°C is likely to be a global catastrophe for three major reasons:

• **Warming in the range of 3°C to 5°C is suggested as the threshold for several tipping points in the physical and geochemical systems; a warming of about 3°C has a probability of over 40% to cross over multiple tipping points, while a warming close to 5°C increases it to nearly 90%, compared with a baseline warming of less than 1.5°C, which has only just over a 10% probability of exceeding any tipping point.**

**• Health effects of such warming are emerging as a major if not dominant source of concern. Warming of 4°C or more will expose more than 70% of the population, i.e. about 7 billion by the end of the century, to deadly heat stress and expose about 2.4 billion to vector borne diseases such as Dengue, Chikengunya, and Zika virus among others**. Ecologists and paleontologists have proposed that warming in excess of 3°C, accompanied by increased acidity of the oceans by the buildup of CO2 , can become a major causal factor for exposing more than 50% of all species to extinction. 20% of species are in danger of extinction now due to population, habitat destruction, and climate change.

The good news is that **there may still be time to avert such catastrophic changes**. The Paris Agreement and **supporting climate policies must be strengthened substantially within the next five years to bend the emissions curve down faster, stabilize climate, and prevent catastrophic warming**. To the extent those efforts fall short, societies and **ecosystems will be forced to contend with substantial needs for adaptation—a burden that will fall disproportionately on the poorest three billion who are least responsible for causing the climate change problem.**

Here we propose a policy roadmap with a realistic and reasonable chance of limiting global temperature to safe levels and preventing unmanageable climate change—an outline of specific science-based policy pathways that serve as the building blocks for a three-lever strategy that could limit warming to well under 2°C. The projections and the emission pathways proposed in this summary are based on a combination of published recommendations and new model simulations conducted by the authors of this study (see Figure 2). We have framed the plan in terms of four building blocks and three levers, which are implemented through 10 solutions. The first building block would be fully implementing the nationally determined mitigation pledges under the Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC). In addition, several sister agreements that provide targeted and efficient mitigation must be strengthened. Sister agreements include the Kigali Amendment to the Montreal Protocol to phase down HFCs, efforts to address aviation emissions through the International Civil Aviation Organization (ICAO), maritime black carbon emissions through the International Maritime Organization (IMO), and the commitment by the eight countries of the Arctic Council to reduce black carbon emissions by up to 33%. There are many other complementary processes that have drawn attention to specific actions on climate change, such as the Group of 20 (G20), which has emphasized reform of fossil fuel subsidies, and the Climate and Clean Air Coalition (CCAC). HFC measures, for example, can avoid as much as 0.5°C of warming by 2100 through the mandatory global phasedown of HFC refrigerants within the next few decades, and substantially more through parallel efforts to improve energy efficiency of air conditioners and other cooling equipment potentially doubling this climate benefit.

For the second building block, numerous subnational and city scale climate action plans have to be scaled up. One prominent example is California’s Under 2 Coalition signed by over 177 jurisdictions from 37 countries in six continents covering a third of world economy. The goal of this Memorandum of Understanding is to catalyze efforts in many jurisdictions that are comparable with California’s target of 40% reductions in CO2 emissions by 2030 and 80% reductions by 2050—emission cuts that, if achieved globally, would be consistent with stopping warming at about 2°C above pre-industrial levels. Another prominent example is the climate action plans by over 52 cities and 65 businesses around the world aiming to cut emissions by 30% by 2030 and 80% to 100% by 2050. There are concerns that the carbon neutral goal will hinder economic progress; however, real world examples from California and Sweden since 2005 offer evidence that economic growth can be decoupled from carbon emissions and the data for CO2 emissions and GDP reveal that growth in fact prospers with a green economy.

The third building block consists of two levers that we need to pull as hard as we can: one for drastically reducing emissions of short-lived climate pollutants (SLCPs) beginning now and completing by 2030, and the other for decarbonizing the global energy system by 2050 through efficiency and renewables. Pulling both levers simultaneously can keep global temperature rise below 2°C through the end of the century. If we bend the CO2 emissions curve through decarbonization of the energy system such that global emissions peak in 2020 and decrease steadily thereafter until reaching zero in 2050, there is less than a 20% probability of exceeding 2°C. This call for bending the CO2 curve by 2020 is one key way in which this report’s proposal differs from the Paris Agreement and it is perhaps the most difficult task of all those envisioned here. Many cities and jurisdictions are already on this pathway, thus demonstrating its scalability. Achieving carbon neutrality and reducing emissions of SLCPs would also drastically reduce air pollution globally, including all major cities, thus saving millions of lives and over 100 million tons of crops lost to air pollution each year. In addition, these steps would provide clean energy access to the world’s poorest three billion who are still forced to resort to 18th century technologies to meet basic needs such as cooking. For the fourth and the final building block, we are adding a third lever, ACE (Atmospheric Carbon Extraction, also known as Carbon Dioxide Removal, or “CDR”). This lever is added as an insurance against surprises (due to policy lapses, mitigation delays, or non-linear climate changes) and would require development of scalable measures for removing the CO2 already in the atmosphere. The amount of CO2 that must be removed will range from negligible, if the emissions of CO2 from the energy system and SLCPs start to decrease by 2020 and carbon neutrality is achieved by 2050, to a staggering one trillion tons, if CO2 emissions continue to increase until 2030, and the carbon lever is not pulled until after 2030. This issue is raised because the NDCs (Nationally Determined Contributions) accompanying the Paris Agreement would allow CO2 emissions to increase until 2030. We call on economists and experts in political and administrative systems to assess the feasibility and cost-effectiveness of reducing carbon and SLCPs emissions beginning in 2020 compared with delaying it by ten years and then being forced to pull the third lever to extract one trillion tons of CO2

The fast mitigation plan of requiring emissions reductions to begin by 2020, which means that many countries need to cut now, is urgently needed to limit the warming to well under 2°C. Climate change is not a linear problem. Instead, we are facing non-linear climate tipping points that can lead to self-reinforcing and cascading climate change impacts. Tipping points and selfreinforcing feedbacks are wild cards that are more likely with increased temperatures, and many of the potential abrupt climate shifts could happen as warming goes from 1.5°C in 15 years to 2°C by 2050, with the potential to push us well beyond the Paris Agreement goals.

Where Do We Go from Here?

**A massive effort will be needed to stop warming at 2°C, and time is of the essence. With unchecked business-as-usual emissions, global warming has a 50% likelihood of exceeding 4ºC and a 5% probability of exceeding 6ºC in this century, raising existential questions for most, but especially the poorest three billion people. A 4ºC warming is likely to expose as many as 75% of the global population to deadly heat.** Dangerous to catastrophic impacts on the health of people including generations yet to be born, on the health of ecosystems, and on species extinction have emerged as major justifications for mitigating climate change well below 2ºC, although we must recognize that the uncertainties intrinsic in climate and social systems make it hard to pin down exactly the level of warming that will trigger possibly catastrophic impacts. To avoid these consequences, we must act now, and we must act fast and effectively. This report sets out a specific plan for reducing climate change in both the near- and long-term. With aggressive urgent actions, we can protect ourselves. Acting quickly to prevent catastrophic climate change by decarbonization will save millions of lives, trillions of dollars in economic costs, and massive suffering and dislocation to people around the world. This is a global security imperative, as it can avoid the migration and destabilization of entire societies and countries and reduce the likelihood of environmentally driven civil wars and other conflicts.

Staying well under 2°C will require a concerted global effort. We must address everything from our energy systems to our personal choices to reduce emissions to the greatest extent possible. We must redouble our efforts to invent, test, and perfect systems of governance so that the large measure of international cooperation needed to achieve these goals can be realized in practice. The health of people for generations to come and the health of ecosystems crucially depend on an energy revolution beginning now that will take us away from fossil fuels and toward the clean renewable energy sources of the future. It will be nearly impossible to obtain other critical social goals, including for example the UN agenda 2030 with the Sustainable Development Goals, if we do not make immediate and profound progress stabilizing climate, as we are outlining here.

1. The Building Blocks Approach The 2015 Paris Agreement, which went into effect November 2016, is a remarkable, historic achievement. For the frst time, essentially all nations have committed to limit their greenhouse gas emissions and take other actions to limit global temperature and adapt to unavoidable climate change. Nations agreed to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels” and “achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century” (UNFCCC, 2015). Nevertheless, the initial Paris Agreement has to be strengthened substantially within fve years if we are to prevent catastrophic warming; **current pledges place the world on track for up to 3.4°C by 2100 (UNEP, 2016b). Until now, no specifc policy roadmap exists that provides a realistic and reasonable chance of limiting global temperatures to safe levels and preventing unmanageable climate change**. This report is our attempt to provide such a plan— an outline of specifc solutions that serve as the building blocks for a comprehensive strategy for limiting the warming to well under 2°C and avoiding dangerous climate change (Figure 1). The frst building block is the full implementation of the nationally determined mitigation pledges under the Paris Agreement of the UN Framework Convention on Climate Change (UNFCCC) and strengthening global sister agreements, such as the Kigali Amendment to the Montreal Protocol to phase down HFCs, which can provide additional targeted, fast action mitigation at scale. For the second building block, numerous sub-national and city scale climate action plans have to be scaled up such as California’s Under 2 Coalition signed by 177 jurisdictions from 37 countries on six continents. The third building block is targeted measures to reduce emissions of shortlived climate pollutants (SLCPs), beginning now and fully implemented by 2030, along with major measures to fully decarbonize the global economy, causing the overall emissions growth rate to stop in 2020-2030 and reach carbon neutrality by 2050. Such a deep decarbonization would require an energy revolution similar to the Industrial Revolution that was based on fossil fuels. The fnal building block includes scalable and reversible carbon dioxide (CO2 ) removal measures, which can begin removing CO2 already emitted into the atmosphere. Such a plan is urgently needed. Climate change is not a linear problem. Instead, climate tipping points can lead to self-reinforcing, cascading climate change impacts (Lenton et al., 2008). Tipping points are more likely with increased temperatures, and many of the potential abrupt climate shifts could happen as warming goes from 1.5°C to 2°C, with the potential to push us well beyond the Paris Agreement goals (Drijfhout et al., 2015). In order to avoid dangerous climate change, we must address these concerns. **We must act now, and we must act fast. Reduction of SLCPs will result in fast, near-term reductions in warming, while present-day reductions of CO2 will result in long-term climate benefts**. This two-lever approach—aggressively cutting both SLCPs and CO2 –-will slow warming in the coming decades when it is most crucial to avoid impacts from climate change as well as maintain a safe climate many decades from now. To achieve the nearterm goals, we have outlined solutions to be implemented immediately. These solutions to bend down the rising emissions curve and thus bend the warming trajectory curve follow a 2015 assessment by the University of California under its Carbon Neutrality Initiative (Ramanathan et al., 2016). The solutions are clustered into categories of social transformation, governance improvement, market- and regulation-based solutions, technological innovation and transformation, and natural and ecosystem management. Additionally, we need to intensely investigate and pursue a third lever—ACE (Atmospheric Carbon Extraction). While many potential technologies exist, we do not know the extent to which they could be scaled up to remove the requisite amount of carbon from the atmosphere in order to achieve the Paris Agreement goals, and any delay in mitigation will demand increasing reliance on these technologies. Yet, there is still hope. Humanity can come together, as we have done in the past, to collaborate towards a common goal. We have no choice but to tackle the challenge of climate change. We only have the choice of when and how: **either now, through the ambitious plan outlined here, or later, through radical adaptation and societal transformations in response to an ever-deteriorating climate system that will unleash devastating impacts—some of which may be beyond our capacity to fully adapt to or reverse for thousands of years.**

2. Major Climate Disruptions: How Soon and How Fast? “Without adequate mitigation and adaptation, climate change poses unacceptable risks to global public health.” (WHO, 2016)

The planet has already witnessed nearly 1°C of warming, and another 0.6°C of additional warming is currently stored in the ocean to be released over the next two to four decades, if climate warming emissions are not radically reduced during that time (IPCC, 2013). The impacts of this warming on extreme weather, droughts, and foods are being felt by society worldwide to the extent that many think of this no longer as climate change but as climate disruption. Consider the business as usual scenario:

15 years from now: In 15 years, planetary warming will reach 1.5°C above pre-industrial global mean temperature (Ramanathan and Xu, 2010; Shindell et al., 2012). This exceeds the 0.5°C to 1°C of warming during the Eemian period, 115,000– 130,000 years ago, when sea-levels reached 6-9 meters (20-30 feet) higher than today (Hansen et al., 2016b). The impacts of this warming will affect us all yet will disproportionately affect the Earth’s poorest three billion people, who are primarily subsistence farmers that still rely on 18th century technologies and have the least capacity to adapt (IPCC, 2014a; Dasgupta et al., 2015). They thus may be forced to resort to mass migration into city slums and push across international borders (U.S. DOD, 2015). The existential fate of lowlying small islands and coastal communities will also need to be addressed, as they are primarily vulnerable to sea-level rise, diminishing freshwater resources, and more intense storms. In addition, many depend on fsheries for protein, and these are likely to be affected by ocean acidifcation and climate change. Climate injustice could start causing visible regional and international conficts. All of this will be exacerbated as the risk of passing tipping points increases (Lenton et al., 2008).

30 years from now: By mid-century, warming is expected to exceed 2°C, which would be unprecedented with respect to historical records of at least the last one million years (IPCC, 2014c). Such a warming through this century could result in sea-level rise of as much as 2 meters by 2100, with greater sea-level rise to follow. A group of tipping points are clustered between 1.5°C and 2°C (Figure 2) (Drijfhout et al., 2015). The melting of most mountain glaciers, including those in the Tibetan-Himalayas, combined with mega-droughts, heat waves, storms, and foods, would adversely affect nearly everyone on the planet.

80 years from now: In 80 years, warming is expected to exceed 4°C, increasing the likelihood of irreversible and catastrophic change (World Bank, 2013b). 4ºC warming is likely to expose as much as 75% of the global population to deadly heat (Mora et al., 2017). The 2°C and 4°C values quoted above and in other reports, however, are merely the central values with a 50% probability of occurrence (Ramanathan and Feng, 2008). There is a 5% probability the warming could be as high as 6°C due to uncertainties in the magnitude of amplifying feedbacks (see Section 4). This in turn could lead to major disruptions to natural and social systems, threatening food security, water security, and national security and fundamentally affecting the great majority of the projected 11.2 billion inhabitants of the planet in 2100 (UN DESA, 2015).

3. What Are the Wild Cards for Climate Disruption? Increasing the concentrations of greenhouse gases in the atmosphere increases radiative forcing (the difference between the amount of energy entering the atmosphere and leaving) and thus increases the global temperature (IPCC, 2013). However, climate wild cards exist that can alter the linear connection with warming and anthropogenic emissions by triggering abrupt changes in the climate (Lenton et al., 2008). Some of these wild cards have not been thoroughly captured by the models that policymakers rely on the most. These abrupt shifts are irreversible on a human time scale (<100 years) and will create a notable disruption to the climate system, condemning the world to warming beyond that which we have previously projected. These climate disruptions would divert resources from needed mitigation and upset mitigation strategies that we have already put in place.

1. Unmasking Aerosol Cooling: The frst such wild card is the unmasking of an estimated 0.7°C (with an uncertainty range of 0.3°C to 1.2°C) of the warming in addition to mitigating other aerosol effects such as disrupting rainfall patterns, by reducing emissions of aerosols such as sulfates and nitrates as part of air pollution regulations (Wigley, 1991; Ramanathan and Feng, 2008). Aerosol air pollution is a major health hazard with massive costs to public health and society, including contributing to about 7 million deaths (from household and ambient exposure) each year (WHO, 2014). While some aerosols, such as black carbon and brown carbon, strongly absorb sunlight and warm the climate, others refect sunlight back into space, which cools the climate (Ramanathan and Carmichael, 2008). The net impact of all manmade aerosols is negative, meaning that about 30% of the warming from greenhouse gases is being masked by co-emitted air pollution particles (Ramanathan and Carmichael, 2008). As we reduce greenhouse gas emissions and implement policies to eliminate air pollution, we are also reducing the concentration of aerosols in the air. Aerosols last in the atmosphere for about a week, so if we eliminate air pollution without reducing emissions of the greenhouse gases, the unmasking alone would lead to an estimated 0.7°C of warming within a matter of decades (Ramanathan and Feng, 2008). We must eliminate all aerosol emissions due to their health effects, but we must simultaneously mitigate emissions of CO2 , other greenhouse gases, and black carbon and co-pollutants to avoid an abrupt and very large jump in the near-term warming beyond 2°C (Brasseur and Roeckner, 2005).

2. Tipping Points**: It is likely that as we cross the 1.5°C to 2°C thresholds we will trigger so called “tipping points” for abrupt and nonlinear changes in the climate system with catastrophic consequences** for humanity and the environment (Lenton, 2008; Drijfhout et al., 2015). Once the tipping points are passed, the resulting impacts will range in timescales from: disruption of monsoon systems (transition in a year), loss of sea ice (approximately a decade for transition), dieback of major forests (nearly half a century for transition), reorganization of ocean circulation (approximately a century for transition), to loss of ice sheets and subsequent sea-level rise (transition over hundreds of years) (Lenton et al., 2008). Regardless of timescale, once underway many of these changes would be irreversible (Lontzek et al., 2015). There is also a likelihood of crossing over multiple tipping points simultaneously. Warming of close to 3°C would subject the system to a 46% probability of crossing multiple tipping points, while warming of close to 5°C would increase the risk to 87% (Cai et al., 2016). Recent modeling work shows a “cluster” of these tipping points could be triggered between 1.5°C and 2°C warming (Figure 2), including melting of land and sea ice and changes in highlatitude ocean circulation (deep convection) (Drijfhout et al., 2015). This is consistent with existing observations and understanding that the polar regions are particularly sensitive to global warming and have several potentially imminent tipping points. The Arctic is warming nearly twice as quickly as the global average, which makes the abrupt changes in the Arctic more likely at a lower level of global warming (IPCC, 2013). Similarly, the Himalayas are warming at roughly the same rate as the Arctic and are thus also more susceptible to incremental changes in temperature (UNEP-WMO, 2011). This gives further justifcation for limiting warming to no more than 1.5°C.

While all climate tipping points have the potential to rapidly destabilize climate, social, and economic systems, some are also **self-amplifying feedbacks that once set in motion increase warming in such a way that they perpetuate yet even more warming. Declining Arctic sea ice, thawing permafrost, and the poleward migration of cloud systems are all examples of self-amplifying feedback mechanisms, where initial warming feeds upon itself to cause still more warming acting as a force multiplier (Schuur et al., 2015).**

#### Large-scale diseases solve nuclear war---it’s likely now.

Barry. R. Posen 20. Ford International Professor of Political Science at MIT and Director Emeritus of the MIT Security Studies Program. 4/23/2020. “Do Pandemics Promote Peace?” https://www.foreignaffairs.com/articles/china/2020-04-23/do-pandemics-promote-peace. DOA: 9/2/2020. SIR.

As the novel coronavirus infects the globe, states compete for scientific and medical supplies and blame one another for the pandemic’s spread. Policy analysts have started asking whether such tensions could eventually erupt into military conflict. Has the pandemic increased or decreased the motive and opportunity of states to wage war? War is a risky business, with potentially very high costs. The historian Geoffrey Blainey argued in The Causes of War that most wars share a common characteristic at their outset: optimism. The belligerents usually start out sanguine about their odds of military success. When elites on both or all sides are confident, they are more willing to take the plunge—and less likely to negotiate, because they think they will come out better by fighting. Peace, by contrast, is served by pessimism. Even one party’s pessimism can be helpful: that party will be more inclined to negotiate and even accept an unfavorable bargain in order to avoid war. When one side gains a sudden and pronounced advantage, however, this de-escalatory logic can break down: the optimistic side will increase its demands faster than the pessimistic side can appease. Some analysts worry that something like this could happen in U.S.-Chinese relations as a result of the new coronavirus. The United States is experiencing a moment of domestic crisis. China, some fear, might see the pandemic as playing to its advantage and be tempted to throw its military weight around in the western Pacific. What these analysts miss is that COVID-19, the disease caused by the coronavirus, is weakening all of the great and middle powers more or less equally. None is likely to gain a meaningful advantage over the others. All will have ample reason to be pessimistic about their military capabilities and their overall readiness for war. For the duration of the pandemic, at least, and probably for years afterward, the odds of a war between major powers will go down, not up. PAX EPIDEMICA? A cursory survey of the scholarly literature on war and disease appears to confirm Blainey’s observation that pessimism is conducive to peace. Scholars have documented again and again how war creates permissive conditions for disease—in armies as well as civilians in the fought-over territories. But one seldom finds any discussion of epidemics causing wars or of wars deliberately started in the middle of widespread outbreaks of infectious disease. (The diseases that European colonists carried to the New World did weaken indigenous populations to the point that they were more vulnerable to conquest; in addition, some localized conflicts were fought during the influenza pandemic of 1919–21, but these were occasioned by major shifts in regional balances of power following the destruction of four empires in World War I.) That sickness slows the march to war iis partly due to the fact that war depends on people. When people fall ill, they can’t be counted on to perform well in combat. Military medicine made enormous strides in the years leading up to World War I, prior to which armies suffered higher numbers of casualties from disease than from combat. But pandemics still threaten military units, as those onboard U.S. and French aircraft carriers, hundreds of whom tested positive for COVID-19, know well. Sailors and soldiers in the field are among the most vulnerable because they are packed together. But even airmen are at risk, since they must take refuge from air attacks in bunkers, where the virus could also spread rapidly. Ground campaigns in urban areas pose still greater dangers in pandemic times. Much recent ground combat has been in cities in poor countries with few or no public health resources, environments highly favorable to illness. Ground combat also usually produces prisoners, any of whom can be infected. A vaccine may eventually solve these problems, but an abundance of caution is likely to persist for some time after it comes into use. Major outbreaks damage national economies, which are the source of military power. The most important reason disease inhibits war is economic. Major outbreaks damage national economies, which are the source of military power. COVID-19 is a pandemic—by definition a worldwide phenomenon. All great and middle powers appear to be adversely affected, and all have reason to be pessimistic about their military prospects. Their economies are shrinking fast, and there is great uncertainty about when and how quickly they will start growing again. Even China, which has slowed the spread of the disease and begun to reopen its economy, will be hurting for years to come. It took an enormous hit to GDP in the first quarter of 2020, ending 40 years of steady growth. And its trading partners, burned by their dependence on China for much of the equipment needed to fight COVID-19, will surely scale back their imports. An export-dependent China will have to rely more on its domestic market, something it has been attempting for years with only limited success. It is little wonder, then, that the International Monetary Fund forecasts slower growth in China this year than at any time since the 1970s. Even after a vaccine is developed and made widely available, economic troubles may linger for years. States will emerge from this crisis with enormous debts. They will spend years paying for the bailout and stimulus packages they used to protect citizens and businesses from the economic consequences of social distancing. Drained treasuries will give them one more reason to be pessimistic about their military might. LESS TRADE, LESS FRICTION How long is the pacifying effect of pessimism likely to last? If a vaccine is developed quickly, enabling a relatively swift economic recovery, the mood may prove short-lived. But it is equally likely that the coronavirus crisis will last long enough to change the world in important ways, some of which will likely dampen the appetite for conflict for some time—perhaps up to five or ten years. After all, the world is experiencing both the biggest pandemic and the biggest economic downturn in a century. Most governments have not covered themselves with glory managing the pandemic, and even the most autocratic worry about popular support. Over the next few years, people will want evidence that their governments are working to protect them from disease and economic dislocation. Citizens will see themselves as dependent on the state, and they will be less inclined to support adventures abroad. At the same time, governments and businesses will likely try to reduce their reliance on imports of critical materials, having watched global supply chains break down during the pandemic. The result will probably be diminished trade, something liberal internationalists see as a bad thing. But for the last five years or so, trade has not helped improve relations between states but rather fueled resentment. Less trade could mean less friction between major powers, thereby reducing the intensity of their rivalries. In the Chinese context, less international trade could have positive knock-on effects. Focused on growing the domestic economy, and burdened by hefty bills from fighting the virus, Beijing could be forced to table the Belt and Road Initiative, an ambitious trade and investment project that has unnerved the foreign policy establishments of great and middle powers. The suspension of the BRI would soothe the fears of those who see it as an instrument of Chinese world domination. Interstate wars have become relatively rare since the end of World War II. The United States and the Soviet Union engaged in a four-decade Cold War, which included an intense nuclear and conventional arms race, but they never fought each other directly, even with conventional weapons. Theorists debate the reasons behind the continued rarity of great-power conflict. I am inclined to believe that the risk of escalation to a nuclear confrontation is simply too great. COVID-19 does nothing to mitigate such risks for world leaders—and a great deal to feed their reasonable pessimism about the likely outcome of even a conventional war.