

HIDING IN PLAIN SIGHT Why we missed the threat of a new pandemic - and other existential risks

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Abstract: *The world faces a perfect storm of existential risk, with a deadly new pandemic, an escalating climate crisis, and the constant threat posed by nuclear weapons. The essential facts and dangers for all of these are long- known, but they have been downplayed or neglected until presenting an immediate threat - by which time it may be too late. We need to have a clear understanding of these risks, but also need to understand the deeper reasons why they have not been properly addressed. To a large extent these lie in the dogmas of military and political elites and in an optimistic preference for short-term results. Civil society and the world community of nations should come together to work for real change, as has already been achieved with the 2020 Treaty for the Prohibition of Nuclear Weapons. They should seek to safeguard the welfare of future generations, giving priority to that interest. The alternative is the growing risk of multiple disasters that could prove terminal.*

Key words: *existential risk, pandemic, climate crisis, nuclear accident, nuclear war, environment, vested interests, optimism bias, civil society, world community, future generations*

In his dystopian novel *The Shape of Things to Come*, published in 1933, H G Wells imagined a future when the world’s population is cut in half by a deadly pandemic virus.



Today, this novel seems much more believable to us than his *War of the Worlds*. We don’t expect Martians to land on a common near Woking or Palo Alto or Shenzhen, but we can readily identify with a story line in which an unknown fever spreads from baboons in Africa, via an intermediate host, to humanity across the world. Yet *The Shape of Things to Come* was soon forgotten, and so was the very real pandemic that was fresh in Wells’s mind - the “Spanish flu” that had taken at least 50 million lives after the First World War.



Red Cross Workers in the First World War Making Masks (1918).

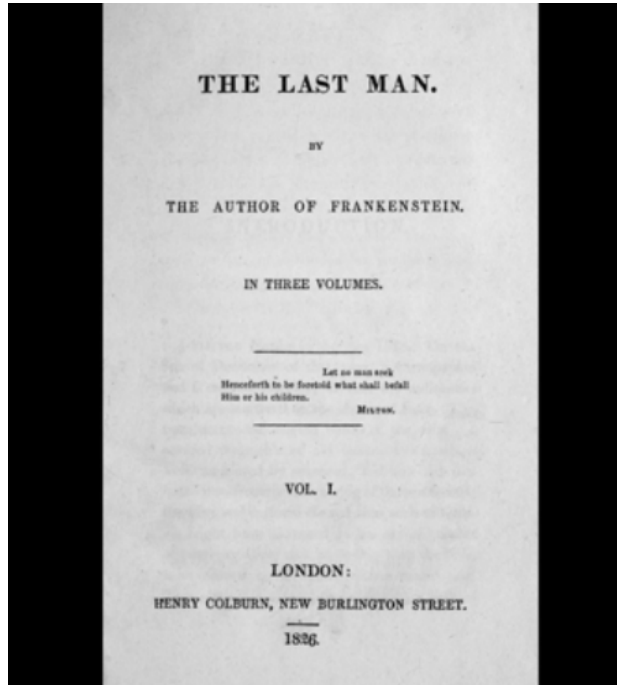
need to understand them all, examine the few occasions when there has been some effective preemptive threat response, and find better ways of acting ahead of time before the next disaster strikes, putting the interests of future generations as our top priority. This will only succeed if it is based on a clear analysis of the deeper sources of myopia - whether real or apparent - of political and military elites, and on an equally clear commitment to action by the global community of nations and by the combined forces of civil society.

Hear you not the rushing sound of the coming tempest? Do you not behold the clouds open, and destruction lurid and dire pour down on the blasted earth?

Mary Shelley, *The Last Man*, 1826. (The first dystopian novel with its plot based on a world pandemic).

Why have we failed to take precautions against a global pandemic until it was upon us? And why have we so often ignored or played down the warning signs of other dangers that threaten us in what now amounts to a perfect storm? Here I shall look at three of these threats - the pandemic itself, the climate crisis, and the lurking danger of a nuclear weapons disaster by accident, or of nuclear war by miscalculation or design. (This is only a selection from the list of "existential risks" identified in current research, such as nanotech weapons, engineered biological agents, and the unforeseen consequences of robotic technology and artificial intelligence).

The reasons for those failures are numerous: Cold War and other international (or geopolitical) rivalries old and new, powerful economic and military vested interests, a determinist belief shared by capitalism and socialism alike in the boundless potential of science, neo-liberal doctrines that promote global inequality, and our innate tendency both as individuals and societies to deny unpleasant truths and take refuge in false optimism. We



The significance of “Spanish flu” was well understood in the years immediately after by health authorities such as the American Medical Association, which in 1927 warned of “the almost certain recurrence some day of another world-wide pandemic”.¹ However half a century later when the First World War was commemorated, the pandemic which had followed the war – and probably was caused by it -- was barely mentioned. There were flurries of concern with “Asian flu” in 1957, “Hong Kong flu” in 1968-69 and swine flu in 1976, and a few books were published ahead of their time. One of these was *Invasion by Virus: Can it Happen Again?* (1969) by Charles Graves, a country by country survey of the 1918-19 pandemic and its rapid spread across the world, which helped raise awareness temporarily.² (The answer to the question posed by the title, said the *British Medical Journal*, “is undoubtedly in the affirmative.”³) Mainstream opinion, however, concurred with the view of the Australian virologist and Nobel prize winner MacFarlane Burnet that while there might be a “totally unexpected” outbreak, “the most likely forecast about the future of

infectious disease is that it will be very dull.”⁴

It was only the spread of HIV-AIDS in the late 1980s and 1990s that finally focused attention on the threat of other pandemics in the future, though this did not lead to effective preparation. In 1996 President Bill Clinton set up a task force to tackle the issue for reasons that resonate today. Emerging infectious diseases presented “one of the most significant health and security challenges facing the global community.” Contributing factors such as the climate crisis and the increased movement of people worsened the threat. And most US cities were within a day and half by air from anywhere in the world -- “less time than the incubation period of many infectious diseases”.⁵

Two years later when the US Center for Disease Control and Prevention (CDC) sponsored an international conference with health professionals from more than 70 countries, one of the papers was from a now familiar name -- Anthony S Fauci. A generation ago, he wrote, many believed that the threat of infectious diseases “would soon become an artefact of history” but the folly of this position was increasingly clear. “Clearly, we remain vulnerable to new and re-emerging diseases,”, but fortunately there was “a growing awareness that we live a global community, that diseases do not recognize borders...”.⁶

Fauci was far too optimistic. The threat and magnitude of emerging infectious diseases was from this time on recognized by the scientific community, but political leaders and policy makers addressed it intermittently at best. The SARS Covid 1 crisis of 2003 engaged the attention of world leaders for a while. The World Health Organization warned in its annual report for that year of the potential for a future pandemic to spread “in a closely interconnected and highly mobile world”. The key lessons learnt this time would be invaluable in “being ready for the day when the next new

disease arrives without warning.”⁷ Yet it is a brutal reality that SARS did not last long enough, nor kill a sufficient number of people, to encourage governments to be “ready for the day”. The exception was in China, where steps were taken to greatly improve the public health infrastructure, to set up disease surveillance systems and to conduct new virological research.⁸ Neither did the re-emergence of Ebola in 2014 sufficiently focus attention, once the threat of it spreading outside West Africa had passed. Meanwhile concern was growing among health and security experts. In the US the Department of Health and Human Services published its first *Pandemic Influenza Plan* in 2005: the latest update in 2017 warned that a novel virus could cause “rapid, widespread morbidity and mortality among infected humans”.⁹ In 2012 a Rand Corporation report on global threats concluded that the world faced the triple threats of climate change, water shortages, and a new pandemic which was “virtually certain” sooner or later.¹⁰

In Britain the 2013 UK National Risk Register (NRR) warned that “the rapid spread from person to person... can have significant global human health consequences”. It predicted that up to half the population of the UK could be infected and that hundreds of thousands of deaths might occur.¹¹ And the National Security Risk Assessment (NSRA) for 2015 (with a foreword by Prime Minister David Cameron) put pandemic influenza and infectious disease as a “Tier 1” threat.¹² With the Brexit referendum launched in the following year, there was even less chance that effective action would be taken.

In September 2019, as the Covid-19 virus was probably already beginning to spread in China, the Global Pandemic Monitoring Board, a new body set up jointly by the WHO and the World Bank, published its first report with the title “A World at Risk”. Significantly, this moved beyond the usual concern with a new influenza pandemic to warn more broadly of the danger

of a “rapidly spreading pandemic due to a lethal respiratory pathogen”. There was a “very real threat” that this might kill 50 to 80 million people and wipe out nearly 5% of the world’s economy, and yet “the world is not prepared.”¹³ It is hard to find any political or media discussion of this serious warning, and news reports of it were scanty. Those who should have acted on the warning were not prepared, and neither were we.

This is the hinge of history at which we stand, the door to the future opening to a crisis more sudden, more global, more inescapable and more bewildering than ever encountered by the human species...

Barbara Ward and René Dubois, *Only One Earth* (1972).

Awareness of humanity’s disastrous effect upon the natural balance dates a long way back. Two UN conferences were held in 1949, the Scientific Conference promoted by the US and held under the auspices of ECOSOC, and another on the Protection of Nature with a more radical agenda and held by UNESCO. The greatest danger, the US conservationist Henry Fairfield Osborn Jr. told the Scientific Conference, was that “technological progress ha[s] blinded human eyes to our essential dependence upon nature.”¹⁴ And a British delegate, the ecologist Frank Fraser Darling, warned the UNESCO conference that the world must “live in harmony with the human principles of ecology. Otherwise the species will die out”.¹⁵

The Cold War had a disastrous effect upon this early initiative. The Soviet Union and all of its

dependent regimes except Czechoslovakia had refused to attend the two conferences, even as the UN organisers were attacked in the US press as “reds”. The claim was inspired by the Senate Judiciary Committee under Patrick McCarran which targeted Alfred J Van Tassel, the main UN staff organiser of the Scientific Conference, and would soon hound him out of office.¹⁶ Concern for the environment revived in the 1960s and ‘70s, as the hidden costs of intensive economic development began to be measured. Rachel Carson’s *Silent Spring* (1962), exposing the effects of agricultural pesticides, would sell two million copies worldwide. Concerns about the consequences of unrestrained growth were also aired in the Club of Rome’s report on *The Limits to Growth* (1970), and more effectively in E F Schumacher’s *Small is Beautiful* (1973).

These concerns paved the way for the 1972 UN Stockholm Conference on the Human Environment, launched on the initiative of Sweden, unanimously supported by the UN General Assembly, and at first with the backing of both the US and the Soviet Union. Yet this conference too would be blighted by the Cold War: East Germany was not a UN member and so was excluded, leading to a boycott by the entire Soviet bloc. However the main argument came from the differing priorities of the global North, who saw the environmental challenge as requiring equal action by all, and the global South who regarded this – coming from the developed world which had benefited from their exploitation – as inequitable. The South was supported by China which had only just regained its seat in the UN. All the same, the conference resulted in the first international consensus on the risks of environmental damage, and the setting up of the UN Environment Programme. The final declaration warned against the discharge of toxic and other substances “in such quantities or concentrations as to exceed the capacity of the environment to render them harmless...” This had to be halted to ensure that “serious or

irreversible damage is not inflicted upon ecosystems.”

By the end of the 1970s the scientific basis for human-promoted climate change was well established. In an article in February 1978 summarising the state of knowledge, the *Bulletin of the Atomic Scientists (BAS)* asked “Is mankind warming the Earth?” and answered with an “unqualified yes!”¹⁷ A report from the National Academy of Sciences the following year said that there was now “incontrovertible evidence” that atmospheric concentration of carbon dioxide was steadily increasing as a result of fossil fuel use and land exploitation, with a resulting increase in the world’s “heat budget”.¹⁸ As Nathaniel Rich has written in his study of lost opportunities, “nearly everything we understand about global warming was understood in 1979”..¹⁹

The succession of conferences and international commitments to tackle climate change and promote sustainable development, which began with the 1987 World Commission on Environment and Development and the May 1990 Bergen Conference on Sustainable Development (leading to the 1992 UN Conference on Environment and Development), is well-known. Global warming had entered into the vocabulary of environmental concern, yet the latest global warming index still shows a sharp and sustained increase of “human-induced warming” (while the effect of “natural warming” has been negligible) in spite of international commitments.²⁰ Action has always lagged behind words and the phrase “too little too late” crops up frequently in objective assessments. Why this is so will be considered below. Even to reach sufficient agreement on paper took time, and targets to limit greenhouse gas emissions were only set in the 2015 Paris Agreement. These, said the environmental economist Nicholas Stern “were simply inadequate when compared with the scale and urgency of the risks that the world faces...”²¹

In 2007 the annual "Doomsday Clock" statement of the *Bulletin of Atomic Scientists (BAS)* ranked climate change for the first time as an equal threat to that of nuclear weapons. In its 2017 statement the *BAS* said that world leaders not only failed to deal adequately with nuclear and climate threats but were increasing them "through a variety of provocative statements and actions..." It was not hard to guess who was being referred to.

"NUCLEAR MISHAP. B52 transporting two nuclear bombs crashed Jan. 1961. Widespread disaster averted: three crewmen died 3 mi. S."

(road-sign outside Eureka, North Carolina)

The spectrum of nuclear risks ranges from the straightforward accident — as when a bomber jettisons its payload because of a malfunction or crash — through technical misinterpretation — as when a flock of geese is mistaken for incoming missiles — to the danger of nuclear conflict arising from escalating tension between nuclear armed states - as in the Taiwan Straits and Cuban crises past and present. We know of cases in all these categories where a major, perhaps terminal, disaster was only just averted, and examples of them will be examined here. We should also understand that this is not just a matter of unhappy past history but of deadly current concern.

Drivers entering the small town of Eureka in the Greensboro area of North Carolina are greeted today by the above arresting road-sign. It recalls the day when a Boeing B-52 Stratofortress carrying two four-megaton nuclear bombs broke up in mid-air. Each bomb

was more than 250 times as powerful as the one dropped on Hiroshima in 1945, and the fallout if one had exploded could have reached Washington DC, three days after President John F Kennedy delivered his inaugural address there. When one of the bombs hit the ground, the impact sent a signal to fire, but fortunately the cockpit safety switch had remained at "safe" rather than shifting position. Every other safety mechanism failed.²² The uranium component of one of the two bombs is still buried at the site of Faro, three miles from Eureka in this cotton growing countryside, just off Big Daddy's Road.

Accidents of this type could not be concealed, though the missing bomb parts were physically covered up. (The Pentagon bought the land, filled in the crater and it now hides under a clump of trees). The campaigning physicist Ralph Lapp soon reported the essential fact: on one of the bombs, all the safety switches except one were in the firing position. This writer, as a youthful CND activist, remembers reading this information in February 1962 in *Peace News*, and along with other campaigners frequently cited the risk of such accidents as an argument for British unilateral nuclear disarmament.²³

Within a decade reports of nuclear bomb related accidents had multiplied until the US Department of Defence felt obliged to respond, issuing in 1981 a list of 31 accidents that it admitted to date, with sanitised details.²⁴ A prominent example - No. 29 on the list - was the collision in 1966 of two US war-planes over the small Spanish town of Palomares, which resulted in four nuclear weapons falling from the sky. Only two of these were recovered. Last on the list was the dramatic accident in September 1980 at a Titan base near Damascus, Arkansas, in which the skin of a Titan missile was punctured when a technician dropped the socket of his wrench. One of the fuels in the missile ignited and the warhead was catapulted several hundred feet into the air. This was the worst of a number of

accidents with Titan missiles, and it raised the real possibility of an inadvertent launch. If the target of a nine megaton missile (the size of the Damascus warhead) had been Leningrad, this would have resulted in an estimated 2.4 million fatalities and a further 1.1 million casualties.²⁵



Titan Missile, Tucson Museum

Less well reported were those nuclear near-misses arising not from mechanical problems but from the misinterpretation of data which could lead to false alerts. At the height of Cold War tension in the early 1980s, such incidents occurred on both the US and Soviet side. The US early warning system generated four false alerts in 1979-80, one of which was the result of a nuclear attack training exercise tape being mistakenly loaded into a computer.²⁶ In 1983 a Soviet early-warning system appeared to show that the US had launched five Minuteman missiles. The officer responsible for analysing the data in real time, Lt Col Stanislav Petrov, decided that it was a false alarm. He was right: the error had resulted from the rare alignment of sunlight, reflected on clouds, with a Soviet early warning satellite. If he had decided

differently, the Soviet leadership under President Andropov (who was obsessed with the risk of a secret US nuclear attack) might have ordered instant retaliation.²⁷

So is the danger of a nuclear weapons accident leading to conflict by mischance or miscalculation merely a matter of history now? There are fewer weapons than in the 1980s but there are more nuclear states, including several with ongoing conflicts including India and Pakistan, and the United States and China, and because of advances in delivery speed and technical sophistication, the consequences of a systems failure will be harder to contain. The authoritative work on this subject is Eric Schlosser's *Command and Control*, and his conclusion is unequivocal: "Right now thousands of missiles are hidden away, literally out of sight, topped with warheads and ready to go, awaiting the right electrical signal. They are a collective death wish, barely suppressed."²⁸ The *Economist* published a [review](#) of this book under the accurate headline "Start Worrying".²⁹

Quite apart from accidents and miscalculations, the risk of a holocaust caused by the threat and deliberate use of nuclear weapons remains a potent existential risk today. Possession of nuclear weapons implies the readiness to use them, the more so since seven out of the nine nuclear powers have not adopted a no-first-use policy. (The exceptions are China and India though doubts have been raised about both). Explicit threats to use nuclear weapons have been made on a number of occasions since the Second World War: a conservative count of nine such threats (more may not have been revealed) begins with the Korean War and goes up to the Iraq War.³⁰

In the 1958 Taiwan Straits crisis, the US seriously considered resorting to nuclear weapons and shipped nuclear artillery to Taiwan: a Department of State analysis concluded that it had come "perilously close to

using them”.³¹ This is confirmed by Daniel Ellsberg who has recently published details from a top-secret 1966 RAND study revealing “the seriousness with which US military and civilian leaders considered using nuclear weapons against China.”³²

The danger of escalation during the Cuban Missile Crisis (1962) was better understood at the time – if mainly by those campaigning against nuclear weapons – although afterwards a scholarly consensus emerged that the risks had been exaggerated. This belief has been undermined by more recent information, beginning in 2002 when Robert McNamara, Defense Secretary at the time, told us that luck had “played a significant role in the avoidance of nuclear war by a hair’s breadth.”³³ US General George Lee Butler, head of Strategic Air Command in the early 1990s, would have observed that “... we escaped the Cold War without a nuclear holocaust by some combination of skill, luck, and divine intervention, probably the latter in greatest proportion”.³⁴

Those with knowledge are more prepared to speak out in retirement, even including Henry Kissinger, who warns that “for the first time in human history, humanity has the capacity to extinguish itself in a finite period of time,”³⁵ Another warning comes from William J Perry, former Secretary of Defence under President Clinton, who has urged President Biden to direct his attention “to the entrenched nuclear policies that threaten to end our civilization.”³⁶ UN Secretary-General Antonio Guterres has also become more vocal than his predecessors, warning on Hiroshima Day 2020 that the risk of nuclear weapons being used, “intentionally, by accident or through miscalculation, is too high for such trends to continue.”³⁷

Yes, we should Start Worrying.

How to Tackle the Future

Does not the threat of an atomic catastrophe which could wipe out the human race also serve to perpetuate the very forces which perpetuate this danger? The efforts to prevent such a catastrophe overshadow the searches for its causes in contemporary industrial society... We submit to the peaceful production of the means of destruction, to the perfection of waste, to being educated for a defense which deforms the defenders and that which they defend.

(Herbert Marcuse, *One-Dimensional Man*, 1964).

The opening words of Marcuse’s classic work on industrial society and social repression remain as valid now as half a century ago, and they apply across the board to our understanding of existential risk and our ability to confront it. It is not enough to set out the essential facts of the threat – whether nuclear, climatic or pandemic – and to overcome official obfuscation so that they can be clearly understood, without going on to delve into the less visible forces that allow them to persist. Setting out the evidence of neglect is important, but this must not overshadow our “searches for its causes”.

Most obvious are the blocking activities of vested interests particularly in the area of the climate crisis, and often less visibly in the development of vastly expensive (and profitable) weapons systems. The power of the fossil fuel conglomerates may have begun to wane as global warming hits home with floods, droughts, forest fires, and other till now exceptional weather events now affecting the North as well as the South, but their lobbying delayed or weakened effective action for almost

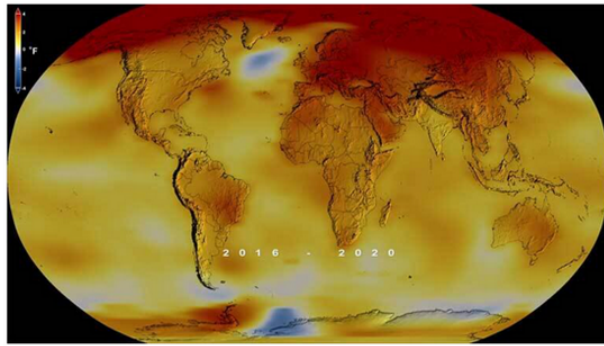
three decades -- and they have not given up. In the US presidential election some US\$87 million was donated to the Trump camp by the fossil fuel industry – though late in the day some companies hedged their bet by donating to the Biden campaign on a much smaller scale.^{38 39} On the nuclear weapons front, the role of the arms industry has been well understood since President Dwight Eisenhower in his farewell address in 1961 warned against the danger of the “unwarranted influence, whether sought or unsought, by the military-industrial complex...”⁴⁰ Industry-funded think-tanks promoted President Reagan’s Star Wars initiative in the 1980s. Today they lobby successfully for massive increases in the military budget to develop potentially destabilising new advanced weapons systems. US defence-related industries contributed more than US\$27 million to the two main parties in 2019-20, and this was part of a rising trend.⁴¹ These efforts are matched by those of the Russian military-industrial complex, with giant companies such as Rostec led by members of the post-Soviet nomenklatura under President Vladimir Putin.⁴² The influence of the military-industrial sector on Chinese policy is opaque, but with China now believed to have the second largest arms industry in the world, and with deepening US-China conflict, there is reason to believe that it is considerable.⁴³ The Dutch peace organisation PAX calculated in 2018 that governments around the world were contracted to the expenditure of at least US\$116 billion on maintaining and developing nuclear weapons – an incomplete statistic because of state secrecy.⁴⁴

Developing vaccines is an expensive business and could cost up to US\$1 billion, with no guarantee of success. After initial enthusiasm, efforts to produce a vaccine for SARS1 in 2003 petered out as the threat declined, and a potential source of useful data for SARS2 was lost. The profit motive was also a factor, according to the then WHO director Margaret Chan in 2014, behind the delay in producing

effective vaccines for Ebola.⁴⁵ It is relevant that “while the world-wide pharmaceutical market is worth more than \$1 trillion, the market for vaccines makes up at most 3% of it.”⁴⁶ The rapid development now of vaccines for Covid-19 shows that the industry will only function with state aid or a certainty of financial return.

Yet to point the finger solely at economic and financial vested interests as the cause of damaging delay ignores the broader world-view of political leaders and influencers that allows those interests to dictate policy. As the Harvard economist Dani Rodrik has argued, ideas are crucial in shaping interests and the world views of global policymakers underpin their actions “in both economic and political domains.”⁴⁷

The ideas behind the doctrine of nuclear deterrence are a good example. These have been perceptively explored by Richard Falk and Robert Jay Lifton in their 1980s study of *Nuclearism*, by which they mean “the psychological, political, and military dependence on nuclear weapons, the embrace of the weapons as a solution to a wide variety of human dilemmas, most ironically that of ‘security.’”⁴⁸ All nuclear powers while professing their commitment to nuclear disarmament pursue policies based on the dogma of deterrence that means it will never be achieved. Thus the UK Ministry of Defence maintains that nuclear weapons are needed to deter extreme threats that the nation might face “not just now, but those that might emerge in the decades to come.”⁴⁹ And China insists that “nuclear capability is the strategic cornerstone to safeguarding national sovereignty and security.”⁵⁰ The implication of this attitude, which is shared by all nuclear powers, is that it will never be safe to exist without such weapons: nuclear disarmament is postponed until the Greek Calends.⁵¹



2020 Earth's global average surface temperature

Earth's global surface temperature in 2020 tied with 2016 as the warmest year on the record, according to an analysis of NASA.

The same is true with the professed desire to tackle the climate crisis by setting targets for the reduction of carbon emissions and other mitigating measures, when the science shows that these will come too late to halt, let alone reverse, the headlong increase in global warming. The Climate Change Convention, reached at the 1992 Rio Summit, was achieved in the positive atmosphere immediately following the cold war, but only resulted in statements of principle. It was another five years before the Kyoto Protocol, binding developed countries to reduce emissions, was agreed and another ten years before this came into force. The argument that proceeding at a faster pace would have an unacceptable impact on economic growth and personal living standards reflects the same fatal preference for short-term gains at the expense of future loss. Some of this may be attribute to the habitual tendency to “optimism bias”, clinging to the hope that things will be better than they are likely to be. As the neuroscientist Tari Sharot has explained, even though the hope of a better future may be an illusion, this “keeps our minds at ease, lowers stress and improves physical health”. But it also serves the interests of governments, whether authoritarian or democratic, that seek immediate popularity to maintain their grip on power, and on the

industrial complexes that are part of the same elite network and support them financially.



Muir Glacier, Alaska: August 13, 1941 and August 31, 2004

The resort to carbon trading to reduce net emissions reflects the dogma that market forces can successfully tackle public needs, and is taken for granted by all “stake-holders”, and yet is deeply flawed and subject to serious abuse.⁵²

It is not enough to wait until the threat of existential risk is either actual or visibly imminent, and when it directly affects the constituency where a remedy is sought rather than occurring at a distance. We are now seeing the fatal consequences of delay both in preparing for a pandemic and in tackling the climate crisis. And in spite of the professed good intentions at the end of the Cold War to seriously tackle nuclear disarmament, nothing has been achieved. Cynically one might suggest that it will need a nuclear weapons accident or actual war for action to be taken, when it will probably be too late.

The second requirement for safeguarding our future is to mobilise collective action both by civil societies and by the global world community. World leaders from Eisenhower to

Gorbachev acknowledged the effect of public opinion upon nuclear weapons policy during the Cold War (documented in the classic work of Lawrence Wittner on “The Struggle against the Bomb”⁵³). Since then, there have been two achievements in this field arising from successful pressure by NGOs working with UN members. The first was the advisory opinion at the International Criminal Court (ICC) in 1996 that the threat or use of nuclear weapons would generally be contrary to international law. More recently the UN 2020 Treaty on the Prohibition of Nuclear Weapons has come about as the result of concerted action by a large majority of UN members, backed by the sustained mobilisation of peace advocates grouped in the International Campaign against Nuclear Weapons, and despite the concerted opposition of the nuclear weapons states.

This coalition between civil societies and the rank and file of world nations should also work to transform the way that we prioritise policy decisions. The top priority should be the interests of future generations: the current generation may survive, but the odds shorten for those who come after. The goal has already been set out in the UN General Assembly’s 2015 resolution on “Transforming the World: the 2030 Agenda for Sustainable Development”, calling for action to protect the planet from degradation in the interests of future as well as current generations. Such aspirations will only become reality if translated to the national level. The principle that all people are of equal moral worth should apply as much to future as to current generations, and political institutions and their policies should be “future-proofed” rather than based on immediate interests, as the development economist Frances Stewart has argued, A special UN agency should be created whose task is to represent future generations in all discussions: in the UK this responsibility should be assigned to a government minister and to a parliamentary commission. (A first step has already been made in Wales, under the

Well-Being of Future Generations Act of 2015 and as of 2021 a similar bill is being debated in the UK House of Commons although it is unlikely to succeed.⁵⁴

The Finnish parliament already has a Standing Committee for the Future while Germany has a Parliamentary Advisory Council on Sustainable Development, and similar action has been taken in several other countries including Hungary, New Zealand and Malta.⁵⁵ We may also note the campaign to draw up an internationally agreed definition of “ecocide”, and to seek confirmation of this in an advisory opinion from the International Criminal Court, The proposed wording would define ecocide as “unlawful or wanton acts committed with knowledge that there is a substantial likelihood of severe and widespread or long-term damage to the environment being caused by those acts”.⁵⁶

These efforts will draw on the significant work of a growing number of research bodies such as the Oxford Future of Humanity Institute, the Cambridge Centre for the Study of Existential Risk, the B John Garrick Institute for the Risk Sciences at UCLA, the Future of Life Institute in Cambridge (Mass.), and the Potsdam Institute for Climate Impact Research, while more graduate studies such as those at Kyoto University Shishu-Kan (GSAIS)⁵⁷ should be encouraged.

None of these goals will be achieved without a more sustained and more successful challenge to the dominant world-view of state elites across the world, under more than one doctrinal flag, which has opened up the dire prospect of a new cold war. In the terms that they would understand, they are engaged in a zero-sum struggle and, even worse, a lose-lose contest, that has already led to multiple disasters and could lead to a terminal one. In the terms that we use, the elevation of competition for profit, exploitation of natural resources for short-term gain, and disregard of

world poverty and inequality (while professing the contrary) amount to a violation of the basic principles of humanity. These principles, which have enabled the human race to survive and develop through peace and cooperation, although constantly beset by hostile forces, need to be re-affirmed more than ever. There is a long struggle ahead but, as Greta Thunberg told the UN Climate Action Summit in 2019, “the eyes of all future generations are upon you, and if you choose to fail us, I say, we will never forgive you.”⁵⁸

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Notes

¹ Quoted in Howard Phillips, “The Re-appearing Shadow of 1918: Trends in the Historiography of the 1918-19 Influenza Pandemic”, *Canadian Bulletin of Medical History* 21:1, 2004, p. 124.

² Charles Graves, *Invasion by Virus: Can it Happen Again?* (London: Ikon, 1969). Graves relates how he tried to publish the book ten years earlier on the 40th anniversary of the pandemic,, but publishers were reluctant to touch it for fear of alarming the public (quoted by Howard Phillips, see preceding note, pp.125-26).

³ A Melvin Ramsay, “Book Review: Story of Influenza”, *British Medical Journal*, 1969;4, p.37.

⁴ Macfarlane Burnet & D O White, *Natural History of Infectious Disease* (Cambridge: Cambridge University Press, 1972), p. 263.

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