#### The role of the ballot is to determine if the aff’s a good idea—anything else is self-serving, arbitrary and begs the question of the rest of the debate. Evaluate consequences

Christopher A. Bracey 6, Associate Professor of Law, Associate Professor of African & African American Studies, Washington University in St. Louis, September, Southern California Law Review, 79 S. Cal. L. Rev. 1231, p. 1318

Second, reducing conversation on race matters to an ideological contest allows opponents to elide inquiry into whether the results of a particular preference policy are desirable. Policy positions masquerading as principled ideological stances create the impression that a racial policy is not simply a choice among available alternatives, but the embodiment of some higher moral principle. Thus, the "principle" becomes an end in itself, without reference to outcomes. Consider the prevailing view of colorblindness in constitutional discourse. Colorblindness has come to be understood as the embodiment of what is morally just, independent of its actual effect upon the lives of racial minorities. This explains Justice Thomas's belief in the "moral and constitutional equivalence" between Jim Crow laws and race preferences, and his tragic assertion that "Government cannot make us equal [but] can only recognize, respect, and protect us as equal before the law." [281](http://web.lexis-nexis.com/universe/document?_m=cd9713b340d60abd42c2b34c36d8ef95&_docnum=9&wchp=dGLbVzz-zSkVA&_md5=9645fa92f5740655bdc1c9ae7c82b328) For Thomas, there is no meaningful difference between laws designed to entrench racial subordination and those designed to alleviate conditions of oppression. Critics may point out that colorblindness in practice has the effect of entrenching existing racial disparities in health, wealth, and society. But in framing the debate in purely ideological terms, opponents are able to avoid the contentious issue of outcomes and make viability determinations based exclusively on whether racially progressive measures exude fidelity to the ideological principle of colorblindness. Meaningful policy debate is replaced by ideological exchange, which further exacerbates hostilities and deepens the cycle of resentment.

#### Focus on large scale catastrophes is good and they outweigh – appeals to social costs, moral rules, and securitization play into cognitive biases and flawed risk calculus – 2020 is living proof

Weber 20 (ELKE U. WEBER is Gerhard R. Andlinger Professor in Energy and the Environment and Professor of Psychology and Public Affairs at Princeton University.), November-December 2020 Issue, "Heads in the Sand," Foreign Affairs, <https://www.foreignaffairs.com/articles/2020-10-13/heads-sand> mvp

We are living in a time of crisis. From the immediate challenge of the COVID-19 pandemic to the looming existential threat of climate change, the world is grappling with massive global dangers—to say nothing of countless problems within countries, such as inequality, cyberattacks, unemployment, systemic racism, and obesity. In any given crisis, the right response is often clear. Wear a mask and keep away from other people. Burn less fossil fuel. Redistribute income. Protect digital infrastructure. The answers are out there. What’s lacking are governments that can translate them into actual policy. As a result, the crises continue. The death toll from the pandemic skyrockets, and the world makes dangerously slow progress on climate change, and so on.

It’s no secret how governments should react in times of crisis. First, they need to be nimble. Nimble means moving quickly, because problems often grow at exponential rates: a contagious virus, for example, or greenhouse gas emissions. That makes early action crucial and procrastination disastrous. Nimble also means adaptive. Policymakers need to continuously adjust their responses to crises as they learn from their own experience and from the work of scientists. Second, governments need to act wisely. That means incorporating the full range of scientific knowledge available about the problem at hand. It means embracing uncertainty, rather than willfully ignoring it. And it means thinking in terms of a long time horizon, rather than merely until the next election. But so often, policymakers are anything but nimble and wise. They are slow, inflexible, uninformed, overconfident, and myopic.

Why is everyone doing so badly? Part of the explanation lies in the inherent qualities of crises. Crises typically require navigating between risks. In the COVID-19 pandemic, policymakers want to save lives and jobs. With climate change, they seek a balance between avoiding extreme weather and allowing economic growth. Such tradeoffs are hard as it is, and they are further complicated by the fact that costs and benefits are not evenly distributed among stakeholders, making conflict a seemingly unavoidable part of any policy choice. Vested interests attempt to forestall needed action, using their money to influence decision-makers and the media. To make matters worse, policymakers must pay sustained attention to multiple issues and multiple constituencies over time. They must accept large amounts of uncertainty. Often, then, the easiest response is to stick with the status quo. But that can be a singularly dangerous response to many new hazards. After all, with the pandemic, business as usual would mean no social distancing. With climate change, it would mean continuing to burn fossil fuels.

But the explanation for humanity’s woeful response to crises goes beyond politics and incentives. To truly understand the failure to act, one must turn to human psychology. It is there that one can grasp the full impediments to proper decision-making—the cognitive biases, emotional reactions, and suboptimal shortcuts that hold policymakers back—and the tools to overcome them.

AVOIDING THE UNCOMFORTABLE

People are singularly bad at predicting and preparing for catastrophes. Many of these events are “black swans,” rare and unpredictable occurrences that most people find difficult to imagine, seemingly falling into the realm of science fiction. Others are “gray rhinos,” large and not uncommon threats that are still neglected until they stare you in the face (such as a coronavirus outbreak). Then there are “invisible gorillas,” threats in full view that should be noticed but aren’t—so named for a psychological experiment in which subjects watching a clip of a basketball game were so fixated on the players that they missed a person in a gorilla costume walking through the frame. Even professional forecasters, including security analysts, have a poor track record when it comes to accurately anticipating events. The COVID-19 crisis, in which a dystopic science-fiction narrative came to life and took everyone by surprise, serves as a cautionary tale about humans’ inability to foresee important events.

Not only do humans fail to anticipate crises; they also fail to respond rationally to them. At best, people display “bounded rationality,” the idea that instead of carefully considering their options and making perfectly rational decisions that optimize their preferences, humans in the real world act quickly and imperfectly, limited as they are by time and cognitive capacity. Add in the stress generated by crises, and their performance gets even worse.

Because humans don’t have enough time, information, or processing power to deliberate rationally, they have evolved easier ways of making decisions. They rely on their emotions, which serve as an early warning system of sorts: alerting people that they are in a positive context that can be explored and exploited or in a negative context where fight or flight is the appropriate response. They also rely on rules. To simplify decision-making, they might follow standard operating procedures or abide by some sort of moral code. They might decide to imitate the action taken by other people whom they trust or admire. They might follow what they perceive to be widespread norms. Out of habit, they might continue to do what they have been doing unless there is overwhelming evidence against it.

Not only do humans fail to anticipate crises; they also fail to respond rationally to them.

Humans evolved these shortcuts because they require little effort and work well in a broad range of situations. Without access to a real-time map of prey in different hunting grounds, for example, a prehistoric hunter might have resorted to a simple rule of thumb: look for animals where his fellow tribesmen found them yesterday. But in times of crisis, emotions and rules are not always helpful drivers of decision-making. High stakes, uncertainty, tradeoffs, and conflict—all elicit negative emotions, which can impede wise responses. Uncertainty is scary, as it signals an inability to predict what will happen, and what cannot be predicted might be deadly. The vast majority of people are already risk averse under normal circumstances. Under stress, they become even more so, and they retreat to the familiar comfort of the status quo. From gun laws to fossil fuel subsidies, once a piece of legislation is in place, it is hard to dislodge it, even when cost-benefit analysis argues for change.

#### Tech innovation undergirded by profit motives are driving the Second Machine Age, which dematerializes capitalism and makes growth a sustainable necessity

This ev is v v v long but it’s amazing – answers basically every aff arg

McAfee, 19—cofounder and codirector of the MIT Initiative on the Digital Economy at the MIT Sloan School of Management, former professor at Harvard Business School and fellow at Harvard’s Berkman Center for Internet and Society (Andrew, “Looking Ahead: The World Cleanses Itself This Way,” *More from Less: The Surprising Story of How We Learned to Prosper Using Fewer Resources—and What Happens Next*, Chapter 14, pg 278-292, Kindle, dml)

The decreases in resource use, pollution, and other exploitations of the earth cataloged in the preceding chapters are great news. But are they going to last? It could be that we're just living in a pleasant interlude between the Industrial Era and another rapacious period during which we massively increase our footprint on our planet and eventually cause a giant Malthusian crash.

It could be, but I don't think so. Instead, I think we're going to take better care of our planet from now on. I'm confident that the Second Machine Age will mark the time in our history when we started to progressively and permanently tread more lightly on the earth, taking less from it and generally caring for it better, even as we humans continue to become more numerous and prosperous. The work of Paul Romer, who shared the 2018 Nobel Prize in economics, is one of the sources of this confidence.

Growth Mindset

Romer's largest contribution to economics was to show that it's best not to think of new technologies as something that companies buy and bring in from the outside, but instead as something they create themselves (the title of his most famous paper, published in 1990, is "Endogenous Technological Change"). These technologies are like designs or recipes; as Romer put it, they’re "the instructions that we follow for combining raw materials." This is close to the definitions of technology presented in chapter 7.

Why do companies invent and improve technologies? Simply, to generate profits. They come up with instructions, recipes, and blueprints that will let them grow revenues or shrink costs. As we saw repeatedly in chapter 7, capitalism provides ample incentive for this kind of tech progress.

So far, all this seems like a pretty standard argument for how the first two horsemen work together. Romer's brilliance was to highlight the importance of two key attributes of the technological ideas companies come up with as they pursue profits. The first is that they're nonrival, meaning that they can be used by more than one person or company at a time, and that they don't get used up. This is obviously not the case for most resources made out of atoms—I can't also use the pound of steel that you've just incorporated into the engine of a car—but it is the case for ideas and instructions. The Pythagorean theorem, a design for a steam engine, and a recipe for delicious chocolate chip cookies aren't ever going to get "used up" no matter how much they're used.

The second important aspect of corporate technologies is that they're partially excludable. This means that companies can kind of prevent others from using them. They do this by keeping the technologies secret (such as the exact recipe for Coca-Cola), filing for patents and other intellectual-property protection, and so on. However, none of these measures is perfect (hence the words partially and kind of). Trade secrets leak. Patents expire, and even before they expire, they must describe the invention they're claiming and so let others study it.

Partial excludability is a beautiful thing. It provides strong incentives for companies to create useful, profit-enhancing new technologies that they alone can benefit from for a time, yet it also ensures that the new techs will eventually "spill over"—that with time they’ll diffuse and get adopted by more and more companies, even if that's not what their originators want.

Romer equated tech progress to the production by companies of nonrivalrous, partially excludable ideas and showed that these ideas cause an economy to grow. What's more, he also demonstrated that this idea-fueled growth doesn't have to slow down with time. It's not constrained by the size of the labor force, the amount of natural resources, or other such factors. Instead, economic growth is limited only by the idea-generating capacity of the people within a market. Romer called this capacity "human capital" and said at the end of his 1990 paper, "The most interesting positive implication of the model is that an economy with a larger total stock of human capital will experience faster growth."

This notion, which has come to be called "increasing returns to scale," is as powerful as it is counterintuitive. Most formal models of economic growth, as well as the informal mental ones most of us walk around with, feature decreasing returns—growth slows down as the overall economy gets bigger. This makes intuitive sense; it just feels like it would be easier to experience 5 percent growth in a $1 billion economy than a $1 trillion one. But Romer showed that as long as that economy continued to add to its human capital—the overall ability of its people to come up with new technologies and put them to use—it could actually grow faster even as it grew bigger. This is because the stock of useful, nonrivalrous, nonexcludable ideas would keep growing. As Romer convincingly showed, economies run and grow on ideas.

The Machinery of Prosperity

Romer's ideas should leave us optimistic about the planetary benefits of digital tools—hardware, software, and networks—for three main reasons. First, countless examples show us how good these tools are at fulfilling the central role of technology, which is to provide "instructions that we follow for combining raw materials." Since raw materials cost money, profit-maximizing companies are particularly keen to find ways to use fewer of them. So they use digital tools to come up with beer cans that use less aluminum, car engines that use less steel and less gas, mapping software that removes the need for paper atlases, and so on and so on. None of this is done solely for the good of the earth—it's done for the pursuit of profit that's at the heart of capitalism—yet it benefits the planet by, as we've seen, causing us to take less from it.

Digital tools are technologies for creating technologies, the most prolific and versatile ones we've ever come up with. They're machines for coming up with ideas. Lots of them. The same piece of computer-aided design software can be used to create a thinner aluminum can or a lighter and more fuel-efficient engine. A drone can be used to scan farmland to see if more irrigation is needed, or to substitute for a helicopter when filming a movie. A smartphone can be used to read the news, listen to music, and pay for things, all without consuming a single extra molecule.

In the Second Machine Age, the global stock of digital tools is increasing much more quickly than ever before. It's being used in countless ways by profit-hungry companies to combine raw materials in ways that use fewer of them. In advanced economies such as America's, the cumulative impact of this combination of capitalism and tech progress is clear: absolute dematerialization of the economy and society, and thus a smaller footprint on our planet.

The second way Romer's ideas about technology and growth are showing up at present is via decreased excludability. Pervasive digital tools are making it much easier for good designs and recipes to spread around the world. While this is often not what a company wants—it wants to exclude others from its great cost-saving idea— excludability is not as easy as it used to be.

This isn't because of weaker patent protection, but instead because of stronger digital tools. Once one company shows what's possible, others use hardware, software, and networks to catch up to the leader. Even if they can't copy exactly because of intellectual-property restrictions, they can use digital tools to explore other means to the same end. So, many farmers learn to get higher yields while using less water and fertilizer, even though they combine these raw materials in different ways. Steve Jobs would certainly have preferred for Apple to be the only provider of smartphones after it developed the iPhone, but he couldn't maintain the monopoly no matter how many patents and lawsuits he filed. Other companies found ways to combine processors, memory, sensors, a touch screen, and software into phones that satisfied billions of customers around the world.

The operating system that powers most non-Apple smartphones is Android, which is both free to use and freely modifiable. Google's parent company, Alphabet, developed and released Android without even trying to make it excludable; the explicit goal was to make it as widely imitable as possible. This is an example of the broad trend across digital industries of giving away valuable technologies for free.

The Linux operating system, of which Android is a descendant, is probably the best-known example of free and open-source software, but there are many others. The online software repository GitHub maintains that it's "the largest open source community in the world" and hosts millions of projects. The Arduino community does something similar for electronic hardware, and the Instructables website contains detailed instructions for making equipment ranging from air-particle counters to machine tools, all with no intellectual-property protection. Contributors to efforts such as these have a range of motivations (Alphabet's goals with Android were far from purely altruistic—among other things, the parent of Google wanted to achieve a quantum leap in mobile phone users around the world, who would avail themselves of Google Search and services such as YouTube), but they're all part of the trend of technology without excludability, which is great news for growth.

As we saw in chapter 10, smartphone use and access to the Internet are increasing quickly across the planet. This means that people no longer need to be near a decent library or school to gain knowledge and improve their abilities. Globally, people are taking advantage of the skill-building opportunities of new technologies. This is the third reason that the spread of digital tools should make us optimistic about future growth: these tools are helping human capital grow quickly.

The free Duolingo app, for example, is now the world's most popular way to learn a second language. Of the nearly 15 billion Wikipedia page views during July of 2018, half were in languages other than English. Google's chief economist, Hal Varian, points out that hundreds of millions of how-to videos are viewed every day on YouTube, saying, "We never had a technology before that could educate such a broad group of people anytime on an as-needed basis for free."

Romer's work leaves me hopeful because it shows that it's our ability to build human capital, rather than chop down forests, dig mines, or burn fossil fuels that drives growth and prosperity. His model of how economies grow also reinforces how well capitalism and tech progress work together, which is a central point of this book. The surest way to boost profits is to cut costs, and modern technologies, especially digital ones, offer unlimited ways to combine and recombine materials—to swap, slim, optimize, and evaporate—in cost-reducing ways. There's no reason to expect that the two horsemen of capitalism and tech progress will stop riding together anytime soon. Quite the contrary. Romer's insights reveal that they're likely to gallop faster and farther as economies grow.

Our Brighter, Lighter Future

The world still has billions of desperately poor people, but they won't remain that way. All available evidence strongly suggests that most will become much wealthier in the years and decades ahead. As they earn more and consume more, what will be the impact on the planet?

The history and economics of the Industrial Era lead to pessimism on this important question. Resource use increased in lockstep with economic growth throughout the two centuries between James Watt's demonstration of his steam engine and the first Earth Day. Malthus and Jevons seemed to be right, and it was just a question of when, not if, we'd run up against the hard planetary limits to growth.

But in America and other rich countries something strange, unexpected, and wonderful happened: we started getting more from less. We decoupled population and economic growth from resource consumption, pollution, and other environmental harms. Malthus's and Jevons's ideas gave way to Romer's, and the world will never be the same.

This means that instead of worrying about the world's poor becoming richer, we should instead be helping them upgrade economically as much and as quickly as possible. Not only is it the morally correct thing to do, it's also the smart move for our planet. As today’s poor countries get richer, their institutions will improve and most will eventually go through what Ricardo Hausmann calls "the capitalist makeover of production." This makeover doesn't enslave people, nor does it befoul the earth.

As today’s poor get richer, they'll consume more, but they'll also consume much differently from earlier generations. They won't read physical newspapers and magazines. They'll get a great deal of their power from renewables and (one hopes) nuclear because these energy sources will be the cheapest. They’ll live in cities, as we saw in chapter 12; in fact, they already are. They'll be less likely to own cars because a variety of transportation options will be only a few taps away. Most important, they'll come up with ideas that keep the growth going, and that benefit both humanity and the planet we live on.

Predicting exactly how technological progress will unfold is much like predicting the weather: feasible in the short term, but impossible over a longer time. Great uncertainty and complexity prevent precise forecasts about, for example, the computing devices we’ll be using thirty years from now or the dominant types of artificial intelligence in 2050 and beyond.

But even though we can't predict the weather long term, we can accurately forecast the climate. We know how much warmer and sunnier it will be on average in August than in January, for example, and we know that global average temperatures will rise as we keep adding greenhouse gases to the atmosphere. Similarly, we can predict the "climate" of future technological progress by starting from the knowledge that it will be heavily applied in the areas where it can affect capitalism the most. As we've seen over and over, tech progress supplies opportunities to trim costs (and improve performance) via dematerialization, and capitalism provides the motive to do so.

As a result, the Second Enlightenment will continue as we move deeper into the twenty-first century. I'm confident that it will accelerate as digital technologies continue to improve and multiply and global competition continues to increase. We’ll see some of the most striking examples of slim, swap, evaporate, and optimize in exactly the places where the opportunities are biggest. Here are a few broad predictions, spanning humanity's biggest industries.

Manufacturing. Complex parts will be made not by the techniques developed during the Industrial Era, but instead by three- dimensional printing. This is already the case for some rocket engines and other extremely expensive items. As 3-D printing improves and becomes cheaper, it will spread to automobile engine blocks, manifolds and other complicated arrangements of pipes, airplane struts and wings, and countless other parts. Because 3-D printing generates virtually no waste and doesn't require massive molds, it accelerates dematerialization.

We'll also be building things out of very different materials from what we're using today. We're rapidly improving our ability to use machine learning and massive amounts of computing power to screen the huge number of molecules available in the world. Well use this ability to determine which substances would be best for making flexible solar panels, more efficient batteries, and other important equipment. Our search for the right materials to use has so far been slow and laborious. That's about to change.

So is our ability to understand nature's proteins, and to generate new ones. All living things are made out of the large biomolecules known as proteins, as are wondrous materials such as spiders' silk. The cells in our bodies are assembly lines for proteins, but we currently understand little about how these assembly lines work—how they fold a two-dimensional string of amino acids into a complicated 3-D protein. But thanks to digital tools, we're learning quickly. In 2018, as part of a contest, the AlphaFold software developed by Google DeepMind correctly guessed the structure of twenty-five out of forty-three proteins it was shown; the second-place finisher guessed correctly three times. DeepMind cofounder Demis Hassabis says, "We [haven't] solved the protein-folding problem, this is just a first step... but we have a good system and we have a ton of ideas we haven't implemented yet." As these good ideas accumulate, they might well let us make spider-strength materials.

Energy. One of humanity's most urgent tasks in the twenty-first century is to reduce greenhouse gas emissions. Two ways to do this are to become more efficient in using energy and, when generating it, to shift away from carbon-emitting fossil fuels. Digital tools will help greatly with both.

Several groups have recently shown that they can combine machine learning and other techniques to increase the energy efficiency of data centers by as much as 30 percent. This large improvement matters for two reasons. First, data centers are heavy users of energy, accounting for about 1 percent of global electricity demand. So efficiencies in these facilities help. Second, and more important, these gains indicate how much the energy use of all our other complicated infrastructures— everything from electricity grids to chemical plants to steel mills—can be trimmed. All are a great deal less energy efficient than they could be. We have both ample opportunity and ample incentive now to improve them.

Both wind and solar power are becoming much cheaper, so much so that in many parts of the world they're now the most cost-effective options, even without government subsidies, for new electrical generators. These energy sources use virtually no resources once they're up and running and generate no greenhouse gases; they're among the world champions of dematerialization.

In the decades to come they might well be joined by nuclear fusion, the astonishingly powerful process that takes place inside the sun and other stars. Harnessing fusion has been tantalizingly out of reach for more than half a century—the old joke is that it's twenty years away and always will be. A big part of the problem is that it's hard to control the fusion reaction inside any human- made vessel, but massive improvements in sensors and computing power are boosting hope that fusion power might truly be only a generation away.

Transportation. Our current transportation systems are chronically inefficient. Most vehicles aren't used much of the time, and even when they’re in use, they're not nearly full. Now that we have technologies that let us know where every driver, passenger, piece of cargo, and vehicle is at all times, we can greatly increase the utilization and efficiency of every element of transportation.

Renting instead of owning transportation is a likely consequence of this shift. Instead of owning cars, which typically sit idle more than 90 percent of the time, more people will choose to access transportation as needed. We're already seeing this with car-hailing companies such as Uber and Lyft. These services are quickly spreading around the world, and expanding to cover more modes of transportation, from motorbikes to bicycles to electric scooters. They're also moving into commercial applications such as long- and short-haul trucking. As this shift continues, we’ll need fewer tons of steel, aluminum, plastic, gasoline, and other resources to move the world's people and goods around.

We might also experience less congestion and gridlock as we try to get around. Bikes and scooters take up little space compared to cars, so streets can accommodate many more of them. Technology also gives us the ability to implement many forms of "congestion pricing," which has been shown to reduce gridlock by making car access to busy streets expensive enough that people use other options. The most intriguing future transportation platform of all might be the sky. The same technologies that power today's small drones can be scaled up to build "air taxis" with as many as eight propellers and no pilot. Such contraptions sound like science fiction today, but they might be carrying us around by midcentury.

Agriculture. As we saw in chapter 5, leading farms have demonstrated an ability to increase their tonnage of output year after year while decreasing their use of inputs such as land, water, and fertilizer. This trend toward optimization will continue thanks to a set of innovations under the label precision agriculture. The precision comes from many sources, including better sensors of plant and animal health, soil quality and moisture, and so on; the ability to deliver fertilizer, pesticides, and water just where they're needed; and machinery that adapts itself to each plant or animal. All these varieties of precision will combine to allow traditional farms to generate more from less.

So will changes to the genomes of plants and animals. DNA modifications will increase disease and drought tolerance, expand where crops can be grown, and allow us to get more of what we want from each crop or herd. As we saw in chapter 9, they'll also allow us to take better care of vulnerable populations such as infants in poor countries by creating golden rice and other nutrition enhancers. We'll also be able to make much more precise and targeted genetic modifications thanks to a new crop of gene-editing tools that are large improvements over their more scattershot predecessors. Opposition to genetically modified organisms is fierce in some quarters, but isn't based on reason or science. This opposition will, one hopes, fade.

Throughout human history, just about all farming has been done in fields. For some crops, this is now changing. Agriculture has moved indoors, where parameters such as light, humidity, fertilizer, and even the composition of the atmosphere can be precisely monitored and controlled. In everything from urban buildings to shipping containers, crops are now being grown with progressively less labor and fewer material inputs. These completely contained farms will spread and help reduce the planetary footprint of our agriculture.

These examples aren't intended to be comprehensive, and I don't have precise estimates of how likely each innovation is, or when it's most likely to occur. I offer them only to indicate how broad and exciting are the possibilities offered by the two horsemen of capitalism and technological progress, and how they’ll continue to dematerialize our consumption and let us increase our prosperity while treading more lightly on our planet.

#### It's try or die for CCS - only way to stay below 2 degrees but it requires growth and innovation

Sognnaes and Peters 20 [Ida Sognnaes is a senior researcher. Glen Peters is a research director] “Carbon Capture and Storage is necessary to keep global warming below 2C,” Cicero Oslo, January 14, 2020, <https://cicero.oslo.no/no/posts/nyheter/carbon-capture-and-storage-is-necessary-to-keep-global-warming-below-2c> TG

Scenarios indicate that Carbon Capture and Storage (CCS) is critical to meet the Paris Agreement’s goal of limiting global warming to ‘well below 2°C’. But, at what scale?

Achieving the Paris Agreement’s goal of limiting global warming to ‘well below 2°C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels’ necessitates rapid reductions in greenhouse gas emissions.

There are now hundreds of emission scenarios showing different evolutions of the energy system consistent with the goals of the Paris Agreement. CCS plays a crucial role in nearly all these emission scenarios.

There is a physical reason why CCS is crucial. CO2 emissions have a cumulative effect on the climate, and therefore CO2 emissions [must be net-zero](https://cicero.oslo.no/no/posts/klima/beyond-carbon-budgets)to stop temperatures from increasing further. CCS helps achieve net-zero emissions in two ways:

1. To help reduce direct emissions from the burning of fossil fuels or from industrial processes, and
2. To help create negative emissions, such as in combination with bioenergy (BECCS), direct air capture, or other technologies to remove CO2 from the atmosphere.

Nearly all emissions scenarios use CCS in both these ways, and sometimes at a [troubling scale](https://science.sciencemag.org/content/354/6309/182).

The following figure highlights this.

CCS is used to help reduce emissions from fossil fuel use, which happens in addition to conventional mitigation, such as consuming less energy, deploying solar, or using electric vehicles, But, most scenarios are not able to get fossil emissions completely to zero, or find it too expensive, and end with ‘residual emissions’ (brown in the figure above).

To get to net-zero emissions, the [residual emissions](https://www.nature.com/articles/s41558-018-0198-6) must be [counteracted](https://cicero.oslo.no/no/posts/nyheter/carbon-capture-and-storage-is-necessary-to-keep-global-warming-below-2c) by [CO2 removal](https://www.mcc-berlin.net/en/research/policy-briefs/negativeemissions.html) to achieve net zero emissions (dark green). Most models do this with afforestation or bioenergy with CCS (BECCS). Non-CO2 greenhouse gas emissions (such as methane) add to the residual emissions (not shown).

Further CO2 removal (light green), are used to bring temperatures down after peaking. The temperature is a maximum when the net emissions reach zero (black line), but then the temperature declines with net negative emissions to bring the temperature down from its peak to safer levels by 2100.

#### Uniqueness – war is massively declining

McKenna, Professor of Philosophy, ’15 (Michael; 3/4/15; professor of philosophy; Guru Magazine, “Ho wmany people have died in wars throughout history?” http://gurumagazine.org/askaguru/culture/many-people-died-wars-throughout-history/)

Calculating the total number of people who have died in wars throughout history is difficult. As Winston Churchill apparently said, “history is written by the winners”; and this becomes truer the further back we go. The victorious side of any war may exaggerate the number of enemies killed, while glossing over their own losses so as to brag of their military superiority. Equally, if the victor is aware of their public image, they may want to downplay the carnage of war and the atrocities they committed. What this unfortunately means is that any estimate of the number of deaths caused by war will be very rough indeed. This is further complicated by the lack of consensus amongst historians as to what actually constitutes a war and how to measure the number of deaths due to the effects of war (e.g. famine). That being said, we can arrive at a ballpark figure by looking at some of the major conflicts in history. The 20th century is described as the “bloodiest”, with an estimated 187 million deaths due to the various wars combined. Almost unbelievably, this number is nearly as high as the total number of deaths due to the entirety of war throughout all history before that point\*. An increased world population, combined with huge armies and modern killing machines (explosives, machine guns, chemical weapons, etc.) have made us frighteningly efficient at killing one another. Taking the median estimates of death tolls for various conflicts throughout history, the best estimates put the total death toll due to all wars at 341.7 million people \*\*. To add a note of optimism, experimental psychologist Steven Pinker argues that violence (including acts of war) is declining. He argues that if you adjust wartime casualties to reflect the population of the time, modern (20th century and after) wars have nothing on more historical conflicts. World War II, for example, tops all lists as the biggest killer (up to 85 million). However, when the numbers are adjusted for the world population at the time, World War II comes out at only number 9, with the rest of the top 10 being before the 20th century. At the top of the list is the An Lushan Rebellion in the Tang Dynasty of China, which may have killed up to one sixth of the entire world population in 755.

#### Neoliberal globalization reduce the frequency and severity of wars by a factor of ten.

Mooney 14 – Loren, Stanford Graduate School of Business, summarizing Matthew O. Jackson, the William D. Eberle Professor of Economics at Stanford, and earned his PhD in economics from Stanford GSB in 1988. (“Matthew O. Jackson: Can Trade Prevent War?” May 28, 2014https://www.gsb.stanford.edu/insights/matthew-o-jackson-can-trade-prevent-war)

While there is considerable existing research on the effects of trade and war, much of it has looked at bilateral relationships. This model focuses on multilateral interactions and considers various incentives for countries to attack, form alliances with, and trade with one another. In an attempt to understand what's necessary to achieve a stable network with no incentive for war, Jackson and Nei first explored an alliance scenario based solely on military defense considerations, excluding trade. "The fundamental difficulty we find is that alliances are costly to maintain if there's no economic incentive," says Jackson. So networks remain relatively sparse, a condition in which even a few shifting allegiances leaves some countries vulnerable to attack. "Stability is not just a little bit elusive; it's very elusive."

Economic trade, however, makes a significant difference. "Once you bring in trade, you see network structures densify," he says. Nations form a web of trading alliances, which creates financial incentive not only to keep peace with trading partners, but also to protect them from being attacked so as not to disrupt trade. "In the context of the alliances we have analyzed, trade motives are essential to avoiding wars and sustaining stable networks," the authors wrote in their paper, Networks of Military Alliances, Wars, and International Trade.

Their findings coincide with two major global trends since World War II: From 1950 to 2000, the incidence of interstate war has decreased nearly tenfold compared with the period from 1850 to 1949. At the same time, since 1950 international trade networks have increased nearly fourfold, becoming significantly more dense. "In the period before World War II, it was hard to find a stable set of alliances," says Jackson. The probability of a lasting alliance was about 60%. "You have almost a coin-flip chance that the alliance won't still be there in five years," he says. In Europe in the 1870s, for example, German chancellor Otto von Bismarck sought peace with "balance of power" diplomacy, which crumbled leading up to World War I. "Then in the past 50 years or so, there's been a surprising global stability." The impact of economic interdependence is especially apparent in Europe, Jackson says, where the Eurozone has promoted not only peace and increased trade among nations, but also labor mobility.

Very costly wars still occur, of course, but Jackson notes that the most war-torn places in recent history have tended to be those with fewer global trade alliances. For example, the Second Congo War from 1998 to 2003 and beyond, which killed more than four million people and is the deadliest war since World War II, involved eight African nations with relatively few trade ties. "Then look at the Kuwait situation," says Jackson, referring to U.S. intervention in the first Gulf War to protect oil supplies. "Economic interest drives a lot of what goes on in terms of where nations are willing to exercise military strength."

There are other real-world factors that have no doubt influenced war and trade trends since World War II, among them the proliferation of nuclear weapons — "Changing military technology can help maintain stable arrangements," says Jackson — the Cold War, an increase in worldwide wealth levels, and the introduction of container shipping in the 1960s, which has helped facilitate low-cost, long-range trade.

Still, Jackson and Nei's theoretical model suggests that trade alliances play a critical role. And in fact economic allies may be the most worth striving for in developing areas. "Maybe wars like the Second Congo War won't be occurring in the future if there's more trade with African nations," says Jackson. "Economic interests can really help us have a more peaceful world than we already have."

#### Free markets key to solve disease cures

Jackson 16. Kerry, Pacific Research Institute; 12/19/16; Free Market Policies Needed To Incentivize Creation Of New Life-Saving Treatments; https://www.pacificresearch.org/article/free-market-policies-needed-to-incentivize-creation-of-new-life-saving-treatments/

“Our strongest antibiotics don’t work and patients are left with potentially untreatable infections,” Director Dr. Tom Frieden said when the CDC issued its warning. He asked doctors, hospitals and public health officials to “work together” to “stop these infections from spreading.” The 2014 Report to the President expressed a similar concern: “The evolution of antibiotic resistance is now occurring at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security and national security.” For those thinking this sort of thing shouldn’t be happening when medical science is more advanced than can almost be conceived, be assured that it is. And unless there are public policy interventions, it’s likely to get worse. “More and more microorganisms will continue to gain resistance to the current drug therapies because (antimicrobial resistance, or AMR) is basic evolution,” Wayne Winegarden writes in the Pacific Research Institute’s newly-released report “Incenting the Development of Antimicrobial Medicines to Address the Problem of Drug-Resistant Infections.” The International Federation of Pharmaceutical Manufacturers says the problem is caused by “a dearth of new antibiotic medicines.” At the same time that there’s been an increase in AMR, there has been “a sharp decline in the development of new antibiotic medicines.” The group reports that only two new classes of antibiotics have been discovered in the last three decades compared to 11 in the previous 50 years. The answers to many medical problems are still not within reach of researchers. But the hazards of AMR can be diminished. Winegarden suggests we begin with public health campaigns that encourage handwashing, which he calls a highly effective and low-cost way to reduce the spread of infection. He further recommends policy that would address the problem of antibiotic overuse and greater use of vaccines to cut the incidents of infection. But Winegarden’s primary concern is establishing the correct incentives for developing new antimicrobial medicines that would be effective against AMR microorganisms. He’s specifically referring to policies “based on a thorough understanding of the disincentives that are currently inhibiting their development.” “These disincentives are well-recognized,” he writes. “Despite the medical need, and despite the generally strong return on investment for many other drug classes, the return on investment for developing new antimicrobial medicines (particularly antibiotics) is too low.” Producing a new drug is a grinding and expensive endeavor. It can take 10 to 15 years to develop a single prescription drug that is introduced to the market, and a company can spend as much as $5.5 billion on research and development for each medication that is eventually approved and prescribed. Less than 2 percent of all projects launched to create new drugs succeed. This is not an environment in which pharmaceutical companies can get too amped up about pursuing new treatments. Yet new drug approvals increased over the last decade. Don’t look for a surge of antimicrobial drugs in that pipeline, though. Winegarden says that particular drug class is among several that “face unique impediments” that serve as disincentives for innovation. To overcome the steep hill that impedes the development of new AMR drugs, lawmakers must implement policies that unleash the incentives of the free market. Policymakers also should look at the 1983 federal Orphan Drug Act and its market-oriented reforms that increased the number of drugs developed to treat rare diseases. More than 400 have been introduced to the market since the law was enacted, compared to fewer than 10 in the 1970s. Put another way, government needs to remove its anchors from the process and let the market do what it does so well. In this case, that’s restoring patients’ health, enriching innovative companies that create jobs, and inspiring biotech start-ups such as the group of Stanford undergraduates that has been capitalized to develop new antibiotics. If the proper incentives are in place, the needed treatments will follow.

#### Disease causes extinction

**Gates 17** Bill Gates, 2-18-2017, "BILL GATES: A new kind of terrorism could wipe out 30 million people in less than a year — and we are not prepared," Business Insider, <http://www.businessinsider.com/bill-gates-op-ed-bio-terrorism-epidemic-world-threat-2017-2> | AM

When I decided 20 years ago to make global health the focus of my philanthropic work, I didn’t imagine that I’d be speaking at a conference on international security policy. But I’m speaking here at the Munich Security Conference because I believe our worlds are more tightly linked than most people realize. War zones and other fragile state settings are the most difficult places to eliminate epidemics. They’re also some of the most likely places for them to begin—as we’ve seen with Ebola in Sierra Leone and Liberia, and with cholera in the Congo Basin and the Horn of Africa. It’s also true that the next epidemic could originate on the computer screen of a terrorist intent on using genetic engineering to create a synthetic version of the smallpox virus . . . or a super contagious and deadly strain of the flu. The point is, we ignore the link between health security and international security at our peril. Whether it occurs by a quirk of nature or at the hand of a terrorist, epidemiologists say a fast-moving airborne pathogen could kill more than 30 million people in less than a year. And they say there is a reasonable probability the world will experience such an outbreak in the next 10-15 years. bill gates quote Business Insider/Skye Gould It’s hard to get your mind around a catastrophe of that scale, but it happened not that long ago. In 1918, a particularly virulent and deadly strain of flu killed between 50 million and 100 million people. You might be gwondering how likely these doomsday scenarios really are. The fact that a deadly global pandemic has not occurred in recent history shouldn’t be mistaken for evidence that a deadly pandemic will not occur in the future. And even if the next pandemic isn’t on the scale of the 1918 flu, we would be wise to consider the social and economic turmoil that might ensue if something like Ebola made its way into a lot of major urban centers. The good news is that with advances in biotechnology, new vaccines and drugs can help prevent epidemics from spreading out of control. And, most of the things we need to do to protect against a naturally occurring pandemic are the same things we must prepare for an intentional biological attack. We need to invest in vaccine innovation First and most importantly, we have to build an arsenal of new weapons—vaccines, drugs, and diagnostics. Vaccines can be especially important in containing epidemics. But today, it typically takes up to 10 years to develop and license a new vaccine. To significantly curb deaths from a fast-moving airborne pathogen, we would have to get that down considerably—to 90 days or less. We took an important step last month with the launch of a new public-private partnership called the Coalition for Epidemic Preparedness Innovations. The hope is that CEPI will enable the world to produce safe, effective vaccines as quickly as new threats emerge. The really big breakthrough potential is in emerging technology platforms that leverage recent advances in genomics to dramatically reduce the time needed to develop vaccines. Basically, they create a delivery vehicle for synthetic genetic material that instructs your cells to make a vaccine inside your own body. And the great thing is that once you’ve built a vaccine platform for one pathogen, you can use it again for other pathogens—which means we could also apply it to other hard-to-treat diseases like HIV, malaria, and tuberculosis. Of course, the preventive capacity of a vaccine won’t help if a pathogen has already spread out of control. Because epidemics can quickly take root in the places least equipped to fight them, we also need to improve surveillance. That starts with strengthening basic public health systems in the most vulnerable countries. We also have to ensure that every country is conducting routine surveillance to gather and verify disease outbreak intelligence. Bill Gates Bill GatesDave Thompson - WPA Pool /Getty Images And we must ensure that countries share information in a timely way, and that there are adequate laboratory resources to identify and monitor suspect pathogens. The third thing we need to do is prepare for epidemics the way the military prepares for war. This includes germ games and other preparedness exercises so we can better understand how diseases will spread, how people will respond in a panic, and how to deal with things like overloaded highways and communications systems. We also need trained medical personnel ready to contain an epidemic quickly, and better coordination with the military to help with logistics and to secure areas. It is encouraging that global alliances like the G7 and the G20 are beginning to focus on pandemic preparedness, and that leaders like Chancellor Merkel and Prime Minister Solberg are championing health security. But there isn’t enough money to help the poorest countries with epidemic preparation. The irony is that the cost of ensuring adequate pandemic preparedness worldwide is estimated at $3.4 billion a year—yet the projected annual loss from a pandemic could run as high as $570 billion. The pandemic is one of the 3 biggest threats the world faces Climate change protest Bill Gates believes climate change, nuclear war and pandemics are the three biggest world threats.Andrew Burton/Getty When I was a kid, there was really only one existential threat the world faced. The threat of a nuclear war. By the late 1990s, most reasonable people had come to accept that climate changed represented another major threat to humankind. I view the threat of deadly pandemics right up there with nuclear war and climate change. Innovation, cooperation, and careful planning can dramatically mitigate the risks presented by each of these threats. I’m optimistic that a decade from now, we can be much better prepared for a lethal epidemic—if we’re willing to put a fraction of what we spend on defense budgets and new weapons systems into epidemic readiness. When the next pandemic strikes, it could be another catastrophe in the annals of the human race. Or it could be something else altogether. An extraordinary triumph of human will. A moment when we prove yet again that, together, we are capable of taking on the world’s biggest challenges to create a safer, healthier, more stable world.

#### Rejection of capitalism causes massive transition wars

Harris 03. Lee, Analyst – Hoover Institution and Author of The Suicide of Reason, “The Intellectual Origins of America-Bashing”, Policy Review, January, http://www.hoover.org/publications/policyreview/3458371.html

This is the immiserization thesis of Marx. And it is central to revolutionary Marxism, since if capitalism produces no widespread misery, then it also produces no fatal internal contradiction: If everyone is getting better off through capitalism, who will dream of struggling to overthrow it? Only genuine misery on the part of the workers would be sufficient to overturn the whole apparatus of the capitalist state, simply because, as Marx insisted, the capitalist class could not be realistically expected to relinquish control of the state apparatus and, with it, the monopoly of force. In this, Marx was absolutely correct. No capitalist society has ever willingly liquidated itself, and it is utopian to think that any ever will. Therefore, in order to achieve the goal of socialism, nothing short of a complete revolution would do; and this means, in point of fact, a full-fledged civil war not just within one society, but across the globe. Without this catastrophic upheaval, capitalism would remain completely in control of the social order and all socialist schemes would be reduced to pipe dreams.

#### Extinction

Nyquist 5. J.R. renowned expert in geopolitics and international relations, WorldNetDaily contributing editor, “The Political Consequences of a Financial Crash,” February 4, www.financialsense.com/stormw...2005/0204.html

Should the United States experience a severe economic contraction during the second term of President Bush, the American people will likely support politicians who advocate further restrictions and controls on our market economy – guaranteeing its strangulation and the steady pauperization of the country. In Congress today, Sen. Edward Kennedy supports nearly all the economic dogmas listed above. It is easy to see, therefore, that the coming economic contraction, due in part to a policy of massive credit expansion, will have serious political consequences for the Republican Party (to the benefit of the Democrats). Furthermore, an economic contraction will encourage **the formation of anti-capitalist majorities and a turning away from the free market system. The danger here is not merely economic. The political left openly favors the collapse of America’s strategic position abroad. The withdrawal of the United States from the Middle East, the Far East and Europe would catastrophically impact an international system that presently allows 6 billion people to live on the earth’s surface in relative peace. Should anti-capitalist dogmas overwhelm the global market and trading system that evolved under American leadership, the planet’s economy would contract and untold millions would die of starvation. Nationalistic totalitarianism, fueled by a politics of blame, would once again bring war to Asia and Europe.** But **this time the war would be waged with mass destruction weapons** and the United States would be blamed because it is the center of global capitalism. Furthermore, **if the anti-capitalist party gains power in Washington, we can expect to see policies of appeasement and unilateral disarmament enacted. American appeasement and disarmament, in this context, would be an admission of guilt before the court of world opinion. Russia and China,** above all, **would exploit this** admission **to justify aggressive wars, invasions and mass destruction attacks**. A future financial crash, therefore, must be prevented at all costs.

#### Critique of neoliberalism is politically useless—economic elites don’t identify with the title and dismiss social criticism as ‘economically illiterate.’

Rajesh VENUGOPAL 15, Assistant Professor in the Department of International Development at the London School of Economics [“Neoliberalism as concept,” *Economy and Society*, Vol. 44, No. 2, 2015, p. 165-187, Accessed Online through Emory Libraries]

Beyond conceptual proliferation and incoherence, there is an important third terminological feature of neoliberalism that more clearly distinguishes it from the multitude of other stressed and stretched concepts that dot the social sciences: it dares not speak its own name. While there are many who give out and are given the title of neoliberal, there are none who will embrace this moniker of power and call themselves as such. There is no contemporary body of knowledge that calls itself neoliberalism, no self-described neoliberal theorists that elaborate it, nor policy-makers or practitioners that implement it. There are no primers or advanced textbooks on the subject matter, no pedagogues, courses or students of neoliberalism, no policies or election manifestoes that promise to implement it (although there are many that promise to dismantle it). Pedantic as it may seem, this is a point that warrants repetition if only because there is a considerable body of critical literature that deploys neoliberalism under the mistaken assumption that, in doing so, it is being transported into the front-lines of hand-to-hand combat with free-market economics.

Advocates of market deregulation, private-sector-led growth or any of the various shifting components that might be part of neoliberalism do not describe themselves or their policies as such. Instead, neoliberalism is defined, conceptualized and deployed exclusively by those who stand in evident opposition to it, such that the act of using the word has the twofold effect of identifying oneself as non-neoliberal, and of passing negative moral judgment over it. Consequently, neoliberalism often features, even in sober academic tracts, in the rhetorical toolkit of caricature and dismissal, rather than of analysis and deliberation.

Boas and Gans-Morse (2009, p. 152) find that the inversion in its usage from positive to negative arose during the Pinochet regime in Chile. Until then, Latin American debates over economic policy in the 1960s and 1970s used the term largely in the positive sense, often with reference to West Germany's Wirtschaftswunder, whereas it became steadily negative in the 1980s. Importantly, neoliberalism, which was always a marginal part of the vocabulary in mainstream academic economics, even before its negative association, has since disappeared almost entirely in that arena in parallel with its growing influence and usage in the rest of the social sciences. As a result, the one-sided usage of neoliberalism extends not just to the way it is used only by self-consciously non-neoliberal critics, but also as a term used only by non-economists, and that, too, when referring to economic phenomena and economic forms of reasoning.

Indeed, the word neoliberalism is so utterly absent in modern economics that it is impossible to reconcile Ferguson's above definition of it as ‘macro-economic doctrine’ with the corpus of contemporary macro-economic theory at hand. For example, the word neoliberalism does not appear at all in any of the major macro-economic textbooks, including Mankiw's Principles of macroeconomics (2012), Blanchard's Macroeconomics (2012), Obstfeld and Rogoff's Foundations of international macroeconomics (1996), Krugman, Obstfeld and Melitz's International economics or Agénor and Montiel's Development macroeconomics (2008). Neither does it appear at all in a host of other widely read texts in the field, including Debraj Ray's Development economics (1998), Banerjee and Duflo's Poor economics (2011) or Barr's The economics of the welfare state (1993). Even the more unorthodox economists critical of market-based solutions, such as Paul Krugman or Joseph Stiglitz, find no need to use the concept. Neoliberalism is absent entirely from Krugman's End this depression now! and finds mention only once (in a footnote to the preface) in Stiglitz's The price of inequality: The avoidable causes and the invisible costs of inequality (2012).

Moreover, neoliberalism has, since 1966, only ever appeared twice in the pages of The American Economic Review, on both occasions as fleeting mentions. It has not appeared at all in The Quarterly Journal of Economics since 1960, nor in Journal of Political Economy since 1956. It has never appeared in Journal of Development Economics at all. In comparison, in 2012, it appeared in 10 papers in The Journal of Development Studies, eight papers in World Development, 17 papers in Development and Change and 10 papers in Journal of International Development. 5

What these strikingly different patterns of usage between economics and non-economics indicate is that, beyond dysfunctionality, neoliberalism signifies and reproduces the mutual incomprehensibility and the deep cognitive divide between these two domains (Jackson, 2013; Milonakis & Fine, 2013). Ha-Joon Chang notes that ‘critics of neoliberalism are routinely dismissed as “economically illiterate”’ (Chang, 2003, pp. 42–43). Indeed, for the rest of the social sciences, economics is an entirely alien discipline that is found to be intellectually vapid on the one hand, but also inscrutable and impenetrable due to the mathematical sophistication of its theory and empirics.

Neoliberalism purports to provide a lens through which this mysterious and hostile terrain can be surveyed, simplified, labelled and rendered understandable from a safe distance. Economic theory can thus be vicariously critiqued and dismissed without one having to encounter it, much less understand it. Not unsurprisingly, what emerges as a result is inadequate and often bears the character of dispatches from trench warfare, in which sketchy and vague outlines of enemy activity are reported from across a foggy and impassable no-man's land.

**Breaking down neoliberalism kills leadership**

**Duménil and Lévy 09**

[Gérard Duménil and Dominique Lévy, Directors of Research at the Centre National de la Recherche Scientifique in Paris, The Crisis of Neoliberalism and U.S. Hegemony, 2009, <http://www.beigewum.at/wordpress/wp-content/uploads/2009_2_006-13.pdf>]

Beginning the historical investigation at the end of the 19th and early 20th centuries in the United States, neoliberalism appears as the third such »social order«. A first **financial hegemony** prevailed from the beginning of the century, but it was **destabilized during the Great Depression** and the New Deal, a period of intense class struggle. The social order characteristic of the period that stretches from the New Deal to the late 1980s can be denoted as »social democratic« or »Keynesian«, with significant differences among countries. Its main social feature was a »compromise« between managerial and popular classes, paralleling the containment of capitalist interests. How neoliberalism was established historically lies beyond the limits of the present study. Conversely, the description of the methods used is rather straightforward. A new discipline was imposed on workers, with the control of their purchasing power, new labor conditions, and the decline of welfare. While, after World War II, a large percentage of profits were conserved within nonfinancial corporations to the end of investment, in neoliberalism, profits were lavishly distributed as dividends and, up to 2000s, a large fraction was paid out as interest. Policies aiming at price stability were substituted for macro policies tending to growth and employment. Financial regulations inherited from the Great Depression were gradually lifted. Restrictions to international trade were eliminated to the benefit of free trade, and the free international mobility of capital was imposed to most countries. Neoliberal globalization allowed for the deployment of transnational corporations worldwide. The United States emerged from the two world wars as the **leading international power**. While other imperialist countries, as France or the United Kingdom, were still involved in the defense of their traditional empire, the United States abandoned the first attempts at the constitutions of such an empire at the end of the 19th century, to the benefit of the Wilsonian vision of the informal **dominance of the most advanced among capitalist countries**, with the gradual imposition of the dollar as international currency. The Great Depression did not destabilize this hegemony, which was dramatically consolidated by the victorious participation of the country in World War II. The United States never accepted the new rules of the Bretton Woods agreements limiting international trade and the international movements of capital, and the dollar was confirmed as a substitute for a truly international currency. After World War II, the United States fought for the defense, in front of the Soviet Union, of the so-called »free world« and for their own dominance worldwide. Everywhere, corruption, subversion, and wars were used to these ends. The U.S. economy came to dominate the nonfinancial and financial world economy. The transnational corporations of the country were the most powerful, in particular financial institutions. In the 1970s, many analysts of global trends pointed, however, to a decline of U.S. hegemony and the formation of a »triad« (the United States, Europe, and Japan). Neoliberalism inverted these trends and **strengthened the preeminence of the U.S. economy**. As of the 2000s, the U.S. economy was presented to other major capitalist countries as a model to be emulated, and **the United States as a leader to be followed.**

#### Primacy prevents great-power conflict — multipolar revisionism fragments the global order and causes nuclear war.

Brands & Edel, 19 — Hal Brands; PhD, Henry A. Kissinger Distinguished Professor of Global Affairs at the Johns Hopkins School of Advanced International Studies. Charles Edel; PhD, Senior Fellow and Visiting Scholar at the United States Studies Centre at the University of Sydney. (“The Lessons of Tragedy: Statecraft and World Order;” Ch. 6: Darkening Horizon; Published by *Yale University Press*; //GrRv)

Each of these geopolitical challenges is different, and each reflects the distinctive interests, ambitions, and history of the country undertaking it. Yet there is growing cooperation between the countries that are challenging the regional pillars of the U.S.-led order. Russia and China have collaborated on issues such as energy, sales and development of military technology, opposition to additional U.S. military deployments on the Korean peninsula, and naval exercises from the South China Sea to the Baltic. In Syria, Iran provided the shock troops that helped keep Russia’s ally, Bashar al-Assad, in power, as Moscow provided the air power and the diplomatic cover. “Our cooperation can isolate America,” supreme leader Ali Khamenei told Putin in 2017. More broadly, what links these challenges together is their opposition to the constellation of power, norms, and relationships that the U.S.-led order entails, and in their propensity to use violence, coercion, and intimidation as means of making that opposition effective. Taken collectively, these challenges constitute a geopolitical sea change from the post-Cold War era.

The revival of great-power competition entails higher international tensions than the world has known for decades, and the revival of arms races, security dilemmas, and other artifacts of a more dangerous past. It entails sharper conflicts over the international rules of the road on issues ranging from freedom of navigation to the illegitimacy of altering borders by force, and intensifying competitions over states that reside at the intersection of rival powers’ areas of interest. It requires confronting the prospect that rival powers could overturn the favorable regional balances that have underpinned the U.S.-led order for decades, and that they might construct rival spheres of influence from which America and the liberal ideas it has long promoted would be excluded. Finally, it necessitates recognizing that great-power rivalry could lead to great-power war, a prospect that seemed to have followed the Soviet empire onto the ash heap of history.

Both Beijing and Moscow are, after all, optimizing their forces and exercising aggressively in preparation for potential conflicts with the United States and its allies; Russian doctrine explicitly emphasizes the limited use of nuclear weapons to achieve escalation dominance in a war with Washington. In Syria, U.S. and Russian forces even came into deadly contact in early 2018. American airpower decimated a contingent of government-sponsored Russian mercenaries that was attacking a base at which U.S. troops were present, an incident demonstrating the increasing boldness of Russian operations and the corresponding potential for escalation. The world has not yet returned to the epic clashes for global dominance that characterized the twentieth century, but it has returned to the historical norm of great-power struggle, with all the associated dangers.

Those dangers may be even greater than most observers appreciate, because if today’s great-power competitions are still most intense at the regional level, who is to say where these competitions will end? By all appearances, Russia does not simply want to be a “regional power” (as Obama cuttingly described it) that dominates South Ossetia and Crimea.37 It aspires to the deep European and extra-regional impact that previous incarnations of the Russian state enjoyed. Why else would Putin boast about how far his troops can drive into Eastern Europe? Why else would Moscow be deploying military power into the Middle East? Why else would it be continuing to cultivate intelligence and military relationships in regions as remote as Latin America?

Likewise, China is today focused primarily on securing its own geopolitical neighborhood, but its ambitions for tomorrow are clearly much bolder. Beijing probably does not envision itself fully overthrowing the international order, simply because it has profited far too much from the U.S.-anchored global economy. Yet China has nonetheless positioned itself for a global challenge to U.S. influence. Chinese military forces are deploying ever farther from China’s immediate periphery; Beijing has projected power into the Arctic and established bases and logistical points in the Indian Ocean and Horn of Africa. Popular Chinese movies depict Beijing replacing Washington as the dominant actor in sub-Saharan Africa—a fictional representation of a real-life effort long under way. The Belt and Road Initiative bespeaks an aspiration to link China to countries throughout Central Asia, the Middle East, and Europe; BRI, AIIB, and RCEP look like the beginning of an alternative institutional architecture to rival Washington’s. In 2017, Xi Jinping told the Nineteenth National Congress of the Chinese Communist Party that Beijing could now “take center stage in the world” and act as an alternative to U.S. leadership.38

These ambitions may or may not be realistic. But they demonstrate just how significantly the world’s leading authoritarian powers desire to shift the global environment over time. The revisionism we are seeing today may therefore be only the beginning. As China’s power continues to grow, or if it is successful in dominating the Western Pacific, it will surely move on to grander endeavors. If Russia reconsolidates control over the former Soviet space, it may seek to bring parts of the former Warsaw Pact to heel. Historically, this has been a recurring pattern of great-power behavior—interests expand with power, the appetite grows with the eating, risk-taking increases as early gambles are seen to pay off.39 This pattern is precisely why the revival of great-power competition is so concerning—because geopolitical revisionism by unsatisfied major powers has so often presaged intensifying international conflict, confrontation, and even war. The great-power behavior occurring today represents the warning light flashing on the dashboard. It tells us there may be still-greater traumas to come.

The threats today are compelling and urgent, and there may someday come a time when the balance of power has shifted so markedly that the postwar international system cannot be sustained. Yet that moment of failure has not yet arrived, and so the goal of U.S. strategy should be not to hasten it by giving up prematurely, but to push it off as far into the future as possible. Rather than simply acquiescing in the decline of a world it spent generations building, America should aggressively bolster its defenses, with an eye to preserving and perhaps even selectively advancing its remarkable achievements.

#### Receding American military power greenlights autocratic revisionism and collapses democracy — powers Russian aggression and hybrid warfare and Chinese expansionism.

Joshi, 18 — Shashank Joshi; He was previously a senior policy fellow for international affairs in the Renewing the Centre team at the Tony Blair Institute for Global Change, where he led the Institute’s work on foreign policy, focusing on economic, political and military pressures on the liberal international order. Shashank is also a senior research fellow at the Royal United Services Institute (RUSI). He has been a research associate at the Changing Character of War Programme at the University of Oxford, regularly lectured at the Defence Academy of the United Kingdom, and given evidence to the foreign affairs and defence committees of the House of Commons. (6-21-18; "Authoritarian Challenges to the Liberal Order;" *Institute for Global Change*; https://institute.global/insight/renewing-centre/authoritarian-challenges-liberal-order; //GrRv)

What does this mean for democracies? Autocracies present a series of individual challenges to their local rivals: Russia to the Baltic states, China to Taiwan and North Korea to South Korea, for instance. But the problem they pose to world order is larger than the sum of these issues. It is, rather, an ideological and systemic challenge that will reshape the norms of international relations. Will these norms reflect liberal principles such as openness, rule following and individual rights or competing authoritarian ones such as secrecy, arbitrariness and state power?

This competition over norms will influence not only Western liberal democracies but also the wider multipolar order that is emerging. In regions with weak political institutions or nascent democracies—parts of Africa, South and Southeast Asia, and East and Southeast Europe—the regional order is especially malleable. If authoritarian states can shape these regions in their own image, this bolsters their global standing and puts liberal democracy further on the back foot. This argument does not require an acceptance that democracies always act in liberal ways or adhere to a single and consistent set of norms. Authoritarian states also differ widely in levels of openness and repression, the balance between civilian and military authority, and civil versus political freedoms.11 Yet despite this variety, there remain systematic differences between democratic and authoritarian states in attitude, inclination and values—and this has important foreign policy implications.

TYPES OF AUTHORITARIAN CHALLENGE

The authoritarian challenge to liberal democracy can be broken down into six categories.

The Military Challenge

Authoritarian states represent the most serious military threat to the democracies of Europe and Asia. Russia has dissolved existing norms regarding the use of force, conducting in Europe the first annexation of territory and the first use of chemical weapons since the Second World War.12 Russia’s use of hybrid warfare, which prioritises secrecy, deception and political warfare, presents a particular danger to rule-bound open societies.13 China, though more cautious, has also demonstrated increasingly assertive behaviour in the South China Sea, including the militarisation of reclaimed islands, the rejection of arbitration efforts and an escalation of the country’s border dispute with India.14

The military challenge posed by authoritarian states is not a quirk of the past few years. Russian and Chinese behaviour is rooted in their resentment of the Western order, ambition for great power status and fear of Western power.15 All three of these drivers are shaped by these countries’ authoritarian political systems. The best available scholarship continues to show that democracies enjoy more peaceful relations with other democracies than with autocracies, suggesting that authoritarian states are intrinsically more likely to be threatening.16 Among states that ratify treaties governing the laws of war, democracies are also more likely to comply with these rules than autocracies are.17

#### Russian hybrid war escalates.

Trenin 18 — Dmitri, director of the Carnegie Moscow Center, chairs the research council and the Foreign and Security Policy Program, “Avoiding U.S.-Russia Military Escalation During the Hybrid War,” U.S.-Russia Insight, 1-25-2018, http://carnegie.ru/2018/01/25/avoiding-u.s.-russia-military-escalation-during-hybrid-war-pub-75277

Since February 2014, the Russian leadership has been in a de facto war mode with regard to the United States. The Kremlin saw the developments in Ukraine that led to the ouster of former president Viktor Yanukovych as a threefold threat: a U.S.-supported political invasion of Russia’s vital strategic buffer, an attempt to prevent Moscow-led integration in post-Soviet Eurasia, and a move to build a barrier between Russia and the rest of Europe. Russian President Vladimir Putin, taken by surprise, responded with the use of force in Ukraine—first to secure Crimea for Russia and then to protect a rebel stronghold in Donbass. The events that followed have developed into a virtual Russo-American war—but a different kind of war compared to those the countries have fought in the past. The crisis over Ukraine put an end to a quarter century of cooperative relations between Russia and the West and resulted in Russia’s confrontation with the United States and its estrangement from Europe. This confrontation has often been labeled a second Cold War.1 The analogy, however, is flawed: the world has changed too much since the 1980s to suggest that today’s antagonism is merely a revival of an old conflict. The new confrontation is better described as a Hybrid War—a term which, like its predecessor, is capitalized here to highlight its distinct place in the history of international relations. This time, the U.S.-Russia conflict is not central to the world system, but, nevertheless, its outcome will help shape the future of that system. The current Hybrid War is a conflict essentially between Russia and the United States over the issue of the world order. It is not the result of misunderstanding or miscalculation but rather the opposite; Russia, in particular, has a deliberate outcome in mind. Moscow is pursuing a set of objectives—the most important of which is to reassert its role as a great power with a global reach. In Europe, specifically, it seeks to prevent NATO from moving forward into former Soviet territory, particularly Ukraine. As for Ukraine itself, the Kremlin wants it to serve as a buffer between Russia and NATO. Russia has important objectives outside of Europe as well, including in the Middle East. Since September 2015, Moscow has been waging a military campaign in Syria. The main purpose of the intervention—apart from the immediate need to prevent a major victory for Islamist extremists—was to return Russia to the regional and global stage as an active geopolitical player with considerable military capabilities. Russian actions in these and other areas therefore undermine the United States’ global dominance of the post–Cold War period, even though the Russian Federation (unlike the Soviet Union) does not seek to impose its own model on the world. Even as Russia opposes U.S. global hegemony and favors a more distributed balance of power among several major nations (including itself), the United States feels the challenge to the international liberal order that it began building after the end of World War II and has dominated since the end of the Cold War. As long as all major powers, including China and Russia, subscribed to the rules and norms of that order—and, in China’s case, also benefited from it2—it was a genuine Pax Americana: a state of peace among the major powers, who all deferred to the United States. With Russia’s breakout from the post–Cold War system, that unique period of peaceful relations among the principal players is now history. Even though the scale of the current conflict is much smaller, the stakes are high once more. For the Kremlin, this is a battle for survival—of Russia’s status as an independent player capable of defining and defending its interests and of the Russian leadership, which has been personally targeted by Western financial sanctions and various public accusations ranging from corruption to war crimes. Originally, Moscow believed that this conflict would be a short-term problem, but it now appears to be more prolonged than previously anticipated and may take a generation to resolve. FEATURES OF THE HYBRID WAR This Hybrid War’s most distinguishing feature is that it is being fought in a truly global, virtually borderless environment. International interaction is no longer restricted by walls or other state-imposed barriers. Traditional distinctions between strategy and tactics have been all but erased. The hybrid warriors include many more players than was the case during the Cold War—from national governments and transnational corporations to nongovernmental actors and even private individuals. The war is being fought simultaneously in a number of spheres, on different levels, and in the never-ending, twenty-four-hour news cycle. This aspect of warfare is particularly true of the field of information, which is of prime importance in the Information Age that emerged with the end of the Cold War. From cyber conflicts and the use of artificial intelligence to the predominance of propaganda and fake news, the main battles of the Hybrid War are taking place outside of the purely physical realm and in the domain of new information technologies. Just as important to the Hybrid War is economics, which has been the key driver of globalization that paralleled the rise of these innovative information technologies. The prominence of the U.S. media and the United States’ immense financial power give it a huge advantage in both fields. As a result, the weapons of choice in the Hybrid War are those that use information and economic power to discredit and sanction one’s adversaries.3 Politically, the Hybrid War includes the outside stimulation of political changes in other countries through street activism and the promotion of specific values, parties, or popular movements. It has been characterized by interference in elections, political transitions, and other political processes, including various efforts to hack sensitive information, spread compromising or damaging materials and fake news, encourage character assassinations, and impose personal and other noneconomic sanctions (for example, restrictions on travel, seizure of assets, imprisonment, or deportation) on opponents. The existence of a common information space makes waging political warfare on foreign territory much easier and more attractive than ever before. Cross-border promotion of democracy and support for the color revolutions that dominated the 2000s (for example, the 2003 Rose Revolution in Georgia and the 2004 Orange Revolution in Ukraine) have now found counterparts in emerging solidarity among those who espouse more conservative and traditionalist values, such as political systems based on authoritarian models and strict national sovereignty.4 Military power is not out of the picture—though its use is different than in the Cold War. The static standoff of million-strong armies in Europe and the long shadow of the nuclear arms race have drawn down or faded. Nuclear deterrence between Russia and the West remains in place but at lower and more stable levels than during the Cold War. Today’s risks of miscalculation derive from potential incidents involving conventional forces. A token military standoff has reemerged along Russia’s border with NATO countries, but, to date, this standoff bears no resemblance in either scale or scope to the forces that faced each other during the Cold War. The main focus is on developing new military technologies and novel means and ways of prosecuting warfare—from outer space to cyberspace—that blur or eliminate the distinction between wartime and peacetime. Like its predecessor, the Hybrid War is a war in the time of peace. Even more than in the past, however, the onus is on national leaderships to minimize the number of casualties, ideally to zero. Russian military strategists had developed the concept of hybrid warfare even before the actual conflict broke out in earnest between the United States and Russia in early 2014. Analyzing the experience of the post-Soviet color revolutions and the 2011 Arab Spring, Chief of the General Staff Valery Gerasimov wrote in February 2013 that the “consequences of new conflicts are comparable to those of a real war”; in many cases, nonmilitary methods “are substantially more effective than the power of arms,” and greater emphasis is placed on “political, economic, information, humanitarian, and other nonmilitary means” and “covert military measures,” including “information warfare and actions by special forces.” In this environment, “overt use of military force, often in the form of peacekeeping or crisis management, takes place only at a certain stage, mainly to achieve final success in a conflict.” With regard to the U.S.-Russia confrontation, another key feature has surfaced: asymmetry between the sides’ capabilities. POWER ASYMMETRIES AND ASYMMETRIC ACTIONS Although Gerasimov was referring to a hybrid war when discussing new means and methods of warfare, this analysis uses the newly fashionable term to describe the current U.S.-Russia confrontation. Unlike its Cold War predecessor, this conflict is asymmetrical. At least since the 1970s, the Soviet Union was the United States’ equal in terms of both nuclear and conventional military power. Even beyond its own vast land mass and immediate sphere of influence in Eastern Europe, it wielded considerable ideological power in many Western countries and in the Third World and presided over a system of alliances in Africa, Asia, Europe, Latin America, and the Middle East. The Russian Federation, by contrast, has few formal allies, no satellite states, and a handful of protectorates, if one includes the self-proclaimed states of Abkhazia, Donbass, South Ossetia, and Transnistria. It has no ideology to compare with the comprehensive dogma of Marxism-Leninism, and although it is still a nuclear superpower, it lags far behind the United States in non-nuclear military capabilities. Economically, Russia—with its estimated 1.5 percent of the global gross domestic product—is a dwarf. Neither the balance nor the correlation of forces, however, will determine the outcome of this confrontation. Despite the glaring asymmetries in the national power of the two sides of the conflict, the course of events is not predetermined. As a nonlinear, highly asymmetrical conflict, the outcome likely will result from domestic developments in Russia or the United States or both. Both countries are facing serious problems that could prove decisive in the final calculations of the Hybrid War. The United States is going through a triple crisis of its political system, exemplified but not caused by the arrival of President Donald Trump and the virulent domestic opposition to him and his policies. A crisis of social values lies beneath this political crisis and points to a widening gap between the more liberal and the largely conservative parts of the country. At the same time, the United States faces a crisis within its own foreign policy as it struggles to reconcile the conflict between the more inward-looking U.S. national interest and the international liberal order of the U.S.-led global system. Russia, though outwardly stable, is approaching its own major crisis as the political regime created by Putin faces an uncertain future after the eventual departure of its figurehead. Putin’s Kremlin is already working on a political transition that would rejuvenate the elite and improve its competence and performance, but, at the same time, Russian society is also changing and Putin’s heirs cannot take its support for granted. Gross inequality, sluggish economic growth, low vertical mobility, and high-level corruption will present a range of serious challenges to the future Russian leadership. The eventual outcome of the Hybrid War could be reminiscent of the downfall of the Soviet Union, which was far less the result of the U.S.-Soviet Cold War than of a misguided effort to reform the Soviet Union itself. Russia might break down and break up again, or it might decide on a foreign policy more geared toward its economic needs than to a certain concept of world order. As for the United States, it might decide to limit its global commitments and redesign its international role as the world’s preeminent but no longer dominant state. Yet, in doing so, it will need to accept that its change in status will come with a certain price and that it will not be able to take advantage of the benefits of the position it once enjoyed. Asymmetries in power lead to asymmetric actions, which as Gerasimov suggested are intended to “neutralize the enemy’s superiority in warfare” or “identify and exploit the enemy’s vulnerabilities.”5 By an order of magnitude—or more—Russia is outgunned, outmanned, and outspent by the combined forces of the United States and its allies. To stay in the fight, it must rely on its few comparative advantages and seek to use them to maximum effect. These advantages include the geographical proximity of some of the main theaters of operation, such as Crimea and eastern Ukraine, where Russia has escalation dominance; the Russian political system, which allows for secretive, swift, and decisive action; and Moscow’s willingness to take much higher risks in view of the disproportionally higher stakes involved for the Russian leadership and a national culture that historically has tolerated higher losses in defense or protection of the Motherland. Through swift decisions and actions, made without prior warning, Russia is capable of surprising its adversaries and keeping them off-balance. This situation promises an uncertain, hard-to-predict, and risky environment, where miscalculation can lead to incidents or collisions that, in turn, lead to escalation. Granted, these incidents would be of a different kind than the tank standoff at Berlin’s Checkpoint Charlie in late October 1961 or the Cuban Missile Crisis barely a year later. Escalation resulting from miscalculation would not be automatic, but the wider damage it could cause needs to be taken seriously. AVOIDING MISTAKES LEADING TO ESCALATION The Hybrid War is highly dynamic and, so far, has no agreed-upon rules. In this sense, it resembles the Cold War of the early 1950s rather than that of the 1970s. However, it is possible, up to a point, to avoid military escalation during the Hybrid War. U.S.-Russian antagonism does not mean that the two countries’ interests are in total opposition. Unlike in the second half of the twentieth century, neither party envisions a real shooting war against its adversary and neither wants to allow the situation to become uncontrollable. The most obvious ways to manage the confrontation are incident prevention, confidence building, and arms control. Incident prevention, on the face of it, should be easy. Since the early 1970s, Moscow and Washington have had agreements in place to avoid incidents, which in the Cold War days carried the risk of escalation to nuclear levels. Effective prevention requires a degree of professionalism, adequate safety measures, and reliable channels of communications. However, during a Hybrid War, these preconditions cannot be taken for granted. Acting from a position of relative weakness, Russia is likely to compensate for its inferior overall strength by raising the stakes of confrontation.

#### Extinction — overcomes historical checks.

Fisher 15 — Max, foreign policy editor at Vox. former reporter at the Washington Post and foreign editor at The Atlantic, M.A. international security, Johns Hopkins University, “How World War III became possible,” Vox, 6-29-2015, http://www.vox.com/2015/6/29/8845913/russia-war

How World War III became possible A nuclear conflict with Russia is likelier than you think It was in August 2014 that the real danger began, and that we heard the first warnings of war. That month, unmarked Russian troops covertly invaded eastern Ukraine, where the separatist conflict had grown out of its control. The Russian air force began harassing the neighboring Baltic states of Estonia, Latvia, and Lithuania, which are members of NATO. The US pledged that it would uphold its commitment to defend those countries as if they were American soil, and later staged military exercises a few hundred yards from Russia's border. Both sides came to believe that the other had more drastic intentions. Moscow is convinced the West is bent on isolating, subjugating, or outright destroying Russia. One in three Russians now believe the US may invade. Western nations worry, with reason, that Russia could use the threat of war, or provoke an actual conflict, to fracture NATO and its commitment to defend Eastern Europe. This would break the status quo order that has peacefully unified Europe under Western leadership, and kept out Russian influence, for 25 years. Fearing the worst of one another, the US and Russia have pledged to go to war, if necessary, to defend their interests in the Eastern European borderlands. They have positioned military forces and conducted chest-thumping exercises, hoping to scare one another down. Putin, warning repeatedly that he would use nuclear weapons in a conflict, began forward-deploying nuclear-capable missiles and bombers. Europe today looks disturbingly similar to the Europe of just over 100 years ago, on the eve of World War I. It is a tangle of military commitments and defense pledges, some of them unclear and thus easier to trigger. Its leaders have given vague signals for what would and would not lead to war. Its political tensions have become military buildups. Its nations are teetering on an unstable balance of power, barely held together by a Cold War–era alliance that no longer quite applies. If you take a walk around Washington or a Western European capital today, there is no feeling of looming catastrophe. The threats are too complex, with many moving pieces and overlapping layers of risk adding up to a larger danger that is less obvious. People can be forgiven for not seeing the cloud hanging over them, for feeling that all is well — even as in Eastern Europe they are digging in for war. But this complacency is itself part of the problem, making the threat more difficult to foresee, to manage, or, potentially, to avert. "There’s a low nuclear threshold now that didn’t exist during the Cold War" There is a growing chorus of political analysts, arms control experts, and government officials who are sounding the alarm, trying to call the world's attention to its drift toward disaster. The prospect of a major war, even a nuclear war, in Europe has become thinkable, they warn, even plausible. What they describe is a threat that combines many of the hair-trigger dangers and world-ending stakes of the Cold War with the volatility and false calm that preceded World War I — a comparison I heard with disturbing frequency. They describe a number of ways that an unwanted but nonetheless major war, like that of 1914, could [cause] break out in the Eastern European borderlands. The stakes, they say, could not be higher: the post–World War II peace in Europe, the lives of thousands or millions of Eastern Europeans, or even, in a worst-case scenario that is remote but real, the nuclear devastation of the planet. [Update, Nov. 24: If you're reading this in response to Turkey reportedly shooting down a Russian warplane today, read here for why that incident will not lead to war, and why it's very different from the scenarios described in this story.] I. The warnings: "War is not something that's impossible anymore" Everyone in Moscow tells you that if you want to understand Russia's foreign policy and its view of its place the world, the person you need to talk to is Fyodor Lukyanov. Sober and bespectacled, with an academic's short brown beard, Lukyanov speaks with the precision of a political scientist but the occasional guardedness of someone with far greater access than your average analyst. Widely considered both an influential leader and an unofficial interpreter of Russia's foreign policy establishment, Lukyanov is chief of Russia's most important foreign policy think tank and its most important foreign policy journal, both of which reflect the state and its worldview. He is known to be close to Russian Foreign Minister Sergei Lavrov. I met Lukyanov around the corner from the looming Foreign Ministry compound (his office is nearby), at a small, bohemian cafe in Moscow that serves French and Israeli food to a room packed with gray suits. He was candid and relaxed. When the discussion turned to the risks of war, he grew dire. "The atmosphere is a feeling that war is not something that’s impossible anymore," Lukyanov told me, describing a growing concern within Moscow's foreign policy elite. "A question that was absolutely impossible a couple of years ago, whether there might be a war, a real war, is back," he said. "People ask it." Read the full interview with Fyodor Lukyanov I asked how this had happened. He said that regular Russian people don't desire war, but rather feared it would become necessary to defend against the implacably hostile United States. "The perception is that somebody would try to undermine Russia as a country that opposes the United States, and then we will need to defend ourselves by military means," he explained. Such fears, vague but existential, are everywhere in Moscow. Even liberal opposition leaders I met with, pro-Western types who oppose Putin, expressed fears that the US posed an imminent threat to Russia's security. I had booked my trip to Moscow in December, hoping to get the Russian perspective on what were, at the time, murmurings among a handful of political and arms control analysts that conflict could come to Europe. By the time I arrived in the city, in late April, concerns of an unintended and potentially catastrophic war had grown unsettlingly common. Lukyanov, pointing to the US and Russian military buildups along Eastern Europe, also worried that an accident or provocation could be misconstrued as a deliberate attack and lead to war. In the Cold War, he pointed out, both sides had understood this risk and installed political and physical infrastructure — think of the "emergency red phone" — to manage tensions and prevent them from spiraling out of control. That infrastructure is now gone. "All those mechanisms were disrupted or eroded," he said. "That [infrastructure] has been degraded since the end of the Cold War because the common perception is that we don’t need it anymore." That the world does not see the risk of war hanging over it, in other words, makes that risk all the likelier. For most Americans, such predictions sound improbable, even silly. But the dangers are growing every week, as are the warnings. "One can hear eerie echoes of the events a century ago that produced the catastrophe known as World War I," Harvard professor and longtime Pentagon adviser Graham Allison — one of the graybeards of American foreign policy — wrote in a May cover story for the National Interest, co-authored with Russia analyst Dimitri Simes. Their article, "Russia and America: Stumbling to War," warned that an unwanted, full-scale conflict between the US and Russia was increasingly plausible. In Washington, the threat feels remote. It does not in Eastern Europe. Baltic nations, fearing war, have already begun preparing for it. So has Sweden: "We see Russian intelligence operations in Sweden — we can't interpret this in any other way — as preparation for military operations against Sweden," a Swedish security official announced in March. In May, Finland's defense ministry sent letters to 900,000 citizens — one-sixth of the population — telling them to prepare for conscription in case of a "crisis situation." Lithuania has reinstituted military conscription. Poland, in June, appointed a general who would take over as military commander in case of war. Though Western publics remain blissfully unaware, and Western leaders divided, many of the people tasked with securing Europe are treating conflict as more likely. In late April, NATO and other Western officials gathered in Estonia, a former Soviet republic and NATO member on Russia's border that Western analysts most worry could become ground zero for a major war with Russia. At the conference, Deputy Secretary General Alexander Vershbow spoke so openly about NATO's efforts to prepare for the possibility of Russia launching a limited nuclear strike in Europe that, according to the journalist Ahmed Rashid, who was in attendance, he had to be repeatedly reminded he was speaking on the record. One of the scenarios Vershbow said NATO was outlining, according to Rashid's paraphrase, was that Russia could "choose to use a tactical weapon with a small blast range on a European city or a Western tank division." A few weeks later, the Guardian reported that NATO is considering plans to "upgrade" its nuclear posture in Europe in response to Russia's own nuclear saber-rattling. One proposal: for NATO's military exercises to include more nuclear weapons use, something Russia already does frequently. II. The gamble: Putin's plan to make Russia great again Should the warnings prove right, and a major war break out in Europe between Russia and the West, then the story of that war, if anyone is still around to tell it, will begin with Russian President Vladimir Putin trying to solve a problem. That problem is this: Putin's Russia is weak. It can no longer stand toe to toe with the US. It no longer has Europe divided in a stalemate; rather, it sees the continent as dominated by an ever-encroaching anti-Russian alliance. In the Russian view, the country's weakness leaves it at imminent risk, vulnerable to a hostile West bent on subjugating or outright destroying Russia as it did to Iraq and Libya. This is made more urgent for Putin by his political problems at home. In 2012, during his reelection, popular protests and accusations of fraud weakened his sense of political legitimacy. The problem worsened with Russia's 2014 economic collapse; Putin's implicit bargain with the Russian people had been that he would deliver economic growth and they would let him erode basic rights. Without the economy, what did he have to offer them? Putin's answer has been to assert Russian power beyond its actual strength — and, in the process, to recast himself as a national hero guarding against foreign enemies. Without a world-power-class military or economy at his disposal, he is instead wielding confusion and uncertainty — which Soviet leaders rightly avoided as existential dangers — as weapons against the West. Unable to overtly control Eastern Europe, he has fomented risks and crises there, sponsoring separatists in Ukraine and conducting dangerous military activity along NATO airspace and coastal borders, giving Russia more leverage there. Reasserting a Russian sphere of influence over Eastern Europe, he apparently believes, will finally give Russia security from the hostile West — and make Russia a great power once more. Knowing his military is outmatched against the Americans, he is blurring the distinction between war and peace, deploying tactics that exist in, and thus widen, the gray between: militia violence, propaganda, cyberattacks, under a new rubric the Russian military sometimes calls "hybrid war." "This was the theory of the Kaiser before World War I: The more threatening you are, the more people will submit to your will. Putin’s going to threaten and threaten and hope that NATO bends. But the long run of international relations suggests that it goes the other way." Unable to cross America's red lines, Putin is doing his best to muddy them — and, to deter the Americans, muddying his own. Turning otherwise routine diplomatic and military incidents into games of high-stakes chicken favors Russia, he believes, as the West will ultimately yield to his superior will. To solve the problem of Russia's conventional military weakness, he has dramatically lowered the threshold for when he would use nuclear weapons, hoping to terrify the West such that it will bend to avoid conflict. In public speeches, over and over, he references those weapons and his willingness to use them. He has enshrined, in Russia's official nuclear doctrine, a dangerous idea no Soviet leader ever adopted: that a nuclear war could be winnable. Putin, having recast himself at home as a national hero standing up to foreign enemies, is more popular than ever. Russia has once more become a shadow hanging over Eastern Europe, feared and only rarely bowed to, but always taken seriously. Many Western Europeans, asked in a poll whether they would defend their own Eastern European allies from a Russian invasion, said no. Russia's aggression, born of both a desire to reengineer a European order that it views as hostile and a sense of existential weakness that justifies drastic measures, makes it far more willing to accept the dangers of war. As RAND's F. Stephen Larrabee wrote in one of the increasingly urgent warnings that some analysts are issuing, "The Russia that the United States faces today is more assertive and more unpredictable — and thus, in many ways, more dangerous — than the Russia that the United States confronted during the latter part of the Cold War." Joseph Nye, the dean of Harvard University's school of government and one of America's most respected international relations scholars, pointed out that Russia's weakness-masking aggression was yet another disturbing parallel to the buildup to World War I. "Russia seems doomed to continue its decline — an outcome that should be no cause for celebration in the West," Nye wrote in a recent column. "States in decline — think of the Austro-Hungarian Empire in 1914 — tend to become less risk-averse and thus much more dangerous." III. The drift: How the unthinkable became possible The Cold War was a dangerous game, but it was a game in which everyone knew and agreed upon the stakes and the rules. That is not the case today. The Western side believes it is playing a game where the rules are clear enough, the stakes relatively modest, and the competition easily winnable. The Russian side, however, sees a game where the rules can be rewritten on the fly, even the definition of war itself altered. For Russia, fearing a threat from the West it sees as imminent and existential, the stakes are unimaginably high, justifying virtually any action or gamble if it could deter defeat and, perhaps, lead to victory. Separately, the ever-paranoid Kremlin believes that the West is playing the same game in Ukraine. Western support for Ukraine's government and efforts to broker a ceasefire to the war there, Moscow believes, are really a plot to encircle Russia with hostile puppet states and to rob Russia of its rightful sphere of influence. Repeated Russian warnings that it would go to war to defend its perceived interests in Ukraine, potentially even nuclear war, are dismissed in most Western capitals as bluffing, mere rhetoric. Western leaders view these threats through Western eyes, in which impoverished Ukraine would never be worth risking a major war. In Russian eyes, Ukraine looks much more important: an extension of Russian heritage that is sacrosanct and, as the final remaining component of the empire, a strategic loss that would unacceptably weaken Russian strength and thus Russian security. Both side are gambling and guessing in the absence of a clear understanding of what the other side truly intends, how it will act, what will and will not trigger the invisible triplines that would send us careening into war. Today's tensions bear far more similarity to the period before World War I During the Cold War, the comparably matched Western and Soviet blocs prepared for war but also made sure that war never came. They locked Europe in a tense but stable balance of power; that balance is gone. They set clear red lines and vowed to defend them at all costs. Today, those red lines are murky and ill-defined. Neither side is sure where they lie or what really happens if they are crossed. No one can say for sure what would trigger war. That is why, analysts will tell you, today's tensions bear far more similarity to the period before World War I: an unstable power balance, belligerence over peripheral conflicts, entangling military commitments, disputes over the future of the European order, and dangerous uncertainty about what actions will and will not force the other party into conflict. Today's Russia, once more the strongest nation in Europe and yet weaker than its collective enemies, calls to mind the turn-of-the-century German Empire, which Henry Kissinger described as "too big for Europe, but too small for the world." Now, as then, a rising power, propelled by nationalism, is seeking to revise the European order. Now, as then, it believes that through superior cunning, and perhaps even by proving its might, it can force a larger role for itself. Now, as then, the drift toward war is gradual and easy to miss — which is exactly what makes it so dangerous. But there is one way in which today's dangers are less like those before World War I, and more similar to those of the Cold War: the apocalyptic logic of nuclear weapons. Mutual suspicion, fear of an existential threat, armies parked across borders from one another, and hair-trigger nuclear weapons all make any small skirmish a potential armageddon. In some ways, that logic has grown even more dangerous. Russia, hoping to compensate for its conventional military forces' relative weakness, has dramatically relaxed its rules for using nuclear weapons. Whereas Soviet leaders saw their nuclear weapons as pure deterrents, something that existed precisely so they would never be used, Putin's view appears to be radically different. Russia's official nuclear doctrine calls on the country to launch a battlefield nuclear strike in case of a conventional war that could pose an existential threat. These are more than just words: Moscow has repeatedly signaled its willingness and preparations to use nuclear weapons even in a more limited war. This is a terrifyingly low bar for nuclear weapons use, particularly given that any war would likely occur along Russia's borders and thus not far from Moscow. And it suggests Putin has adopted an idea that Cold War leaders considered unthinkable: that a "limited" nuclear war, of small warheads dropped on the battlefield, could be not only survivable but winnable. "It’s not just a difference in rhetoric. It’s a whole different world," Bruce G. Blair, a nuclear weapons scholar at Princeton, told the Wall Street Journal. He called Putin's decisions more dangerous than those of any Soviet leader since 1962. "There’s a low nuclear threshold now that didn’t exist during the Cold War." Nuclear theory is complex and disputable; maybe Putin is right. But many theorists would say he is wrong, that the logic of nuclear warfare means a "limited" nuclear strike is in fact likely to trigger a larger nuclear war — a doomsday scenario in which major American, Russian, and European cities would be targets for attacks many times more powerful than the bombs that leveled Hiroshima and Nagasaki. Even if a nuclear war did somehow remain limited and contained, recent studies suggest that environmental and atmospheric damage would cause a "decade of winter" and mass crop die-outs that could kill up to 1 billion people in a global famine. IV. How it would happen: The Baltics scenario In September of last year, President Obama traveled to Estonia, a nation of 1.3 million people that most Americans have never heard of, and pledged that the United States would if necessary go to war with Russia to defend it. Estonia, along with Latvia and Lithuania — together known as the Baltic states — are at the far edge of Eastern Europe, along Russia's border. They were formerly part of the Soviet Union. And they are where many Western analysts fear World War III is likeliest to start. These small countries are "the most likely front line of any future crisis," according to Stephen Saideman, an international relations professor at Carleton University. Allison and Simes, in their essay warning of war, called the Baltics "the Achilles’ heel of the NATO alliance." A full quarter of Estonia's population is ethnically Russian. Clustered on the border with Russia, this minority is served by the same Russian state media that helped stir up separatist violence among Russian speakers in eastern Ukraine. But unlike Ukraine, the Baltic states are all members of NATO, whose charter states that an attack on one member is an attack on them all. Whereas a Russian invasion of Ukraine prompted Western sanctions, a Russian invasion of Estonia would legally obligate the US and most of Europe to declare war on Moscow. "We'll be here for Estonia. We will be here for Latvia. We will be here for Lithuania. You lost your independence once before. With NATO, you will never lose it again," Obama pledged in his September speech in Estonia. Less than 48 hours after Obama's address, Russian agents blanketed an Estonia-Russia border crossing with tear gas, stormed across, and kidnapped an Estonian state security officer, Eston Kohver, who specialized in counterintelligence. Kohver has been held illegally in a Russian prison for nine months now. It was something like an act of geopolitical trolling: aggressive enough to assert Russian dominion over Estonia, but not so aggressive as to be considered a formal act of war that would trigger a Western counterattack. And it was one of several signs that Putin's Russia is asserting a right to meddle in these former Soviet territories. The Russian military has already begun pressing the Baltic states. Russian warships were spotted in Latvian waters 40 times in 2014. Russian military flights over the Baltics are now routine, often with the planes switching off their transponders, which makes them harder to spot and increases the chances of an accident. Military activity in the region had reached Cold War levels. NATO, fearing the worst, is increasing military exercises in the Baltics. The US is installing heavy equipment. And in February, the US military paraded through the Russian-majority Estonian city of Narva, a few hundred yards from Russia's borders. "Without any intention to create the big conflict, it might happen. One step, another step, and reciprocity can become very dangerous." It's a textbook example of what political scientists call the security dilemma: Each side sees its actions as defensive and the other side's as offensive. Each responds to the other's perceived provocations by escalating further, a self-reinforcing cycle that can all too easily lead to war. It is considered, for example, a major contributor to the outbreak of World War I. That it is entirely foreseeable does little to reduce the risk. Even if Russia in fact has no designs on the Baltics, its bluffing and posturing has already created the conditions for an unwanted war. In early April, for example, a Russian fighter jet crossed into the Baltic Sea and "buzzed" a US military plane, missing it by only 20 feet. It was one of several recent near-misses that, according to a think tank called the European Leadership Institute, have had a "high probability of causing casualties or a direct military confrontation between Russia and Western states." Meanwhile, Russia has been flying its nuclear-capable strategic bombers along NATO airspace, often with the planes' transponders switched off, making an accident or misperception more likely. As if that weren't dangerous enough, the bombers — hulking, decades-old Tupolev Tu-95 models — have become prone to accidents such as engine fires. What if a Tu-95 went down unexpectedly, say, off the coast of Norway? What if it was carrying nuclear warheads, or it went down during a moment of high tension? Such incidents can lead to misunderstandings, and such misunderstandings can lead to war. By late April, when NATO officials gathered at the security conference in Estonia's capital of Tallinn, the severity of the danger had become unmistakable. As Ahmed Rashid wrote from the conference: Baltic presidents and NATO officials were unusually blunt in describing the extent to which the security architecture in Eastern Europe has collapsed, how Russia poses the gravest threat to peace since World War II, and how the conflict in Ukraine and the loss of the Crimea has left the Baltic states on the front line of an increasingly hostile standoff. Amid these tensions, the thought of a plane crash leading to war seems scarily plausible. It is not just Western officials who fear such an incident could spark war. Fyodor Lukyanov, the prominent Russian analyst who is considered close to the government, worried that the NATO military exercises in the Baltics meant to deter Russia were also contributing to the problem. "Russia reacts to that because Russia perceives it as a hostile approach to the Russian border," he explained. "And it’s a vicious circle." It is easy to imagine, Lukyanov said, any number of ways that the powder keg could explode. "Without any intention to create the big conflict, it might happen," he said. "One step, another step, and reciprocity can become very dangerous. Say a Russian aircraft comes very close to an area that NATO believes is prohibited while Russia believes it’s not prohibited, and then British aircraft respond. It might be manageable, and in most cases of course it will be, but who knows." V. How it would happen: A plot to break NATO It was Andrei Piontkovsky, a Russian political analyst and frequent Kremlin critic, who first suggested the theory, last August, that Putin's plan for the Baltics was more sophisticated, and more calculated, than anybody realized. Piontkovsky was trying to answer a question that Western analysts and policymakers had been puzzling over since Russian provocations began in the Baltics last fall: What does Putin want? Unlike in Ukraine, with which Russia has a long shared history, there is little demand among the Russian public for intervention in the Baltic states. They are of modest strategic value. And the risks of Russia's aggression there are potentially catastrophic. Why bother? His is a theory that is now taken much more seriously by Western policymakers — and appears more plausible all the time. "This is his most cherished objective, to destroy NATO. The risk is big, yes? But the prize is enormous." Putin hopes to spark a conflict in the Baltics, Piontkovsky wrote, so as to force Western European leaders into an impossible choice: Fulfill their NATO obligation to defend the Baltics and counterattack, even if it means fighting World War III over a tiny post-Soviet republic most Europeans couldn't care less about — or do nothing. The implications of doing nothing, Piontkovsky pointed out, would extend far beyond the Baltics. It would lay bare NATO's mutual defense provision as a lie, effectively dissolving the military alliance, ending a quarter-century of Europe's security unification under Western leadership, and leaving Eastern Europe once more vulnerable to Russian domination. In this way, Putin could do what Soviet leaders never came close to: defeat NATO. "This is his most cherished objective," Piontkovsky told me when we talked in his kitchen, in a leafy Moscow neighborhood across the river from Gorky Park. "It's an enormous temptation. He may retreat at any stage, but the temptation is enormous, to destroy NATO. ... The risk is big, yes? But the prize is enormous." "To destroy NATO, to demonstrate that Article V does not work, the Baltic republics of Estonia and Latvia are the best place for this," he said. "It's happening now, every day. Intrusions into the airspace, psychological pressure, the propaganda on TV." He suggested that Putin, rather than rolling Russian tanks across the border, would perhaps seed unmarked Russian special forces into, say, the Russian-majority city of Narva in Estonia, where they would organize localized violence or a phony independence referendum. A handful of such unacknowledged forces, whom Putin referred to as "little green men" after they appeared in Crimea, would perhaps be dressed as local volunteers or a far-right gang; they might be joined by vigilantes, as they were in eastern Ukraine. They would almost certainly be aided by a wave of Russian propaganda, making it harder for outsiders to differentiate unmarked Russian troops from civilian volunteers, to determine who was fighting where and had started what. Such an intervention would force NATO into an impossible choice: Are you really going to open fire on some hoodlums stirring up trouble in Estonia, knowing they might actually be unmarked Russian troops? Would you risk the first major European war since 1945, all to eject some unmarked Russian troops from the Estonian town of Narva? Putin, Piontkovsky believes, is gambling that the answer is no. That NATO would not intervene, thus effectively abandoning its commitment to defend its Eastern European member states. Piontkovsky's scenario, once considered extreme, is now widely seen by Western security experts and policymakers as plausible. At the end of 2014, the military intelligence service of Denmark, a member of NATO, issued a formal paper warning of precisely that: Russia may attempt to test NATO’s cohesion by engaging in military intimidation of the Baltic countries, for instance with a threatening military build-up close to the borders of these countries and simultaneous attempts of political pressure, destabilization and possibly infiltration. Russia could launch such an intimidation campaign in connection with a serious crisis in the post-Soviet space or another international crisis in which Russia confronts the United States and NATO. "The concern is that what Putin wants to do is break NATO, and the best way to do that would be to poach on the Baltics," Saideman, the political scientist, told me on a call from a European security conference where he said the scenario was being taken very seriously. "And if Germany doesn’t respond to incursions in the Baltics, if France doesn’t respond and it’s just an American operation, then it will lead to the breaking of NATO, is the theory," he said. "That’s the biggest concern." Saideman described a variation on this scenario that I heard from others as well: that Putin might attempt to seize some small sliver of the Baltics quickly and bloodlessly. This would make it politically easier for Western European leaders to do nothing — how to rally your nation to war if hardly anyone has even been killed? — and harder to counterattack, knowing it would require a full-scale invasion. "I think they’re very serious about this," Saideman said. "There’s a real concern." VI. How it would happen: The fog of hybrid war In early 2015, Pew pollsters asked citizens of several NATO states the exact question that analysts and policymakers from Washington to Moscow are gaming out: "If Russia got into a serious military conflict with one of its neighboring countries that is our NATO ally, do you think our country should or should not use military force to defend that country?" The numbers from Western Europe were alarming: Among Germans, only 38 percent said yes; 58 percent said no. If it were up to German voters — and to at least some extent, it is — NATO would effectively surrender the Baltics to Russia in a conflict. This poll is even worse than it looks. It assumes that Russia would launch an overt military invasion of the Baltics. What would actually happen is something far murkier, and far more likely to leverage European hesitation: the playbook from Ukraine, where Russia deployed its newly developed concepts of postmodern "hybrid war," designed to blur the distinction between war and not-war, to make it as difficult as possible to differentiate grassroots unrest or vigilante cyberattacks from Russian military aggression. Putin may already be laying the groundwork. In March of 2014, shortly after Russia had annexed Crimea, Putin gave a speech there pledging to protect Russians even outside of Russia, which many took as a gesture to the substantial Russian minorities in the Baltics. "That kind of misperception situation is definitely possible, and that’s how wars start" Then, in October, Putin warned that "open manifestations of neo-Nazism" had "become commonplace in Latvia and other Baltic states" — repeating the language that he and Russian state media had earlier used to frighten Russian speakers in Ukraine into taking up arms. This April, several Russian outlets issued spurious reports that Latvia was planning to forcibly relocate ethnic Russians into Nazi-style ghettos — an echo of similar scaremongering Russian propaganda broadcast in the runup in Ukraine. Martin Hurt, a former senior official of the country's defense ministry, warned that his country's ethnic Russian minority could be "receptive to Kremlin disinformation." Moscow, he said, could generate unrest "as a pretext to use military force against the Baltic states." In early 2007, Estonia's parliament voted to relocate a Soviet-era military statue, the Bronze Soldier, that had become a cultural symbol and annual rallying point for the country's ethnic Russians. In response, Russian politicians and state media accused the Estonian government of fascism and Nazi-style discrimination against ethnic Russians; they issued false reports claiming ethnic Russians were being tortured and murdered. Protests broke out and escalated into riots and mass looting. One person was killed in the violence, and the next day hackers took many of the country's major institutions offline. Russia could do it again, only this time gradually escalating further toward a Ukraine-style conflict. NATO is just not built to deal with such a crisis. Its mutual defense pledge, after all, rests on the assumption that war is a black-and-white concept, that a country is either at war or not at war. Its charter is from a time when war was very different than it is today, with its many shades of gray. Russia can exploit this flaw by introducing low-level violence that more hawkish NATO members would consider grounds for war but that war-averse Western European states might not see that way. Disagreement among NATO's member states would be guaranteed as they hesitated over where to declare a moment when Russia had crossed the line into war. Meanwhile, Russian state media, which has shown real influence in Western Europe, would unleash a flurry of propaganda to confuse the issue, make it harder to pin blame on Moscow for the violence, and gin up skepticism of any American calls for war. Germany, which is widely considered the deciding vote on whether Europe would go to war, would be particularly resistant to going to war. The legacy of World War II and the ideology of pacifism and compromise make even the idea of declaring war on Russia unthinkable. German leaders would come under intense political pressure to, if not reject the call to arms, then at least delay and negotiate — a de facto rejection of NATO's collective self-defense. In such a scenario, it is disturbingly easy to imagine how NATO's European member states could split over whether Russia had even crossed their red line for war, much less whether to respond. Under a fog of confusion and doubt, Russia could gradually escalate until a Ukraine-style conflict in the Baltics was foregone, until it had marched far across NATO's red line, exposing that red line as meaningless. But the greatest danger of all is if Putin's plan were to stumble: By overreaching, by underestimating Western resolve to defend the Baltics, or by starting something that escalates beyond his control, it could all too easily lead to full-blown war. "That kind of misperception situation is definitely possible, and that’s how wars start," Saideman said, going on to compare Europe today with 1914, just before World War I. "The thing that makes war most thinkable is when other people don’t think it’s thinkable." In 1963, a few months after the Cuban missile crisis had almost brought the US and Soviet Union to blows, President John F. Kennedy gave a speech drawing on the lessons of the world's brush with nuclear war: "Above all, while defending our vital interests, nuclear powers must avert those confrontations which bring an adversary to a choice of either a humiliating retreat or a nuclear war." That is the choice that Putin may well force upon NATO. VII. How it would happen: The Ukraine scenario Evgeny Buzhinsky has spent much of his professional life with the threat of global nuclear destruction hanging over his head. A lifelong Russian military officer, he earned his PhD in military sciences in 1982, just as the Cold War entered one of its most dangerous periods, and rose to the General Staff, where he remained for years after the Soviet Union's collapse, through periods of calm and of tension. He retired in 2009 as a lieutenant general and remains active in Russian national security circles, now heading the PIR Center, a well-respected Russian think tank that focuses on military, national security, and arms control issues. Buzhinsky, when I met him in Moscow, had a warning for me. Those in the West who worried about the possibility of a major war breaking out in the Baltics were missing the real threat: Ukraine. The US, he feared, does not appreciate how far Russia is willing to go to avoid a defeat in Ukraine, and this miscalculation could pull them into conflict. "Ukraine, for Russia, is a red line," he warned. "And especially a Ukraine that is hostile to Russia is a definite red line. But the US administration decided that it's not." This was a concern I heard more than once in Russia. When Fyodor Lukyanov, the Moscow foreign policy insider, warned that Russian foreign policy officials saw a major war as increasingly possible, and I asked him how they thought it would happen, he cited Ukraine. "For example, massive military help to Ukraine from the United States — it could start as a proxy war, and then ..." he trailed off Lukyanov worried that the US does not understand Russia's sense of ownership over Ukraine, the lengths it would go to protect its interests there. "It’s seen by many people as something that’s actually a part of our country, or if not part of our country then a country that’s absolutely essential to Russia’s security," he said. Buzhinsky is one of those people. Like Lukyanov and other Russian analysts, he worried that the United States had wrongly concluded that Putin would ultimately acquiesce if he faced likely defeat in Ukraine. The Americans, he said, were dangerously mistaken. Gregarious, bear-sized, and clearly accustomed to dealing with Westerners from overseeing arms control treaties during much of the 1990s, Buzhinsky sipped a grapefruit juice when we met in downtown Moscow. "A year ago, I was absolutely convinced Russia would never intervene militarily," he said about the possibility of a full, overt Russian invasion of Ukraine. "Now I'm not so sure." The view of the Russian government, he said, was that it could never allow the defeat of the pro-Russia separatist rebels in the eastern Ukraine region sometimes called Donbas. (In August, when those rebels appeared on the verge of defeat, Russia provided them with artillery support and covertly sent troops to fight alongside them, none of which Moscow has acknowledged.) If Ukrainian forces were about to overrun the separatist rebels, Buzhinsky said, he believed that Russia would respond not just with an overt invasion, but by marching to Ukraine's capital of Kiev. "A massive offensive on the Ukrainian side" against the rebels, he said, would lead Russia to openly enter the war. "A war with Russia in Ukraine — if Russia starts a war, it never stops until it takes the capital." When I asked Buzhinsky if he really believed Putin would launch a full Russian invasion of Kiev in response to a Ukrainian effort to retake Donbas, he answered, "Yes, definitely. He said twice publicly, 'I won't let it happen.' As he is a man of his word, I am sure he will." Such a scenario, he said, could lead to a larger conflict no one wants. The Americans believe that "Russia will never dare, Putin will never dare, to interfere," leaving the US unprepared in case it should happen. "And then I could not predict the reaction of the United States and NATO." Buzhinsky outlined another way he feared Ukraine could lead to a larger war. If the US provided sophisticated military equipment to Ukraine that required putting American trainers or operators near the front lines, and one of them was killed, he believed the US might feel compelled to intervene outright in Ukraine. Would Russia really risk a major war over Ukraine, one of Europe's poorest countries? For months, Moscow has been suggesting that Western military involvement in Ukraine, even something as mild as providing the Ukrainian military with certain arms, would be taken as an act of war against Russia. Like Putin's threats to use nuclear weapons, this has been shrugged off as bluster, mere rhetoric, just for scoring domestic political points. What Buzhinsky was trying to underline to me was that the threats are real — that Russia might consider its interests in Ukraine so vital that it would risk or even fight a war to protect them. He was not alone in saying this — I heard it from many others in Moscow, including Russian analysts who are critical of their country's Ukraine policy as too aggressive. Buzhinsky explained that Russia had set this as a red line out of the fear that a Ukrainian reconquest of eastern Ukraine would lead to "the physical extermination of the people of Donbas," many of whom are Russian speakers with cultural links to Russia. Russian state media has drilled this fear into the peoples of Ukraine and Russia for a year now. It does not have to be true to serve as casus belli; Moscow deployed a similar justification for its annexation of Crimea. "You don't get to walk this back" The connection to Ukraine is often expressed by everyday Russians as an issue of cultural heritage; Kievan Rus, a medieval Slavic federation with its capital in the present-day Ukrainian capital of Kiev, is something like Russia's predecessor state. But this is likely about more than nationalism or kinship with Russian-speaking Ukrainians. Moscow is notorious for its conviction that the US is bent on Russia's destruction, or at least its subjugation. It is paranoid and painfully aware of its isolation and its comparative weakness. A hostile and pro-Western Ukraine, Putin may have concluded, would pose an existential threat by further weakening Russia beyond what it can afford. Allison and Simes, in their essay on the risk of war, described Ukraine as a potential ground zero for wider conflict because of this. "Russia’s establishment sentiment holds that the country can never be secure if Ukraine joins NATO or becomes a part of a hostile Euro-Atlantic community," they wrote. "From [Moscow's] perspective, this makes Ukraine’s non-adversarial status a non-negotiable demand for any Russia powerful enough to defend its national-security interests." It is practically a cliché in international relations: "Russia without Ukraine is a country, Russia with Ukraine is an empire." Putin's Russia appears to believe that reclaiming great-power status is the only way it can guarantee security against a hostile West. Jeffrey Lewis, an arms control expert, traced this Russian government obsession with Ukraine back to Putin's political weakness at home, as well as Russia's sense of military insecurity against a hostile and overwhelmingly powerful West. "I suspect that the desire to unite the Russian world and to subjugate the non-Russian neighbors is driven by a fundamental sense of insecurity," Lewis said in a much-circulated September podcast on Putin's nuclear threats. "That, like the Soviet leadership, he has to try very hard to stay in power, and so there’s a tendency as his legitimacy declines to try to blame outside forces. And the problem is that when you try to look at the world in that conspiratorial way, there’s always a justification for subjugating the next set of neighbors." This means that should the US or other Western countries become sufficiently involved in Ukraine that Russia cannot maintain control of the conflict, then Russia may feel this puts it at such existential threat that it has no choice but to escalate in response. Even at the risk of war. Russia knows it would lose a full-blown war with NATO, of course, but it has other options. An official with the Russian Defense Ministry's public advisory board told the Moscow Times that should Western countries arm Ukraine's military, it would respond by escalating in Ukraine itself as well as "asymmetrically against Washington or its allies on other fronts." Russian asymmetrical acts — cyberattacks, propaganda operations meant to create panic, military flights, even little green men — are all effective precisely because they introduce uncertainty and risk. If that sounds dangerous, it is. American and NATO red lines for what acts of "asymmetry" would and would not trigger war are unclear and poorly defined. Russia could easily cross such a line without meaning to, or could create enough confusion that the US believes it or its allies are under a severe enough threat to demand retaliation. "You don't get to walk this back," Matthew Rojansky, the director of the Kennan Institute, warned in comments to the New York Times about what could happen if the US armed Ukraine's military, as Congress is pushing Obama to do. "Once we have done this we become a belligerent party in a proxy war with Russia, the only country on Earth that can destroy the United States," Rojansky said. "That’s why this is a big deal." VIII. The nuclear dangers: The red line is closer than you think This August, as the Russian military launched its undeclared and unofficial invasion of eastern Ukraine to defend separatist rebels there against defeat, Putin attended an annual youth conference at Lake Seliger, just north of Moscow. During a Q&A session, a teaching student asked an odd question about the "cyclical" nature of history and concerns that Russia could be "drawn into a new, open global conflict." Putin, in his answer, did something that the leaders of major nuclear powers generally avoid doing — he rattled the nuclear saber a bit: Let me remind you that Russia is one of the world’s biggest nuclear powers. These are not just words — this is the reality. What’s more, we are strengthening our nuclear deterrent capability and developing our armed forces. They have become more compact and effective and are becoming more modern in terms of the weapons at their disposal. There is a certain fear in Russia, never far from the surface, that the only thing preventing the West from realizing its dream of destroying or subjugating Russia is its nuclear arsenal. (Three months later, Putin warned that the West wanted to tame the Russian bear so as to "tear out his fangs and his claws," which he explained meant its nuclear weapons.) "There is a widespread belief that the only guarantee for Russian security, if not sovereignty and existence, is the nuclear deterrent," Lukyanov, the Russian foreign policy expert, explained. "After the Yugoslavia wars, Iraq War, Libyan intervention, it’s not an argument anymore, it’s conventional wisdom: 'If Russia were not a nuclear superpower, the regime change of an Iraqi or Libyan style would be inevitable here. The Americans are so unhappy with the Russian regime, they would do it. Praise God, we have a nuclear arsenal, and that makes us untouchable.'" But Russia faced a problem: Its conventional military forces are now so much weaker than NATO's, and its capital city so close to NATO's forces in the Baltics, that it feared NATO tank divisions could push all the way to Moscow and quickly win a war without ever using a nuclear weapon. Both the US and Russia had pledged to use nuclear weapons only to deter one another from nuclear attacks. This kept the Cold War cold. But because the US would not need its ICBMs to win a war, that deterrence is no longer enough to keep Russia safe. In response, Russia has been gradually lowering its bar for when it would use nuclear weapons, and in the process upending the decades-old logic of mutually assured destruction, adding tremendous nuclear danger to any conflict in Europe. The possibility that a limited or unintended skirmish could spiral into nuclear war is higher than ever. Russia's nuclear doctrine, a formal document the Kremlin publishes every few years outlining when it will and will not use nuclear weapons, declares that the Russian military can launch nuclear weapons not just in the case of a nuclear attack, but in case of a conventional military attack that poses an existential threat. In other words, if Russia believes that American tanks could be bound for the Kremlin, it has declared it may respond by dropping nuclear bombs. The danger that this adds to any possible confrontation, particularly along the Baltic states, is difficult to overstate. If an accident or miscalculation were to lead to a border skirmish, all it would take is for the Kremlin to misperceive the fighting as the beginning of an assault toward Moscow and its own doctrine would call for using nuclear weapons. Indeed, it would be the only way to avoid total defeat. There is another layer of danger and uncertainty to this: It is not clear what Russia would consider a conventional threat worthy of a nuclear response. A few months after he'd annexed Crimea, Putin revealed that during Russia's undeclared invasion of the territory he had considered putting his country's nuclear forces on alert; his government has signaled it would consider using nuclear force to defend Crimea from an attack, something Russian analysts told me was not just bluster. The United States, of course, has no intention of militarily retaking Crimea, despite surprisingly common fears to the contrary in Russia. But Russian paranoia about such a threat, and a possible willingness to use nuclear weapons to avert it, adds more danger to the already dangerous war in eastern Ukraine and the fears that greater Russian or Western involvement there could spark a broader conflict. And the Crimea revelation raises a disconcerting question: Where exactly does Moscow place the line for a threat severe enough to use nuclear weapons? Its doctrine says they should be used only against an existential threat, but an attack on Crimea would be far from existentially dangerous. We can only guess where the real red line lays, and hope not to cross it by mistake. IX. The nuclear dangers: How Putin is pushing us back to the brink There is a specific moment that arms control experts often cite to highlight the dangers of nuclear weapons, how they kept the world poised, for years at a time, mere minutes away from nuclear devastation. That moment was September 26, 1983. That evening, a Russian lieutenant colonel named Stanislav Petrov settled in for his shift overseeing the Soviet Union's missile attack early warning system. Petrov had a top-secret network of satellites, all pointed squarely at the United States and its arsenal of nuclear-armed intercontinental ballistic missiles, which pointed back at him. The US and Soviet Union were ramping up development of ICBMs, which could circle the globe in 30 minutes and reduce an enemy city to ash. Both sides were driven by fear that the other could one day gain the ability to launch a preemptive nuclear strike so devastating and so fast that it would start and win the war within hours. Each sought to develop ever more sensitive warning systems, and ever more rapid mechanisms for retaliation, to deter the threat. Petrov ran one such warning system. If he caught an American attack as soon as it crossed his sensors, it would give the Soviet leadership about 20 minutes of warning time. That was their window to determine how to respond. The space for mistakes was effectively zero. Five hours into Petrov's shift that night, something he had never encountered in his 11-year career happened: The system went into full alarm. The word "LAUNCH" displayed in large red letters. The screen announced a "high reliability" of an American ICBM barreling toward the Soviet Union. Petrov had to make a decision: Would he report an incoming American strike? If he did, Soviet nuclear doctrine called for a full nuclear retaliation; there would be no time to double-check the warning system, much less seek negotiations with the US. If he didn't, and he was wrong, he would have left his country defenseless, an act tantamount to treason. His gut instinct told him the warning was in error, but when he flipped through the incoming imagery and data and he could reach no hard conclusion from it. After a few moments, he called his superiors and stated categorically that it was a false alarm. There was, he insisted, no attack. Petrov waited in agony for 23 minutes — the missile's estimated time to target — before he knew for sure that he'd been right. Only a few people were aware of it at the time, but thanks to Petrov, the world had only barely avoided World War III and, potentially, total nuclear annihilation. The US and Soviet Union, shaken by this and other near-misses, spent the next few years stepping back from the brink. They decommissioned a large number of nuclear warheads and signed treaties to limit their deployment. One of their most important measures was a 1987 agreement called the Intermediate-Range Nuclear Forces (INF) Treaty, which saw both sides conclude that the medium-range, land-based nuclear missiles they'd stuffed across Europe were simply too dangerous and destabilizing to be allowed. Because the missiles could reach Moscow or Berlin or London at lightening speeds, they shortened the "response time" to any crisis — the window in which a Soviet or Western leader would have to decide whether the country was under attack before such an attack would hit — to just a few minutes. They made the danger of an unintended escalation, or of an error like the that one Petrov only barely prevented, far greater. The risk they posed was deemed, in the 1987 INF Treaty, unacceptable to the world. And the weapons were removed. Putin has taken several steps to push Europe back toward the nuclear brink, to the logic of nuclear escalation and hair-trigger weapons that made the early 1980s, by many accounts, the most dangerous time in human history. Perhaps most drastically, he appears to have undone the 1987 INF Treaty, reintroducing the long-banned nuclear weapons. In March, Russia announced it would place nuclear-capable bombers and medium-range, nuclear-capable Iskander missiles in the Russian enclave of Kaliningrad — only an hour, by commercial airliner, from Berlin. Meanwhile, it has been testing medium-range, land-based missiles. The missiles, to the alarm of the United States, appear to violate the INF Treaty. This is far from Putin's only nuclear escalation. He is developing more nuclear weapons, and calling frequent attention to them, as apparent cover for his aggression and adventurism in Europe. There are suspicions, for example, that Russia may have deployed nuclear-armed submarines off of the US Eastern Seaboard. What makes this so dangerous is that Putin appears to believe, as the scholar Edward Lucas outlined in a recent report for the Center for European Policy Analysis, that he has a greater willingness than NATO to use nuclear weapons, and thus that his superior will allows him to bully the otherwise stronger Western powers with games of nuclear chicken. This is a substantial, and indeed terrifying, break from Cold War–era nuclear thinking, in which both sides rightly feared nuclear brinksmanship as too dangerous to contemplate and used their weapons primarily to deter one another. "Russia’s nuclear saber-rattling is unjustified, destabilizing and dangerous," NATO Secretary-General Jens Stoltenberg said in a May speech in Washington. Putin is acting out of an apparent belief that increasing the nuclear threat to Europe, and as a result to his own country, is ultimately good for Russia and worth the risks. It is a gamble with the lives of hundreds of millions of Europeans, and perhaps many beyond, at stake. X. The nuclear dangers: An atomic gun to the world's head The view among many Western analysts is that the nuclear-capable missiles are meant as a gun against the heads of the Americans and the Europeans: You better not mess with us Russians, or who knows what we'll do. Putin himself endorsed this view in a 2014 speech in Sochi, where he approvingly cited Soviet leader Nikita Khrushchev's 1960 address to the United Nations, when he hammered his shoe on the podium. "The United States and NATO thought, 'This Nikita is best left alone, he might just go and fire a missile. We better show some respect for them,'" Putin said. This sort of a nuclear threat could be a perfect way for Putin to attempt the sort of NATO-splitting scenario described by analysts like Piontkovsky. What if, Lucas asked as an example in his report, Putin found some excuse to declare a Russian "military exclusion zone" in the Baltic Sea, thus physically cutting off the Baltic states from the rest of NATO? "Would America really risk a nuclear standoff with Russia over a gas pipeline?" Lucas asked. "If it would not, NATO is over. The nuclear bluff that sustained the Western alliance through all the decades of the Cold War would have been called at last." Putin's love of brinksmanship, while perhaps born of Russia's weakness, is also deeply worrying for what it says about the leader's willingness and even eagerness to take on huge geopolitical risk. "Either he has a very weird theory of nuclear weapons, or he just doesn’t take the West seriously and is trying to cow us with whatever threat he can make," Saideman, the political scientist, said, going on to draw yet another of the many parallels analysts have drawn to the onset of World War I. "There are two visions of international relations: One is that threats work, and one is that threats don’t, where they cause counter-balancing," Saideman continued. "This was the theory of the [German] Kaiser before World War I: the more threatening you are, the more people will submit to your will. That might be Putin’s logic, that he’s just going to threaten and threaten and hope that NATO bends. But the long run of international relations suggests that it goes the other way, where the more threatening you are the more you produce balancing." In other words, Putin is hoping to compensate for his weakness by expressing his willingness to go further, and to raise the stakes higher, than the more powerful Western nations. But his actions are premised on a flawed understanding of how the world works. In fact, he is virtually forcing the West to respond in kind, raising not just the risk of a possible war, but the ease with which such a war would go nuclear. XI. The nuclear dangers: Does Putin believe nuclear war can be "won"? There is a corollary in Russia's nuclear doctrine, a way in which the Russians believe they have solved the problem of Western military superiority, that is so foolhardy, so dangerous, that it is difficult to believe they really mean it. And yet, there is every indication that they do. That corollary is Russia's embrace of what it calls a "de-escalation" nuclear strike. Go back to the scenario spelled out in Russia's military doctrine: a conventional military conflict that poses an existential threat to the country. The doctrine calls for Russia to respond with a nuclear strike. But imagine you're a Russian leader: How do you drop a nuclear bomb on NATO's troops without forcing the US to respond with a nuclear strike in kind, setting off a tit-for-tat cycle of escalation that would end in total nuclear war and global devastation? Russia's answer, in the case of such a conflict, is to drop a single nuclear weapon — one from the family of smaller, battlefield-use nukes known as "tactical" weapons, rather than from the larger, city-destroying "strategic" nuclear weapons. The idea is that such a strike would signal Russia's willingness to use nuclear weapons, and would force the enemy to immediately end the fight rather than risk further nuclear destruction. Nikolai Sokov, a nuclear weapons expert and former official in the Russian Foreign Affairs Ministry, explained in the Bulletin of Atomic Scientists that this is not a far-fetched option of last resort; it has become central to Russian war planning. "Such a threat is envisioned as deterring the United States and its allies from involvement in conflicts in which Russia has an important stake, and in this sense is essentially defensive," Sokov wrote. "Yet, to be effective, such a threat also must be credible. To that end, all large-scale military exercises that Russia conducted beginning in 2000 featured simulations of limited nuclear strikes." Buzhinsky, the recently retired member of Russia's General Staff, confirmed in our meeting that this is something the military sees as a viable option. "If Russia is heavily attacked conventionally, yes, of course, as it's written in the doctrine, there may be limited use of nonstrategic nuclear weapons," he said. "To show intention, as a de-escalating factor." It is difficult to imagine a more dangerous idea in the world of military planning today than of a "limited" nuclear war. Scholars have debated for decades, and still debate today, whether the concept of limited nuclear war is realistic, or whether such a conflict would inevitably spiral into total nuclear war. Put another way, no one knows for sure whether Russia's military planners have sown the seeds for global nuclear destruction. Seen from the Russian side, it is at least possible to imagine how this doctrine might make sense: The threat of NATO's conventional forces is widely seen as both overwhelming and imminent, making such an extreme step worth considering. Ever since the fall of the Soviet Union, Russia's strategic culture has increasingly emphasized its nuclear arsenal, the one remaining legacy of its fearsome great-power status. It is a sort of Russian cult of the nuclear weapon, or even a certain strategic fetish. With nukes so central to Russian strategic thinking, it is little wonder Moscow sees them as the solution to its greatest strategic problem. But when you consider this doctrine from the American side, you begin to see what makes it dangerous, even insane. Imagine that you are an American leader and your forces in Eastern Europe have somehow been drawn into conflict with the Russians. Perhaps, as artillery and planes from within Russia hammer your forces, you counterattack on Russian soil to take them out. The Kremlin, fearing the start of an invasion to take Moscow, drops a tactical nuclear warhead on your forces in Estonia or Latvia. You have no idea whether more Russian nuclear strikes are coming, either on the battlefield, more widely on Europe, or even against Washington or New York. Do you respond with an in-kind tactical nuclear strike, opening the risk of gradual escalation to total nuclear war? Do you, fearing the worst, move to take out the Russian leadership before they can order more attacks? Or do you announce a unilateral ceasefire, drawing your forces back in humiliation, rewarding Russia with a victory? It is difficult to imagine a more dangerous idea than "limited" nuclear war Russia's nuclear doctrine is betting that any American leader — not to mention the leaders of nuclear-armed France and the UK — would choose the last of those three options. If that prediction turned out to be wrong, it would mean nuclear war, perhaps global nuclear war and thus annihilation. This doctrine, in other words, is gambling with the fate of the world. Such a scenario, to be clear, is remote, as are all of the nuclear scenarios. It would require a cascading series of events, and for neither side to pull back in time as those events built. The odds of this happening are quite low. But they are greater than zero, and growing. Such a scenario is within the realm of possibility — if it were not, then Russia would not regularly conduct military exercises that imagine exactly this outcome. And recall that Alexander Vershbow, the deputy secretary general of NATO, told a conference in late April that NATO is gaming out exactly such a crisis. There are yet more worrying implications to this Russian doctrine. Its logical conclusion is that Russia sees itself as able to fight a war with the conventionally superior United States without losing, and that it can do this by using battlefield nuclear weapons. Under this doctrine, Moscow is deeming not only full-blown war against the US as imaginable, but a full-blown war with at least one nuclear detonation. That, perhaps, can help explain why Putin has seemed so willing to ratchet up the possibility of a real war with the United States, even one involving nuclear threats — he may believe that through his superior will and brinksmanship, he can avoid defeat. Adding a nuclear element to any conflict would also seem to increase the odds of NATO's Western European members splitting over how to respond, particularly if Russian propaganda can make the circumstances leading up to the detonation unclear. But this also shows the degree to which his entire strategy may rest in part on a shoddy premise — that "limited" nuclear war can be winnable — and one that puts the entire world at risk. XII. The nuclear dangers: End games President Dwight Eisenhower held office at a time when the prospect of a nuclear war was relatively new and military planners unsure how to account for the possibility of a conflict with the Soviet Union in which both sides might use nuclear weapons. Though some in his administration urged him to consider plans for nuclear conflict, Eisenhower, no stranger to war, rejected the idea as unthinkable. "You just can't have this kind of war," Eisenhower said in 1957. "There aren't enough bulldozers to scrape the bodies off the streets." Putin believes he has found a way around this problem, relying on smaller, battlefield-use warheads that could win a war without escalating to a global conflict in which whole cities were sacrificed. But even a limited nuclear war could be catastrophic, and not just for the nations where the bombs would fall, but for the whole world. A 2008 study (updated in 2014) on the environmental effects of a "small" nuclear war described what would happen if 100 Hiroshima-strength bombs were detonated in a hypothetical conflict between India and Pakistan. This is equivalent to less than 1 percent of the combined nuclear arsenals of the US and Russia. The explosions, the study found, would push a layer of hot, black smoke into the atmosphere, where it would envelop the Earth in about 10 days. The study predicted that this smoke would block sunlight, heat the atmosphere, and erode the ozone for many years, producing what the researchers call without hyperbole "a decade without summer." As rains dried and crops failed worldwide, the resulting global famine would kill 1 billion people. "We escaped the Cold War without a nuclear holocaust by some combination of skill, luck and divine intervention, and I suspect the latter in greatest proportion," General George Lee Butler of the US Strategic Air Command told the journalist Eric Schlosser for his book on the dangers of nuclear weapons. We may have escaped the Cold War, but we have not escaped the nuclear threat, which not only remains but is growing. The sense that this danger is resigned to history books, common in Washington and other Western capitals, is precisely part of its danger. It is another echo of the months and years before World War I, when the world drifted unknowingly toward disaster. In April of last year, just after Russia had annexed Crimea, the London-based think tank Chatham House published a report on the dangers of unintended nuclear conflict. It was not pegged to the events in Ukraine, and at that point few people, including the report's authors, saw Crimea as the potential beginning of a larger conflict. Even still, it was dire in its warnings. "The probability of inadvertent nuclear use is not zero and is higher than had been widely considered," it stated. "The risk associated with nuclear weapons is high" and "under-appreciated." Their warnings were widely ignored. As the report itself noted, the world has concluded, wrongly, that nuclear weapons no longer pose an imminent threat. Attention has moved on. But the seeds of a possible war are being sown in Europe. Should the worst happen, which is a remote but real possibility, the consequences will follow all Americans to their homes.

#### Chinese expansionism causes nuclear war.

Rando 15 — Consultant- Asymmetric Global Solutions DBA, MPH/MS-Biomedical Sciences & US Correspondent-Chemical, Biological, Nuclear Warfare Journal. (Fire on the Water: The South China Sea and Nuclear Confrontation, 9/29, http://www.cbrneportal.com/fire-on-the-water-the-south-china-sea-and-nuclear-confrontation/)

Robert Kaplan, one of the world’s foremost experts on China, has stated “The South China Sea will be the 21st Century’s defining battleground.” The obsession with supremacy in the South China Sea is certainly not a new phenomenon in the realms of international security and maritime strategy. In opinionated discussions related to naval warfare, prominent political scientists and military strategists have been addressing the geopolitical and military significance of the region for decades. For example, the enlightening 1997 article “The Chinese Way”, written in the Bulletin of Atomic Scientists by Professor Chalmers Johnson of the University of California-San Diego, noted significantly increased defense budgets and expenditures in the region. In addition, the article eludes to the fact that China had claimed the entire South China Sea and would use its naval forces to counter any encroachment. The argument for an increased U.S. naval presence in East Asia is certainly not without precedent. This contested aquatic region has tremendous geopolitical, strategic and economic significance. While, the Persian Gulf has immense importance and global recognition due to its strategic location in the Middle East, as well its significance to global commerce, industry and sought after oil, the South China Sea is crucially important to nations seeking to obtain their economic riches and geopolitical advantages. The South China Sea is geographically located near the Pacific Ocean and encompasses an area of 1.4 million square miles (3.5 million square kilometers). As a semi-closed area, the South China Sea extends from the Singapore Strait to the Taiwan Strait, with China, Indonesia, Malaysia, Brunei, the Philippines, Vietnam, and Taiwan surrounding it. In terms of economic value, fishery stocks and potential fossil fuel reserves are two major commodities that may spark an armed conflict, even to the point of nuclear confrontation. As a rich source of the region’s staple diet, fish, the sea guarantees a steady flow of food to the countries of the region. Control and supremacy of the sea would also assure claiming the much touted hydrocarbon reserves in the seabed, possibly exceeding those of the OPEC nations such as Iraq and Kuwait. The conquest of this vast resource would virtually assure energy independence and high monetary returns for those that would gain supremacy over the South China Sea. Thus, seizing the opportunity to gain dominance will lead to control and manipulation of vital food and energy resources, economic wealth and geopolitical power in the region. A scenario of regional and maritime domination and control could lead to the partial or total exclusion of adjacent nation-states to access any food or natural resources derived from a sea ruled with an iron hand; leading to a massive complex humanitarian catastrophe of immense proportions from malnutrition and starvation, limitations in energy production, and economic collapse. These factors make the South China Sea a national security priority for nations in the region, including one of the world’s superpowers, China. The dependence of China and other regional nations surrounding the South China Sea on the Strait of Malacca is analogous in geopolitical and economic terms, to the Strait of Hormuz in the Persian Gulf. Approximately one -third of all global trade funnels through the strait and also serves as a conduit for raw materials and energy needs for China and other adjacent nation-states. Such potential dominance in any region, leads to a high-stakes game of brinkmanship, and at least the possibility of a regional war which could conceivably escalate to engulf nation-states external to the regional sphere. Tensions and skirmishes have the propensity to evolve into armed conflict and full-scale war, and apprehensive leaders and military planners in such a contested region serve as the facilitators for disaster. China continues to assert sovereignty by constructing man made islands using sand dredged from the sea bottom and these artificial islands could be militarized. China has even affirmed its desire to have a military presence on these islands; however, the Chinese Foreign Minister Wang Yi, also professes the use of these land masses to facilitate commerce via shipping lanes and to protect Chinese fishing and other vessels from piracy. China will never cease its quest for supremacy and its perceived “ownership” of the South China Sea, as the legitimacy and structure of the Chinese government is based on nationalism and achievement of the “Chinese Dream”. The Chinese regime continues to vehemently assert their perceived “right” to the South China Sea, and it forges ahead with plans and operations that could lead to naval warfare and conflict escalation. The knowledge that China possesses formidable naval capacity and capabilities, including nuclear-capable ballistic missile submarines, is, indeed, disconcerting at the very least. As we examine and evaluate the “submarine factor”, it is evident that China’s submarines have no practical value in its disputes with Vietnam and the Philippines. Essentially, nuclear ballistic missile capable submarines serve as a deterrent against thermonuclear war. Without doubt, the primary reason that China possesses nuclear-capable submarines is to deter an American attack, although India’s nuclear weapons are also a consideration for Beijing. Nuclear capable submarines are capable of deep dive capabilities and shorter launch to target times. While China’s submarine capabilities may appear worrisome to some, sudden deployment from port in a geopolitical crisis would serve as a critical indicator to the US and Western allies, and its submarine fleet still remains somewhat noisy and detectable. China has already demonstrated its aggression at sea in several instances, such as the ramming and sinking of a Vietnamese fishing boat in disputed waters claimed by both countries in the region and an ominous presence and military mobilization exercises which have been monitored by military and intelligence assets. A report by the National Air and Space Intelligence Center, indicates that Chinese SSBNs are able to target portions of the U.S. from strategic operational positions near the Chinese coast. China’s Global Times published an unprecedented report that revealed a nuclear missile strike on the western U.S. with JL-2 missiles could generate up to 12 million American fatalities. The Obama administration and senior U.S. naval officials have not retorted to China’s claims of a potentially devastating nuclear threat, which included graphics showing radiological plumes and collateral damage induced by radiation. The possibilities of China’s anti-satellite strategies to disable communications and intelligence-gathering capabilities must also be taken seriously. Most assuredly, the South China Sea would serve as an obvious arena for the projection of Chinese power, including conventional and, potentially, nuclear scenarios. Rando2China’s South Sea naval facilities have seen significant upgrading and expansion, such as the facilities on Hainan, and the nuclear submarine base at Longpo serves as the first nuclear submarine base in the South China Sea. The base also includes a submarine tunnel that is part of an underwater complex of nuclear facilities on Hainan. Also, Chinese-Russian wargames are worrisome, which adds to the concerns of nuclear confrontation and consequences globally. The Chinese have asserted their right to defend its territories, which in their view, includes the South China Sea, and they have stated verbally, and by their aggressive actions, that they will continue to pursue their strategic goals despite the threat of confrontation and conflict. Many of the issues in contention in the South China Sea will remain unresolved for, probably, several years to come. We must remain balanced, and not overzealous in our approaches to assisting with conflict resolution in the area. We must apply reasonable diplomacy, without stirring up a hornet’s nest that would serve to be counterproductive and enhance animosities. However, the US, its allies, and other concerned nation-states must not refrain from being ever so vigilant and proactive in achieving peaceful resolution, while at the same time maintaining our national defense and security postures.