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“Notes on Exterminism” for the Twenty-First-Century Ecology and Peace Movements

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The Memorial Cenotaph at the Hiroshima Peace Memorial Park. By [Balon Greyjoy - Own work](#), CC.

In 1980, the great English historian and Marxist theorist E. P. Thompson, author of *The Making of the English Working Class* and leader of the European Nuclear Disarmament movement, wrote the pathbreaking essay “Notes on Exterminism, the Last Stage of Civilization.”¹ Although the world has undergone a number of

significant changes since, Thompson's essay remains a useful starting point in approaching the central contradictions of our times, characterized by the planetary ecological crisis, COVID-19 pandemic, New Cold War, and current "empire of chaos"—all arising from features deeply embedded in the contemporary capitalist political economy.²

For Thompson, the term *exterminism* referred not to the extinction of life itself, since some life would remain even in the face of a global thermonuclear exchange, but rather to the tendency toward the "extermination of our [contemporary] civilization," understood in its most universal sense.

Nevertheless, exterminism pointed to mass annihilation and was defined as consisting of those "characteristics of society—expressed, in differing degrees, within its economy, its polity, and its ideology—which thrust it in a direction whose outcome must be the extermination of multitudes."³ "Notes on Exterminism" was written eight years before climatologist James Hansen's famous 1988 testimony on global warming to the U.S. Congress and the formation that same year of the UN Intergovernmental Panel on Climate Change. Hence, Thompson's treatment of exterminism focused squarely on nuclear war and did not directly address the other emerging exterminist tendency of contemporary society: the planetary ecological crisis. Yet, his perspective was a deeply socioecological one. The tendency toward exterminism in modern society was thus seen as directly opposed to "the imperatives of human ecological survival," demanding a worldwide struggle for a socially egalitarian and ecologically sustainable world.⁴

With the demise of the Soviet Union and the end of the Cold War in 1991, the nuclear threat that had loomed over the post-Second World War world seemed to subside. Consequently, most subsequent considerations of Thompson's exterminism thesis have considered it primarily in the context of the planetary ecological crisis, itself a source of "the extermination of multitudes."⁵ But the advent over the last decade of the New Cold War has brought the threat of nuclear holocaust back into the center of world concerns. The 2022 Ukraine War, the origins of which date back to the 2014 U.S.-engineered Maidan coup and the resulting Ukrainian Civil War fought between Kyiv and the breakaway republics of the Russian-speaking Donbass region in Ukraine, has now evolved into a full-scale war between Moscow and Kyiv. This took on an ominous worldwide significance on February 27, 2022, with Russia, three days into its military offensive in Ukraine, placing its nuclear forces on high alert as a warning against

a direct NATO intervention in the war, non-nuclear or nuclear.⁶ The potential for a global thermonuclear war between the leading nuclear powers is now greater than at any time in the post-Cold War world.

It is necessary therefore to address these dual exterminist tendencies: both the planetary ecological crisis (including not only climate change but also the crossing of other key planetary boundaries defining the earth as a safe home for humanity) and the growing threat of global nuclear annihilation. But in approaching the dialectical interconnections between these two global existential threats, emphasis must be placed today on updating the historical understanding of the thrust toward nuclear exterminism as it metamorphosed in the decades of U.S. unipolar power, while the world's attention was directed elsewhere. How is it that the threat of global thermonuclear war is once again hanging over the globe, three decades after the end of the Cold War and at a time when the risk of irreversible climate change looms on the horizon? What approaches need to be adopted within the peace and environmental movements to counter these interrelated global existential threats? To answer these questions, it is important to address such issues as the nuclear winter controversy, the counterforce doctrine, and the U.S. quest for global nuclear supremacy. Only then can we perceive the full dimensions of the global existential threats imposed by today's catastrophe capitalism.

Nuclear Winter

In 1983, in the midst of the nuclear buildup of the Ronald Reagan administration, associated with the Strategic Defense Initiative (better known as Star Wars) and the growing threat of nuclear Armageddon, teams of atmospheric scientists in both the United States and the Soviet Union produced models, appearing in the major scientific journals, predicting that a nuclear war would lead to a "nuclear winter." The outcome of a global thermonuclear exchange resulting in megafires in a hundred or more cities, it was discovered, could enormously reduce the average temperature of the earth by pushing soot and smoke into the atmosphere and blocking solar radiation. The climate would be altered much more abruptly and in the opposite direction from global warming, introducing a rapid global cooling causing global (or at least hemispheric) temperatures to drop by several degrees or even "several tens of degrees" Celsius in a matter of a month, with horrific consequences for life on Earth. Thus, although hundreds of

millions, perhaps even a billion or more people, would be killed by the *direct* effects of a global thermonuclear exchange, the *indirect* effects would be far worse, annihilating most people on the planet, even those not caught up in the direct effects of nuclear firebombs, via starvation. The nuclear winter thesis had a powerful effect on the nuclear arms race that was then occurring and played a role in getting the U.S. and Soviet governments to pull back from the brink.⁷

The nuclear winter model, however, was seen within the power elite in the United States as a direct attack on the nuclear armaments industry and the Pentagon, aimed at the Star Wars program in particular. It therefore led to one of the biggest scientific controversies of all time, although the controversy was more political than scientific, since the scientific results were never really in doubt. Although claims were made that the initial nuclear winter models from NASA scientists were too simple, and studies were produced pointing to effects less extreme than originally envisioned—“nuclear autumn” rather than nuclear winter—the nuclear winter thesis was validated again and again by scientific models.⁸

Nevertheless, if the initial response of the public and political leaders to the nuclear winter studies helped to create a powerful movement to dismantle nuclear weapons, contributing to nuclear arms control and the end of the Cold War, this was soon countered by powerful military, political, and economic interests behind the U.S. nuclear war machine. Thus, the corporate media together with political forces launched various campaigns meant to discredit the nuclear winter thesis.⁹ In 2000, the popular science magazine *Discover* went so far as to list nuclear winter as one of its “Twenty Greatest Scientific Blunders in the Last 20 Years.” Yet, the most that *Discover* could claim in this respect was that the key scientists behind the most influential nuclear winter study in the 1980s had pulled back by 1990, claiming that the average temperature reduction as a result of a global nuclear exchange was estimated to be somewhat smaller than originally conceived and would at most constitute a 36°F (20°C) *drop* in average temperature in the Northern Hemisphere. This, however, remained apocalyptic on a planetary level.¹⁰

In one of the greatest instances of denialism in the history of science, surpassing even the denial of climate change, these scientific findings on nuclear winter were widely rejected out of hand within the public sphere and within the military, based on the charge that the original estimate had somehow been

“exaggerated.” The exaggeration charge was then used in ruling circles for decades down to the present to downplay the full effects of nuclear war. In the case of Pentagon capitalism, such denial was clearly motivated by the reality that, if the scientific results on nuclear winter were allowed to stand, the strategic planning aimed at fighting a “winnable” nuclear war, or at least one in which one’s own side would “prevail,” would be senseless. Once the atmospheric effects were considered, the global devastation could not be confined to a particular nuclear theater, but the devastating effects would, within several years of the global thermonuclear exchange, destroy all but a tiny fraction of the population of the earth, going beyond what was even envisioned by mutual assured destruction (MAD).

In some ways, the devastating effects of nuclear war had always been downplayed by the nuclear planners. As Daniel Ellsberg points out in *The Doomsday Machine*, the “estimates of fatalities” from all-out nuclear warfare provided by U.S. strategic analysts were a “fantastic underestimate” from the start, “even before the discovery of nuclear winter,” since they deliberately omitted the firestorms in cities resulting from nuclear blasts, the largest impact on the overall urban population, on the questionable grounds that the level of devastation was too difficult to estimate.¹¹ As Ellsberg writes:

Yet even in the sixties the firestorms caused by thermonuclear weapons were known to be predictably the *largest* production of fatalities in a nuclear war. Moreover, what no one would recognize...[until the first nuclear winter studies emerged some twenty-one years after the Cuban Missile Crisis] were the indirect effects of our planned first strike that gravely threatened the other two thirds of humanity. These effects arose from another neglected consequence of our attacks on cities: smoke. In effect, in ignoring fire the [Joint] Chiefs [of Staff] and their planners ignored that where there’s fire there’s smoke. But what is dangerous to our survival is not the smoke from ordinary fires, even very large ones—smoke that remained in the lower atmosphere and soon would be rained out—but smoke propelled into the upper atmosphere from the *firestorms* that our nuclear weapons were sure to create in the cities we targeted.

Ferocious updrafts from these multiple firestorms would loft millions of tons of smoke and soot into the stratosphere, which would not be rained out and would quickly encircle the globe, forming a blanket blocking most sunlight around the earth for a decade or more. This would reduce sunlight and lower temperatures

worldwide to a point that it would eliminate all harvests and starve to death—not all but nearly all—humans (and other animals that depend on vegetation for food). The population of the southern hemisphere—spared nearly all direct effects from nuclear explosions, even from fallout—would be nearly annihilated, as would that of Eurasia (which the Joint Chiefs already foresaw, from direct effects), Africa and North America.¹²

Worse than the original pushback against the nuclear winter thesis, according to Ellsberg, writing in 2017, was the fact that, over the decades that followed, nuclear planners in the United States and Russia have “*continued* to include ‘options’ for detonating hundreds of nuclear explosions near cities, which would loft enough soot and smoke into the upper stratosphere to lead [via nuclear winter] to death by starvation of nearly everyone on earth, including, after all, ourselves.”¹³

This denialism built into the Doomsday Machine—or the thrust to exterminism entrenched in Pentagon capitalism—is all the more significant given that not only were the original nuclear winter studies never disproven, but twenty-first-century nuclear winter studies, based on computer models more sophisticated than those of the early 1980s, have gone on to show that nuclear winter can be set off at lower levels of nuclear exchange than envisioned in the original models.¹⁴ The importance of these new studies is symbolized by *Discover* magazine, which in 2007, only seven years after it had included nuclear winter in its list of the twenty “greatest scientific blunders” of the previous two decades, carried an article on “The Return of Nuclear Winter,” essentially repudiating its earlier piece.¹⁵

The most recent studies, motivated in part by nuclear proliferation, demonstrated that a hypothetical nuclear war between India and Pakistan fought with one hundred fifteen megaton (Hiroshima-sized) atomic bombs could produce direct fatalities comparable to all deaths in the Second World War. However, the long-term effect would be global famine. The atomic explosions would immediately ignite firestorms of three to five square miles. Burning cities would release some five million tons of smoke into the stratosphere, circling the earth within two weeks, which could not be removed by rainfall and might remain for more than a decade. By blocking sunlight, it would decrease food production globally by 20 to 40 percent. The stratospheric smoke layer would absorb warming sunlight, heating the smoke to temperatures near water’s boiling point, resulting in an ozone layer reduction of 20 to 50 percent near populated areas and generating UV-B increases unprecedented in human history, such that

fair-skinned individuals could get severe sunburns in around six minutes and levels of skin cancer would go off the charts. Meanwhile, it is estimated that up to 2 billion people would die of famine.¹⁶

The new series of nuclear winter studies, published in major peer-reviewed scientific journals, beginning in 2007 and continuing to the present, however, did not stop there. They also looked at what would happen if there were a global thermonuclear exchange involving the five leading nuclear powers: the United States, Russia, China, France, and United Kingdom. The United States and Russia alone, accounting for most of the world's nuclear arsenal, have thousands of strategic nuclear weapons with an explosive power ranging from seven to eighty times that of the Hiroshima bomb (although some thermonuclear weapons developed in the 1950s and '60s were a thousand times as powerful as the atom bomb). A single strategic nuclear weapon hitting a city will ignite a firestorm covering a surface area of 90 to 152 square miles. Scientists calculated that the fires from a full-scale global thermonuclear exchange would propel into the stratosphere 150 to 180 million tons of black carbon soot and smoke that would remain for twenty to thirty years and would prevent up to 70 percent of solar energy from reaching the Northern Hemisphere and up to 35 percent with respect to the Southern Hemisphere. The noonday sun would end up looking like a full moon at midnight. Global average temperatures would fall below freezing every day for one or two years, or even longer, in the main agricultural regions of the Northern Hemisphere. Average temperatures would dip below those experienced in the last Ice Age. The growing seasons of agricultural areas would disappear for more than a decade, while rainfall would decrease by up to 90 percent. Most of the human population would die of starvation.¹⁷

In his 1960 book *On Thermonuclear War*, RAND Corporation physicist Herman Kahn presented the notion of the "doomsday machine" that would, in the event of a nuclear war, kill everyone on Earth.¹⁸ Kahn did not actually advocate building such a machine, nor did he contend that either the United States or the Soviet Union had done so or were then seeking to do so. He merely suggested that a mechanism that would ensure no survivability from nuclear war would be a cheap alternative with which to achieve complete and irrevocable deterrence on all sides and take nuclear warfare off the table. Set against Kahn's analysis, as Ellsberg, himself a former nuclear strategist, has remarked—in line with scientists Carl Sagan and Richard Turco who helped develop the nuclear winter model—today's strategic arsenals in the hands of the dominant nuclear powers

constitute an actual doomsday machine. Once set in motion, the doomsday machine would almost certainly annihilate directly or indirectly most of the population on the planet.¹⁹

Counterforce and the U.S. Drive to Nuclear Primacy

From the 1960s, when Moscow achieved rough nuclear parity with Washington, until the demise of the Soviet Union, the dominant nuclear strategy during the Cold War between the United States and the Soviet Union was based on the notion of MAD. Nuclear parity translates into MAD, usually seen as utter devastation on both sides, including the deaths of hundreds of millions of people. However, as nuclear winter studies indicate, the consequences of an all-out nuclear war would go far beyond even this, extending to the destruction of almost all human life (as well as most other species) on the entire planet. Still, ignoring the nuclear winter warnings, the United States, with far more resources than the Soviet Union, sought to transcend MAD in the direction of U.S. “nuclear primacy,” so as to restore the level of U.S. nuclear preeminence of the early Cold War years. *Nuclear primacy*, as opposed to *nuclear parity*, means “eliminating the possibility of a retaliatory strike,” and thus is also referred to as “first strike capability.”²⁰ In this respect, it is significant that Washington’s official defense posture has consistently included the possibility of the United States carrying out a first strike nuclear attack on nuclear or non-nuclear states.

In addition to introducing the doomsday machine concept, Kahn, as one of the leading U.S. strategic planners, also coined the key terms *countervalue* and *counterforce*.²¹ *Countervalue* refers to the targeting of enemy’s cities, civilian population, and economy, aimed at complete annihilation, thus leading to MAD. *Counterforce*, in contrast, refers to the targeting of the enemy’s nuclear weapons facilities to prevent retaliation.

When the counterforce strategy was originally introduced by U.S. defense secretary Robert McNamara in the John F. Kennedy administration, it was seen as a “no cities” strategy that would attack the opponent’s nuclear weapons rather than civilian populations, and it has sometimes been fallaciously justified in those terms since. McNamara, however, soon realized the flaws in the counterforce strategy, namely that it provokes a nuclear arms race directed at achieving (or denying) nuclear primacy. Moreover, the notion that a “preemptive”

counterforce strike did not involve attacks on cities was incorrect from that start, as targets included nuclear command centers in cities. He therefore abandoned the effort shortly after, in favor of a nuclear strategy based on MAD, which he saw as the only true approach to nuclear deterrence.²²

This U.S. nuclear strategy for most of the 1960s and '70s was characterized by the acceptance of rough nuclear parity with the Soviet Union and thus of MAD. This broke down in the final year of the Jimmy Carter administration. In 1979, Washington strong-armed NATO into allowing the siting in Europe of nuclear-armed cruise and Pershing II missiles, both counterforce weapons aimed at the Soviet nuclear arsenal, a decision that ignited the European antinuclear movement.²³ In the subsequent U.S. administration under Ronald Reagan, Washington adopted the counterforce strategy in full force.²⁴ The Reagan administration introduced Star Wars, aimed at the development of a comprehensive antiballistic missile system capable of defending the U.S. homeland, subsequently abandoned as impractical, but leading to other antiballistic missile systems in later administrations.²⁵ In addition, the United States in the Reagan administration pushed the MX (later Peacemaker) missile, viewed as a counterforce weapon able to destroy the Soviet missiles before they were launched. All of these weapons threatened the “decapitation” of Soviet forces in a first attack and the ability through antiballistic missile systems to intercept what few Soviet missiles survived.²⁶ Counterforce weapons required greater accuracy since they were no longer conceived as city-busters as in “countervalue” attacks, but rather as precision targeting of hardened missile silos, mobile land-based missiles, nuclear submarines, and command-and-control centers. It was here, in counterforce weapons, that the United States had a technological advantage.

It was this major nuclear arms buildup beginning in 1979, with the planned deployment in Europe of missile delivery systems carrying nuclear warheads, that generated the great nuclear war protests of the 1980s in Europe and North America and Thompson’s critique of exterminism, as well as the scientific research into nuclear winter. Nevertheless, today, more than four decades later, in the words of Janne Nolan of the Arms Control Association, “counterforce remains the sacrosanct principle of American nuclear strategy,” aimed at nuclear primacy.²⁷

With the dissolution of the Soviet Union in 1991 and the end of the Cold War, Washington immediately commenced, beginning with the February

1992 *Defense Policy Guidance* issued by undersecretary of defense Paul Wolfowitz in 1992, the process of translating its new unipolar position into a vision of permanent U.S. supremacy over the entire globe.²⁸ This was to be enacted through a geopolitical expansion of the areas of Western dominance to areas formerly part of the Soviet Union or within its sphere of influence, in order to thwart the reemergence of Russia as a great power. At the same time, in a climate of nuclear disarmament and with the deterioration of the Russian nuclear force under Boris Yeltsin, the United States sought to “modernize” its nuclear weapons, replacing existing weapons with more technologically advanced strategic weaponry, with the object not of enhancing deterrence, but rather of achieving nuclear primacy.²⁹

The U.S. pursuit of nuclear primacy in the post-Cold War world by continuing to promote counterforce weapons was known as the “maximalist” strategy in the debates over nuclear policy at the time, and was opposed by those who advocated a “minimalist” strategy simply relying on MAD. In the end, the maximalists won, and the New World Order came to be defined by both the enlargement of NATO, with Ukraine seen as the ultimate geopolitical and strategic pivot, and by the U.S. pursuit of a maximalist goal of absolute nuclear dominance and first strike capability.³⁰

In 2006, Keir A. Lieber and Daryl G. Press published a landmark article, “The Rise of U.S. Nuclear Primacy,” in *Foreign Affairs*, the flagship journal of the Council of Foreign Relations. In their article, Lieber and Press argued that the United States was “on the verge of attaining nuclear primacy,” or first strike capability, and that this had been its aim since at least the end of the Cold War. As they put it, “the weight of evidence suggests that Washington is, in fact, deliberately seeking nuclear primacy.”³¹

What placed such first strike capability seemingly within Washington’s reach was the new nuclear weaponry, associated with nuclear modernization, which, if anything, accelerated after the Cold War. Weapons such as nuclear-armed cruise missiles, nuclear submarines able to fire their missiles near the shore, and low-flying B-52 stealth bombers carrying both nuclear armed cruise missiles and nuclear gravity bombs could more effectively penetrate Russian or Chinese defenses. More accurate intercontinental ballistic missiles could fully eliminate hardened missile silos. Improved surveillance could allow for the tracking and destruction of mobile-land based missiles and nuclear submarines. Meanwhile, the more accurate Trident II D-5 missiles being introduced on U.S. nuclear

submarines carried larger-yield warheads to use on hardened silos. More advanced remote sensing technology in which the United States has had the lead has greatly enhanced its ability to detect mobile land-based missiles and nuclear submarines. The ability to target the satellites of other nuclear powers could weaken or eliminate their nuclear missile delivery capacity.³² The siting of strategic weapons in countries recently admitted to NATO and near or on Russian borders—the Aegis ballistic missile defense facilities that the United States established in Poland and Romania are also potential offensive weapons capable of launching nuclear-armed tomahawk cruise missiles—would serve to enhance the speed with which nuclear weapons could strike Moscow and other Russian targets, giving the Kremlin no time to react.³³ Nuclear missile defense facilities, mainly useful in the case of countering retaliation to a first strike by the United States, could shoot down the limited number of missiles that had survived on the other side. (Such “missile defense systems” would be ineffective in the face of a first attack by the other side since they would be overwhelmed by the sheer number of missiles and decoys.) In recent decades, the United States has developed large numbers of high-precision, *non-nuclear* aerospace weapons to be used in a counterforce strike aimed at enemy missiles or command-and-control facilities that, due to precision targeting based on satellites, are comparable to nuclear weapons in their counterforce effects.³⁴ According to Lieber and Press, writing in 2006, “the odds that Beijing will acquire a survivable nuclear deterrent in the next decade are slim,” while the survivability of the Russian deterrent was in question. “What our analysis suggests is profound: Russia’s leaders can no longer count on a survivable nuclear deterrent.” As they wrote, the United States is “seeking primacy in every dimension of modern military technology, both in its conventional arsenal and its nuclear forces,” something known as “escalation dominance.”³⁵ The signing of the New START Treaty between the United States and Russia in 2010, while limiting nuclear weapons, did not prevent a race toward modernization of counterforce weapons to destroy the other side’s weapons. In fact, the limits on numbers made a counterforce strategy, in which the United States had the upper hand, more feasible, since one of the three primary bases for survivability of a nuclear retaliatory arsenal (along with hardening of land-based missile sites and concealment) is the sheer number and thus redundancy of such weapons.³⁶ With nuclear primacy as the goal set in Washington, the United States began unilaterally to withdraw from some of the

main nuclear treaties established in the Cold War. In 2002, under the George W. Bush administration, the United States unilaterally withdrew from some of the Anti-Ballistic Missile Treaty. In 2019, under the Donald Trump administration, Washington withdrew from the Intermediate Nuclear Forces Treaty, claiming that Russia had violated the treaty. In 2020, again under Trump, the United States withdrew from the Open Skies Treaty (which placed limits on reconnaissance flights over other countries), followed by Russia's withdrawal the following year. There is little doubt that withdrawal from these treaties was favorable to Washington in expanding its counterforce options in its quest for nuclear primacy.

Given U.S. pursuit of overall nuclear dominance, Russia has attempted to modernize its nuclear weapon systems over the last two decades, but it is at a distinct disadvantage when compared to the United States with respect to counterforce capability. Its fundamental nuclear strategy is therefore determined by fears of a U.S. first strike that could effectively eliminate its nuclear deterrent and its ability to retaliate. Thus, it has strived to reestablish a credible deterrent. As Cynthia Roberts of the Saltzman Institute of War and Peace at Columbia wrote in "Revelations About Russia's Nuclear Deterrence Strategy" in 2020, Russians perceive further U.S. improvements to strategic forces, both conventional and nuclear, as part of a continuous effort to "stalk Russia's nuclear deterrent" and deny Moscow a viable second-strike option, effectively eliminating its nuclear deterrent altogether, through "decapitation."³⁷ While the United States has adopted a *maximum* nuclear "defense" posture of threatening "nuclear first use and phased escalation" in which it retains dominance at every level of escalation, this compares to Russia's approach of "all-out war once deterrence fails" through which it continues to rely primarily on MAD.³⁸ However, in recent years, Russia and China have leaped ahead in strategic weapons technology and systems. In order to counter Washington's attempts to develop first strike capability, neutralizing their nuclear deterrents, both Moscow and Beijing have turned to asymmetrical strategic weapons systems designed to neutralize U.S. superiority in missile defense and high-precision targeting. Intercontinental ballistic missiles are vulnerable because, while they reach hypersonic speeds—usually defined as Mach 5, or five times the speed of sound or greater—when they reenter the atmosphere, they follow an arc that constitutes a predictable ballistic path, like a bullet. They thus lack surprise; their targets are predictable, and they can theoretically be intercepted by antiballistic

missiles. Hardened missile silos housing intercontinental ballistic missiles are also distinct targets, and today are far more vulnerable given U.S. high-precision, satellite-guided missiles, nuclear and non-nuclear. Confronted with these counterforce threats to their basic deterrents, Russia and China have pushed ahead of the United States in developing hypersonic missiles that can maneuver aerodynamically in order to dodge missile defenses and prevent the adversary from knowing the ultimate intended target. Russia has developed a hypersonic missile called the Kinzhal that is reputed to reach Mach 10 or more on its own, and another hypersonic weapon, Avangard, that, boosted by a rocket, can reach the astounding speed of Mach 27. China has a “waverider” hypersonic cruise missile that reaches Mach 6. Borrowing from Chinese folklore, it is referred to as an “assassin’s mace,” a weapon effective against a much better-armed adversary.³⁹ Russia and China, meanwhile, have been developing antisatellite “counterspace” weapons designed to remove the U.S. advantage of high-precision nuclear and non-nuclear weapons.⁴⁰

Though Washington has sought so-called nuclear primacy, it has remained just beyond its grasp, given the technological prowess of the other leading nuclear powers. Moreover, a nuclear arms race spurred by a counterforce strategy is fundamentally irrational, threatening a global thermonuclear conflagration with consequences far greater than even those envisioned by the MAD scenario, with its hundreds of millions of deaths on both sides. Nuclear winter means that, in a global nuclear exchange, *the entire planet* would be engulfed by the smoke and soot circling the stratosphere, killing off almost all of humanity.

Given this reality, the U.S. nuclear posture, which is based on the notion of prevailing in an all-out nuclear war, is particularly dangerous, since it denies the role of firestorms in cities and thereby the effects of smoke lofted up into the upper atmosphere and blotting out most of the rays of the sun. The search for nuclear primacy, therefore, leads from *MAD to madness*.⁴¹ As Ellsberg writes, “The hope,” entertained by U.S. strategic planners—who alone, in their denialism and sense of approaching nuclear primacy, could envision such a possibility—of “successfully avoiding mutual annihilation by a decapitating attack has always been as ill-founded as any other. The realistic conclusion would be that a nuclear exchange between the United States and the Soviets/[Russians] was—and is—virtually certain to be an unmitigated catastrophe, not only for the two parties but for the world,” triggering nuclear winter and “global omnicide.”⁴²

The New Cold War and the European Theater

In “Notes on Exterminism” and his general stance as a leader of European Nuclear Disarmament in the 1980s, Thompson presented the nuclear arms buildup in Europe then occurring as the product of military machines and technological imperatives largely acting on their own. This was part of a strategy of uniting the peace movements of the West and East against their respective establishments, based on the premise that nuclear buildup was equally a product of both sides. However, in this regard, he belied his own evidence, which pointed to Washington’s aggressive nuclear buildup of counterforce weapons and the placement of strategic weapons in Europe targeting the Soviet Union. In an article on “Nuclear Chicken” in the September 1982 issue of *Monthly Review*, Harry Magdoff and Paul M. Sweezy challenged this part of Thompson’s argument, pointing not only to the strategic expansions of NATO under the United States, but also to the fact that the U.S. imperial order was heavily dependent on credible threats of nuclear first strikes directed at other countries, both nuclear and non-nuclear.⁴³

In a 1981 introduction to the U.S. edition of *Protest and Survive* edited by Thompson and Dan Cohen, Ellsberg listed a long series of documented instances where the United States used threats of nuclear first strikes, beginning in 1949, to pressure other countries to back down and achieve its imperial ends.⁴⁴ Today, the list of such documented cases has risen to twenty-five.⁴⁵ In this sense, the *use of nuclear warfare as a threat* is built into U.S. strategy. Development of nuclear primacy through counterforce weapons held out the possibility that such threats could once again be credibly directed even at major nuclear powers such as Russia and China. Magdoff and Sweezy called this whole approach a game of “nuclear chicken,” in which the United States was the most aggressive player.

Nuclear chicken did not end with the end of the Cold War. The U.S. national security state, influenced by key figures such as Zbigniew Brzezinski, Carter’s national security advisor and one of the principal architects of the post-Cold War NATO expansion, continued to seek ultimate U.S. geopolitical hegemony over Eurasia, referring to this as the “grand chessboard.” Checkmate, according to Brzezinski, would constitute bringing Ukraine into NATO as a strategic-nuclear

alliance (though Brzezinski carefully excluded the nuclear aspect in presenting his geopolitical strategy), spelling the end of Russia as a great power and possibly leading to its breakup into various states.⁴⁶ This would mark U.S. supremacy over the entire globe. This attempt to turn U.S. unipolar power after the Cold War into a permanent global empire required the expansion of NATO to the east, which commenced in 1997 during the Bill Clinton administration, gradually annexing to the Atlantic Alliance all the countries between Western Europe and Ukraine, with the latter as the ultimate prize and a dagger at Russia's heart.⁴⁷ Here there was a kind of oneness exhibited between the U.S.-directed strategy of NATO expansion and Washington's drive for nuclear primacy, which preceded in almost lockstep.

The fact that Russia was compelled to consider the question of its own national security in the face of NATO's attempt to expand militarily into Ukraine should hardly surprise anyone. A decade into the NATO expansion, which already encompassed eleven nations formerly either in the Warsaw Pact or previously part of the Soviet Union, and only a year after near U.S. nuclear primacy was highlighted in *Foreign Affairs*, Russian president Vladimir Putin startled the world by unequivocally declaring at the Munich Security Conference that "the unipolar world was not only unacceptable but impossible in today's world."⁴⁸ Nevertheless, consistent with its long-term strategy to extend into what Brzezinski had called the "geopolitical pivot" of Eurasia, thereby fatally weakening Russia, NATO in 2008 declared outright at its Bucharest Summit that it intended to bring Ukraine into the military-strategic (nuclear) alliance.

In 2014, the Maidan coup in Ukraine, engineered by Washington, deposed the democratically elected president of Ukraine and imposed in his place a leader chosen by the White House, putting Ukraine in the hands of right-wing, ultra-nationalist forces. Russia's response was to incorporate Crimea into its territory, after a popular referendum that gave the predominantly Russian-speaking Crimean population, who regarded themselves as independent and not part of Ukraine, a choice as to whether to remain in Ukraine or join with Russia. The coup (or "color revolution") led to the violent repression by Kyiv of the populations in the Russian-speaking Donbass region of Ukraine, resulting in the Ukrainian Civil War between Kyiv (supported by Washington) and the breakaway Russian-speaking Donbass republics of Donetsk and Luhansk (supported by Moscow). The Ukrainian Civil War, which initially resulted in more than 14,000 deaths, continued at a low ebb over the following eight years

despite the signing of the Minsk peace agreements in 2014, which were meant to end the conflict and give autonomy to the Donbass republics within Ukraine. In February 2022, Kyiv had massed 130,000 troops on the borders of Donbass in eastern Ukraine firing on Donetsk and Luhansk.⁴⁹

As the Ukrainian crisis worsened, Putin insisted on a number of “red lines” for Russia, referring to its essential security needs, consisting of: (1) adherence to the previous Minsk agreement (worked out by Russia, Ukraine, France, and Germany, and supported by the UN Security Council) guaranteeing the autonomy and security of Donetsk and Luhansk, (2) an end to NATO’s militarization of Ukraine, and (3) an agreement that Ukraine will remain outside NATO.⁵⁰ All of these red lines continued to be crossed with NATO, urged on by the United States, providing increased military aid to Kyiv in its war on the Donbass republics, in what Russia interpreted as a de facto attempt to incorporate Ukraine into NATO.

On February 24, 2022, Russia intervened in the Ukrainian Civil War on the side of Donbass, attacking the military forces of the Kyiv government. On February 27, Moscow put its nuclear forces on high alert for the first time since the end of the Cold War, confronting the world with the possibility of global nuclear holocaust, this time between competing capitalist great powers. Figures in Washington, such as Senator Joe Manchin III (Democrat, West Virginia), have backed the idea of U.S. imposition of a no-fly zone in Ukraine, which would mean shooting down Russian planes, in all probability escalating into a Third World War.⁵¹

Exterminism in Two Directions

It is common today to recognize that climate change represents a “global existential threat” that places in jeopardy the very survival of humanity. Today we are faced with a situation in which the continual expansion of capitalism based on the burning of ever larger amounts of fossil fuels points to the possibility—even probability, if the system of production is not altered radically in a matter of decades—of the downfall of industrial civilization, placing the survival of humanity in question. This is the meaning of environmental exterminism in our time. According to the UN Intergovernmental Panel on Climate Change (IPCC), net zero carbon dioxide emissions must be reached by 2050 if the world is to have a reasonable hope of keeping global average temperatures below a 1.5°C, or even a 2°C, increase over preindustrial levels. Not to accomplish this is to

invite the devastation of the earth as a safe home for humanity and innumerable other species.

Climate change is part of a more general planetary ecological crisis associated with the crossing of planetary boundaries in general, including those—beyond climate change itself—related to species extinction, stratospheric ozone depletion, ocean acidification, disruption of the nitrogen and phosphorous cycles, loss of ground cover/forests, declining fresh water sources associated with desertification, atmospheric aerosol loading, and the introduction of novel entities (new synthetic chemicals and new genetic forms).⁵² To this should be added the emergence of new zoonoses, as in the COVID-19 pandemic, resulting principally from the agribusiness transformation of the human relation to the environment.⁵³

Yet, there is no doubt that climate change is at the center of the current global ecological crisis. Like nuclear winter, it poses a threat to civilization and the continuation of the human species itself. Even now, the IPCC tells us in its most recent reports (2021–22) on the physical science of climate change and its impacts that the most optimistic scenario, though warding off irreversible climate change, is still one of growing global catastrophe in the decades ahead, and requires immediate action to protect the lives and living conditions of hundreds of millions, and perhaps billions, of people who will be exposed to extreme weather events of a kind that global civilization has never seen before.⁵⁴ To counter this requires the greatest movement of workers and peoples the world has ever seen in order to restore the conditions of their existence, which have been usurped by the regime of capital, and to reestablish an ecologically sustainable world rooted in substantive equality.⁵⁵

Ironically, the latest IPCC report, which was meant to draw world attention to the catastrophic nature of today's climate crisis and the rapidly worsening prospects for humanity if revolutionary-scale changes are not made, was published on February 28, 2022, four days after the Russian entry into the Ukrainian Civil War in defiance of NATO, resulting in growing concern over the possibility of a global thermonuclear exchange. Hence, the world's attention was drawn away from considering one global existential threat, endangering all of humanity, namely *carbon omnicide*, by the sudden reemergence of another, *nuclear omnicide*.

Still, even as the world turned its attention to the possibility of war between the leading nuclear powers, the full planetary scale of the nuclear threat, as understood by science in terms of nuclear winter, was absent from the picture. Global warming and nuclear winter, though arising in different ways, are closely connected in climate terms, demonstrating that the world is on the brink of destroying most of the inhabitants of the earth, in one direction or another: global warming over decades leading to a point of no return for humanity, or the death of hundreds of millions by nuclear fire, followed by global cooling in days and months, exterminating most of the rest of the world's population through starvation. Just as the full destructive implications of climate change threatening the very existence of humanity are in large part denied by the powers that be, so are the full planetary effects of nuclear war, which scientific research into nuclear winter tells us will effectively annihilate the population of every continent on Earth.^{s6}

Today we are confronted with a choice between *exterminism* and the *human ecological imperative*.^{s7} The causal agent in the two global existential crises now threatening the human species is capitalism and its irrational quest for exponentially increasing capital accumulation and imperial power in a limited global environment. The only possible response to this unlimited threat is a universal revolutionary movement rooted in both ecology and peace, turning away from the current systematic destruction of the earth and its inhabitants, and providing as its alternative a world of substantive equality and ecological sustainability, namely socialism.

Notes

Notes

1. ↪ P. Thompson, "Notes on Exterminism, the Last Stage of Civilization," *New Left Review* 121 (1980): 3–31. Citations to this essay in the present article are taken from the slightly revised version in E. P. Thompson, *Beyond the Cold War* (New York: Pantheon, 1982), 41–79. See also Edward Thompson et al., *Exterminism and the Cold War* (London: Verso, 1982); E. P. Thompson and Dan Smith, ed., *Protest and Survive* (New York: Monthly Review Press, 1981).
2. ↪ Thompson, *Beyond the Cold War*, 55; Samir Amin, *Empire of Chaos* (New York: Monthly Review Press, 1992).
3. ↪ Thompson, *Beyond the Cold War*, 64, 73.

4. ↪ Thompson, *Beyond the Cold War*, 75–76.
5. ↪ Rudolf Bahro, *Avoiding Social and Ecological Disaster* (Bath: Gateway Books, 1994), 19–20; John Bellamy Foster, *Ecological Revolution* (New York: Monthly Review Press, 2009), 27–28; Ian Angus, *Facing the Anthropocene* (New York: Monthly Review Press, 2016), 178–81.
6. ↪ For a brief discussion of the events leading up the present Ukraine War, see The Editors, “Notes from the Editors,” *Monthly Review* 73, no. 11 (April 2022).
7. ↪ Stephen Schneider, “Whatever Happened to Nuclear Winter?,” *Climatic Change* 12 (1988): 215; Matthew R. Francis, “When Carl Sagan Warned About Nuclear Winter,” *Smithsonian Magazine*, November 15, 2017; Carl Sagan and Richard Turco, *A Path Where No Man Thought: Nuclear Winter and the End of the Arms Race* (New York: Random House, 1990), 19–44.
8. ↪ Malcolm W. Browne, “Nuclear Winter Theorists Pull Back,” *New York Times*, January 23, 1990.
9. ↪ Steven Starr, “Turning a Blind Eye Towards Armageddon—U.S. Leaders Reject Nuclear Winter Studies,” *Public Interest Report* (Federation of American Scientists) 69, no. 2 (2016–17): 24.
10. ↪ Judith Newman, “20 of the Greatest Blunders in Science in the Last 20 Years,” *Discover*, January 19, 2000.
11. ↪ Daniel Ellsberg, *The Doomsday Machine: Confessions of a Nuclear War Planner* (New York: Bloomsbury, 2017), 140. The failure to include the foremost cause of death from thermonuclear weapons directed at cities in the form of firestorms is deeply ingrained in the Pentagon. Thus, the declassified practical guide on nuclear weapons stockpile and management published by the U.S. Department of Defense for 2008 includes more than twenty pages on the effects of a nuclear weapons explosion in a city, without a single mention of firestorms. See U.S. Department of Defense, *Nuclear Matters: A Practical Guide* (Washington: Pentagon, 2008), 135–58.
12. ↪ Ellsberg, *The Doomsday Machine*, 141–42.
13. ↪ Ellsberg, *The Doomsday Machine*, 18, 142.
14. ↪ Owen B. Toon, Allan Robock, and Richard P. Turco, “Environmental Consequences of Nuclear War,” *Physics Today* (2008): 37–42; Alan Robock and Owen Brian Toon, *Local Nuclear War, Global Suffering* (New York: Scientific American, 2009).
15. ↪ Emily Saarman, “The Return of Nuclear Winter,” *Discover*, May 2, 2007.
16. ↪ Starr, “Turning a Blind Eye Toward Armageddon,” 4–5; Alan Robock, Luke Oman, and Georgiy L. Stenchikov, “Nuclear Winter Revisited with a Modern Climate Model and

- Current Nuclear Arsenals: Still Catastrophic Consequences,” *Journal of Geophysical Research* 112 (2007) (D13107): 1–14.
17. ↪ Starr, “Turning a Blind Eye Toward Armageddon,” 5–6; Robock, Oman, and Stenchikov, “Nuclear Winter Revisited”; Joshua Coupe, Charles G. Bardeen, Alan Robock, and Owen B. Toon, “Nuclear Winter Responses to Nuclear War Between the United States and Russia in the Whole Atmosphere Community Climate Model Version 4 and the Goddard Institute for Space Studies ModelE,” *Journal of Geophysical Research: Atmospheres* (2019): 8522–43; Alan Robock and Owen B. Toon, “Self-Assured Destruction: The Climate Impacts of Nuclear War,” *Bulletin of the Atomic Scientists* 68, no. 5 (2012): 66–74; Steven Starr, “Nuclear War, Nuclear Winter, and Human Extinction,” Federation of American Scientists, October 14, 2015.
 18. ↪ Herman Kahn, *On Thermonuclear War* (New Brunswick, NJ: Transaction Publishers, 2007), 145–51.
 19. ↪ Ellsberg, *The Doomsday Machine*, 18–19; Sagan and Turco, *A Path Where No Man Thought*, 213–19. Here, the doomsday machine is not to be confused with the version of the doomsday machine in Stanley Kubrick’s film *Strangelove*. Yet, Kubrick’s film drew on Kahn’s notion and retains a concrete significance in the context of contemporary nuclear reality. See Ellsberg, *The Doomsday Machine*, 18–19.
 20. ↪ Keir A. Lieber and Daryl G. Press, “The Rise of U.S. Nuclear Primacy,” *Foreign Affairs* (2006), 44.
 21. ↪ Sagan and Turco, *A Path Where No Man Thought*, 215.
 22. ↪ John T. Correll, “The Ups and Downs of Counterforce,” *Air Force Magazine*, October 1, 2005; Ellsberg, *The Doomsday Machine*, 120–23, 178–79.
 23. ↪ Harry Magdoff and Paul M. Sweezy, “Nuclear Chicken,” *Monthly Review* 34, no. 4 (September 1981): 4; Richard J. Barnet, “Why Trust the Soviets?,” *World Policy Journal* 1, no. 3 (1984): 461–62.
 24. ↪ Correll, “The Ups and Downs of Counterforce.”
 25. ↪ Steven Pifer, “The Limits of U.S. Missile Defense,” Brookings Institution, March 30, 2015.
 26. ↪ Cynthia Roberts, “Revelations About Russia’s Nuclear Deterrence Policy,” *War on the Rocks (Texas National Security Review)*, June 19, 2020; Correll, “The Ups and Downs of Counterforce.”
 27. ↪ Janne Nolan, quoted in Correll, “The Ups and Downs of Counterforce.”
 28. ↪ “Excerpts from Pentagon’s Plan: Preventing the Re-emergence of a New Rival,” *New York Times*, March 8, 1992.
 29. ↪ Lieber and Press, “The Rise of U.S. Nuclear Primacy,” 45–48.

30. ↪ Richard A. Paulsen, *The Role of U.S. Nuclear Weapons in the Post-Cold War Era* (Maxwell Air Force Base, Alabama: Air University Press, 1994), 84; Michael J. Mazarr, “Nuclear Weapons After the Cold War,” *Washington Quarterly* 15, no. 3 (1992): 185, 190–94; Zbigniew Brzezinski, *The Grand Chessboard* (New York: Basic Books, 1997), 46.
31. ↪ Lieber and Press, “The Rise of U.S. Nuclear Primacy,” 43, 50.
32. ↪ Lieber and Press, “The Rise of U.S. Nuclear Primacy,” 45.
33. ↪ Jack Detsch, “Putin’s Fixation with an Old-School U.S. Missile Launcher,” *Foreign Policy*, January 12, 2022; Jacques Baud (interview), “The Policy of USA Has Always Been to Prevent Germany and Russia from Cooperating More Closely,” *Swiss Standpoint*, March 15, 2022; Starr, “Turning a Blind Eye Toward Armageddon.” Estonia has cruise missiles supplied by Israel: David Axe, “Estonia’s Getting a Powerful Cruise Missile. Now It Needs to Find Targets,” *Forbes*, October 12, 2021. Russia is also concerned with the possible reintroduction of Pershing II intermediate ballistic missiles in Europe.
34. ↪ Jaganath Sankaran, “Russia’s Anti-Satellite Weapons: An Asymmetrical Response to U.S. Aerospace Superiority,” Arms Control Association, March 2022.
35. ↪ Lieber and Press, “The Rise of U.S. Nuclear Primacy,” 48–49, 52–53; Karl A. Lieber and Daryl G. Press, “The New Era of Counterforce: Technological Change and the Future of Nuclear Deterrence,” *International Security* 41, no. 4 (2017). A key element of Beijing’s nuclear deterrent is reducing the acoustic signature or noise level of its nuclear submarines. In 2011, it was believed that it would take China decades to reduce the acoustic signature of its submarines enough to survive a U.S. first strike. However, in less than a decade, China made significant advances toward that goal. Lieber and Press, “The New Era of Counterforce,” 47; Caleb Larson, “Chinese Submarines Are Becoming Quieter,” *National Interest*, September 10, 2020; Wu Riqiang, “Survivability of China’s Sea-Based Nuclear Forces,” *Science and Global Security* 19, no. 2 (2011): 91–120.
36. ↪ Lieber and Mann, “The New Era of Counterforce,” 16–17.
37. ↪ Roberts, “Revelations About Russia’s Nuclear Deterrence Policy”; Sankaran, “Russia’s Anti-Satellite Weapons.”
38. ↪ Alexey Arbatov, “The Hidden Side of the U.S.–Russian Strategic Confrontation,” Arms Control Association, September 2016; Brad Roberts, *The Case for Nuclear Weapons in the 21st Century* (Stanford: Stanford University Press, 2015).
39. ↪ Richard Stone, “National Pride Is at Stake: Russia, China, United States Race to Build Hypersonic Weapons,” *Science*, January 8, 2020, 176–96; Dagobert L. Brito,

- Bruce Bueno de Mesquita, Michael D. Intriligator, “The Case for Submarine Launched Non-Nuclear Ballistic Missiles,” Baker Institute, January 2002.
40. ↪ Sankaran, “Russia’s Anti-Satellite Weapons.” The development of “countermeasure” strategies and technologies to elude counterforce attack on a nation’s nuclear deterrence is emphasized by Russia and China, given the U.S. lead in counterforce. See Lieber and Mann, “The New Era of Counterforce,” 46–48.
 41. ↪ See Diane Johnstone, “Doomsday Postponed?,” in Paul Johnston, *From Mad to Madness: Inside Pentagon Nuclear Planning* (Atlanta, GA: Clarity, 2017), 272–86.
 42. ↪ Ellsberg, *The Doomsday Machine*, 307. Today, there is once again increased discussion in U.S. strategic circles of a “low-casualty” or “decapitation” first-strike capability on the part of the United States, which would seem to make nuclear firestorms less likely. See Lieber and Man, “The New Era of Counterforce,” 27–32.
 43. ↪ Magdoff and Sweezy, “Nuclear Chicken,” 3–6.
 44. ↪ Daniel Ellsberg, “Introduction: Call to Mutiny,” in Thompson and Smith, ed., *Protest and Survive*, i–xxviii. It was reprinted as “Call to Mutiny,” *Monthly Review* 33, no. 4 (September 1981): 1–26.
 45. ↪ Ellsberg, *The Doomsday Machine*, 319–22.
 46. ↪ Brzezinski, *The Grand Chessboard*, 46, 92–96, 103.
 47. ↪ Editors, “Notes from the Editors.”
 48. ↪ Diane Johnstone, “Doomsday Postponed?,” 277.
 49. ↪ Editors, “Notes from the Editors”; Diane Johnstone, “For Washington, War Never Ends,” *Consortium News* 27, no. 76 (2022); John Mearsheimer, “On Why the West Is Principally Responsible for the Ukrainian Crisis,” *Economist*, March 19, 2022.
 50. ↪ Mark Episkopos, “Putin Warns the West to Heed Russia’s Redlines in Donbass,” *National Interest*, December 21, 2021; “Russia Publishes ‘Red Line’ Demands of US and NATO Amid Heightened Tension Over Kremlin Threat to Ukraine,” *Marketwatch*, December 18, 2021.
 51. ↪ “U.S. Lawmakers Say They Are Largely Opposed to a No-Fly Zone Over Ukraine,” *New York Times*, March 6, 2022.
 52. ↪ Will Steffen et al., “Planetary Boundaries: Guiding Human Development on a Changing Planet,” *Science* 347 no. 6223 (2015): 736–46.
 53. ↪ See Rob Wallace, *Dead Epidemiologists: On the Origins of COVID-19* (New York: Monthly Review Press, 2020).
 54. ↪ UN Intergovernmental Panel on Climate Change, “Summary for Policymakers,” *Climate Change 2022: Impacts, Adaption and Vulnerability* (Geneva: IPCC, 2022). See also “Summary for Policymakers,” *Climate Change 2021*.

55. ↩ This conclusion is in fact consistent with the third part of the IPCC' s Sixth Assessment Report, in the form of the mitigation report to be published in March but leaked by scientists in advance. See the "Summary for Policy Makers" of Part III of the UN Intergovernmental Panel on Climate Change' s *Sixth Assessment Report on Climate Change*.
56. ↩ Ellsberg, *The Doomsday Machine*, 18. Global warming and nuclear winter are related in another respect. If global warming increases to the extent that global civilization is destabilized, something that natural scientists predict could happen if global average temperatures increase by 4° C, competition between capitalist nation states will increase, thereby enhancing the risk of a nuclear conflagration and thus nuclear winter.
57. ↩ Thompson, *Beyond the Cold War*, 76.

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