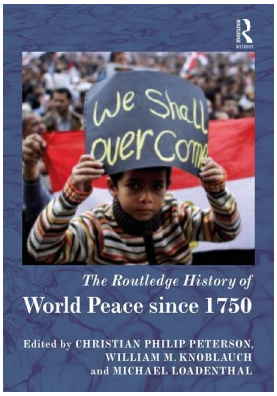

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20

SCIENTISTS AS PEACE ACTIVISTS, 1975–1991

Paul Rubinson

The year 1975 saw drastic changes in the Cold War. The fall of Saigon in April ended the Vietnam War; with that violent conflict over and the superpowers pursuing détente, the prospects for world peace appeared more favorable than at any point since the beginning of the Cold War. The August signing of the landmark Helsinki Accords, which settled international disputes that reached back to World War II and pledged the United States and Soviet Union to respect human rights, also seemed to augur peace. Scientists, who had long played a role in antinuclear activism, found themselves poised to influence the movement for global peace during this new phase of geopolitics.

But scientists were not, for the most part, typical, grassroots peace activists. They were more likely to mobilize for peace *as scientists*; that is, their efforts and tactics involved not picketing protest sites, organizing rallies, or promoting politics, but instead sharing scientific research that challenged national security policy or boycotting professional conferences. In addition, rather than promote peace or oppose violence in general, scientists' activism tended to manifest itself as opposition to the Cold War. In this specific realm of activism, scientists could often be quite effective. Their efforts against nuclear weapons and for human rights coincided with larger, global movements in the same vein, and inspired dissent and opposition in both Cold War superpowers.

By 1975, the scientific discipline itself had entered a new era. During the 1950s and early 1960s, many scientists began to feel that their role in developing nuclear weapons had tainted science's reputation, a reputation that declined even further as they loaned their expertise to the waging of the Vietnam War, including the creation of an electronic barrier across the demilitarized zone and other battlefield technology. As the war dragged on and violence increased, the scientific community—along with Americans in general—erupted in rancorous disputes. Implicated for their role in military research, some scientists chose to leave government advising in the wake of the Vietnam War and challenge the use of war technology including, for example, the use of herbicides in South Vietnam.[1]

In the shadow of the Vietnam War, a new generation of scientists began to challenge the long-held scientific premise that objectivity and faith in democratic government would allow science to have a positive effect on humanity. Blaming the World War II generation for the militarization of science, younger researchers of the 1960s reshaped scientific notions of identity; many questioned whether they were in fact acting ethically within the US political system, or simply replicating existing inequalities and oppression. Scientists' questioning broadly challenged science's ties to the defense establishment and called for greater political

involvement. This transformation ranged from individuals such as the physicist Charles Schwartz to organizations such as Science for the People and the Union of Concerned Scientists, all of whom criticized the US war in Vietnam and the links between universities and military research. This shift coincided with the radicalization of the anti-Vietnam War movement, which often targeted university labs that received government funding for defense research and the scientists working in them. At the same time, the Nixon administration forced out many government science advisors who had opposed the President's antiballistic missile policy, leaving many scientists with no reason *not* to oppose the government on Vietnam and other issues.[2]

Particularly divisive in the scientific discipline was the group Science for the People. Formed in 1969, members of SftP argued that science as conducted in the United States favored elites and supported the dominant economic, racial, and gendered systems of oppression that led to the detriment of human beings and the environment. Instead, SftP claimed, scientists should work in the service of the working class and non-elite minorities, and actively resist the militarization of science. The organization embraced direct action, such as the boisterous disruptions carried out at the 1970 meeting of the American Association for the Advancement of Science (AAAS). SftP also destabilized the concept of scientists as a distinct social authority and moral group by arguing that the personal values and beliefs, sponsors, uses, and users of science affected the veracity and value of science and scientific claims.[3]

Scientists' status as objective experts had been challenged—and damaged—largely from within. And while scientists' authority had declined a great deal because of New Left activism, the national security state had also restricted scientists' role as activists in Cold War America. Many scientists had a long tradition of activism and opposition to war and nuclear weapons, but during the Cold War, those who opposed nuclear weapons on moral grounds had been increasingly excluded from professional and political influence; an emerging and rigid definition of "science" as amoral and apolitical enforced this boundary.[4] But the changing geopolitical landscape of 1975 allowed scientists a new chance to reconfigure what science could accomplish

Already, the tremendous opposition to the Vietnam War had drawn most protesters, scientific or otherwise, away from the antinuclear movement, and even the war's end did not immediately usher in a return to nuclear protest.[5] While scientific political activism revived after 1975, scientists pursued new avenues of dissent against the Cold War. In fact, politically active scientists in the 1970s sought a very different way of achieving peace: Whereas an earlier generation of scientists pursued peace by pursuing arms control agreements, the pursuit of human rights during the 1970s aimed at achieving peace through the liberation of unjustly imprisoned scientists.

Human rights

During the era of détente, a relaxation of Cold War tensions, the United States and the Soviet Union agreed to several arms control treaties. The trend continued in August 1975, when the United States, the Soviet Union, and dozens of other nations signed the Helsinki Final Act, an agreement that manifested the rising global concern for human rights during the 1970s. According to the agreement, the United States would recognize the post-World War II boundaries of Eastern Europe, while the Soviet Union promised to respect human rights. The Final Act empowered scientists to become human rights activists by offering

them a new role in international relations. This agreement between the superpowers, relatively dismissed by Western leaders at the time, focused mainly on social, political, and economic rights, but the agreement also included a section that described science and technology as activities that "contribute to the reinforcement of peace and security in Europe and in the world as a whole." Scientific cooperation between nations in particular would assist "the effective solution of problems of common interest and the improvement of the conditions of human life." The Helsinki Final Act specifically recommended joint research, contact, communication, and exchange programs in many fields, including agriculture, physics, chemistry, meteorology, hydrology, and oceanography.[6] In the spirit of Helsinki, US scientists undertook cooperative exchange programs with their Soviet counterparts aimed at increasing scientific knowledge as well as diffusing Cold War tensions. The US National Academy of Sciences (NAS) coordinated exchanges with the Soviet Academy of Sciences at the rate of roughly thirty scientists from each country for a total of 100 working months per year; the two academies simultaneously discussed working groups on arms control and joint planetary explorations.[7]

This revived scientific internationalism had unintended consequences. The increased interaction enabled by intellectual exchanges revealed to US scientists the poor treatment of their Soviet colleagues. The physicist Yuri Orlov was arrested in 1977 for starting a human rights watchdog group and sentenced to years in labor camp, and Anatoly Shcharansky spent nine years in a Soviet prison, accused of treason and espionage on behalf of the United States. The fate of these Soviet scientists inspired their western peers, who founded the group Scientists for Orlov and Shcharansky. As of March 1979, SOS had over 2,400 members, 113 of whom were members of the NAS, and thirteen of whom were Nobel Prize winners.[8] Other scientists were forbidden to travel to scientific conferences, most notably Andrei Sakharov. A former Soviet nuclear weapons scientist, throughout the 1970s Sakharov had become a target of the Soviet authorities. He ran afoul of Soviet authorities while campaigning tirelessly for human rights and nuclear disarmament, and in 1981 he called his colleagues to action. "Western scientists face no threat of prison or labour camp for public stands . . . but this in no way diminishes their responsibility."[9] US scientific organizations, including the NAS and the AAAS, responded to this wide array of repressive actions by creating human rights committees to incorporate this activism into the professional lives of scientists.

Most dramatically, in 1978 the NAS announced a six-month boycott of the exchange program, expressing the rather new belief that repression of human rights made the conduct of science impossible. Referring to the treatment of Sakharov, a statement from the NAS explained the boycott decision: "These actions represent, from our perspective, an intrusion upon the human rights and scientific activities of an eminent scientist." The NAS expressed

> a deep conviction that both [the US and Soviet science] academies work toward peace, détente and disarmament . . . But we are keenly aware of the reaction of American scientists and the American public to the actions of the Soviet Government.[10]

In taking this stand, US scientists directly linked human rights to the practice of science. Four US scientists withdrew from a macromolecular chemistry symposium slated for Tashkent in October 1978, and in a letter they explained their actions: The decision to boycott was "painful," but recent show trials of Soviet scientists had a "stifling effect on scientific

communication and cooperation." As science and human rights became more entwined, the repression of scientists made it clear that the Soviets had violated the Helsinki agreement, and that it was scientists' responsibility to assist their colleagues.[11]

Advocates of human rights extended well beyond scientists, while those in need of human rights were located well beyond the Soviet Union. US physicians joined scientists in embracing the cause, while both groups nevertheless engaged in a vigorous debate over the best tactics to use in the pursuit of human rights. In contrast to a boycott, some scientists and physicians thought it better to engage with the violators of human rights. The International Cancer Congress (ICC) of 1978, in Buenos Aires, Argentina, offered a chance to confront directly a regime that had grossly violated human rights. Between 1976 and 1983, a period known as the Dirty War, Argentina's ruling junta kidnapped and executed between 10,000 and 30,000 men and women of all ages, including babies. At the ICC, a group of concerned doctors met with the mothers of "the disappeared" for a silent vigil at the Plaza de Mayo, discussed human rights with Argentine activists, and attended mass with the victims' families. On October 9, ten physicians met with a Foreign Ministry official who told them they were "misinformed" about Argentina. While the official admitted that the government had incarcerated 3,200 individuals, these people "were guilty of terrorist activity and therefore rightly imprisoned." The physicians were then subjected to a recounting of US human rights abuses, from President Lincoln's suspension of *habeas corpus* during the Civil War to Japanese internment during World War II. Despite this dispiriting meeting, physicians continued to communicate with the American press and their Argentine peers throughout the conference. On the final day of the ICC, seventy-five doctors from eight countries signed a petition expressing "solidarity" with their "Argentinian colleagues." The statement closed by connecting progress in human rights with progress in science: "If Argentina wishes to continue its distinguished role in the world community of science . . . improvement [in human rights] is mandatory."[12]

Concern for Argentine scientists remained high in the months and years after the ICC. The American Physical Society also drew attention to Argentina, calling for foreign physics organizations and societies to join the "international cooperation" efforts on behalf of scientists and human rights, and continuing inquiries into disappeared physicists into the 1980s.[13] The AAAS, meanwhile, remained unimpressed with Argentina's response to its request to improve human rights. A joint statement between the AAAS and the NAS was harsh: "We must conclude that the government of Argentina bears ultimate responsibility for permitting the disappearances, tortures, and deaths of many Argentine scientists and others who have not been charged with any crime."[14] Not forgetting nations beyond Argentina, in 1983 the AAAS Council adopted a Humanitarian Appeal on Behalf of Eleven Foreign Scholars, including a political scientist from the Philippines, a physician from El Salvador, and a mathematician from Uruguay.[15]

Despite this new vision of scientific internationalism, which theoretically applied to all the countries of the world, most scientific human rights activism remained squarely aimed at the Soviet Union. But tactics aimed at punishing the Soviets risked threatening détente, which supporters said would increase the chance of war. Détente was largely based on arms control agreements, including the Limited Test Ban Treaty of 1963, the Nuclear Nonproliferation Treaty of 1968, and the Antiballistic Missile Treaty and Strategic Arms Limitations Talks agreement, both of 1972. And Sakharov himself, who was eventually exiled internally for his human rights efforts, often argued that disarmament was more important than human rights. "It is absolutely unacceptable—even for a goal as important as respect for human rights—to

make conduct in that area a precondition for disarmament negotiations," he announced. "Disarmament must have first priority." In his 1975 book *My Country and the World*, Sakharov continued to try and balance overlapping, competing ideals, writing,

> The unchecked growth of thermonuclear arsenals and the build-up toward confrontation threaten mankind with the death of civilization and physical annihilation. The elimination of that threat takes unquestionable priority over all other problems in international relations . . . This is why disarmament talks, which offer a ray of hope in the dark world of suicidal nuclear madness, are so important."[16]

Sakharov's comments suggest the probable reality that politically active scientists were ultimately more committed to antinuclear activism than human rights.

Scientists and the antinuclear movement

The passion for human rights gradually dulled among western scientists during the 1980s, while the Ronald Reagan administration's escalation of the arms race gave good reason to see nuclear weapons as a greater concern once again. The 1980s saw the union of the movement against nuclear power and the nuclear disarmament movement, which led to unprecedented opposition to nuclear weapons in the United States, ranging from grass roots activism to electoral politics and cultural criticism. A 1982 rally for peace in Central Park drew between 500,000 and one million people, while some two million Americans signed petitions in support of a "nuclear freeze," which called for the immediate halt to the production of nuclear weapons. Later in 1982, freeze resolutions passed in nine of ten states that had them on the ballot, as did a referendum in the House of Representatives. This resistance paralleled an eruption of antinuclear protest in Europe that focused on a new generation of nuclear weapons, including cruise and Pershing II intermediate range ballistic missiles that the Reagan administration deployed to the continent. Large organizations channeled this energy in the United States, such as the Nuclear Weapons Freeze Campaign and the Committee for a SANE Nuclear Policy, but countless smaller groups emerged as well to reflect a range of activists and a diversity of tactics including the feminism of the Seneca Falls Women's Encampment for a Future of Peace and Justice, the pacifism of the Great Peace March, the civil disobedience of the American Peace Test, and the electoral politics of Women's Action for Nuclear Disarmament. Other groups focused on professional identities such as lawyers, musicians, and nurses against nuclear war, while themes of nuclear disaster reemerged in literature, film, and television.[17]

Scientists continued to play important roles in the antinuclear movement as individuals and professional groups. The physicist Herbert York served as an ambassador while negotiating an arms control treaty with the Soviet Union in 1980, although his efforts were unsuccessful. Professional organizations that took on nuclear war included the American Public Health Association, which dedicated an entire annual meeting to supporting nuclear disarmament, going so far as to demonstrate at the Nevada nuclear test site, the home of 1950s above-ground nuclear tests. The Federation of American Scientists, formed at the end of World War II, continued to provide scientific analysis in opposition to the arms race. Doctors in the United States and overseas formed the International Physicians for the Prevention of Nuclear War in December 1980, featuring US and Soviet co-presidents, Bernard Lown and Evgenii Chazov, respectively. The IPPNW spread to forty-one countries,

counted 135,000 members, and won the Nobel Peace Prize in 1985. In announcing the award, the Nobel committee stated that IPPNW "has performed a considerable service to mankind by spreading authoritative information and by creating an awareness of the catastrophic consequences of atomic warfare." The IPPNW faced a very real credibility problem, however, as many activists questioned the organization's ties to Soviet leadership. Membership in the Soviet branch of the organization was heavily restricted, and Chazov himself had been the personal physician of the Soviet leader Leonid Brezhnev. Several human rights activists argued that IPPNW should not be awarded the Nobel Prize.[18] The pediatrician Helen Caldicott led another doctor's group, the Physicians for Social Responsibility, which eventually reached a membership of about 20,000; its members gave speeches across the country in support of a freeze and other arms control measures, and Caldicott even gained the public support of Reagan's daughter, Patti Davis.

Unlike the 1940s, when they were the vanguard of antinuclear activists, scientists in the 1980s were just one of many professional groups that took on nuclear weapons. Rather than form exclusively scientific groups, scientists often favored opposing specific nuclear weapons systems than some broad crusade for peace. Few scientists, for example, campaigned for a Nuclear Freeze; instead, when many became involved in peace activism in the 1980s, they took on specific weapons systems that they could criticize as scientific experts. In practice, this most often took the form of opposition to the Strategic Defense Initiative, Reagan's attempt to counter antinuclear activism. SDI, or "Star Wars," was a proposal for a space-based missile defense system that promised to blast enemy missiles out of the atmosphere, protecting the United States from a Soviet nuclear strike. Such a defensive system, Reagan argued, would eliminate the threat of nuclear weapons without any of the disarmament measures supported by the antinuclear movement. The physicist Hans Bethe represented many scientists when he argued that the system was not only destabilizing but scientifically unlikely to work: A Soviet strike would put far too many missiles in the air for satellites to destroy, and hundreds of satellites weighing 100 tons each were prohibitively expensive to launch. At one point, Bethe wrote tersely that "SDI is not science."[19]

Scientific opposition to SDI was varied and inclusive, bringing together older and younger generations of scientists who had previously parted ways in the 1960s.[20] Scientists from new, computer-based disciplines joined their more traditional counterparts to oppose SDI. Computer scientists and engineers created the organization Computer Scientists for Social Responsibility; computer scientist David Parnas quit SDI research altogether because, he argued, the complex software needed to run it would be inherently unreliable and improved technology could not solve the inherent limits to the software required by SDI.[21] Sakharov, meanwhile, criticized SDI from within the Soviet Union. In 1986, Mikhail Gorbachev had ended his internal exile, allowing Sakharov to weigh in on nuclear disarmament negotiations between the United States and Soviet Union. In the late 1980s, Reagan insisted that SDI research should be allowed to continue under any disarmament agreement. Gorbachev, on the other hand, wanted the United States to halt SDI research, which led Sakharov to write that "the SDI program is impeding those negotiations." Sakharov issued a critique of SDI that was widely quoted, in which he stated that arguments in favor of SDI suffered from "unsoundness." An SDI system could be easily overwhelmed by any number of weapons, making such a defense a mere "Maginot line in space . . . expensive and ineffective." According to Sakharov's own account, his arguments influenced Gorbachev enough that he announced a willingness to pursue an agreement on strategic nuclear weapons despite disagreements with the United States over SDI.[22]

Scientific arguments against SDI served as more subtle forms of protest, and were often presented as the result of objective analysis rather than activist beliefs—and yet they were contributions toward peace all the same. The physicist Richard Garwin demonstrated the mainstream of scientific thought when he opposed SDI on technical grounds. In a summary of three SDI studies, by the Union of Concerned Scientists, the Office of Technology Assessment, and the scientist Sidney Drell, Garwin concluded that no perfect nuclear weapons defense system could be created. "There is no significant prospect for reducing to a tolerable level the destruction to society which would result from the launching of a large fraction of the ten thousand strategic warheads now in the possession of the Soviet Union," Garwin wrote. No one could be sure that the components of the system would work, while decoy missiles could easily fool the defenses. A perfect system was necessary, since even a handful of missiles could destroy hundreds of millions of lives, but a perfect system required perfect software, which was simply not possible. Adding a bit of geopolitical analysis, Garwin argued that even if the SDI did work, it would destabilize the entire geopolitical order.[23]

In the late 1970s, scientists had boycotted exchanges with the Soviets; in May 1985 another boycott began—this time regarding SDI research, and numerous scientists pledged not to work on the controversial program. According to one estimate, by the end of 1985 "at least 54% of the faculty at the nation's top 14 physics departments have pledged to reject [SDI] funds, and the number is rapidly growing." At Princeton, Cornell, Berkeley, Caltech, Columbia, Carnegie Mellon, Northeastern, and other universities, over 50 percent of science faculty signed the pledge. Ultimately over 6,000 professors, researchers, and graduate students from science and engineering fields joined the boycott. Some protest was institutional, as universities, even those with extensive ties to military research, including MIT, vowed to resist SDI funding.[24]

During the 1950s, scientists had divided over the morality of nuclear weapons, and this split continued into the 1980s, with a contingent of scientists supporting SDI for baldly partisan reasons. As the foremost scientific supporter of SDI, the physicist Edward Teller was able to win influence in the Reagan administration because of, in the words of historian Sarah Bridger, the "absence of independent, influential science advisory channels and by the compatibility of his hawkish nuclear views and the strategic priorities of Reagan's cabinet," which had broken from the earlier philosophies of arms control and détente.[25] Other scientists who supported the arms race and SDI included Lowell Wood and Fred Seitz; these and other pronuclear scientists, dubbed by historians as "merchants of doubt," challenged research that criticized SDI.[26]

As the SDI debate raged, scientists also divided over the concept of "nuclear winter." This time, the dividing line was not simply between scientists for and against nuclear weapons, but more generally the mores and decorum of the scientific discipline. The celebrity astronomer Carl Sagan was particularly active in protesting nuclear weapons in the 1980s. In the final episode of his 1980 *Cosmos* television series, watched by 150 million viewers in the United States, he asked "Who speaks for earth?" and discussed the threat of nuclear weapons. In the following years, he would take part in acts of civil disobedience against nuclear weapons, even to the point of getting arrested at the Nevada nuclear test site. But his most influential contribution to the antinuclear movement was using his scientific expertise to show millions of Americans how nuclear war would be suicidal. He and a team of researchers developed the nuclear winter hypothesis: That a nuclear war would disrupt global climate and agriculture so severely as to threaten the future of life on earth. A nuclear winter would occur after even a limited nuclear exchange, which would still kill hundreds

of millions, perhaps billions. The burning of cities caused by nuclear explosions would put particulate matter into the atmosphere and spread, which would block the sun and drop global temperatures. Growing seasons around the world would be affected, agricultural networks and supplies could break down, and mass starvation would likely spread.[27]

Sagan was well versed in using many types of media, and launched a "nuclear winter media blitz" to alert the public, scientists, and politicians to the threat of nuclear winter. Thanks to these efforts, the threat of nuclear winter worked its way into the public consciousness, and even provoked backlash from the Reagan administration.[28] Sagan also appeared several times in front of Congress, where members of both parties used the threat of nuclear winter to challenge the policy of nuclear deterrence and the Reagan nuclear buildup.[29] While Sagan found both supporters and opponents in Congress, he faced tremendous backlash from many scientists. Some objections were purely scientific, such as questions over the reliability of the computer modeling used to make predictions about nuclear winter. But most scientific objections related to the political implications of nuclear winter. Somewhat more surprisingly, Sagan faced heavy criticism from scientists who generally supported arms control. This latter group wanted science to be apolitical and attacked Sagan for using science to support a political cause, no matter how worthy. Many claimed that Sagan was allowing political opinions to shape his science, with the result that he overstated his case.[30] Still other scientists conducted or contributed to reliable studies that supported Sagan's claims: That nuclear winter could indeed imperil the lives of nearly all of those who initially survived a nuclear war.

Sagan's nuclear winter theory not only inspired Americans, it also impacted the thinking of people across the globe. In 1984 Pope John Paul II invited Sagan to discuss nuclear winter, while the IPPNW mentioned nuclear winter in an open letter to both superpowers. The organization Christian Campaign for Nuclear Disarmament in Britain pointed to nuclear winter as one of its reasons for opposing the arms race, and in a similar vein, European Nuclear Disarmament reprinted one of Sagan's nuclear winter articles. The following year, numerous nations cited nuclear winter as evidence that the superpowers saw them as nothing more than pawns in the Cold War game. Representatives of Argentina, Greece, India, Mexico, Sweden, and Tanzania gathered in New Delhi to issue a "Declaration on the Arms Race," which stated:

> For all of us, it is a small group of men and machines in cities far away who can decide our fate . . . As a result of recent atmospheric and biological studies, there have been new findings which indicate that in addition to blast, heat and radiation, nuclear war, even on a limited scale, would trigger an arctic nuclear winter which may transform the earth into a darkened, frozen planet, posing unprecedented peril to all nations, even those far removed from the nuclear explosions.

Willy Brandt, the chairman of the Social Democratic Party in West Germany, mentioned nuclear winter in a speech denouncing nuclear weapons, as did members of religious and environmental groups in Europe.[31] Clearly Sagan's efforts had made an impact.

The concept of nuclear winter resonated in the Soviet Union as well. Stories about nuclear winter in Soviet newspapers railed about how US imperialists had driven the world to the brink of extinction, but in contrast to the United States, there was no dispute over the theory's scientific validity. Dissidents in the Soviet Union, however, latched on to nuclear winter as evidence of their nation's nuclear folly. On April 12, 1985, the Moscow Trust

Group, whose members included many scholars and physicians, led a demonstration accusing the Soviet government of suppressing the truth about nuclear winter. News of dissident activism reached the West, which led European Nuclear Disarmament to suggest pursuing links with Soviet antinuclear scientists and doctors.[32] Discussion of nuclear winter became politically acceptable during the reform years of Mikhail Gorbachev, as he and his foreign minister Eduard Shevardnadze both mentioned nuclear winter in speeches calling for an end to the arms race.[33] Such remarks reflected how effectual transnational scientific activism could be.

Conclusion

In 1975, scientists had linked their discipline to perhaps the most urgent peace movement of the day; by the 1980s, many had reaffirmed their dedication to a world without nuclear weapons. But by 1991, scientists were far less likely to see human rights or antinuclearism as fundamental to their professional work. Certainly the end of the Cold War had much to do with that, as well as the growing disaster of global climate change. While scientific organizations such as the UCS, the FAS, and the *Bulletin of the Atomic Scientists* continue to warn the public and policymakers about the threat of nuclear weapons, more direct types of peace activism remain rare among scientists, relative to the vibrant actions of the 1970s and 1980s.

On April 22, 2017, an estimated one million protesters took part in the March for Science in cities around the world. Feeling threatened by anti-vaxers and climate change deniers, many scientists marched in support of their discipline as well as for policies based on scientific evidence. It is notable that these scientists marched for "science" itself, not some specific cause such as peace or human rights. Objectivity, to many scientists, still means avoiding overtly political stands—that it is unprofessional to engage in political activity. In the late twentieth century, however, many scientists nevertheless rallied their peers and dedicated their research to challenge nuclear weapons and violations of human rights. With science's claims to truth, logic, and reason, scientists could, in theory, be a powerful ally for peace movements. The March for Science and the many activist efforts since 1975 show that science can still be mobilized. Yet today, many Americans see science as elitist and a liberal conspiracy, and scientists risk becoming smeared as partisans if they take on the trappings of traditional social activists.

Scientific activism, then, never transcended the Cold War. While mobilizing for human rights and against nuclear weapons, scientists of the late twentieth century found that the links between their discipline and their political causes were bounded by geopolitics. After the Cold War, such links were severed. That non-scientists' campaigns for human rights and against nuclear weapons continued after the Cold War suggests that scientists' peace efforts were more against the Cold War than they were for humanity and peace in general. When scientists opposed nuclear weapons, they often did so out of a sense of responsibility that their discipline had created these weapons; when they mobilized for human rights, it was because the Soviets repressed their peers. In short, the history of scientists' political actions since 1975 suggest that for scientists to engage in peace movements, they must be threatened or implicated directly in a specific issue. Today, the mobilization of science is a response to the public's questioning of truth, logic, and reason As forces continue to oppose science and favor policies that degrade the environment and encourage nuclear recklessness, scientists need to once again find common cause with the peace movement.

Notes

1 Sarah Bridger, *Scientists at War: The Ethics of Cold War Weapons Research* (Cambridge, MA: Harvard University Press, 2015), 89–114.
2 Kelly Moore, *Disrupting Science: Social Movements, American Scientists, and the Politics of the Military, 1945–1975* (Princeton, NJ: Princeton University Press, 2008), 133–136.
3 Moore, *Disrupting Science*, 130–131, 166, 187.
4 Paul Rubinson, *Redefining Science: Scientists, the National Security State, and Nuclear Weapons in Cold War America* (Amherst, MA: University of Massachusetts Press, 2016).
5 Paul Boyer, "From Activism to Apathy: The American People and Nuclear Weapons, 1963–1980," *The Journal of American History* 70, no. 4 (March 1984): 821–844.
6 Helsinki Final Act, 14–26, Organization for Security and Co-operation in Europe, www.osce.org/. On the creation and consequences of the act, see Sarah B. Snyder, *Human Rights Activism and the End of the Cold War: A Transnational History of the Helsinki Network* (Cambridge, UK: Cambridge University Press, 2011); and Christian Peterson, *Globalizing Human Rights: Private Citizens, the Soviet Union, and the West* (New York: Routledge, 2011).
7 "Statement of Philip Handler," January 31, 1980, Box 63, Folder: Files of Jeri Laber: USSR: Scientists: General, 1979–1980, HRWR.
8 Program for MacDonald Reception, April 16, 1979, p. 2, Box 59, Folder: Files of Jeri Laber: USSR: Orlov: Defense: Reception for J. MacDonald, 1978–1979, Series I: Jeri Laber Files, HRWR.
9 Andrei Sakharov, "The Responsibility of Scientists," *Nature* 291 (May 21, 1981): 185.
10 United Press International, "Academy Halts Soviet Exchanges," February 25, 1978, Box 58, Folder 14, National Academy of Sciences, Series I: Jeri Laber Files, Human Rights Watch Records.
11 H. F. Mark, W. H. Stockmayer, N. W. Tschegl, P. J. Flory and V. V. Korshak, September 18, 1978, Box 63, Folder: Files of Jeri Laber: USSR: Scientists: AAAS: 1975–1979, Series I: Jeri Laber Files, HRWR.
12 Kiernan, "The International Cancer Congress," 3–5; "Statement by group of U.S. physicians attending the 12th International Cancer Congress," October 11, 1978, Files of Jeri Laber: USSR: Scientists: AAAS, 1975–1979, HRWR.
13 "Minutes of POPA Meeting on April 15, 1978," Box 14, Folder 9: Chronological File, April 1978, HY Papers; American Physical Society, Committee on the International Freedom of Scientists, "Annual Report 1980," HRWR, Files of Jeri Laber: USSR: Scientists: General, 1980–1981.
14 "International Science and Human Rights Efforts," *Science, Technology, and Human Values* 5, no. 30 (Winter, 1980): 32.
15 Catherine Borras, "AAAS Council Meeting, 1983," *Science*, New Series, 221, no. 4609 (Jul. 29, 1983): 432–435.
16 Andrei Sakharov, *My Country and the World* (New York: Vintage, 1975), 63.
17 Kyle Harvey, *American Anti-Nuclear Activism, 1975–1990: The Challenge of Peace* (London: Palgrave Macmillan, 2014); Paul Rubinson, *Rethinking the Antinuclear Movement* (New York: Routledge, 2017).
18 Wittner, *Toward Nuclear Abolition*, 80–91, 228, 269–270, 360–361; Paul Rubinson, "The Global Effects of Nuclear Winter: Science and Antinuclear Protest in the United States and Soviet Union during the 1980s," *Cold War History* 14, no. 1 (February 2014): 61–67; "The Nobel Prize 1985, Press Release," nobelprize.org/nobel_prizes/peace/laureates/1985/press.html
19 Rubinson, *Redefining Science*, 234–235.
20 Bridger, *Scientists at War*, 245–246.
21 Rebecca Slayton, *Arguments that Count: Physics, Computing, and Missile Defense, 1949–2012* (Cambridge, MA: MIT Press, 2013), 173, 177–178, 188–189.
22 Andrei Sakharov, *Moscow and Beyond, 1986 to 1989* (New York: Knopf, 1991), 20–23.
23 Bridger, *Scientists at War*, 252.
24 Bridger, *Scientists at War*, 245–246, 261–262.
25 Bridger, *Scientists at War*, 248–249.
26 Bridger, *Scientists at War*, 259–260; Naomi Oreskes and Erik Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (London: Bloomsbury Press, 2011), 36–65.
27 Carl Sagan and Richard B. Turco, *A Path Where No Man Thought: Nuclear Winter and the End of the Arms Race* (New York: Random House, 1990), 19–28.

28 William Knoblauch, *Nuclear Freeze in a Cold War: The Reagan Administration, Cultural Activism, and the End of the Arms Race* (Amherst, MA: University of Massachusetts Press, 2017), 35, 42.
29 Lawrence Badash, *A Nuclear Winter's Tale: Science and Politics in the 1980s* (Cambridge, MA: MIT Press, 2009), 128–129.
30 Knoblauch, *Nuclear Freeze in a Cold War*, 43.
31 Paul Rubinson, "Imagining the Apocalypse: Nuclear Winter in Science and the World," in *Understanding the Imaginary War: Culture, Thought, and Nuclear Conflict, 1945–90*, ed. Matthew Grant and Benjamin Ziemann (Manchester: Manchester University Press, 2016), 246–248.
32 Rubinson, "The Global Effects of Nuclear Winter."
33 Rubinson, "Imagining the Apocalypse," 248–250.