

The crisis in American science

History of Science

1–41

© The Author(s) 2025

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/00732753251343655

journals.sagepub.com/home/hos**Kathryn M. Olesko** 

Georgetown University, USA

Anthony Eames 

George Washington University and Foreign Policy Research Institute, USA

Cyrus C. M. Mody 

Maastricht University, Netherlands

Ilana Löwy 

Centre de recherche médecine, science, santé et société, France

Thomas Zeller 

University of Maryland, College Park, USA

Mark Walker 

Union College, USA

Mitchell G. Ash 

University of Vienna, Austria

Donna Haraway 

University of California, Santa Cruz, USA

Abstract

The second regime of Donald J. Trump has decimated federal science and federally supported science to a greater degree than his first regime, unleashing an unprecedented crisis. The authors in this roundtable take a close look at the tortured landscape of

Corresponding author:

Cyrus C. M. Mody, FASoS/History Department, Maastricht University, Postbus 616, Maastricht, 6200 MD, Netherlands.

Email: c.mody@maastrichtuniversity.nl

Coordinating Editor:

Kathryn M. Olesko

Contributors: Kathryn M. Olesko, Anthony Eames, Cyrus C. M. Mody, Ilana Löwy, Thomas Zeller, Mark Walker, Mitchell G. Ash, Donna Haraway

science in America and, using historical scholarship and the tools of history, analyze and assess its plight. Topics include nuclear facilities, the role of Silicon Valley oligarchs, Executive Order 14168 on biological sex, climate change and the environmental sciences, science and ideology, responses to regime change, and resistance to the regime, especially by universities.

Keywords

Science in America, science and ideology, federal science, response and resistance to regime, Department of Government Efficiency, Executive Orders, Third Reich, brain drain, tacit knowledge, Silicon Valley oligarch

Times of crisis galvanize historians, who see the present through the lenses of the past. Now is one of those times when, tragically, the scientific community in the United States is again under attack from the federal government, the most important patron of science in America. This special roundtable commentary on the crisis in American science was assembled at the request of the Editor of *History of Science*, Lissa Roberts. With its long tradition of historical scholarship coupled with historiographical reflection, *History of Science* is a particularly appropriate venue for analyzing this crisis. The challenges facing historians who address this crisis are considerable. Donald J. Trump's treatment of science in many respects repeats his actions during his first regime, 2017–21, but not entirely. What appear to be other historical precedents in American history prove to be in one sense or another incomparable. International comparisons with totalitarian regimes seem more relevant than past eras of American history. And the complex of circumstances that encase this current crisis are without historical parallel. In their analyses of the current state of science in America, the authors in this roundtable leverage history of science and, more broadly, science studies to examine more deeply what has happened and to assess the likely unfortunate consequences of the cascading changes to the scientific landscape. They zoom in on the dangers caused by senseless budget cuts to U.S. nuclear energy and waste programs, the administration's misuse of science to eviscerate recognition of and equality for nonbinary peoples, and its destructive targeting of any research related to climate change and the environment. They remind us of the facets of Silicon Valley's history that have been obscured by attention to the reactionary culture championed by Peter Thiel and his ilk; draw our attention to the relative stability of science under past authoritarian regimes compared to the chaos that reigns in America now; ask us to focus on the power politics at work in the struggle between science and the federal government; and resurrect the long history of collective resistance to the federal government to deter us from thinking of obedience as a first response. Together they call on professional historians to take up our moral obligation and raise our voices now before it is too late. The hope is that this effort stimulates other conversations on the current crisis and on the all-important relationship between the past, present, and future of science in America – and elsewhere.

Introduction: The topography of the crisis

Kathryn M. Olesko

Georgetown University, USA

The United States is in the midst of an unprecedented, hostile, intentionally unlawful takeover of its government by members of a regime who are closely following the far-right-wing playbook Project 2025. This now infamous manifesto purports to provide a roadmap for achieving conservative social, political, economic, and cultural goals based on adaptations of the draconian and illiberal strategies of other authoritarian regimes, notably Viktor Orbán's in Hungary.¹ A special target of the project is bureaucratic expertise, which is regarded with contempt. Russell T. Vought, one of the project's architects who is now director of the U.S. Office of Management and Budget, is reported as wanting to "demonize civil servants, which include scientists and subject matter experts." In his own words: "We want the bureaucrats to be traumatically affected. When they wake up in the morning, we want them to not want to go to work because they are increasingly viewed as the villains. We want their funding to be shut down so that the EPA [Environmental Protection Agency] can't do all of the rules against our energy industry because they have no bandwidth financially to do so." He ends: "We want to put them in trauma."²

And they did. In the 100 days since the presidential inauguration on January 20, 2025, the regime of Donald J. Trump, aided by bureaucratic loyalists and especially the congressionally unvetted Department of Government Efficiency (DOGE), has fired federal scientists, diminished or closed several scientific divisions of federal agencies, reduced or eliminated budgets for scientific research in the federal government, and suspended federally funded grants for science and scholarship that were competitively awarded to universities and other institutions. Science has suffered before as a result of the changing winds of politics in Washington, including under Trump's first regime.³ Now, however,

1. Project 2025 Presidential Transition Project. *Mandate for Leadership: The Conservative Promise* (The Heritage Foundation, 2023), <https://static.project2025.org/2025_MandateForLeadership_FULL.pdf> (18 April 2025); Robert Reich, "Trump's Playbook is Viktor Orbán's," 15 April 2025, <<https://substack.com/home/post/p-161243190>> (18 April 2025). Orbán also pursued a policy of controlling scientific research in Hungary. Phys.org, "Hungary Passes Controversial Science Sector Reform Bill," 2 July 2019, <<https://phys.org/news/2019-07-hungary-controversial-science-sector-reform.html>> (18 April 2025).
2. Quoted in Molly Redden, Andy Kroll, and Nick Surgey, "'Put Them in Trauma': Inside a Key MAGA Leader's Plans for a New Trump Agenda," *Propublica*, 28 October 2024, <<https://www.govexec.com/management/2024/10/inside-key-maga-leaders-plans-new-trump-agenda/400607/>> (18 April 2025).
3. A useful chart of federal obligations since 1951 for research and development expressed in 2017 dollars, but one that requires deep contextual interpretation, may be found at: "A Brief Annotated History of Federal R&D Obligations: FYs 1951–2024," 2025, <<https://nces.nsf.gov/pubs/nsf25332>> (1 April 2025).

even more damage has been inflicted on federal science and federally supported science in the past three months than in any other period in their history.

The targeting of science in the federal government began on Inauguration Day. A flurry of Executive Orders (EOs) terminated diversity, equity, and inclusion programs, which had formerly assured equitable treatment for hiring and grants (EO 14151); ended certain environmental protections (EOs 14153, 14154, 14156, 14162); withdrew the United States from the World Health Organization, thereby cutting off access to data and ending American contributions to that data, which meant, *inter alia*, that the United States would not be receiving or sharing information on pandemics and epidemics, putting Americans at risk (EO 14155); and established the DOGE, whose leader and minions have proven to be woefully ignorant of how the federal government actually works (EO 14158).⁴ The most scientifically stupefying was EO 14168: Defending Women from Gender Ideology Extremism and Restoring Biological Truth to the Federal Government.⁵ Trump has been known to contest scientific truth before, as when he promoted the antimalarial drug hydroxychloroquine as a prophylactic against and treatment for Covid, which has now been linked to an estimated 17,000 deaths.⁶

These eight EOs created the skeletal framework for what followed in the administration's attacks on science over the next 100 days. A day after the inauguration, EO 14173 went into effect. It barred supporting any initiative that was offensive to the president's policy prerogatives, such as climate change and anything related to diversity, equity, and inclusion, including studies of how to recruit more women and minorities into the sciences.⁷ Three days after the inauguration EO 14177 established the President's Council of Advisors on Science and Technology, the agents charged with correcting what the president viewed as the wayward course of science and technology:

At the heart of scientific progress lies the pursuit of truth. But this foundational principle, which has driven every major breakthrough in our history, is increasingly under threat. Today, across science, medicine, and technology, ideological dogmas have surfaced that elevate group identity above individual achievement, enforce conformity at the expense of innovative ideas, and inject politics into the heart of the scientific method. These agendas have not only distorted

-
4. Federal Register, "2025 Donald J. Trump Executive Orders," 2025, <<https://www.federalregister.gov/presidential-documents/executive-orders/donald-trump/2025>> (18 April 2025).
 5. "Defending Women from Gender Ideology Extremism and Restoring Biological Truth to the Federal Government [Executive Order 14168]," 30 January 2025, <<https://www.federalregister.gov/documents/2025/01/30/2025-02090/defending-women-from-gender-ideology-extremism-and-restoring-biological-truth-to-the-federal>> (18 April 2025).
 6. Joshua P. Cohen, "Hydroxychloroquine, a Drug Trump Promoted to Treat Covid-19, Linked to 17,000 Deaths, Estimates Show," *Forbes*, 7 January 2024, <<https://www.forbes.com/sites/joshuacohen/2024/01/07/trump-promoted-hydroxychloroquine-to-treat-covid-19-a-drug-now-linked-to-17000-deaths/>> (1 April 2025).
 7. "Ending Illegal Discrimination and Restoring Merit-Based Opportunity [Executive Order 14173]," 31 January 2025, <<https://www.federalregister.gov/documents/2025/01/31/2025-02097/ending-illegal-discrimination-and-restoring-merit-based-opportunity>> (18 April 2025).

truth but have eroded public trust, undermined the integrity of research, stifled innovation, and weakened America's competitive edge.⁸

In the days that followed, the public learned how these EOs would be carried out to decimate and restructure federal scientific institutions.

While not federal laws, EOs do have the force of law in agencies that fall under the aegis of the executive branch, including the Department of Defense (DOD), where there is a significant scientific and engineering presence. So, it is not at all surprising that under the umbrella excuse of reducing the federal budget and the budget deficit, Cabinet secretaries (especially Robert F. Kennedy, Jr. of Health and Human Services [HHS] and Pete Hegseth of DOD) and other federally appointed directors (primarily Elon Musk of DOGE) have seized the opportunity to prune science in the federal government and federally supported science. Few have noticed, though, that strictly speaking, EOs cannot be used to eliminate, appropriate, or reassign funds that Congress, the legislative branch, had already approved for specific purposes. Nevertheless, the mostly young DOGE staff drawn from Musk's inner circle descended on federal agencies, sidelined agency directors, infiltrated computer systems, and began to ruthlessly identify budget cuts and dismantle the infrastructure of federal science.

Every single center of scientific research in the federal government has been subject to funding and staff reductions. These cuts appear to be arbitrary and based on a profound ignorance of the most sensitive scientific and technological operations in the federal government. Some of the most salient and egregious cuts present real dangers, present and future. Take the National Nuclear Security Administration (NNSA), overseen by the Department of Energy. DOGE summarily fired 300 workers at NNSA in mid-February 2025, not realizing the agency was responsible for safeguarding and maintaining America's stockpile of 3,748 nuclear bombs, including such critical tasks as reassembling warheads, which is necessary for the modernization of America's nuclear arsenal. The agency already had problems recruiting and retaining a specialized workforce that required intensive on-the-job training and top-secret Q clearances; the cuts added to its woes. Days later when the mistake was realized, the dismissals were reversed, but the damage was already done. A month later, the agency was still understaffed because the federal government had, in addition, offered early retirements, including to seasoned nuclear arms control experts.⁹ Occurring at a time when the United States is

8. "President's Council of Advisors on Science and Technology [Executive Order 14177]," 31 January 2025, <<https://www.federalregister.gov/documents/2025/01/31/2025-02121/presidents-council-of-advisors-on-science-and-technology>> (18 April 2025).

9. Rene Marsh and Ella Nilsen, "Trump Officials Fired Nuclear Staff Not Realizing They Oversee the Country's Weapons Stockpile, Sources Say," *CNN*, 14 February 2025, <<https://www.cnn.com/2025/02/14/climate/nuclear-nnsa-firings-trump/index.html>> (18 April 2025); Tara Copp and Anthony Izaguirre, "Trump Administration Tries to Bring Back Fired Nuclear Weapons Workers in DOGE Reversal," *AP*, 16 February 2025, <<https://apnews.com/article/nuclear-doge-firings-trump-federal-916e6819104f04f44c345b7dde4904d5>> (18 April 2025); Sharon LaFraniere, Minh Kim, and Julie Tate, "DOGE Cuts Reach Key Nuclear Scientists, Bomb Engineers and Safety Experts," *The New York Times*, 17 March 2025, <<https://www.nytimes.com/2025/03/17/us/politics/federal-job-cuts-nuclear-bomb-engineers-scientists.html>> (18 April 2025).

trying to resume nuclear talks with Iran, the losses impacted not only national security, but international security as well.

Some of the cuts are targeted retaliations. The National Institutes of Health (NIH), regarded as the premier health research agency globally, has repeatedly been in the cross-hairs of both Trump administrations. In what can only be regarded as an act of retribution, the leadership of NIH's National Institute of Allergy and Infectious Diseases, directed from 1984 to 2022 by Anthony Fauci – whom the president despises due to Fauci's justified attempts to control the scientific and medical narratives of the Covid pandemic – was eviscerated. The revenge did not end there. The administration fired Christine Grady, a prominent NIH bioethicist and wife of Anthony Fauci, and offered her instead a position in Alaska's Indian Health Services. The same offer was extended to scientists at the Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC), both sites of medical viewpoints at odds with the administration's contrary ones.¹⁰ Just as the administration is sending supposed aliens to a gulag in El Salvador, it is displacing unwanted intellectuals to the chilly frontier, mirroring the practices of the Soviet Union and Russia.

The NIH, FDA, and CDC fall under HHS, which is expected to lose more than 10,000 staff members over the next few months, with dire consequences for the American public.¹¹ Already at the FDA, staff layoffs have led to a decline in clinical trials and delays in drug development, and in the CDC, entire investigative units covering public health issues have been eliminated, including the Office of Smoking and Health. Infectious diseases are likely to be the primary focus of the CDC, but one with a dangerous position on vaccines due to the antivaccine stance of HHS' secretary, Robert F. Kennedy, Jr.¹²

As a former member and director of the Program in Science, Technology, and International Affairs at Georgetown University – a position where I became immersed in Cold War and contemporary American science and learned how to apply history to policy – I am dumbfounded by the administration's erasure of the social sciences that have

10. Adam Cancryn and Erin Schumacher, "Fauci Allies, Covid Vaccine Officials Get Ax at NIH," *Politico*, 2 April 2025, <<https://www.politico.com/news/2025/04/02/fauci-allies-covid-vaccine-officials-dismissed-nih-00265714>> (18 April 2025); Kerry Pickett, "Wife of Dr. Anthony Fauci Reassigned from NIH to Indian Health Service's Regional Posts," *The Washington Times*, 2 April 2025, <<https://www.washingtontimes.com/news/2025/apr/2/christine-grady-anthony-faucis-wife-reassigned-nih-indian-health/>> (18 April 2025).
11. Jeff Nesbit, "Trump and Kennedy Just Put America at Risk," *The Contrarian*, 1 April 2025, <<https://contrarian.substack.com/p/trump-and-kennedy-just-put-america>> (1 April 2025). The Associated Press, "Here's Where Jobs and Programs Are Being Cut at the Nation's Top Health Agencies," *AP*, 1 April 2025, <<https://apnews.com/article/trump-hhs-cdc-fda-nih-cms-layoffs-5aba829b829d9e1a0167c4a0d968>> (10 April 2025).
12. Leah Douglas and Marisa Taylor, "Trump Administration Starts Mass Layoffs at Health Agencies," *USA Today*, 1 April 2025, <<https://www.usatoday.com/story/news/politics/2025/04/01/trump-mass-layoffs-cdc-da/82754162007/>> (18 April 2025); Jared S. Hopkins, "Drug Development is Slowing Down After Cuts at FDA," *The Wall Street Journal*, 17 April 2025, <<https://www.wsj.com/health/healthcare/drug-development-is-slowing-down-after-cuts-at-the-fda-f22369cf>> (17 April 2025); Sophie Gardner, "Which Jobs Were Cut at CDC? Here's a List," *Politico*, 3 April 2025, <<https://www.politico.com/news/2025/04/03/which-jobs-were-cut-at-cdc-heres-a-list-00271509>> (10 April 2025).

informed domestic and international policy decisions. DOD's Minerva Initiative, which was established as a result of the policy failures of 9/11 and had supported creative academic work in the social sciences pertinent to military planning and intelligence, was terminated.¹³ Social science work supported by the Pentagon was crucial for assessing emerging threats to national security. The Woodrow Wilson International Center for Scholars, which was established by Congress and has a Science and Technology Innovation Program, offered fellowships to intellectuals of all stripes for the purpose of advancing the role of the social sciences in policy making. The Center lost its federal funding and much of its staff, and has been reduced to maintaining only its minimum statutory functions, offering only a few annual fellowships henceforth, but not enough to maintain any sense of programming and dissemination of its scholarship.¹⁴ This dismissal of the social sciences not only hurts policy making in the federal government. It also hurts academia: new insights fostered in these institutes have fed back into academic curricular innovation.

These are just the tip of the iceberg of massive and tragic eviscerations of the scientific and technological infrastructure of the United States that have occurred over the past three months. Other agencies – including the National Aeronautics and Space Administration, the National Geospatial Intelligence Agency, the National Institute of Standards and Technology, the National Oceanic and Atmospheric Administration (which houses the National Weather Service and had supported climate-change studies), the National Science Foundation, the U.S. Geological Survey, and more – have also been severely cut in size and budget.¹⁵

13. Nick Evans, "Save the Minerva Research Initiative – Again," *Breaking Defense*, 11 April 2025, <<https://breakingdefense.com/2025/04/save-the-minerva-research-initiative-again/>> (18 April 2025).
14. Aishvayra Kavi and Edward Wong, "Workers Forced to Leave Foreign Policy Center as Trump Presses Shutdown," *The New York Times*, 3 April 2025, (17 April 2025).
15. Eric Berger, "Trump White House Budget Proposal Eviscerates Science Funding at NASA," *Arstechnica*, 11 April 2025, <<https://arstechnica.com/space/2025/04/trump-white-house-budget-proposal-eviscerates-science-funding-at-nasa/>> (18 April 2025); Sandra Erwin, "Intelligence Agency Copes with Workforce Reductions Amid AI Modernization," *Space News*, 10 March 2025, <<https://spacenews.com/intelligence-agency-cope-with-workforce-reductions-amid-ai-modernization/>> (1 April 2025); Kathryn M. Olesko, "The Politics of Standards," *Science in America*, 27 February 2025, <<https://kathrynolesko.substack.com/p/the-politics-of-standards>> (1 April 2025); Alejandra Burunda, "Major Budget Cuts Proposed for the National Oceanic and Atmospheric Administration," *NPR*, 11 April 2025, <<https://www.npr.org/2025/04/11/nx-s1-5361366/major-budget-cuts-proposed-for-the-national-oceanic-and-atmospheric-administration>> (18 April 2025); Jeffrey Mervis, "NSF Scraps Most Outside Advisory Panels," *Science*, 15 April 2025, <<https://www.science.org/content/article/nsf-scraps-most-outside-advisory-panels>> (16 April 2025); Jeffrey Mervis, "NSF Halts Grants Awards While Staff Do Second Review," *Science*, 16 April 2025, <<https://www.science.org/content/article/nsf-halts-grant-awards-while-staff-do-second-review>> (17 April 2025); Jeffrey Mervis, "NSF Starts to Kill Grants That Violate Trump's War on Diversity Efforts," *Science*, 18 April 2025, <<https://www.science.org/content/article/nsf-starts-kill-grants-violate-trump-s-war-diversity-efforts>> (18 April 2025); Erik Stokstad, "Trump Swings Budget Axe at USGS Biology Research," *Science*, 18 April 2025, <<https://www.science.org/content/article/trump-swings-budget-axe-usgs-biology-research>> (18 April 2025).

The damage that has already been done is compounded by the lack of attention paid to their consequences for scientific training, and so for the future of the American scientific enterprise. Many of the grants awarded by federal agencies include both graduate and postdoctoral fellowships. When these grants are reduced, the pipeline of future scientists is narrowed considerably. Of deep consequence for generational reproduction in the sciences is the inexplicable reduction by half of the prestigious National Science Foundation (NSF) graduate fellowships. Over time the number of NSF fellowships has varied, but generally the number has grown, most recently to 2,555 in 2023, a number that was reduced by twenty percent in 2024 to 2,000. The 2025 reduction to 1,000 fellowships brings the number to its lowest in fifteen years; the number during the first Trump regime was higher. The reduction led immediately to a curtailment in graduate admissions in the sciences for the academic year 2024/25 because it occurred before admission offers were mailed in the spring 2025 semester.¹⁶

What does history have to say about these developments?

First, the obvious point of historical comparison is Trump's science policy during his first regime, 2017–21, when his primary targets were the environmental sciences, climate change, and later during the pandemic, health measures related to Covid. Science became politicized, conformity to the administration's ideas about science was expected (especially regarding Covid), and the administration openly interfered with the dissemination of scientific results in order to prevent the circulation of information contrary to the administration's beliefs (climate change does not exist) and policies (promoting unproven drugs for the treatment of Covid).¹⁷ Paradoxically, Trump rarely takes credit for Operation Warp Speed, which resulted in effective Covid vaccines in record time through a public–private partnership.¹⁸ Are his actions thus far in 2025 comparable to those in 2017–21? Yes and no.

-
16. Gisèle Muller-Parker, Susan Brennan, and Erik C. Jones, "Cancel Cuts to Graduate Research Fellowships," *Science* 367 (2020): 519; Dan Garisto, "NSF Slashes Prestigious PhD Fellowship Awards by Half," *Nature*, 10 April 2025, <<https://www.nature.com/articles/d41586-025-01098-9>> (18 August 2025); Dan Garisto, "US Universities Curtail PhD Admissions Amid Trump Science Funding Cuts," *Nature*, 27 February 2025, <<https://www.nature.com/articles/d41586-025-00608-z>> (18 April 2025).
 17. Tony Romm, "Donald Trump Crippled U.S. Technology and Science Policy," *Vox*, 31 March 2017, <<https://www.vox.com/2017/3/31/15139966/trump-white-house-technology-science-policy>> (1 April 2025); Jacob Carter, Gretchen Goldman, and Charise Johnson, "Science Under Trump: Voices of Scientists at 16 Federal Agencies" [Union of Concerned Scientists], 7 August 2018, <www.ucsusa.org/2018survey> (1 April 2025); Jacob Carter, Gretchen Goldman, Genna Reed, Peter Hansel, and Michael Hapern, "Sidelining Science Since Day One," *Union of Concerned Scientists*, 13 July 2017, <<https://www.ucs.org/resources/sidelining-science-day-one>> (18 April 2025); Dan Diamond, "Trump Officials Interfered with CDC Reports on Covid-19," *Politico*, 11 September 2020, <<https://www.politico.com/news/2020/09/11/exclusive-trump-officials-interfered-with-cdc-reports-on-covid-19-412809>> (1 April 2025).
 18. U.S. Government Accountability Office, *Operation Warp Speed* (GAO-21-319) (GAO, 2021), <<https://www.gao.gov/assets/gao-21-319.pdf>> (1 April 2025).

In 2017–21 and now, the executive branch decimated several federal science agencies; canceled federal research grants; destroyed data sets, especially on climate change; defunded climate science and eliminated environmental protections; and imposed censorship on scientists who held views contrary to the administration's. But there are considerable differences that thus far separate the two regimes. Trump did not have a master plan for science policy before; Project 2025 guides him now. He was criticized earlier for axing federal science advisory committees and not filling science advisory positions fast enough; now he has them, questionable though their credentials may be. Few technology oligarchs were by his side in his first regime, while now they slavishly support him and benefit substantially from federal contracts and other favors. Now he has extended his reach deeper into the scientific and medical enterprise. He has used an EO to impose a scientifically groundless definition of sex and, by implication, gender; cultivated doubts about vaccines via bureaucratic appointments; and deepened a contempt for expertise, including in policy matters, in order to eliminate the opposition by fiat.¹⁹ Perhaps the biggest difference between then and now is the presence of his personal demolition agency, DOGE.

Disturbing compounding factors further threaten the scientific enterprise now. One is the administration's attempt to control academic medical journals so that "competing viewpoints" are represented to eliminate what is perceived as "political bias" in articles selected for publication, thereby subverting the standards-driven academic refereeing process and casting a chill over knowledge production in academia. This attempt at censorship follows hard on the heels of other administration officials demonizing the gate-keeping function of journal boards and editors, calling it a form of "groupthink," thus challenging scientific consensus.²⁰ Another more insidious development is the administration's concurrent assault on institutions of higher learning, which the administration seeks to control by abrogating their First Amendment rights and the professional right to academic freedom, and by threatening them with the repeal of federal grants and their tax-exempt status as nonprofits. In line with Project 2025, the intent is to remake higher education, the principal home of scholarship in America.²¹ There is no analogous point

-
19. Alice Callahan, "Leading Nutrition Scientist Departs N.I.H., Citing Censorship," *The New York Times*, 16 April 2025, <<https://www.nytimes.com/2025/04/16/well/kevin-hall-nutrition-retirement-nih-censorship-rfk-maha.html>> (18 April 2025).
 20. Teddy Rosenbluth and Rebecca Robbins, "Trump-Allied Prosecutor Sends Letters to Medical Journals Alleging Bias," *The New York Times*, 18 April 2025, <<https://www.nytimes.com/2025/04/18/health/trump-martin-us-attorney-medical-journals.html>> (18 April 2025). I thank Lissa Roberts for this reference.
 21. Makiya Seminera, "A Look at the Universities with Federal Funding Targeted by the Trump Administration," *AP*, 15 April 2025, <<https://apnews.com/article/harvard-trump-federal-cuts-universities-protests-8fa92331b2780394ea171b0b32d5d243>> (16 April 2025); Liz Essley Whyte, "The Little-Known Bureaucrats Tearing Through American Universities," *The Wall Street Journal*, 16 April 2025, p.A1, A10. Some historians have argued that the administration is using antisemitism on campuses as a pretext for the intervention into higher education. Christopher Browning, "Trump, Antisemitism, and Academia," *The New York Review of Books* 72, no. 6, 10 April 2025, p.42.

of comparison in American history for the simultaneity of these executive actions that have imperiled science, even though there are several parallels in Trump's first regime.

The overall damage inflicted by the current administration on the scientific enterprise has been deep and wide-ranging. Enacted rapidly without forethought, study, or reasoned assessment of needs and impact, the administration's actions targeting science seem to be guided by arbitrary budget, facility, and workforce reductions, ideological preferences, and at times, a compulsion to retaliate against perceived enemies, both personal and intellectual. Authors Anthony Eames, Donna Haraway, Ilana Löwy, and Cyrus C. M. Mody analyze several of these actions in this roundtable commentary, using the tool-boxes of history and science studies to draw out their implications and consequences.

Second, other earlier historical precedents for some of the executive branch's actions offer only weak comparisons. The current Trump administration has tried initially to impose a cap of 15% on indirect costs on NIH and other federal grants. This attempt was not entirely out of line with past practices, as indirect costs were capped between 1947 and 1965 at between 8% and 25%. When the cap was removed in 1966, indirect costs were negotiated between federal agencies and university administrations, but periodically Congress or the president would try to lower them for budgetary reasons because they had increased. An injunction was placed on the Trump administration's proposal, however, and to date, the administration has not challenged it for reasons unknown, so the issue of indirect costs is moot.²² Concerning federal reductions in force, Elon Musk and his DOGE brethren and sisters have argued that President Bill Clinton's reductions in force during the 1990s is a model for what DOGE is doing. That's simply not true. Clinton used the rules in place for reduction in force and, with Vice President Al Gore at the helm, conducted a National Performance Review that took six months to complete before any reduction proposals were made. Moreover, the entire effort was sensitive to the need for congressional approval where it was necessary. In the end, Clinton's buyouts had strong bipartisan congressional support. With them and other budgetary changes, Clinton was moreover able to balance the budget thanks to his National Partnership for Reinventing Government.²³ Finally, the anticommunist McCarthy era from the late 1940s through the 1950s offers a parallel moment when the federal government attacked the left and persecuted scientists and other intellectuals after imposing ideological litmus

-
22. Science News Staff, "Surprise! White House Asks for 'Permanent' Block on NIH's Sudden Indirect Cost Cap," *Science*, 4 April 2025, <<https://www.science.org/content/article/indirect-cost-surprise-nih-lawsuits-kennedys-mistakes-trump-tracker>> (18 April 2025); Robert M. Rosenzweig, "The Politics of Indirect Costs," *Council on Governmental Relations. 50th Anniversary, 1948–1998. Journal of Papers* (Council on Governmental Relations, 1998), pp.1–12, <https://www.cogr.edu/sites/default/files/A_Continuing_Evolution_-_Responding_to_Federal_Requirements.pdf> (18 April 2025).
 23. Nicholas Riccardi, "Trump and Musk Aren't the First to Make Deep Cuts. Clinton-era Reinventing Government Saved Billions," *AP*, 23 February 2025, <<https://apnews.com/article/trump-musk-doge-clinton-reinventing-government-gore-a95795eb75cacc03734ef-0065c1b0a6d>> (15 March 2025); Benjamin Siegel and Alexandra Hutzler, "Musk Compares DOGE to Clinton's Government Efficiency Initiative, But There Are Big Differences," *AOL Today*, 19 February 2025, <<https://www.aol.com/musk-compares-doge-clintons-government-000046914.html>> (25 March 2025).