

# THE LEGACY OF THE FEDERATION OF AMERICAN SCIENTISTS

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The Federation of American Scientists (FAS) formed after the bombing of Hiroshima and Nagasaki, precisely because many scientists were genuinely concerned for the fate of the world now that nuclear weapons were a concrete reality. They passionately believed that, as scientific experts and citizens, they had a duty to educate the American public about the dangers of living in the atomic age. Early in 1946, the founding members of FAS established a headquarters in Washington, D.C., and began to coordinate the political and educational activities of many local groups that had sprung up spontaneously at universities and research facilities across the country. The early FAS had two simultaneous goals: the passage of atomic energy legislation that would ensure civilian control and promote international cooperation on nuclear energy issues, and the education of the American public about atomic energy. In addition, from its very inception, FAS was committed to promoting the broader idea that science should be used to benefit the public. FAS aspired, among other things, “To counter misinformation with scientific fact and, especially, to disseminate those facts necessary for intelligent

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conclusions concerning the social implications of new knowledge in science,” and “To promote those public policies which will secure the benefits of science to the general welfare.”<sup>1</sup>

Activist scientists’ idealism regarding the public and its role in a democracy is evident not only in the rhetoric scientists’ use, but also in the choices that they make when establishing their educational program. FAS, concerned with scientists’ inexperience in public education, elected to enlist the assistance of other experts in the fields of advertising and public relations. They also established the National Committee on Atomic Information (NCAI) as an organization that would reach the public through the “opinion makers,” the leadership of public organizations like the American Federation of Labor, the League of Women Voters, and the National Council of Churches. On a local level, scientists’ associations across the country attempted to spread a message that went beyond simply the concern with atomic energy and endeavored to educate the public about science in general.

Early efforts to educate the public were hindered, however, by a basic dilemma facing the scientists’ movement: how to reconcile scientists’ reputation for objectivity with the sort of passionate political activism they attempted to embrace. Scientists believed that their public prestige hinged upon their popular image as objective experts, and so found it very difficult to navigate the murky waters of politics and propaganda. The scientists of FAS had a particular agenda that ran counter to the emerging Cold War, and thus, their message of “no secret, no defense, international control,” while grounded in scientific fact, was also explicitly ideological. FAS scientists were frequently chastised by politicians and the media for abandoning objectivity and for attempting to interject their opinions into the realm of international politics and military strategy. These rebukes, combined with scientists’ natural reticence toward political involvement, contributed to an extended period of conflict and consternation within FAS, beginning in the spring and summer of 1946 and continuing throughout the rest of the decade.

Some of the choices that the scientists’ movement made regarding their program of public education exacerbated this dilemma, and almost led to the collapse of the organization itself. For example, the educational campaign conducted through the NCAI was unable to fully capitalize upon opportunities offered by the American public. The public that contacted the NCAI wanted not only information, but leadership and guidance from scientists. FAS, however, did not quite know what to make of the suggestions and support “ordinary” Americans offered them. During their collaboration with social scientists and public relations experts, the scientists of FAS reached the conclusion that in order to educate the American people effectively, they might have to abandon their idealistic notions of the public’s role in democracy and attempt to manipulate the public using propaganda techniques. Activist scientists were uncomfortable with the prospect of abandoning their objectivity and uncertain how to effectively reach the public.

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<sup>1</sup> Aims of Federation, December 8, 1945, and FAS Constitution, July 21, 1948. Federation of American Scientists Records, Box 1, Folder 1, Special Collections Research Center, University of Chicago Library.

Member associations faced the same dilemma regarding advocacy and objectivity, and confusion over this issue led to the eventual collapse of many local groups. The dilemma of objectivity thus threatened to undermine the Federation.

By the early 1950s, however, FAS was able to maintain a consistent, if somewhat moderated, presence in American political life. The movement as a whole had answered the question of whether scientists could (or should) be concerned with social and political issues in the affirmative. To some extent, the scientists of FAS traded their earlier passion for a new position of explicit neutrality. Given the excitement surrounding the movement's initial activism, the exchange of evangelism for "dull, hard work" must have seemed disappointing to some scientists and their supporters. However, this shift in tone and methodology empowered FAS to expand its purview beyond simply advocating for atomic energy control and embrace an expanded mission: To bridge the gap between scientists and non-scientists, and to advocate for greater public understanding of science; for openness and transparency in policy-making; and for the health and safety of the world's population. The national organization worked throughout the 1950s to press for science policy that would serve the public interest, whether it was pushing for fuller disclosure of atomic information and the creation of a lively public sphere, or advocating for caution in nuclear testing and eventual world disarmament.<sup>2</sup>

Thus, the legacy of FAS can be measured in a variety of ways. Certainly its first and most tangible result was the Atomic Energy Act of 1946, which many historians have argued was brought into being largely through the efforts of the organization itself. Had scientists not organized to oppose the initial May-Johnson bill, which left the domestic control of atomic energy largely in military hands, the history of the Cold War might have been very different. However, scientists were forced to compromise on some key principles within the McMahon bill, which allowed the Atomic Energy Act and the AEC to have a much greater military presence than they might have wished. The Federation's lobbying efforts certainly left an important legacy on the history of American politics during the Cold War, but its success in this area was a qualified one, at best.

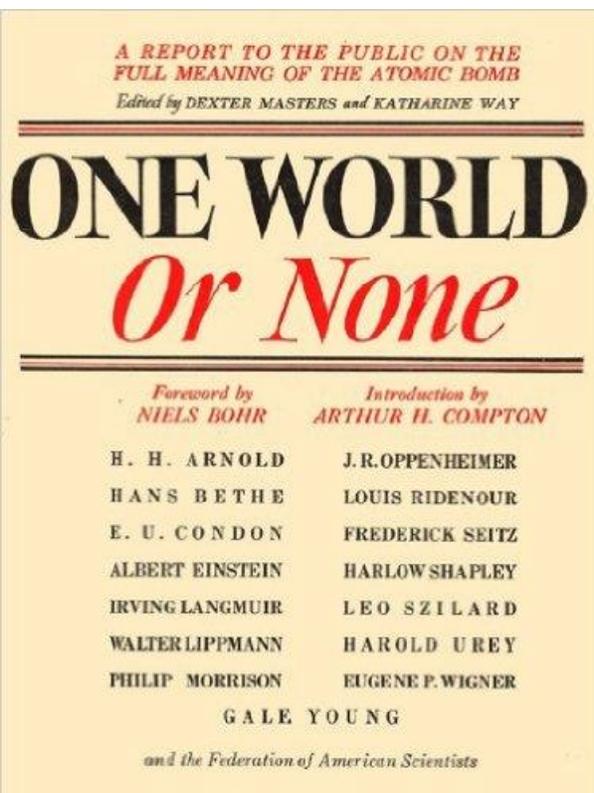
FAS also made a significant contribution to the creation of Cold War culture in America.<sup>3</sup> Scientists' use of apocalyptic rhetoric in describing the terrible effects of the atomic bomb brought the frightening reality of nuclear weapons home to millions of Americans. It is reasonable to suggest that without FAS, the American public might have been far less aware of the important issues surrounding atomic energy. Certainly books and films, such as *One World or None*, radio programs, and the innumerable pamphlets, brochures, and newsletters disseminated by FAS and

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<sup>2</sup> For more information about the early FAS and its activities, see Barnhart, Megan, "To Secure the Benefits of Science to the General Welfare: The Scientists' Movement and the American Public during the Cold War, 1945-1960," Ph.D. dissertation, University of California, Los Angeles, 2007; Smith, Alice Kimball, *A Peril and a Hope: The Scientists' Movement in America, 1947-1947* (Chicago: University of Chicago Press, 1965).

<sup>3</sup> See Boyer, Paul, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (Chapel Hill, NC: University of North Carolina Press, 1994).

its affiliated groups are material artifacts of how the scientists' movement contributed to the creation of an atomic culture.



Perhaps the most significant impact of the scientists' movement lies in its effect upon both individual scientists and the American scientific community as a whole. Without question, individuals who joined FAS in the aftermath of World War II were changed in a number of concrete ways because of their involvement. Many scientists who were active in FAS during its early years, even those who fell away from the organization in the late 1940s, retained a conviction in the necessity for atomic energy control, international peace, and the preservation of the environment throughout their professional careers. Some channeled their beliefs into new organizations. For example, Leo Szilard, initially one of the most ardent members of FAS, never stopped working for international control, and eventually established his own political action committee, the Council for a Livable World, in 1962.<sup>4</sup> Others, such as Manhattan Project geochemist and active FAS member Harrison Brown, directed their postwar careers toward developing atomic energy for constructive, rather than destructive, purposes. In the 1950s, Brown was a leading organizer of the Pugwash Conferences, a series of international gatherings of scientists to discuss nuclear issues and international politics.<sup>5</sup> He also influenced a number of students, some of whom would later become politically active themselves.

*The original edition of One World or None (1946) sold 100,000 copies and was a New York Times bestseller. It was reprinted in 2007.*

For example, leading environmental scientist and public policy expert John Holdren read Brown's book as a teenager, and later went to Caltech to work with Brown, where he collaborated with other socially conscious scientists at the Environmental Quality Laboratory and the Rand Corporation in Santa Monica. Holdren became active in the 1970s as an environmentalist and critic of nuclear power and today he is the chief science advisor to President Obama.<sup>6</sup> Thus, not only did the scientists of FAS retain their beliefs and channel their activism in other directions beyond the postwar scientists' movement, but many also influenced the next generation of American scientists toward political activism and the creation of public-oriented science policy.

<sup>4</sup> See Hawkins, Helen S., G. Allen Greb, and Gertrude Weiss Szilard, eds., *Toward a Livable World: Leo Szilard and the Crusade for Nuclear Arms Control*, vol. 3, *Collected Works of Leo Szilard* (Cambridge, MA: MIT Press, 1987), 425.

<sup>5</sup> Revelle, Roger, "Harrison Brown," in *Biographical Memoirs*, ed. National Academy of Sciences of the United States of America (Washington, D.C.: National Academy Press, 1994), 43-44, 49-50.

<sup>6</sup> Wellock, Thomas Raymond, *Critical Masses: Opposition to Nuclear Power in California, 1958-1978* (Madison, WI: University of Wisconsin Press, 1998), 101-02.

FAS also spurred the creation of future groups while serving as a foundation upon which these organizations could build. FAS was really the first major national organization of scientists to consider issues of science and policy; its establishment heralded the arrival of scientists on the American political scene, and signified an emerging consciousness of scientists' social responsibility that would only grow and deepen in the years to come. In 1949, the Society for Social Responsibility in Science (SSRS) was founded as an organization of scientific workers who explicitly renounced militarism and promised "to...abstain from destructive work and devote himself to constructive work." Never particularly large or visible in American political life, the SSRS nevertheless attracted the support of several prominent scientists, including Albert Einstein.<sup>7</sup> Another example was the Scientists' Institute for Public Information (SIPI), established in 1963. SIPI was a direct outgrowth of the Greater St. Louis Citizen's Committee for Nuclear Information, established in the late 1950s around the issue of fallout and the banning of nuclear testing. When these issues declined in the early 1960s, SIPI increasingly focused upon a broader environmentalist agenda. Although SIPI was designed to provide scientific and technical information to the public "free from moral and political judgments," it, like FAS, was oriented around the assumption of scientists' special responsibility to educate the public.<sup>8</sup> Finally, Physicians for Social Responsibility, established in 1961, can also be seen as a direct descendent of FAS. All of these groups work to inform the public and legislators on scientific issues, just as FAS does.<sup>9</sup>

An even more significant legacy of FAS would come to fruition in the late 1960s with the establishment of groups like the Union of Concerned Scientists (UCS) and Scientists and Engineers for Social and Political Action (SESPA, later renamed Science for the People). These groups were both direct ideological descendants of FAS in at least one important respect: both organizations explicitly advocated for public education and for the creation of science policy that would serve public interests over those of the government or the military. The UCS arose out of a one-day work stoppage at MIT in the spring of 1969 to protest the Vietnam War and the University's complicity in the war. It was a collective effort between students and a number of MIT faculty, including some scientists who had previously been active in FAS. Faculty sponsors of the March 4 activities included Philip Morse, David Shoemaker, Irving Kaplan, and Victor Weisskopf, all of whom had been active in FAS during its early days.<sup>10</sup> SESPA also emerged in 1969 at a meeting of the American Physical Society (APS) when a group of graduate students and young faculty became dissatisfied with the failure of APS to oppose the Vietnam War. Eventually changing their name to Science for the People, the group called for using science to benefit the public, and for "empowering the poor with scientific

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<sup>7</sup> Press release from the Society for Social Responsibility in Science, July 19, 1950. Federation of American Scientists Records, Box 23, Folder 8, Special Collections Research Center, University of Chicago Library.

<sup>8</sup> See Nichols, David, "The Associational Interest Groups of American Science," in *Scientists and Public Affairs*, ed. Albert H. Teich (Cambridge, MA: MIT Press, 1974), 144. Smith, Allen, "Democracy and the Politics of Information: The St. Louis Committee for Nuclear Information," *Gateway Heritage* 17 (1996). Sullivan, Jr., William Cuyler, *Nuclear Democracy: A History of the Greater St. Louis Citizens' Committee for Nuclear Information, 1957-1967*, Washington University College Occasional Papers No. 1 (St. Louis, MO: Washington University Press, 1982), 70-72.

<sup>9</sup> Nichols, "The Associational Interest Groups of American Science," 148-49.

<sup>10</sup> Allen, Jonathan, ed., *March 4: Scientists, Students, and Society* (Cambridge, MA: MIT Press, 1970).

knowledge, expertise and products.”<sup>11</sup> Both UCS and SESPA/Science for the People thus followed in the footsteps of FAS, which advocated for science to serve the public interest as early as 1945.

Scientists in recent years have continued the tradition begun by FAS of speaking out against government policies which they believe distort science and mislead the public. On February 18, 2004, UCS released a statement signed by over 60 leading scientists entitled “Restoring Scientific Integrity in Policymaking.” The UCS report accused the George W. Bush Administration of ignoring and/or censoring scientific research that contradicted its political ideology, and of undermining “the quality and independence of the scientific advisory system and the morale of the government’s outstanding scientific personnel.”<sup>12</sup> Scientists and the Bush administration clashed over various issues, most frequently and publicly climate change and global warming.<sup>13</sup> Bush’s successor, Barack Obama, has generally been considered to be more favorable toward science; however, as a 2010 LA Times article suggests, scientists have continued to raise many of the same concerns under Obama’s tenure as they did during the Bush years.<sup>14</sup> Scientists have also increasingly fought with some members of Congress. Most recently, scientists from the National Oceanic and Atmospheric Administration (NOAA) are contesting the attempts of Rep.

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Lamar Smith, chairman of the House science committee, to subpoena email correspondence regarding a groundbreaking climate change study published earlier this year. The American Association for the Advancement of Science (AAAS) and other scientific groups have publicly announced their support for NOAA, arguing that, “Science cannot thrive when policymakers – regardless of party affiliation – use policy disagreements as a pretext to attack scientific conclusions without public evidence.”<sup>15</sup> A direct continuity can be seen between the early efforts of FAS and these recent examples of scientists’ political activism. The efforts of UCS, AAAS, and other groups to publicly oppose the alleged manipulation of science by government officials would perhaps never have come about, had FAS not set a precedent for scientists’ political activism.

Perhaps the most important legacy of FAS, then, is how it dealt with the issue of advocacy versus objectivity. In 1945, FAS embarked upon largely uncharted waters; although certainly some scientists before the war acknowledged such a

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<sup>11</sup> Moore, Kelly. "Doing Good While Doing Science: The Origins and Consequences of Public Interest Science Organizations in America, 1945-1990." Ph. D. Dissertation, University of Arizona, 1993.

<sup>12</sup> Union of Concerned Scientists, “Restoring Scientific Integrity in Policymaking,” January 23, 2007, [http://www.ucsusa.org/scientific\\_integrity/interference/scientists-signon-statement.html](http://www.ucsusa.org/scientific_integrity/interference/scientists-signon-statement.html) (June 3, 2007).

<sup>13</sup> Andrew C. Revkin, “Bush vs. the Laureates: How Science Becomes a Partisan Issue,” *New York Times on the Web*, October 19, 2004, <http://query.nytimes.com/gst/fullpage.html?res=9F05E3D9123AF93AA25753C1A9629C8B63&sec=health> (June 3, 2007).

<sup>14</sup> Tom Hamburger and Kim Geiger, “Scientists Expected Obama Administration to be Friendlier,” *LA Times* (Los Angeles, CA), July 10, 2010, <http://articles.latimes.com/2010/jul/10/nation/la-na-science-obama-20100711> (November 18, 2015).

<sup>15</sup> Letter from AAAS et. al. to Rep. Lamar Smith, November 24, 2015, [http://www.aaas.org/sites/default/files/Intersociety%20NOAA\\_letter%2011-24-2015.pdf](http://www.aaas.org/sites/default/files/Intersociety%20NOAA_letter%2011-24-2015.pdf) (November 27, 2015).

social responsibility, never before had scientists attempted to engage in American political life on such a large scale. Convinced of the righteousness of their cause and of their duty to educate the public about atomic energy control, the scientists of FAS embraced an ideology which ran counter to the Cold War mentality that was rapidly coalescing in American political and cultural life. By advocating such a relatively controversial agenda, FAS encountered a great deal of opposition among some quarters, and scientists faced the possibility of having to relinquish their image as objective experts. External opposition and internal conflict over the issue of scientific objectivity threatened to undermine the scientists' movement. FAS was able, however, to move beyond these concerns in the early 1950s, and to embrace their foundational mission of working towards a publicly-oriented science. Its ability to retain its public image as a body of objective experts, while simultaneously advocating for a political agenda, set an important precedent for future generations of American scientists.