

F.A.S. PUBLIC INTEREST REPORT

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Atomic Scientists Appeal to Colleagues: Stop Work on Further Nuclear Weapons

In an "Atomic Scientists' Appeal", FAS, for the first time in its 50-year history, has called on scientists throughout the world to stop working on further nuclear weapons and on other weapons of potential mass destruction.

Inspired by a letter (See back page) from Nobel Laureate Hans A. Bethe, who is the senior living original atomic scientist, the FAS Council endorsed his appeal and secured the individual endorsements of most of its other FAS member survivors of that era including Marvin L. Goldberger, Jerome Karle, Glenn T. Seaborg, Philip Morrison, Victor Weisskopf, Robert R. Wilson and Herbert York, and also an endorsement by Richard L. Garwin.

This "Atomic Scientists Appeal" was released in Hiroshima on July 25 at a Pugwash Conference by FAS President Jeremy J.

Stone. It is noteworthy that the Pugwash movement itself has never issued a similar appeal despite the fact, as one high official admitted, "this has been considered before". In seeking endorsements from non-American scientists, Stone managed, in particular, to secure the endorsement of all but one Pugwash Council Member attending the conference.

Subsequently, the final communique of the Pugwash Council included this statement:

"... presented to the Conference on its first morning was a letter from one of the most senior Manhattan Project scientists, Nobel Laureate Hans Bethe, calling on "all scientists in all countries to cease and desist from work creating, developing, improving, and manufacturing further nuclear weapons—and, for that matter, other weapons of potential mass destruction such as chemical and biological weapons." Conveyed by the Council of the Federation of American Scientists and endorsed by

that group as well as by a number of prominent Manhattan Project scientists in addition to Bethe, his letter is a remarkable document to which the Pugwash Council is pleased to add its own endorsement."

A number of observers commented on the fact that it is much easier for scientists to call on governments to do one thing or another than to call upon

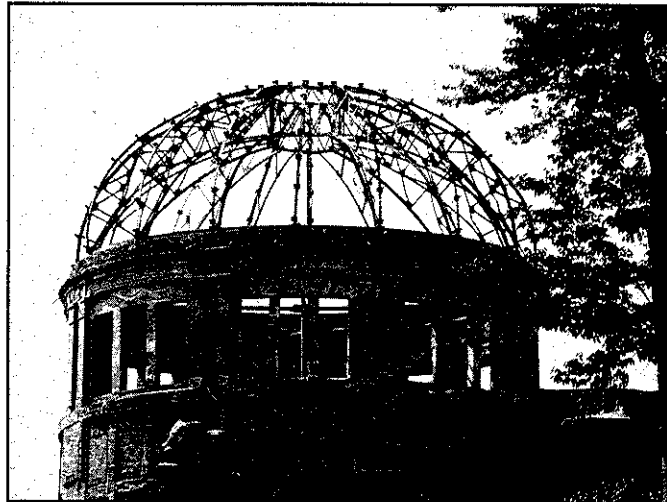
their colleagues to do something with the collegial censure this implies for colleagues who do not agree. Accordingly, the Atomic Scientists Appeal was viewed by many as a "breath of fresh air", as one scientist put it, and as an important precedent for similar activities of other kinds.

The release in Hiroshima was complicated by events on the opening day when Pugwash President Joseph Rotblat, at a plenary session, gave a lecture with

slides on the culpability of the United States in dropping the atomic bomb on Hiroshima.

Rotblat opened his presentation by saying "In total disregard of the basic tenets of science—openness and universality—it [the atomic bomb] was conceived in secrecy, and usurped—even before birth—by one state to give it political dominance." And his summary view was: "As a scientist I want also to apologize to the Japanese people for the atom bombs. Their use was unjustified. Their making was unnecessary."

Despite an awareness that the Federation's main message—the Atomic Scientists Appeal—could be prejudiced by doing so, Stone rose from the floor, criticized Rotblat for not having scheduled an alternative view, and noted that most scholars did not accept this revised interpretation of history. In par-



At Hiroshima

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ticular, Stone noted, even the scientists of conscience within FAS did not, in most cases, agree. (For example, Hans A. Bethe believes that the use of the bomb *saved* Japanese lives by producing a prompt surrender that cut off the continued fire-bombing of Japanese cities and saved Japanese lives that would have been lost in a subsequent invasion. Needless to say, it also saved American lives.) And Stone offered to circulate a more balanced appraisal in the form of a *Washington Post* two-part series written by Walter Pincus.

Rotblat's perspective on this is worth noting. He alone among the atomic scientists at Los Alamos, left the project when it became clear that the Germans would not get the atomic bomb. Accordingly, from his point of view, on which he acted at the time, the completion of the atomic bomb was inconsistent with the original defining purpose of ensuring that the Nazis did not, alone, get the bomb. As for the dropping of the bomb being unjustified, he accepted the view that the Japanese were near surrender, that the potential American invasion casualties were fewer than many were led to believe at the time, and that the real purpose of dropping the bomb was to impress the Russians.

Minority View "Too Simple"

Afterwards, a Pugwash participant well informed on the debate, described Rotblat's presentation as "too simple, and at least partly wrong. It's too much Blackett-Alperovitz." A number of other participants agreed in private. A few days later, a Pugwash session occurred in which Historian Burton Bernstein did offer the alternative majority view.

Although Stone's response to Rotblat was carried in the Japanese media and did, reporters later noted, persuade them that FAS had a hawkish perspective, they nevertheless accepted the FAS "Atomic Scientist's Appeal" in good spirit the next day. The main Hiroshima newspaper reported the FAS appeal with small pictures of four signers (Bethe, Morrison, Seaborg and York). And another newspaper helpfully ad-libbed a quote that our

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The Federation of American Scientists (FAS), founded October 31, 1945 as the Federation of Atomic Scientists by Manhattan Project scientists, engages in research and advocacy on science-and-society issues, especially global security.

Current war and peace issues range from nuclear war to ethnic conflict and from nuclear disarmament to arms sales; sustainable development issues include disease surveillance, climate modification, poverty, food security and environment. FAS also works on human rights of scientists and on reductions in secrecy.

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PROJECT CUSP and the FAS STATE OF PLAY

While maintaining its primary focus on war and peace issues, especially nuclear ones, FAS is expanding its approach to global security issues through Project Cusp. Administered by FAS's president, Cusp locates committed specialists in relevant fields of interest and facilitates their work, which often includes a specialized publication.

Previous issues of the *Public Interest Report* have introduced projects in agricultural biotechnology, applied biodiversity and U.S. drug policy. In this issue FAS presents three more:

The Role of Experts in Public Policy headed by David Guston of Rutgers University; The Activities of International Health Organizations headed by George Silver of Yale University; and Systemic Risk in Banking and Finance headed by George C. Kaufman of Loyola University, Chicago.

Meanwhile, FAS arms control projects are at full throttle. Led by Princeton Professor Frank von Hippel, FAS is running projects on safeguarding and controlling production of fissile material and fighting attempts to turn the Comprehensive Test Ban into a threshold test ban. John Pike spearheads a Military Analysis

Network and directs the Advanced Technology Non-proliferation Project. Steven Aftergood continues his Government Secrecy Project and works with John Pike on the Intelligence Reform Project.

Lora Lumpe is pioneering new areas of the conventional weapons trade through the Arms Sales Monitoring Project. Barbara Rosenberg directs the Biological and Toxin Weapons Working Group from SUNY-Purchase.

Stephen S. Morse chairs FAS's Program To Monitor Emerging Diseases from Rockefeller University. Dorothy Preslar is the Washington ProMED Officer.

Jeremy J. Stone is developing a project on the Iran-Iraq arms race and, in collaboration with the World Bank, is planning a remarkable conference on climate change in early December.

FAS is growing in strength and scope. It is also acting as a Pied Piper of communications technology, leading Washington-based defense and security policy NGOs into the promised land of modern communications. In a subsequent newsletter John Pike will describe his work on the Cyberstrategy Project and in establishing the FAS webpage to chronicle all FAS projects and make their materials readily available. ■

Science Advice to Local, State, Federal Governments

Truth&Power (T&P) is a new bulletin, published by FAS, on the role of experts in public policy. The first issue of T&P, mailed without charge in May to some 500 recipients in the US and seven other countries, examined the proposal to eliminate the Office of Technology Assessment of the US Congress.

In addition to its print distribution, T&P is also available on the World Wide Web through the FAS home page. Future issues will deal with such timely topics in the politics of expertise as providing scientific and technical advice to state legislatures; the impact of downsizing the federal government on the government's advisory apparatus; and the role of the public in technical decision making.

The title of the newsletter borrows self-consciously from two sources. The first is the familiar aphorism of "speaking truth to power" as the legitimate and obligatory role of the expert. The second is an unfortunately more obscure source, the work of the late Don K. Price—public servant, Harvard political scientist and founding dean of the Kennedy School of Government. Price wrote about the "spectrum from truth to power" as a way of understanding the relationship between scientists and politicians, mediated by professional groups and administration. By

naming the newsletter Truth&Power, I want to evoke both of these sources and suggest that the exposure of power to analysis and empirical investigation is vital to maintaining public control and accountability over its exercise.

But by naming the newsletter Truth&Power, as opposed to Truth-ToPower, for example,

I wish to suggest that, in practice, truth and power are not so neatly separable, that they often run together in an apparently seamless relationship such that one often appears as the other. This appearance could be legitimate, as in the power inherent in the representation of scientific opinion to political decision makers; or it could be illegitimate, as in the masquerade of technocracy.



Guston

Truth&Power recognizes the two possibilities and aspires to explore them in the variety of policy making venues at the federal and state levels.

Budget Cuts Impact Established Panels

Exploration of the role of experts in policy making is a pressing need in a current political dialogue that is reconsidering the nature of American government in some fundamental ways. Efforts to reduce the federal budget deficit have led members of Congress to propose the elimination of a number of elements in the apparatus that brings expert advice to the government: the budget-cutting rationale has put in limbo the congressional Office of Technology Assessment (OTA) and the president's Council of Economic Advisors, to name just two examples. Many research and analytical programs within regulatory agencies are threatened by the budget axe as well.

Accountability Must Be Preserved

The relationship between budget politics and technical expertise is, however, more subtle and elusive than simply cutting to save money. Legislation to require formal cost-benefit analyses for all federal regulations could insert a whole new layer into an already multi-tiered regulatory process and create a cadre of experts whose decisions—even though incorporating non-scientific considerations—might be effectively insulated from political accountability. The devolution of federal responsibilities onto the states brings with it the potential need for greater technical competence at the state level. In general, the demand for a leaner, more efficient, and more responsive government can increase the need for expert analysis; at the same time it can threaten both the government's capacity to provide such analysis and the accountability of decisions informed by that analysis.

Why, you might ask, do we need the government to create and fund public institutions to provide such expert advice when the world is full of analysis and information?

It is precisely because of the vast quantities of analysis and information that public institutions for expert advice are important. The marketplace of information is glutted with products, to be sure. But there are no easy measures of the quality of those products, and the rewards can therefore fall to those producers of popular, or well-financed, analysis rather than to meritorious analysis.

Two decades ago, Joel Primack and Frank von Hippel argued for a "public interest science" motivated by scientific professional societies and citizens themselves. This public interest science, untainted by political fealties, would battle many of the abuses of expert advice perpetrated by both the givers and receivers. In addition, Primack and von Hippel greeted new public institutions such as OTA with

great hopes and expectations. With the imminent demise of OTA and superfluity of ideologically charged analysis in the marketplace of ideas, the goal of public interest science is still far off.

Truth&Power views the provision of analysis and information, with appropriate safeguards, as an essential role of good government. The more public expertise there is, the more different interests have a chance to comment, criticize and contribute, the greater are the demands on its quality. This is not to say that private advice should not be given to decision makers: That would be a certain route to the failure of leadership. But it is to say that the framing, the study and the interpretation that inform the whisper of truth in the ear of power should have definitive public components.

Goals of Project

Truth&Power will examine the role of experts in public policy, not to silence their whispers nor to make them audible, but rather to help ensure that the expertise has been constructed in a legitimate fashion and that its conjunction with decision making corrupts neither party.

To subscribe to Truth&Power free of charge, please write to Professor David H. Guston, Editor, Truth&Power, Eagleton Institute of Politics, Rutgers University, New Brunswick, NJ 08901. To find Truth&Power at the FAS Web Site, go to:

<http://www.fas.org/pub/gen/fas/truth.html>

—David H. Guston



Staff Additions

In recent months FAS has welcomed four new employees.

Marcus Corbin, a seasoned defense budget analyst formerly with the Center for Defense Information, is doing the staff work on the Military Analysis Network. The Network, announced in the November/December 1994 *Public Interest Report*, links a number of Washington-based policy groups in an effort to reduce defense spending.

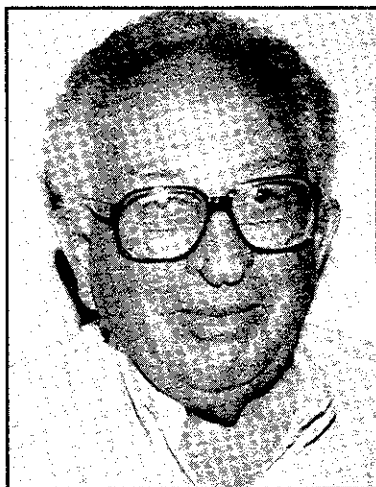
Michael Panetta, a graduate of American University, and Alison Ames, a graduate of the University of Maryland, joined the staff in late February. Bringing some valuable communications skills at a crucial time, Mike became the FAS "Web Meister" after a mere few weeks on the job. Alison, who had previous office management experience, has applied her know-how to help make FAS run more smoothly.

Charles P. Vick, a widely regarded illustrator of Soviet space systems who formerly served as a consultant to the Space Policy Project, joined the project staff in January.



International Health Organizations: FAS Policy Watch

FAS has established an International Health Organizations Policy Watch to review health security issues much as other FAS projects concern themselves with various aspects of global security. IHOPW will note and offer commentaries on international agencies which pursue a health agenda—WHO, UNICEF, The World Bank, Food and Agriculture Organization (FAO), among others—identifying general and special interests and policies,



Silver

considering ongoing programs as well as alternate suggested approaches.

The international agencies now in the field are carrying out important and necessary health objectives. These collaborative endeavors deserve to be applauded and assisted. The project intends to watch and comment in a helpful way. This effort is as selfish as it is

altruistic. We will benefit in global security, through prevention of disease and the improvement of medical care world-wide. Self-sufficiency through economic development will benefit us as healthy people are more productive, and as healthy lives facilitate educational competence and foster the emancipation of women. For the achievement of any international goals—economic development, improved status of women, universal literacy—advancement of world health standards is a basic requirement.

The emergence of new or formerly unrecognized epidemic diseases is a current, visible and highly charged example of global interdependence. But the global marketplace is also dependent on world health. The potential economic and political repercussions of health policies necessitate attention to the activities and structure of the international organizations charged with international health responsibilities.

Under the circumstances, the efficient, purposeful and cooperative behavior of WHO, UNICEF, The World Bank, the health assistance programs of wealthy donor nations, and the health activities of international organizations with more political goals calls for objective expert scrutiny. FAS recognizes that "Healthkeeping" in international circles is fraught with problems of internal domestic and external international -intrastate and interstate-

rivalries; that it can be misconstrued, or misused even, as "Peacekeeping" is. To this end the operations, programs and policies of "Healthkeeping" merit monitoring.

These topics are to be subjects of attention in a soon to be published quarterly newsletter.

Politics in The Health Arena

Experience with international agencies over the past 50 years suggests that, on occasion, a bureaucratic focus has displaced humanitarian goals; that political pressures may preempt logical decisions; that foreign policies of either donor or client states, or both, may distort or even delete health policies, as foreign ministries override health considerations; and that even etiological theories and public health priorities may be recast for "reasons of state".

More recently, the backstage competition for appointment of a Director-General for WHO, in which interstate challenges, and rumors of purchase of alliances for votes, as well as corrupt offers and tenders of bribes were heard, imply that examination of internal politics in that organization may be long overdue. Somewhat similar evidence of politics brushing aside professional concerns has been noted in leadership appointments elsewhere. The matter of internal politics in international health organizations, however, is intended to be a focus, but not *the* focus for the IHOPW Newsletter.

We aim to be neither unfriendly critics nor uncritical friends, but a commentary of useful information—about health policy and program success or failure; about heroes and heroines of bureaucratic stress; offering news of the politics and politicians of international health. The Watch group (Ray Elling, Michael Sacks, Milton Roemer and Chair George Silver) welcomes comments, suggestions, information and reports from the FAS membership.

—George A. Silver



FAS Now Needs \$375,000

In response to FAS's 50th Anniversary challenge grant/fundraising drive, the Evenor Armington Fund has made a grant of \$100,000, payable in four equal annual installments. Rank-and-file members have given generously. To meet the anonymous challenge that launched the anniversary funds drive, FAS now needs \$375,000 in gifts or in pledges payable over the next four years.



Systemic Risk in Banking and Finance: Myth or Reality?

The sudden failure of large financial institutions, particularly large commercial banks, or sudden large price declines in financial markets are often viewed with great concern by the public and policy-makers alike. They fear that these shocks may spread in domino fashion, first throughout the remainder of the financial sector and then to the real domestic macroeconomy and possibly even to other countries. That is, severe problems in financial institutions and markets are perceived to cause severe and widespread damage to the national and world economies.

What Is Systemic Risk?

The danger of such cascading effects throughout the economic system is referred to as systemic risk. Its importance has been graphically described by John LaWare, former Governor of the Federal Reserve System, in his May 1991 testimony before the Subcommittee on Economic Stabilization of the House Banking Committee:

"It is systemic risk that failed to be controlled and stopped at the inception that is a nightmare condition, unfair to everybody. The only analogy that I can think of for the failure of a major international institution of great size is a meltdown of a nuclear generating plant like Chernobyl."

"The ramifications of that kind of failure are so broad and happen with such lightning speed that you cannot after the fact control them. It runs the risk of bringing down other banks, corporations, disrupting markets, bringing down investment banks along with it . . . We are talking about the failure that could disrupt the whole system."

Risk Perceived vs. Risk Experienced

Likewise, C. T. Conover, the Comptroller of the Currency at the time of the Continental Illinois Bank (the nation's seventh largest bank) crisis in 1984, argued:

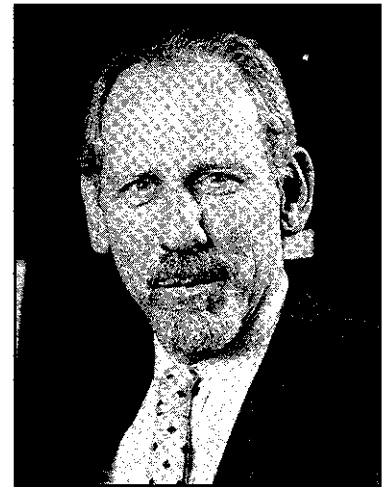
" . . . had Continental failed and been treated in a way in which depositors and creditors were not made whole, we could very well have seen a national, if not an international, financial crisis, the dimensions of which were difficult to imagine. None of us wanted to find out."

Because bank and other financial failures are viewed as more serious than the failure of nonbank financial and nonfinancial firms of comparable size, banks and some financial markets are subjected to more stringent government regulation than are other firms.

Although the perception of severe economic

harm from systemic risk originating in the financial sector is widespread and frequently the subject matter of news stories and novels, the empirical evidence of such harm is less clear. Recent studies cast doubt that bank failures or sudden collapses in financial asset prices have triggered major meltdowns of either the financial sector or the macroeconomy. Rather, the evidence suggests the reverse causation: Financial disruptions have been triggered by problems in the macroeconomy. However, the financial disruptions do exacerbate the macroeconomic difficulties that trigger them. Moreover, in the few instances in which bank failures may have triggered other bank failures, e.g., during the Great Depression of the early 1930s in the United States, the evidence suggests that the major culprit was not the poor functioning of the private sector but mistakes by government policy-makers, e.g., by the Federal Reserve in not providing sufficient reserves to offset those lost by the banks through depositor runs into currency.

In addition, when events in the macroeconomy triggered large numbers of bank failures, e.g., in the 1980s, the severity of the bank problems appear to have been intensified by earlier poor government policies, such as restrictions on bank product and geographic diversification, which increased the fragility of the banking system and its sensitivity to adverse economic shocks, or reductions in the aggregate money supply, which increased the need of banks to sell assets to meet their deposit drains and thereby incur larger fire-sale losses. Indeed, although the bank or financial failures that are perceived to ignite a crisis may appear to be a sudden shock, the evidence suggests that deterioration had been occurring for some time and that the failures were, in effect, accidents waiting to happen.



Kaufman

Role of Policy-makers in Risk

Ironically, although public policy-makers may be an important cause of potential systemic risk, they appear to be the most vocal group reminding the

public of the danger of this risk and the need for policy-makers to remain vigilant. This apparent contradiction most likely reflects their realization that they themselves benefit in terms of power, authority, and prestige by being viewed as major defenders of the economy's well-being.

In the light of the great importance of systemic disturbances to the welfare of national economies and the high likelihood of inappropriate responses by policy-makers that either increase the fragility of the financial sector or increase the severity of any exogenous disturbances, relatively little rigorous research has been undertaken on this subject. The evidence presented is often primarily anecdotal. In particular, it is important:

- to delineate carefully the step-by-step route by which systemic risk or contagion occurs in theory, both within the financial sector and between the financial sector and the domestic and international real macroeconomics;

- to examine the empirical evidence with respect to the frequency of occurrence in developed countries and the severity of any associated economic disruptions;

- to evaluate the effectiveness of policies adopted by public policy-makers to prevent systemic shocks from occurring and to mitigate them once they have occurred, as well as those policies that may contribute to increasing the fragility of the banking and financial systems so that adverse shocks are more likely to have large adverse effects and to spill over to other institutions; and

- to compute the probabilities of systemic shocks in the future and estimate the magnitude of any expected economic losses.

—George C. Kaufman

Election Results

University of Delaware Education Professor Linda Gottfredson, Princeton Professor Daniel Kammen and Director of the Princeton Center for Energy and Environmental Studies Robert Socolow were elected to the National Council in June. They replace Barry (Mike) Casper, David Hafemeister and David Singer.

Treasurer Carl Kaysen has become Vice Chairman and Robert Adams will succeed him when Kaysen becomes Chairman. Charles Price has become Treasurer.

Recent additions to the FAS Fund Board are David Armington, Marvin Goldberger, Margaret Spanel, and Herbert York. ■

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effort was "part of a drive for zero nuclear weapons" which its editors realized was necessary to give the Japanese public a correct understanding of our intentions.

The reporters were helped, in their assessment of FAS, by being shown 20-year-old reports of FAS's previous visit to Hiroshima on August 6, 1975. At that time, Stone held a press conference, convened by the city's mayor, to explain FAS's work and, in particular, to float the then-new idea of restricting any president or prime minister from ordering, on his own initiative, the first use of nuclear weapons (i.e. the "no-one-decision-maker" theme which would require Congressional or other acquiescence in such an escalation). In sum, FAS has now, twice, at 20-year intervals, reported to the Japanese public on its continuing efforts to preclude further use of nuclear weapons.

News from ProMED

The FAS project for developing a global system to monitor and respond to emerging diseases (ProMED) has made significant progress in the last year. Boosted by the outbreak of Ebola fever in Zaire, the ProMED Electronic Network on its 1st Anniversary in August had over 2000 direct subscribers in 100 countries. The network, which carries reports from health scientists, public health officers and journalists around the world, is an experimental prototype for sentinel monitoring of disease outbreaks. Digests of the reports are available on the Internet courtesy of Medscape medical publishing house directly at:

<http://www.medscape.com/Home/Medscape-ID/Medscape-ID.html>

A glimpse of what an initial global monitoring and response system might look like can be found in a draft plan that has been circulated to over 300 professionals for comment. A limited number of copies are available to Public Interest Report readers. Contact Dorothy Preslar, Washington ProMED Officer, at FAS.

This FAS project is chaired by FAS Sponsor Stephen S. Morse of Rockefeller University and assisted by FAS Council Member Barbara Hatch Rosenberg, who is also promoting ProMED as a mechanism to fulfill obligations imposed by Article X of the Biological and Toxin Weapons Convention for technological exchange and cooperation between States Parties. ■



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Bethe

As the Director of the Theoretical Division at Los Alamos, I participated at the most senior level in the World War II Manhattan Project that produced the first atomic weapons.

Now, at age 88, I am one of the few remaining such senior persons alive. Looking back at the half-century since that time, I feel the most intense relief that these weapons have not been used since World War II, mixed with the horror that tens of thousands of such weapons have been built since that time — one hundred times more than any of us at Los Alamos could ever have imagined.

Today we are rightly in an era of disarmament and dismantlement of nuclear weapons. But in some countries nuclear weapons development still continues. Whether and when the various Nations of the world can agree to stop this is uncertain. But individual scientists can still influence this process by withholding their skills.

Accordingly, I call on all scientists in all countries to cease and desist from work creating, developing, improving and manufacturing further nuclear weapons — and, for that matter, other weapons of potential mass destruction such as chemical and biological weapons.

Hans A. Bethe

Hans A. Bethe

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