JOSEPH MEIERS, M. D.
601 WEST 115TH STREET
NEW YORK, N. Y. 10025

TELEPHONE 212 - 749-7700

February 14, 1981

Jerome Grossman, Director the Council for a Livable World
11 Beacon Street
Boston, Massachusetts

Dear Mr. Grossman:

Thank you very much, indeed, for remembering me and sending me the invitation for the Council for aLivable World event in Washington. I regret very much being unable to attend, for present health reasons; I regret this all themore as it was some twenty years ago that an informal meeting took place in our living room where Leo Szilard took steps to prepare the foundation of what then became the Council for a Livable World -- of which Mrs. Meiers and I became earliest supporters.

I hope it will be possible, if you wish, to communicate to you and the Council members some more details of those early beginnings.

It would be most agreeable if you would find an opportunity to communicate this letter to those attending this February gathering in Washington, which is dedicated to commemorating an anniversary and to firmly preparing for a strenuous work in the future.

With our best regards to you, your excellent staff, and to those participants of the meeting who might, perhaps, remember me, I am

Yours faithfully,

Joseph Meiers

Joseph Meiers

In this tragic age of nuclear weaponry and energy production the most critical philanthropic endeavor is to stop the madness this country started. This madness makes conventional philanthropy merely soporific - for donors and beneficiaries alike.

Unless there is an awakening of moral responsibility toward the life process among nuclear coteries - in this country and in those that followed us into this suicidal/genocidal course out of fear and/or national pride in the ability of their "experts" to match wits - there is no hope for a future.

The litany: "for defense - to save a favored political system or banish whatever despised system is on the current list - to bring progress and jobs with energy" masks what has become adventurism, careerism and protection of investment. So titillating is the manipulation of the awesome force of fission or fusion, conscience is abrogated. Early and continuing warnings of the horrendous consequences of this addiction to the technology were, and still are, brushed aside by the perpetuators with the result that...

> Every government nurturing nuclear weaponry and/or energy production is waging radionuclide war against its own population, all populations, all living things and the environment - the war that starts with the mining of uranium and the unleashing of radioactive particles as the most insidious, unmanageable and long-lastingly lethal weaponry ever devised. By sheer luck. this war may not culminate in destruction of all or great regions of the world by accident, error, malfunction or confrontation of adversaries, but the sickening, killing and genetic damage will go on...a tyrannical legacy for future generations. There is no attention-grabbing quick body count in this war.

It is the litany that enabled and enables tax extraction to finance this ongoing war and the artifacts that can end it and the world. The tax extraction weakens the political, economic and social structures of the world as these monies, talents and resources are criminally wasted, the needs of the people only partially met in the developed as well as the undeveloped, struggling nations.

To strengthen the increasing call for a stop to this madness, it must be backed up with Economic Conversion - to cushion the transition to constructive endeavors-as the "pocketbook" route to moral conversion of the perpetuators. The bills for Conversion are waiting in Congress. This country must take the initiative to undo the harm we brought to the world. Please help.

Sincerely,

(Mrs.) Leone Hayes
5416 Candlelight Drive
La Jolla, Ca. 92037

Feb 25, 1981

PSR NEWSLETTER

PHYSICIANS FOR SOCIAL RESPONSIBILITY, INC.

Volume 1
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P.O. Box 144
56 N. Beacon Street
Watertown, Massachusetts
02172

THE MX MISSILE: A FIRST STRIKE WEAPON

Speaking at the May meeting of PSR/Boston, Jonathan King, Professor at the Massachusetts Institute of Technology, charged that the U.S. Air Force intends to deploy the MX missile system to give the U.S. the capacity to inflict a preemptive first strike against the Soviet Union. Such a step, he reasoned, would only prompt the Soviets to do the same, and so put the globe on a path of hair-trigger instability.

As he recounted a history of the Russian-American arms race, he pointed out that for thirty years the policy of the U.S. was called Mutually Assured Destruction, or MAD, based on the assumption that if the Soviets launched a nuclear attack, the U.S. would be able to retaliate with total destruction of the enemy. Like two scorpions in a bottle, each would deter the other from a deadly attack, for fear of receiving the same itself.

But, with the development of the MX missile, deterrence appears to be replaced in the current Carter administration with a willingness to use nuclear weapons first. The MX missile has been designed to deliver its load within 100 meters of its intended destination. Such

(Continued on page 4)

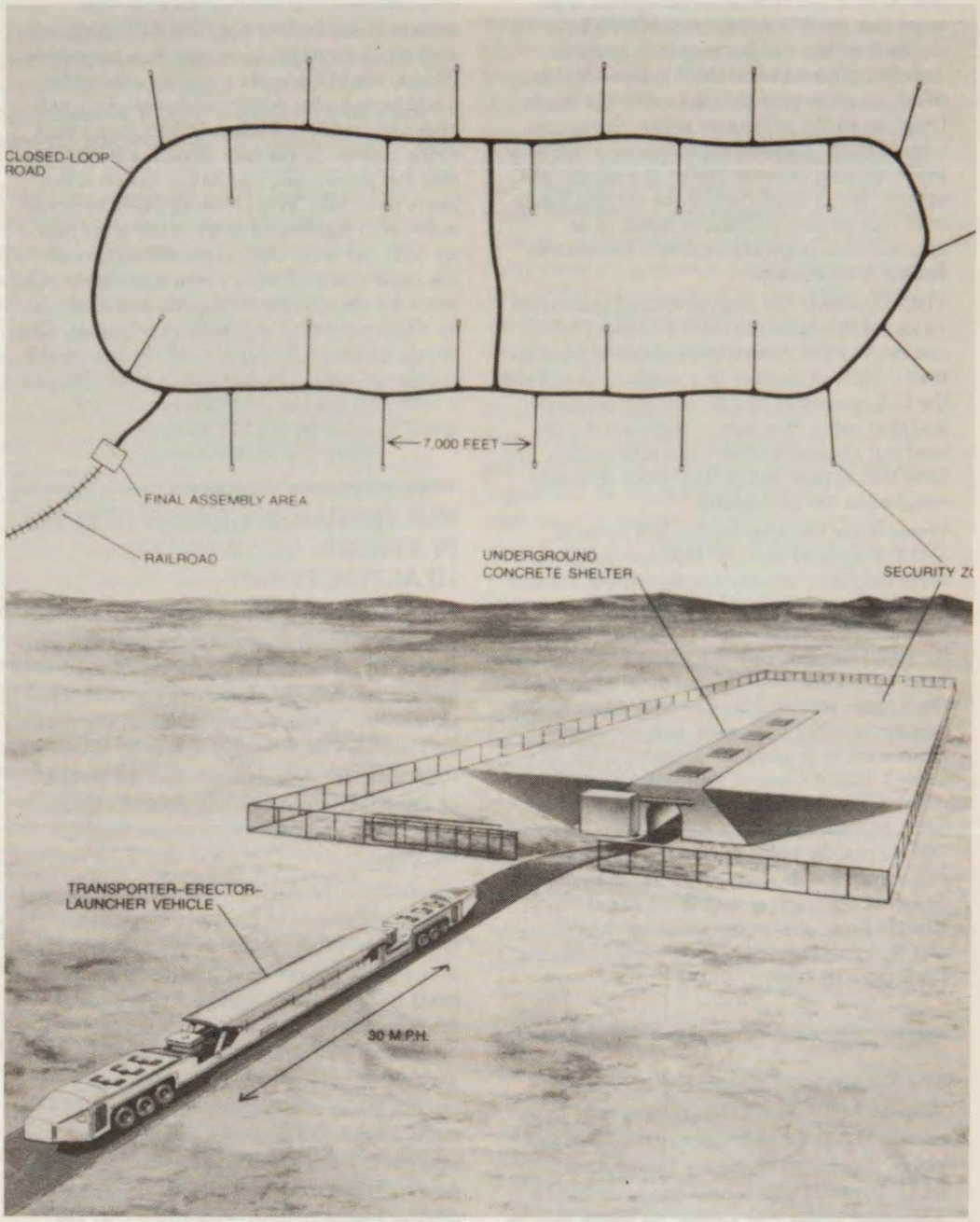

FIGURE 1: *MOBILE BASING SCHEME OF THE MX MISSILE.* From "Land-based Intercontinental Ballistic Missiles," by Bernard T. Feld and Kosta Tsipis. Copyright 1979 by Scientific American, Inc. All rights reserved.

CARTER, BREZHNEV RESPOND TO DANGER—NUCLEAR WAR LETTER *(See Page 4)*

EDITORIAL

The Air Force Versus the Public

In the name of national defense, the United States is poised to embark on an engineering project that will dwarf the Great Pyramid of Giza, cost between $31 and 100 billion dollars, and transform the Great Basin desert of Nevada and Utah into a labyrinth of roads, rails, and missiles. According to Air Force Brigadier General August Hecker, "This is man's biggest project."

When the MX missile was first proposed to the people of Nevada and Utah, their reaction was to trust the Federal government's argument that the MX missile would be a boon to the local economy. But as public hearings unveiled more of what the Air Force had in mind, an erosion of public confidence began to set in, to the point now where the governors of both Utah and Nevada and a majority of the citizens of those States oppose the MX system. Not a small part of the coming battle over that project will be the rights of an aroused local populace against a formidable Federal bureaucracy.

The MX missile has been proposed to counter an untestable notion, that the Soviet Union can destroy the American land-based Minuteman system of missiles in a single stroke. That the U.S. possesses 10,000 strategic weapons, and that more than half of them are not on land but aboard bombers and submarines, are facts that appear not to have been seriously weighed in the MX debate.

Worse is the fact that for the MX to work, SALT II must be ratified. Without SALT II, there would be no way to prevent the Soviets from defeating the MX by building enough missiles, as weapons expert Carson Mark put it, "to hit the gopher everywhere he sticks his head out of the ground." But such a move by the Soviets would almost certainly touch off a new cycle in the arms race, and encourage the Americans to expand the system indefinitely. Indeed, Major General Kelly Burke, staff member for Air Force research and development, told Congress recently, "With this system we can dig holes to whatever level of confidence lets us sleep easy." By changing the design of the track system from ellipses to straight lines, as was proposed by the Pentagon in April, holes could conceivably be dug from coast to coast.

Current estimates of land use range from 175 to 14,400 square miles. Water, always a precious resource in a desert community, would be consumed in unprecedented quantities. Despite the fact that most of Nevada's ground water, as well as the Columbia River, has already been allocated for civilian use, there is a growing fear that the Federal government may claim the water in the name of national defense. This is a prospect that may chill the blood of the most patriotic rancher.

The question is whether the MX legitimately contributes to the national defense. The answer is that it does not. The MX, despite its shell game strategy, is nevertheless targetable. Worse, the MX sets the stage for a potential 4,600 armed silos which, with superior guidance and multiple warheads, becomes a first strike system. In the face of such a threat, history has shown that the Soviet Union is not likely to sit idle. What is more likely to occur is the most significant spurt in the arms race we have yet seen. But no growth curve can rise indefinitely. This is a lesson understood as much by the citizens of Nevada and Utah as by the most august academy of scientists. One hopes the lesson is shared with the rest of the country as well. The message is as obvious as it is urgent: the United States should not spend a nickel on the MX missile.

Henry David Abraham, M.D.

The Newsletter of Physicians for Social Responsibility, Inc., is issued quarterly to its members and the public for educational purposes. It is edited by Henry David Abraham, M.D. Inquiries and contributions should be addressed to the PSR Office, 56 North Beacon Street, Watertown, MA 02172, 617-924-3468. The deadline for contributions to Volume I, No. 4 is September 28.

PSR TESTIMONY PRESENTED TO PLATFORM COMMITTEE, HEALTH GROUPS

Physicians for Social Responsibility, in conjunction with the Campaign for Safe Energy, presented medical data on the health effects of nuclear technology recently to the Platform Committee of the National Democratic Party on June 13. PSR President Caldicott reviewed for the benefit of the Committee the dangers of radiation-linked cancers, genetic alterations, and the proliferation of nuclear weapons.

Response to the day of testimony was particularly gratifying. The Platform Committee emerged with one of the most comprehensive anti-nuclear planks of any national political body to date. The Committee called for a moratorium on new nuclear plants until recommendations of the Kemeny Commission are enacted; a commitment to deal with nuclear waste as a "highest priority;" and a commitment to make conservation and renewable energy a national priority for the future. There was also a position to retire nuclear plants in an orderly manner as alternatives become available.

In parallel developments, Kathy Ryan of PSR/Boston and Tom Winters, M.D., of PSR/Central Massachusetts, testified before the American Public Health Association and the Massachusetts Public Health Association on the medical aspects of nuclear technology. The A.P.H.A. Governing Council in November passed a resolution calling for a halt to the construction of nuclear plants until 1) there was a complete review of the health effects of nuclear radiation, plant licensing, operating, and construction practices; 2) the problem of waste disposal had been solved; and 3) a safe working environment could be guaranteed. The resolution ended with a call for more government support for conservation and development of safe renewable sources of energy.

The M.P.H.A. at its annual meeting in April of this year adopted an even stronger position. In addition to a moratorium on new construction of nuclear power plants, the group called for a moratorium on the construction of new weapons facilities; independent monitoring of radiation exposure; a new review of exposure standards; assumption by government and industry of the liability to workers for radiation linked illness; and an insistence that government and industry educate workers and the public about radiation dangers. Other measures included: the development of decommissioning plans for all nuclear facilities; retraining and/or compensation for all nuclear workers displaced as nuclear technology is phased out; allocation of funds from nuclear weapons and power towards renewable energy resources; and an active government role in subsidizing conservation and safe energy.

The A.P.H.A. in Detroit on October 22, 1980 is planning a special session on the issue as well. The program is called "Nuclear Power, Safety, and Health." Speakers include Dr. Winters and Mr. Anthony Mazzocchi, Director of the Health and Safety Division of the United Chemical and Atomic Workers Union, who will speak on worker safety and health, as well as Barry Commoner, Director of the Center for Biology of Natural Systems, Washington University, St. Louis.

— Tom Winters, M.D.

EXECUTIVE DIRECTOR'S UPDATE

PSR is booming. In the past six months, our membership has more than doubled — to about 1600, the number of chapters has tripled, and our activities have expanded faster than we could have expected. In this regular column, I'll keep you up to date on what we've done and what's coming up.

Chapter Outreach. The list of members organizing as PSR chapters is large and growing:

Arkansas; California Bay Area; Connecticut; Colorado; Washington, D.C.; Iowa; Maine; Maryland; Boston and Central Massachusetts; Minnesota; Mississippi; Missouri; New Hampshire; New Mexico; Albany, Buffalo, New York City, Rochester, and Syracuse, New York; North Carolina; Ohio; Ontario; Oregon; Philadelphia and Pittsburgh, Pennsylvania; Rhode Island; Vermont; Washington; Wisconsin; and Wyoming. We've started a Chapter Committee to keep track of all this activity, offer the chapters the help they need, and tap the chapters' talents. The first of the Committee's projects has been to write and distribute a survey of the chapters to figure out who they are and what we can offer them. The Committee is now working on a chapter organizing pamphlet using information from the survey responses, and has recently distributed a resource guide to the chapters. Many of National PSR's projects (speakers' training, symposia, literature distribution) have been planned with the chapters in mind. If you are interested in working with a chapter or would like to start one, please write to the Chapter Committee at the national office.

National Symposia Series. The big news is that our extremely successful symposia on the Medical Consequences of Nuclear Weapons and Nuclear War (held in Cambridge, Massachusetts on February 9 and 10, and Washington, D.C. on April 27) will be having offspring. PSR has obtained a grant to hold more symposia around the country, beginning with one in New York City on September 27 and 28, and another in San Francisco on November 17 and 18. The Council for a Livable World Education Fund will co-sponsor these symposia, along with local chapters and schools of medicine. Symposia administrator Mary Lord will coordinate the series along with President Helen Caldicott and myself. If you missed the February symposium but would like to hear the highlights, we now have two-hour tapes edited by National Public Radio station WGBH available from PSR at $10 each. We're still working on videotapes and a book of symposium transcripts.

Speakers' Training and Placement. In keeping with our commitment to speak out about the medical consequences of nuclear technology, PSR has now trained over 200 members as speakers in sessions held in Boston, Washington, D.C., and New York City. These seminars, presented by Dr. Katherine Kahn and others, are so much in demand that we are now applying for funding to produce a speakers' training videotape that can be shown around the country. Currently, we're placing an average of ten members a week to speak at government hearings, grand rounds, rallies, workshops, commencements, conventions, and other meetings. We hope that chapters will soon be placing speakers in their areas. For more speaker information, contact Carol Belding, mornings, at the national office.

Educational Materials. In the last six months, we've tripled the number of books, pamphlets, posters, packets, slide shows, and A/V materials that we distribute. These materials, however, are not enough to answer the hundreds of specific technical questions that we get from the press, medical community, governments, workers, and radiation victims. We can now answer only a small percentage of this barrage. Can you help? If you are willing and able to answer technical questions in any area related to nuclear technology or radiation, please write to Abe Claude of the Technical Committee at the national office.

National Office. With five full and two part-time employees, twenty volunteers, all of the above projects and more, we are a busy and growing organization. I urge you to continue your support of PSR with your time, funds, and expertise.

— Wayne T. Jaquith, Esq.

A CASE REPORT

In the interests of stimulating discussion about the role of low-dose radiation in the epidemiology of cancer, the Newsletter will occasionally print a case report drawn from clinical experience or research. As with the case that follows, no conclusions can be drawn from an isolated instance, but scrutiny of such cases may lead to more thoughtful examination of what we see in our clinical practice and may, in turn, help us formulate epidemiological questions more accurately and appropriately.

C.T. is a 62-year-old woman who presented to a university hospital Oncology Department with a chief complaint of phantom pain in her right leg.

Her present illness appears to have begun approximately fifty years before, when, as a young child, she became beguiled by seeing the bones of her feet using the fluoroscope of her neighborhood shoe store. The machine, then used to help the clerk judge the shoe's fit, was easily operable by the child by inserting her feet into a port and pressing a button for as long as she liked. This she took to be a game, and often while walking past the shoe store, would run into the store and irradiate her feet, to the chagrin of the merchant. This game was played a large but uncounted number of times.

She was well until 1975. At that time she developed a burning pain in her right foot. In 1976 a soft tissue mass the size of a golf ball was noted on the medial side of the right ankle. At surgery the pathological diagnosis was of a high grade leiomyosarcoma, an exceedingly rare malignancy of smooth muscle. (The State of Massachusetts reported the diagnosis of 150 soft tissue sarcomas per year in a population of 5.7 million persons, but figures for the smooth muscle subtype are not available.) Bone and CAT scans were negative.

Treatment included resection of the mass, section of the posterior tibial nerve, 5400 rads of radiotherapy to the right foot, and the administration of adriamycin, cytoxan, and DTIC. But in 1977 the patient suffered a pathological fracture of the right ankle. Because closed reduction was not feasible, and because radiotherapy had prolonged any potential bone healing time, a right below-the-knee amputation was performed. She continued to receive chemotherapy for a total of nine cycles, until November, 1977, when on restaging her disease, no pathology was found, and the chemotherapy was discontinued.

Then, in 1979 she presented with phantom limb pain in her right leg severe enough to interfere with sleep and daily activity. A physical examination found a woman in no acute distress, and was unremarkable except for a well-healed scar below the right knee at the site of her amputation. It was noted that her prosthesis was ill fitting, and this was corrected. Her prognosis is not known.

— Katherine Kahn, M.D.

MAINE TO VOTE ON BANNING NUCLEAR POWER

The State of Maine plans a referendum in September that seeks to close the Maine Yankee Atomic Power Plant in Wiscasset. Arthur Lerman of the Greater Portland Nuclear Referendum Committee called the 80,000 signatures requesting such a vote the largest number ever submitted in the State's history. If the referendum is successful on September 23, it will mark the first time in the U.S. that such a plant was closed by the electorate.

Spokesperson for Maine Yankee, Don Vigue, described the referendum as "a serious threat," though he felt the plant has a "good chance to defeat it." The plant has suffered a number of unpredicted shutdowns since its inception in 1972. In 1979 a spillage of radioactive water in the auxiliary building of the 850 megawatt reactor was caused by a faulty valve, but

(Continued on page 7)

MX MISSILE *(Continued from Page One)*

accuracy is not necessary for deterrence, since a city or industrial complex can be leveled by bombs dropped or delivered within several miles of target. But the accuracy of the MX missile is required if the targets are small reinforced silos holding enemy missiles.

Figure 1 shows the basing scheme of the MX system. Two hundred MX missiles are planned to be shunted about 4600 protective shelters in a design aimed at confusing the Soviets in any first strike against the U.S. The MX missile would be larger than the current Minuteman missile, more accurate, and have more warheads. Each 100 ton missile would be carried on a flatcar which itself weighs three hundred tons, and shunted from garage to garage along a labyrinth of spur roads at 30 miles per hour. The system has already been approved by Congress, and is scheduled to be built on federal lands in Nevada and Utah. Cost estimates range from 31 to 100 billion dollars.

King criticized the project at several points. The MX is designed under the assumption that SALT II, which sets a limit on the number of missiles that either side could build, would be passed. But the future of SALT II is doubtful. If it is not ratified, the U.S.S.R. would simply be able to build enough missiles to target every garage.

If, King observed, SALT II were ratified, a different problem — that of verifiability — would emerge. According to the Treaty, each nation must be able to determine the number of missiles the other has by "national technical means," i.e., by its own technology. With the MX in place, verifiability, as defined by SALT II, would become dependent on the good will of the host country. The Air Force says that it would permit the Soviets to verify SALT II compliance by periodically opening MX garages. But what if the Chief of Staff or next President change their minds?

Finally, King challenged the necessity of a system of so-called invulnerable land-based missiles. American (and Soviet) nuclear launchers are distributed among three basing modes — land-based silos, submarines, and aircraft — on the theory that if one leg failed, the other two would still prevail (see Figure 2). Only 25% of American weapons are land based. One Trident submarine, only 2% of our existing nuclear force, could destroy all major population and industrial centers in the Soviet Union. Thus, invulnerable land-based missiles are not needed for deterrence. They are needed, however, if the United States plans on using nuclear weapons first.

— E. J. Graff

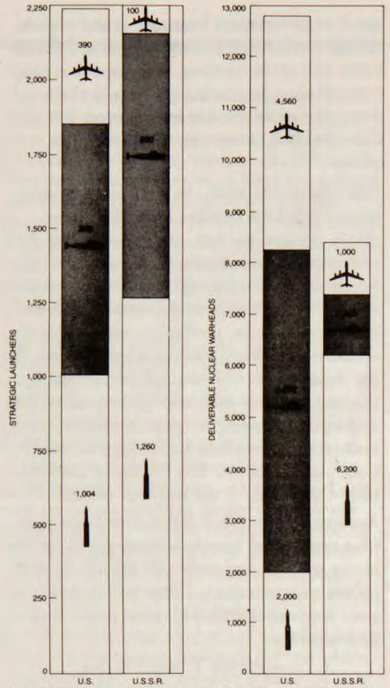

FIGURE 2: *PROJECTED STRATEGIC FORCES OF THE U.S. AND THE U.S.S.R. IN 1985.* From "Land-based Intercontinental Ballistic Missiles," by Bernard T. Feld and Kosta Tsipis. Copyright 1979 by Scientific American, Inc. All rights reserved.

NATIONAL COMMITTEES FORMED

PSR is in the process of forming the following fifteen national committees. All PSR members are invited to join these committees. Much of the organizational and educational work of PSR will be conducted through these committees, which are:

- Technical
- Fundraising
- Press
- Direct mail
- Speaker training and placement
- Newsletter
- Personnel
- Symposia
- Chapter
- Public policy
- International
- Outreach to medical organizations
- Outreach to non-medical organizations
- Labor
- Annual meeting planning

If you are interested in working with any of these committees, please contact PSR Executive Director, P.O. Box 144, Watertown, MA 02172.

DANGER-NUCLEAR WAR

To President Carter and Chairman Brezhnev:

As physicians, scientists, and concerned citizens, alarmed by an international political climate that increasingly presents nuclear war as a "rational" possibility, we are impelled to renew a warning, based on medical and scientific analyses, that:

1. Nuclear war, even a "limited" one, would result in death, injury and disease on a scale that has no precedent in the history of human existence;
2. Medical "disaster planning" for a nuclear war is meaningless. There is no possible effective medical response. Most hospitals would be destroyed, most medical personnel dead or injured, most supplies unavailable. Most "survivors" would die;
3. There is no effective civil defense. The blast, thermal and radiation effects would kill even those in shelters, and the fallout would reach those who had been evacuated;
4. Recovery from nuclear war would be impossible. The economic, ecologic and social fabric on which human life depends would be destroyed in the U.S., the U.S.S.R., and much of the rest of the world;
5. In sum, there can be no winners in a nuclear war. Worldwide fallout would contaminate much of the globe for generations and atmospheric effects would severely damage all living things.

Therefore, in the interests of protecting human life, we appeal to you to:

1. Defuse the current tensions between our countries.
2. Ban the use of all nuclear weapons.
3. Recognize the threat posed by the very existence of our enormous nuclear arsenals, and begin dismantling them.

We urge you to meet with us to discuss the medical consequences of nuclear war. We urge all physicians in the U.S.S.R. to join us in this appeal.

The preceding letter was sent to President Carter and Chairman Brezhnev by prominent American physicians at the conclusion of the symposium on the Medical Consequences of Nuclear Weapons and Nuclear War organized by Physicians for Social Responsibility at the Harvard Science Center on February 9 and 10, 1980. The letter resulted in meetings by some signatories at the White House, the Soviet Embassy, and the Kremlin. The letter prompted a sympathetic response from prominent Soviet physicians. In addition, the letters received these personal responses from President Carter and Chairman Brezhnev.

CARTER, BREZHNEV RESPOND:

To Physicians for Social Responsibility:
Your statement on the danger of nuclear war is a grim reminder of the almost incalculable price the world would pay in the event of nuclear conflagration. By describing so forcefully the terrible human costs of nuclear catastrophe, you have made a valuable contribution to its prevention.

The task of preventing nuclear war is the responsibility of all the nations of the earth. But it is a special challenge to the wisdom and statesmanship of the two nuclear superpowers, the United States and the Soviet Union. In a period of heightened tensions, it is all the more important to have reliable constraints on the competition in strategic nuclear arms. Equitable and verifiable limitations and reductions in nuclear arsenals are crucial — not only to the national security policy of the United States, but also to the peace and stability of the world. Our efforts to stop the proliferation of nuclear weapons are crucial as well. Again, I welcome your service to the cause of nuclear sanity and to public understanding of this vital subject.

Jimmy Carter

To the American Scientists, sponsors of the statement "Danger-Nuclear War:"
Esteemed ladies and gentlemen, I have studied your statement "Danger-Nuclear War" and I fully share your concern as scientists for the fate of mankind in connection with the danger of nuclear war. Since the time when the atomic energy was first used for military purposes the Soviet Union consistently stands for banning these and all other types of weapons of mass destruction and annihilation.

The US scientists can substantially contribute to the explanation of disastrous consequences for mankind of a nuclear conflict between the USA and the USSR which would inevitably assume a global scale. Such explanation will further strengthen the will and activity of those who come out for stopping the arms race, for maintaining normal relations between all the countries including, of course, the USA and the USSR.

You may rest assured that your humane and noble activities aimed at preventing nuclear war will met with understanding and support in the Soviet Union.

With best wishes of success, L. Brezhnev

BOOK REVIEW

The Counterforce Syndrome, by Robert C. Aldridge, Institute for Policy Studies, Washington, D.C., 1979. Available through Physicians for Social Responsibility, #B-02, $3.95.

This small volume marshals a prodigious argument against the notion that the United States lags behind the Soviet Union in the development of nuclear arms. The author, Robert Aldridge, knows his subject well. Born in 1926, he served in the Pacific in World War II, and worked as an aeronautical engineer for Lockheed in missile design until 1973, when he concluded that his work on the Trident submarine was leading the U.S. into a first-strike posture against the Soviets, at which time he resigned.

He sets out five elements needed for a first-strike capability: 1) space warfare to destroy enemy satellites and their early warning systems; 2) accurate missiles to strike an enemy's silos; 3) anti-submarine warfare; 4) domestic missile defenses; and 5) an elaborate system of command and control. The idea is as chilling as it is clear: a nation must be able to destroy in one knockout blow another nation's entire nuclear deterrent system. This force against force, i.e., this counterforce, is where the U.S. appears to be heading.

Counterforce is his explanation of why the U.S. has 9,000 strategic nuclear weapons, when Robert McNamara twenty years before concluded that for a deterrent to be effective, the U.S. needed a scant 200 such weapons. And counterforce is his explanation of why the U.S. now plans to develop Missile-X, the Tomahawk Cruise, and the Trident submarine. Compounding that threat is the deployment of MIRVs, or multiple independent re-entry vehicles, which Aldridge describes as follows:

> ". . . Several are attached to the front section of the missle, which is called the 'bus'. They are then covered with the missile nose cone. When the last rocket motor burns out and separates, the nose cone is ejected. What remains is the bus, which goes through the long coast phase, dropping off its lethal passenger for impact at different destinations."

For deterrence, accuracy is irrelevant: but for counterforce, it is crucial. It is for this reason, Aldridge believes, the MARV, or maneuverable re-entry vehicle, is being developed.

Much of the book is devoted to advances in electronics in the tasks of intelligence, communication, and anti-weapons systems. He raises a provocative issue, when he cites a former defense official as saying:

> "Computers are extremely important . . . No human mind can enter the real time decision making loop and control the system. It has to be pre-programmed with logic so the computer can make the decision and run the game."

The Constitutional safeguard of civilian control over the military appears unchanged, but who controls the computers? Three times in seven months computers in the North American Air Defense Command erroneously resulted in SAC bombers being readied for nuclear attacks against the Soviet Union. War was within minutes of being waged without the knowledge of the President or the assent of the Congress. Technology had surpassed for those moments our capacity to govern ourselves.

The Soviet Union, however, has also been accused of moving towards a first-strike capacity. George Kistiakowsky, former Chief of the Explosives Division of the Manhattan Project, argues such a view. But Thomas Karras, spokesperson for the Center for Defense Information, disagrees: the vulnerability of Minuteman silos is an untested assumption; U.S. submarines are essentially non-targetable; and the U.S. leads the Soviet Union in satellite technology.

One may argue that Aldridge's position is based largely on systems that exist only on the drawing boards of the Pentagon. Yet he is a man who has labored long over such drawing boards. The implication of his argument is compelling: the only defense a nation has against a first-strike threat is to get its own missiles out of the ground first, unless each nation can avoid falling into a first-strike posture in the first place. Deterrence may be a balance of terror, but counterforce is terror with all balance cast to the winds. This is the point in our history to which Aldridge's argument brings us. *The Counterforce Syndrome* is mandatory reading for anyone who seeks to comprehend and help shape this delicate time.

— Mitchel Kling

HELP IS SOUGHT FOR PSR INTERNATIONAL EFFORT

Physicians for Social Responsibility has launched an effort to encourage physicians in Europe to speak out against the medical implications of nuclear weapons proliferation and nuclear war. It is hoped that notices similar to the PSR publication in the March 2, 1980 *New York Times* would be generated for the European press. Any persons in contact with European colleagues are asked to let the International Committee know about them, so that they may be included in future correspondence. For more information please write E. Martin Schotz, M.D., at the National Office.

PHYSICIANS FOR SOCIAL RESPONSIBILITY, INC.

P.O. Box 144, 56 North Beacon St., Watertown, Massachusetts 02172

November 17, 1980

Dear Friend:

Thank you for attending our symposium on the medical consequences of nuclear war. As a result of this experience, you may want to join Physicians for Social Responsibility and help us in our national effort to educate the American public about this impending medical disaster.

At this time we have a membership of 2,000 physicians, dentists and medical students. Our current educational program includes:

1. Organizing 5 more national symposia on nuclear war over the next 12 months.

2. Increasing our chapter membership. We now have 35 chapters throughout the country.

3. Maintaining a national office, library and resource center with a full-time staff.

4. Operating a speakers placement bureau and a national speakers training program.

As a national organization we are primarily concerned with the medical consequences of nuclear war, and as a logical corollary, the health effects of the nuclear fuel chain.

Non-physicians may join as associate members. Enclosed is a membership form. We invite you to become a member of Physicians for Social Responsibility and to support this urgent work with a tax-deductible contribution.

You will also find our newsletter in this packet and a list of educational materials available from PSR, which you may find useful.

We will be pleased to work with you in the future on these medical problems.

Yours sincerely,

Helen Caldicott

Helen Caldicott, M.B., B.S.
President

HC:cp
Enclosures

NOTES FROM THE CHAPTERS

PSR/Albuquerque, N.M.

Dr. Ted Davis reports the chapter is working toward a reduction of permissible radon levels in uranium mines. They also plan a study of birth defects in conjunction with the March of Dimes.

PSR/Boston, MA

Dr. Tom Graboys reports the chapter will present a fall lecture series on "Nuclear Weapons and Methods of Disarmament" at 7:30 p.m. in Lecture Hall G-I, Harvard School of Public Health with the following speakers:

September 8 — **"To be announced"**
October 6 — Dr. Bernard Feld
November 3 — Randall Forsberg
December 1 — Dr. Everett Mendelsohn

PSR/Boston is now our largest chapter with 260 members. On August 9 the chapter held a fundraiser at the Cape Code Melody Tent with Joel Gray and Marvin Hamlisch.

PSR/California Bay Area

In addition to its investigation of the Livermore Weapons Lab (see page 3), the chapter is working with Diablo Conversion Campaign to promote a feasibility study of converting the San Luis Obispo nuclear facility to non-nuclear fuel. The plant is only two and a half miles from a fault which the U.S. Geological Survey believes capable of generating an earthquake ten times more powerful than its structure was designed to withstand.

PSR/Bay Area hosted the Heidelberg Radioecology Group and arranged meetings for them with the California Bureau of Radiological Health, the State Energy Commission, the Office of Emergency Services, the California San Francisco Medical Center, and the Lawrence Berkeley Laboratory.

Arrangements have been made for Dr. Susan Lambert to see patients with suspected radiation-induced disease by appointment at the Occupational Health Clinic at San Francisco General Hospital. She can be reached at 415-821-8492.

A PSR symposium on the Medical Consequences of Nuclear Weapons and Nuclear War co-sponsored by the University of California School of Medicine will be held November 17 and 18 at Herbst Theatre, at the War Memorial.

PSR/Central Mass.

Drs. Tom Winter and Katherine Kahn report that the chapter has completed a monthly film series and a direct mailing to local physicians. The chapter is undertaking an investigation of the transportation of radionuclides through Central Mass. with the hope of minimizing the public's exposure and an investigation of X-ray exposure of different age groups.

PSR/Columbus, Ohio

In conjunction with the local American Medical Students Association and the Central Ohio Safe Energy Committee, the chapter has been organizing responses to pro-nuclear power advertisements by the Committee for Energy Awareness. Under the federal fairness doctrine, television and radio stations are obliged to air both sides of an issue of public concern. PSR/Columbus has succeeded in obtaining 30 radio spots on four stations that have run pro-nuclear ads and anticipates obtaining many more. For more information write Susan Montauk, Ohio State University College of Medicine, Box 624, 370 W. 9th Avenue, Columbus, OH 43210.

PSR/Madison, WI

This newly formed chapter held its first official meeting in May. The chapter was formed by medical students who learned of PSR at the American Medical Student Association convention in Philadelphia last March. The chapter plans to mobilize physicians in northern Wisconsin to testify on the medical effects of uranium exploration and radioactive waste storage.

PSR/New York City

The chapter hosted a speakers training program on June 15. They have spent the summer working with National/PSR to plan a symposium on the Medical Consequences of Nuclear Weapons and Nuclear War to be held September 27 and 28 at Hunter College Auditorium, 695 Park Avenue. Anyone who would like to stay with a PSR member in NYC during the symposium should contact Jon Rothblatt, Albert Einstein College of Medicine, 1300 Morris Park Avenue, U11423, Bronx, NY 10461, 212-430-2046. PSR/NYC will begin a monthly program for its general membership in October. Planning for a November symposium on the Indian Point Nuclear Power Plant has already begun.

PSR/Philadelphia, PA

The chapter sponsored a lecture on July 30 by Barbara Steinhibler-Schwab, one of the scientists who worked on the "Heidelberg Study." This study is a detailed examination of the radioecological effects of operating nuclear power plants. In the next year PSR/Philadelphia plans to focus on the medical consequences of the Three Mile Island and Limerick nuclear power plants.

PSR/Pittsburgh, PA

The chapter completed a direct mailing to area physicians in May. They hosted a lecture entitled "Some Public Health Lessons from Three Mile Island" on June 9 by Dr. Gordon MacLeod who was head of the Pennsylvania Public Health Department at the time of the accident.

PSR/Portland, OR

Dr. Karen Steingart reports that a petition is being circulated calling for the Oregon Energy Facility Siting Council (EFSC) to immediately revoke the siting certificate for the Trojan nuclear power plant until:

1. Open hearings are held to hear testimony regarding the danger of Trojan's continued operation in light of Mt. St. Helens' active state;
2. Emergency planning is reassessed to include problems arising from the volcano's activity;
3. Trojan's routine emissions can be re-evaluated due to possible increase in background radiation from radioactive gases being released by the volcano; and
4. The question of damage to Trojan's cooling system from volcanic ash is resolved.

The siting certificate was based on the assumption that Mt. St. Helens is a dormant volcano. At least 50 doctors have signed the petition.

PSR/Rochester Finger Lakes Area, NY

A group of doctors who were involved with Rochester Physicians for Safe Energy have decided to become a PSR chapter. They are planning a major meeting on nuclear waste in September. Contact Dr. Robert McLellan, 10 Menlow Place, Rochester, NY 14620 for details.

PSR/Seattle, WA

Dr. Ken Lans reports that a referendum banning nuclear waste transport is on the fall ballot. The chapter hopes to hold a conference on the medical effects of nuclear waste and to develop a pamphlet on the subject for public and professional education. PSR President Dr. Helen Caldicott will be in Seattle on September 11 to give medical grand rounds at University Hospital at 8 a.m. and pediatric grand rounds at Children's Orthopedic Hospital at 9:05 a.m. She will meet with PSR/Seattle on September 8. Contact Dr. Judy Lipton, 3844 43rd Avenue, NE, Seattle, WA 98105 for details.

PSR/Toronto, Ontario

Dr. Frank Sommers reports that PSR/Toronto sponsored an exhibition of photos taken after the bombing of Hiroshima and Nagasaki at Toronto City Hall from August 5-8. Dr. Sommers addressed a nationally televised memorial service held on August 6 as part of Hiroshima/Nagasaki Memorial Week. Dr. Helen Caldicott will address the College of Family Physicians at 3:30 p.m. on October 1 at the Inn on the Park and participate in other PSR/Toronto activities. Contact Dr. Frank Sommers, Suite 406, 360 Bloor Street West, Toronto, ONT M5S IXI for details.

PSR/Washington, D.C.
Bruce Trigg reports that the chapter has organized a steering committee of five to manage their affairs. PSR members who were trained at the April 27 speakers training session are taking turns in filling requests for speakers. The chapter which consists primarily of medical students is actively seeking to involve more senior physicians from the Washington area. Contact Dr. Mary Coleman, 2525 Belmont Road, Washington, D.C. 20008.

BOARD OF DIRECTORS MEET

PSR's Board of Directors held a well-attended business meeting on Saturday, July 12 at the home of Dr. Helen Caldicott. Each region of the country was represented. The Directors received Executive Committee, Financial, Fundraising, Medical Symposia, and Chapter Reports.

There was an extended discussion of several proposals to relax PSR's member qualifications and change its corporate name. A vast majority of directors felt that we should retain the name, Physicians for Social Responsibility. The discussion revealed that many directors favored retaining the current membership standards while some favored opening full voting membership to non-physician health care workers. The Directors asked the By-Law Committee to come up with concrete proposals on membership qualifications for a decision by the Board of Directors and the full membership.

Another important policy discussion revolved around the relative emphasis PSR's program should place on the medical consequences of nuclear war v. health effects of the nuclear fuel chain. A consensus developed that while both issues are important and interrelated, the nuclear war problem was most significant. PSR will retain its current balance in the treatment of these issues.

On behalf of the Executive Committee, Executive Director Wayne Jaquith presented a detailed one-year plan for PSR. It emphasized the identification, development, and dissemination of PSR's medical expertise and the expansion of our membership and resource base. The Directors adopted the plan unanimously and authorized the establishment of fourteen national committees to implement it.

The Directors also established a seven-member committee with representatives of each part of the country to propose new by-laws for PSR and an open committee to plan for an annual meeting of the membership for late 1980.

Dr. Sidney Alexander was unanimously voted a director and the Treasurer of PSR. Dr. Alexander has substantial experience in fundraising for the Lahey Clinic and was the original PSR Treasurer at the time of its formation and incorporation.

The Directors granted formal chapter status to PSR/Des Moines, Iowa; PSR/Madison, Wisconsin; and PSR/Rochester Finger Lakes Area.

PSR ILLUMINES DANGER OF WEAPONS LAB

PSR/California Bay Area has become involved in the ongoing public controversy surrounding the operations of the Lawrence Livermore Nuclear Weapons Laboratory. Run by the University of California for the Department of Energy, the agency which produces nuclear weapons, the Lab's proximity to the densely populated San Francisco Bay Area is causing concern for public health. Active earthquake faults run near the Lab, raising fears about the potential for a nuclear catastrophe in the event of a major seismic disturbance. Great quantities of nuclear material are kept in the Lab. In January two large earthquakes rocked the Livermore Valley, damaging a 30,000 gallon tank of tritiated water and causing cracks to appear in the walls of the building, which houses almost a quarter ton of plutonium. Then, in April, two plutonium leaks occurred within a fortnight due to unexplained failures of the ventilation system. According to news reports, the Lab claims that "only several hundredths of a gram" of plutonium were released within the confines of the building. It is known, of course, that microgram quantities of this substance can induce pulmonary and bone cancers. Thus, several hundredths of a gram represent the potential for several thousand neoplasms. Furthermore, metallic plutonium may oxidize spontaneously in air, forming micron-size particles of plutonium dioxide which behave as a gas, passing through high efficiency particulate air (HEPA) filters into the general environment.

In May, the California Department of Health Services released a report showing that Lab employees had a five-fold greater rate of malignant melanoma compared to controls. The Joint Legislative Audit Committee of the California Legislature submitted the report to a panel of experts from across the US, all of whom concurred with the findings, while alluding to the generally accepted assumption that melanoma was associated only with solar ultraviolet and not with ionizing radiation. When the DOE convened its own panel at the Lab, lead by Dr. Arthur Upton, formerly of the National Cancer Institute, PSR members presented half a dozen papers from the medical and health physics literature linking melanoma with ionizing radiation. Dr. Carl Johnson of the University of Colorado Medical School and Director of the Jefferson County, Colorado Health Department, was flown in by PSR. He presented his findings on plutonium contamination of the Denver metropolitan area and cancer rates resulting from the operations of the Rocky Flats weapons milling facility, which resembles Livermore Labs in some operations. The DOE panel concluded that the increased cancers could possibly be due to radiation.

While the melanoma rates were being reported, a group of parents in Livermore informed Friends of the Earth in San Francisco that there were four known cases of Ewing's sarcoma in Livermore children during the past four years. Investigation by PSR revealed that this is eighty times the expected rate. The NCI found only 26 in a similar period in a survey of seven metropolitan areas and two states comprising a population sample representing 10% of the US. (Young, J.L. and Miller, R.W. "Incidence of Malignant Tumors in the US Children," *Journal of Pediatrics*, February, 1975, pp. 254-258.)

Pending verification of these cases by the State Tumor Registry, there may be clear evidence to warrant conducting a full epidemiological survey of cancer and genetic malformation incidences in the Livermore area. Given the possibility of both onsite and offsite releases of plutonium and other poisonous radioisotopes, a careful and meaningful survey of respirable surface dust concentrations seems mandatory. And given the demonstrated capacity for seismic surprises, consideration must be given to removing altogether the most hazardous substances from this populous and fertile region.

— Peter Joseph, M.D.

MAINE TO VOTE

(Continued from page 3)

according to Vigue, resulted in "no overexposure of radiation to the population."

An effort to defeat the referendum has been mounted by a campaign organization, Save Maine Yankee, chaired by John Menario. The effort employs a staff of seven, and is directing mail appeals. A spokesperson for the organization did not know the size of the organization's budget, though the work is being funded by a variety of sources, some of which have been obtained from out of state.

The law, if adopted, would "prohibit the generation of electric power by means of nuclear fission."

MEMBERSHIP INVITATION

Name _____

Office Address _____

_____

Office Phone ( ) _____

Home Address _____

_____

Home Phone ( ) _____

Affiliation _____

Title _____

I prefer to receive mail at ☐ office ☐ home address

	MC	OC	DS
SC	☐☐	13	☐☐

	MMDDYY		AP	USE
ND	☐☐☐☐☐☐	A	☐☐	☐☐

Annual Dues

I wish to become a member of PSR in the following category:

$30/year ..... ☐ Practicing Physician
☐ Dentist

$15/year ..... ☐ House Staff

$ 5/year ..... ☐ Medical Students
☐ Dental Students
☐ Student Associate Members

$20/year ..... ☐ Associate Members

$ _____ ☐ Additional Contribution

Send this application and your tax-deductible check to:
PSR, P.O. Box 144, 56 N. Beacon St., Watertown, MA 02172
Phone: (617) 924-3468

Physicians for Social Responsibility, Inc.
P.O. Box 144
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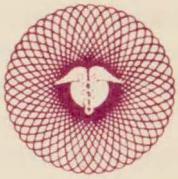
The Physician and Nuclear Power

Questions & Answers



Commonly Asked Questions About Nuclear Power

Q. Are nuclear power plants safe?

A. From a medical point of view, no. Due to large accidents, or smaller planned or unplanned releases, radioactive effluents enter the air and water. These effluents may contain isotopes that concentrate in the bones, muscles, thyroid, and other organs. These isotopes can cause cancers, leukemias, and genetic diseases.

Q. Are the effects of these radioactive releases immediate?

A. Not always. It may take many years for the isotopes to circulate through the food chain. Leukemias would not appear for at least five more years, other cancers may not appear for 15 to 30 years, and latent genetic damage might only become manifest generations later.

Q. Can't nuclear wastes be stored safely?

A. No. The average nuclear plant produces thirty-three metric tons of radioactive waste annually, including 500 pounds of plutonium. Some are **highly** toxic materials that must be isolated from human beings for many hundreds of thousands of years. That is 20 to 200 times the duration of recorded history. A study by the U.S. Environmental Protection Agency has said that there is no evidence that the integrity of high-level waste storage cannisters can be guaranteed for longer than a decade.

Q. Isn't nuclear waste just a problem for those living near a dump?

A. No. It's a problem for all of us. Radioactive wastes have already leaked into the environment in San Francisco Bay; Maxey Flats, Kentucky; Hanford, Washington; Rocky Flats, Colorado; and West Valley, New York, among others. Radioactive isotopes have been found in rivers and oceans miles away from the leaks concentrated in fish, plants, and soil. Airborne isotopes can travel hundreds of miles to contaminate the air we breathe. Other isotopes can be absorbed in and travel around the world in the food we eat.

Q. How can doctors argue against nuclear power, when they use X-rays?

A. The use of X-rays in medicine is different from the radiation exposure to the public from nuclear power plants. A medical X-ray should be given to an individual after a careful assessment of its risks and benefits. The gonads are shielded. The dose is minimized. The beam is directed with precision. No one else is exposed, and the clinician constantly seeks alternative diagnostic tools. By contrast, a nuclear plant releases radiation indiscriminately—affecting children, pregnant women, and other living things. Also, X-rays do not remain toxic for thousands of years, nor do they concentrate in the environment, like the products of nuclear fission.

Q. But, don't we need nuclear power to solve the energy crisis?

A. Not in the slightest. Nuclear power only provides 13% of America's electricity and only 3% of our total energy. This contribution to our energy supply could be easily replaced by alternatives.

Q. What are the alternatives to nuclear power?

A. There are many. A five year study undertaken at the Harvard Business School concluded that America could cut its energy consumption by fifty percent through conservation and renewable technologies. Another study by the American Institute of Architects found that energy efficient buildings could save more energy than nuclear power generates. Ways to tap energy from the sun, wind, rivers, and biomass, and from increased efficiency in transportation, industry, and other areas already exist. But the capital and other resources needed to speed their implementation are now tied up in nuclear energy.

Q. But what about the investment we've already made in nuclear power?

A. Indeed, the country has spent billions of dollars to build these nuclear lemons, and there are those who want us to spend even more. But like any investment that goes bad, it is a lot wiser to cut our losses while we can, rather than pour good money after bad. Nuclear power, besides being bad medicine, is bad business.

Q. Isn't nuclear power an example of the peaceful use of the atom?

A. No. Nuclear power plants generate plutonium. Over twenty countries have thus gained access to the material for nuclear bombs, and the number of countries making such bombs is growing. Terrorists may fashion nuclear weapons using readily available technology and threaten entire cities. Authorities have discovered no way of preventing this and enough plutonium to make dozens of weapons is already "unaccounted for" at nuclear facilities.

"The splitting of the atom has changed everything save our mode of thinking, and thus we drift towards unparalleled catastrophe . . ."

– Albert Einstein

A Call To Medical Responsibility

Physicians for Social Responsibility, Inc., is a non-profit organization committed to public and professional education on the medical hazards of nuclear technology. We invite you to join us in this urgent task. For more information write today:

Physicians for Social Responsibility, Inc.
P.O. Box 144
56 N. Beacon Street
Watertown, MA 02172
(617) 924-3468

PHYSICIANS FOR SOCIAL RESPONSIBILITY, INC.
MEMBERSHIP APPLICATION

(Please print clearly)

Name _____

Office Address _____

_____

Office Phone ( ) _____

Home Address _____

_____

Home Phone ( ) _____

Affiliation _____

Title _____

I prefer to receive mail at ☐ office ☐ home address

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FOR OFFICE USE ONLY: SC M C ☐☐ O C ☐☐ D S ☐☐ M M D D Y Y ☐☐☐☐☐☐ A ☐ A P ☐☐ USE ☐☐

ND ☐☐☐☐☐☐ A ☐ ☐☐ ☐☐

To combat the menace of nuclear war

Council for a Livable World

11 Beacon Street
Boston, Mass. 02108
Phone: (617) 742-9395

GEORGE KISTIAKOWSKY
Chairman

JEROME GROSSMAN
President

HARRIET M. AVERY
Director

100 Maryland Avenue, N.E.
Washington, D.C. 20002
Phone: (202) 543-4100

JOHN ISAACS
Legislative Director

CLW - BOARD LUNCH MEETING 1/22/81

Present: Feld, Fisher, Fox, Grossman, Kistiakowsky, Meselson, Rathjens, Sharp, Tarlow, Avery

1. A Mormon statement warning against nuclear war has appeared in the Church News. Rathjens will attempt to insert it in the Congressional Quarterly via Garn or Hatch. Also, efforts will be made to instigate and provide speakers for an informational program on disarmament in Salt Lake City under church auspices.

2. Cash position:

In Bank	$32,016
Owed	1,536
Balance	$30,480

3. February 18 - Professor Franklyn Holzman will lead seminars for senators and senatorial staffs on the CIA's estimates of Soviet military spending.

4. February 18 - Reception for seven victorious senators backed by Council will take place in S 207 Capitol from 5 to 6:30 PM. All board members and their friends are urged to attend. No charge.

5. CLW and John Isaacs will hold a party honoring John Culver for his arms control efforts on 1/28/81, at John's house.

6. Other seminars for senators being considered:

   ABM - Rathjens
   - Ruina
   - Tsipis
   Chemical Warfare - Meselson
   ASW - Garwin
   NATO vs Warsaw Pact - A.M. Cox

7. Direct mail prospecting program under way including lists from:
   UCS
   Fund for Peace
   FAS
   Sen. Sarbanes
   Sen. Levin
   Sen. Cranston
   Rep. Frank
   Bulletin of the Atomic Scientists

8. In the light of the lack of cooperation of Harvard librarians for the proposed bookshelf of arms control volumes to have been collected and contributed by Kistiakowsky, the idea has been abandoned. Plans for developing an undergraduate course

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on arms control, similar to one at MIT, are to be developed by Kistiakowsky and Meselson.

9. The board will next meet on 26 February, Thursday, 12:30, at Harvard Faculty Club. This is a change in previously announced date.

Future meetings (* = change): 19 March
23 April*
21 May

COUNCIL FOR A LIVABLE WORLD EDUCATION FUND

11 Beacon Street, Boston, Massachusetts 02108
Phone: (617) 742-9395

CLWEF - LUNCH MEETING 1/22/81

Present: Grossman, Kistiakowsky, Sharp, Tarlow, Avery

1. The Seattle Symposium is set for April 18 at the sponsor University of Washington Medical School. Council speakers will be Feld, Lee, Galbraith, Frank, Fisher, Grossman. We are arranging a party for present and potential Council supporters on April 17.

2. Eisenhower ad and pamphlet. The ad appeared in the New York Times on January 18 but has attracted only 71 responses and $245. We have 25,000 pamphlets which we are distributing in various ways.

3. Cash position:

In bank	$63,384
Owed	140
Balance	$63,244

4. Dr. Gertrud Szilard has agreed to serve on the CLWEF board to which she has been elected by CLWEF directors in mail ballot.

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BREAK THE SILENCE!

Nancy Harjan, Helen Hildreth, Anne Stein, Dr. Henry Mayer and Isobel Cerney, from our branch, attended some or all of the notable sessions at the Veterans Memorial Building in San Francisco Nov. 17 & 18 presented by the Council for a Livable World and Physicians for Social Responsibility. Among over 1,000 people present were several hundred public health students, taking the course for credit, viewing documentary films, charts, slides, and experiencing the courage and calm of the physicians detailing how and why THE MEDICAL CONSEQUENCES OF NUCLEAR WEAPONS AND NUCLEAR WAR make any plans, even for a "limited" nuclear war, out of bounds for sane, caring people. In the balcony were dozens of young Third World people on scholarships, gaining public health credits from both Stanford and UC. Sydney Drell of SLAC gave an outstanding speech. Over 500 physicians attended.

Similar conferences, held earlier this year at Harvard and in New York City, received wide coverage. Dean Hiatt of Harvard's School of Public Health and the Dean of UC's School of Public Health both pledged that their curricula will give priority to developing informed, concerned opposition to the nuclear arms race. They said there can be no adequate medical response to the firestorm and radiation, genetic damage, disruption of all life-support, transportation and communication systems (including the deaths of most doctors and nurses). Prevention of a nuclear war is the only solution.

The best papers from this conference, and those at Harvard and in New York, will appear in the April-May-June issues of the Bulletin of Atomic Scientists. Nancy Harjan has tapes of all the lectures. Santa Cruz has video-tapes. Plans are being made to get these stirring presentations into audio-visual departments of public schools and community colleges.

Dr. Helen Caldicott, President of PSR, conferred with leading Soviet physicians and scientists on her round the world trip to organize concerned physicians for an international conference being planned (probably in San Francisco for 1982). Ten million readers of "Pravda" found front-page coverage detailing the concerns of Physicians for Social Responsibility and their support among Soviet physicians and public figures. On her return home, $20,000 had to be raised to get this message in an ad in the *New York Times*.

Nobel prizewinner, Owen Chamberlin, told us he believes "the MIRV-ing of nuclear weapons has poisoned all work for disarmament. You will see: we shall have to invite Soviet

BREAK THE SILENCE - continued

experts here to examine our weapons and their multiple war-heads, and we shall have, then, to go there to do the same. Then we can return to the execellent proposals, made both by the USSR and by the USA, in 1962."

Rear Admiral Gene LaRoque, on HOW A NUCLEAR WAR MIGHT START; Seymour Melman, on ECONOMIC IMPACT OF PREPARING FOR NUCLEAR WAR; Pultizer prize-winner Dr. John Mack, Harvard Professor of Psychiatry, on PSYCHOLOGICAL EFFECTS OF THE NUCLEAR ARMS RACE: Herbert Scoville, Jr., former Deputy Director of Research, CIA, on THE PRESENT NUCLEAR DANGER; Sydney Drell, SLAC, on EFFECTS OF NUCLEAR WEAPONS AND NUCLEAR WAR ON CIVILIANS are among the tapes which may well be of special interest to members of our branch. Call Nancy Harjan, 325-2294.

"May our children's children be able to thank us for choosing the path which leads toward life" is the prayer Dr. Hiatt commends to us all.

a meeting, probably in late January, with the two new members of the San Mateo County Board of Supervisors.

Urgently needed are two more workers on our steering committee. Aren't there a couple of WIL'ers out there with a few free hours to help in planning public meetings, to do a little research, or to expand our contacts? Call Blossom Kidwell at 368-7285 or Margaret Stein at 857-9265. The hours are short, the fringe benefits great!

LEARN AND LIVE! - Women's Oral History Project - WILPF interviews

This Winter quarter at Stanford, undergraduates will have an opportunity to take a course in Women's Oral History, which includes as its "action project" interviews of local branch WILPF members.

The course, SWOPSI 104, taught by WIL member Judy Adams and Linda Shaw, starts Wed., Jan. 7, 7 - 10 pm, and will run for 10 weeks (classroom is room 13 in the History Corner, just to the left off Palm Drive, in the main quad). The class will be limited to 15 students, and while preference is given to Stanford students, community members are welcome to participate.

The class sessions will be divided into two parts: first, group discussion of issues of women's history, 1920-80, with guest speakers, films, slide shows; the second part, discussion and practice of oral interview techniques.

Of special need for the workshop are:

1) women who would consent to be interviewed. This would involve filling in a short biographical questionnaire, an initial meeting with the student doing the interview - for example, to talk about the project, their goals - things you'd like to talk about. Your suggestions for resources they might consult (including books), perhaps sharing with them some personal memorabilia (photos, scrapbooks, old issues of *Peace & Freedom*. etc.) PLEASE CONTACT JUDY ADAMS, days (you can leave message) 497-4504; evenings 856-4278 or 494-7750 (leave message) IF YOU'D LIKE TO BE INTERVIEWED. It's a great opportunity to share with younger women!

While we are primarily interested in interviewing older women, whose interests and involvement span a greater period of time, we'd also like to give students the choice of interviewing younger women, men who are WIL'ers, husband and wife, etc.

ADOPT A NEW MEMBER OR AN OLD MEMBER! Of what? WILPF, of course! Some of our new members are shy or unacquainted. Or don't have cars. Please call a member or an acquaintance (in or out of WIL) and offer to take them to our next WIL meeting, Sat., Jan. 10 for Anne Henny. Would be a great beginning!

Weren't you ever the new kid in school - on the block? How wonderful to get a warm smile - a friendly phone call to introduce yourself. Everyone's busy, but this gesture takes only a few moments. Let's do it!

Or, of you need a ride, call Doris Jones, 323-3648, or Marion Wachtel, 493-9521, and one of them will arrange a ride for you.

NEW MEMBERS (add these names to your directory):

- Linda Stille, 2135 Wellesley, Palo Alto 94306 - 493-4049 (h) 796-3137 (w)
- Heather Baird, 483 Forest #3, Palo Alto 94301 - 321-6842

1980
-1962
18

Tell B. Hills Hotel pos conf. — manipulable Students!

Oct 1961: Airlie House c̄ Roger Fisher, strategy of Peace

Nov 14: Date of mimeogr speech 37 pages
"Not to deliver lecture – but participate in a experiment"

1. Nov 17. Harvard Law School Forum
2. " 19. Swarthmore
3. " 29 } Cleveland: Western Res.
30 } Severance Hall
4. Dec 1: Univ. of Chicago

1962

5. Jan 9: Berkeley 18 opp
6 " 10: Stanford: 19
7. " 12 Reed College, Portland
8 " 15 Eugene, Oregon
9 " 18 LA – SANE – Santa Monica Audit. (Appeal for direct contrib $10,25 to Trustees for C. Abol. War
10. Feb 12 Sarah Lawrence

Aim: Rx 25,000, 2% of 10,000 = 200 × 25,000 = 5,000,000
→ 150,000 → 20,000,000/yr

Feb 19, 1962 — Scientist's Committee for a Livable World
" 1000 – 2000 2% pledges expected
↓ Council f. Abol. W.
Lobby " " "

Feb 24: Response to date

Since 1962 100 pledges per week – so far 2500 pledges

ALEXANDER SHAPIRO
5485 55TH ST #8B
SAN DIEGO CA 92115

THANKS FOR NOT SMOKING

Warning on nuclear war

By VIVIAN RAINERI

SAN FRANCISCO—This is World Disarmament Week and hundreds of medical doctors, scientists and other concerned people jammed the War Memorial Veterans Auditorium here to warn President-Elect Reagan that there are no winners in a nuclear war.

The symposium on "The Medical Consequences of Nuclear Weapons and Nuclear War" was organized by Physicians for Social Responsibility (PSR) and the Council for a Livable World.

After two days of detailed and grim testimony by medical and military experts and physicists on the meaninglessness of "disaster planning" for nuclear war—even a so-called "limited one,"—PSR and the council released a letter to the President-Elect appealing for him to:

- •Take steps to reduce tensions between the U.S. and USSR;
- •Temporarily suspend production of nuclear weapons and call upon the Soviet Union to do likewise;
- •Seek agreement with the Soviet Union for permanent cessation of production of nuclear weapons materials;
- •Refrain from further nuclear weapons testing while seeking agreement on a comprehensive nuclear test ban;
- •Resume negotiations for reduction and eventual universal elimination of nuclear weapons stockpiles.

They told Reagan there is an "absolute necessity for a properly informed medical consultant to the President on the medical effects of nuclear war," and expressed alarm at "an international political climate that increasingly presents nuclear war as a 'rational' possibility."

The death, injury and disease that would result from nuclear war, they said, would have "no precedent in the history of human existence."

(Continued on page 12)

PW

SATURDAY, NOVEMBER 22, 1980

Nuclear war confab

(Continued from page 1)

Nor is there any "effective civil defense. The blast, thermal and radiation effects would kill even those in shelters, and the fallout would reach those who had been evacuated.

"Recovery from nuclear war would be impossible. The economic, ecologic and social fabric on which human life depends would be destroyed in the U.S., the USSR, and much of the rest of the world.

"In sum," the physicians' grave warning concluded, "there can be no winners" as "world-wide fallout would contaminate much of the globe for generations and atmospheric effects would severely damage all living things."

A copy of the letter was also to be sent to Soviet President Leonid Brezhnev.

The first day of the symposium (Monday) consisted largely of testimony by some of the nation's most outstanding experts on the acute medical problems and effects of nuclear war. Again and again, it was emphasized there is no cure for the resultant diseases and epidemics.

Dr. Howard H. Hiatt, dean of the Harvard School of Public Health, was only the first of the experts to warn that "prevention is the only solution" and to urge increasing involvement of doctors in an anti-nuclear campaign.

"Many people in high office," he said, "seem unaware of the facts" that there is "no meaningful medical response possible" to nuclear war.

He posed the question of dealing with "tens of thousands" burned in a nuclear test blast when for example San Francisco has only 32 beds for burn patients and Boston has only 24.

Main message of Herbert Scoville, former director for research of the Central Intelligence Agency (CIA) and president of the Arms Control Assn., was that "every day we are getting closer and closer to the situation where nuclear war might actually occur."

Those who say "we can fight a nuclear war, that we can survive, that we can win—those people should be put in an insane asylum," he said to thunderous applause. "But they are not being put there and unfortunately they are the leaders of our country."

While Scovilled included the Soviet Union in his attack, the main thrust was directed at the U.S. "flexing nuclear muscles" in the Mid-East and Persian Gulf regions. Presidential Directive (PD) 59, he warned, is an example of how "sometimes we devise policies after the fact to justify some of President Carter's programs" like the MX missile.

"It is fundamental," he noted, "that we cannot keep a nuclear war limited. We cannot think of winning any kind of nuclear conflict."

The stationing of Pershing-2 cruise missiles in Europe is "very dangerous from the Soviet point of view," he noted. "It is like a sword of Damacles hanging over their heads. We have increased the likelihood that nuclear war will break out."

While SALT II was not perfect, he said, it "did take some important steps to provide a framework for the future."

While Scoville "doubted we are going to hear much" about SALT II in the next four years, he said "we must keep struggling. We and the USSR must start taking unilateral actions," he said "small ones, not disarmament which will not work (is not realistic) at this point. "Deterrence," he said, "is the name of the game."

Stopping the MX "which is a direct threat to Soviet deterrence" was one of his suggestions. "Let us see what reaction we would get from the Soviet Union."

A goal of the U.S., he said, should be "to tone down the arms race. We have got to start steps like this."

Adams
Feld
Fox
Patton
Nesselson
Roger Fisher

5.6.9 - 6.7.5

at least half a dozen
speech
deadline
Thank f. slipping

Write

Pretty Lewis

COUNCIL FOR A LIVABLE WORLD EDUCATION FUND

11 Beacon Street, Boston, Massachusetts 02108
Phone: (617) 742-9395

Council for a Livable World Education Fund (CLWEF) is a non-profit corporation with headquarters in Boston, Massachusetts. Contributions to CLWEF are tax-deductible under Section 501 (c) (3) of the Internal Revenue Code.

Chairman of CLWEF is George Kistiakowsky, Professor Emeritus of Chemistry at Harvard University and Science adviser to presidents Eisenhower, Kennedy, and Johnson. Internationally known scientists and educators serve on the board of directors, and participate in its activities.

While CLWEF was incorporated in January 1980, most of the scientists, through the Council for a Livable World, have been providing United States senators with sophisticated technical and scientific information that helps them make decisions about nuclear arms control and strategic weapons. The Council for a Livable World, founded in 1962 by the late atomic physicist Leo Szilard, was instrumental in passing the Nuclear Test Ban Treaty, halting ABM, banning biological weapons, advancing the SALT process under four presidents, and slowing nuclear proliferation.

CLWEF was formed to educate the public about nuclear weapons and the nuclear arms race as well as the antidote of serious arms control.

CLWEF has joined Physicians for Social Responsibility in organizing a series of nationwide symposia on "The Medical Consequences of Nuclear Weapons and Nuclear War." Eight of the seventeen members of the faculty at the symposium at Hunter College are associated with CLWEF.

A book on the MX has been commissioned by CLWEF for publication early next year. CLWEF will subsidize an inexpensive edition for mass distribution.

CLWEF plans to conduct regional competitions among college students awarding prizes for essays on the nuclear impasse to heighten consciousness on this the key issue of our time.

UC Nuclear Weapons Labs Conversion Project

944 Market Street, Room 508, San Francisco, CA 94102 (415) 982-5578

November 1, 1980

Dear Friends,

How can *anyone* avoid feeling trapped by the nuclear arms race? We are all caught in the middle of an endless arms race that increasingly appears to be leading us to the unthinkable – nuclear war. While the nuclear nations talk of their fond hopes for reducing their nuclear arsenals, they always find some excuse to blame each other for adding new nuclear weapons to their stockpiles.

How can we as average citizens possibly cope with this very difficult, yet most urgent problem of our time? It is easy to numb ourselves to potential nuclear disasters. Who wants to live their life feeling constantly panicked about nuclear annihilation? Besides, what power do we really have to change a problem of such immense proportions?

Deep down, we all know that this situation must change very soon, and that there must be something that we can and should be doing. It's abundantly clear that simply leaving the problem up to our government so far has only made matters worse. So then, what can we really do?

Behind the ominous headlines about new policies for fighting "limited nuclear wars" and the need to build still more sophisticated and expensive nuclear weapons systems, a new hope is emerging. With little publicity, a citizens' movement concerned about the threat of nuclear war has been growing in the last few years that is potentially as powerful as the forces guiding us toward war.

One of the first and most successful groups in the country at challenging the drift toward nuclear war is the U.C. Nuclear Weapons Labs Conversion Project. The people involved in the Labs Conversion Project have translated their deep concern about nuclear weapons and their hope for the future into an ambitious program of education and action aimed at ending the arms race. They are showing us through their persistence and successes that something indeed *CAN* be done to put sanity back on the agenda.

Begun four years ago, the Labs Conversion Project is challenging the two principal mainsprings of the nuclear arms race – the Lawrence Livermore and Los Alamos nuclear weapons laboratories. These nuclear labs, administered by the University of California for the Department of Energy, have researched, designed and tested *every nuclear warhead in the U.S. arsenal.* These labs are more than just technical designers of nuclear weapons; they are strong proponents of a war-oriented defense policy, actively lobbying for weapon systems such as the neutron bomb and against arms reduction treaties like the Comprehensive Test Ban.

Few people were aware of these labs and their powerful role prior to the formation of the Labs Conversion Project. It has attempted to take the debate on the arms race out of the military's cloistered rooms and into public view, demanding accountibility from the University, the laboratories, and the Department of Energy. Its work is having an impact. The Department of Energy admitted in a recent study that the Labs Conversion Project has challenged the laboratories "with particular force."

(over)

Through ongoing research, education and organizing, the Labs Conversion Project has also accomplished the following:

- o Uncovered the great health and environmental hazards the Lawrence Livermore Lab poses to its employees and the surrounding community in the San Francisco Bay area.
- o Mounted the most serious challenge ever to the University of California's operation of the weapons labs, pointing out how U.C. has lent a protective and legitimizing shield to the development of nuclear weapons.
- o Put together a conversion analysis of the Lawrence Livermore Lab, documenting how the lab personnel and resources could be put to better use developing safe, renewable energy sources (and thereby providing true national security).
- o Won a precedent-setting court case, securing the legal right to display disarmament literature at the Lawrence Livermore Lab Visitors Center.

This coming year is a particularly critical one. The labs are gearing up to develop warheads for a number of proposed weapon systems. A series of government studies will be released on environmental hazards at Lawrence Livermore. And the University of California will decide next fall whether to renew its contracts to operate the laboratories.

To meet these challenges during the next year, the Labs Conversion Project has developed an ambitious program. But it can fulfill this only with our financial support.

By supporting the Labs Conversion Project through our contributions, we can develop the power to turn back the threat of nuclear war. By raising our voices individually and collectively, we can make a compelling statement that there is still time to achieve true peace and security.

Please give us as much as you can.

Yours in peace,

George Wald
Nobel Laureate in
Physiology, 1967

Daniel Ellsberg
Former Pentagon
nuclear strategist

David Brower
Chairperson,
Friends of the Earth

A PROJECT OF

Ecumenical Peace Institute
944 Market, Room 509
San Francisco, CA 94102

Berkeley Students for Peace
613 Eshelman Hall
UC Berkeley, CA 94720

War Resisters League/West
85 Carl Street
San Francisco, CA 94117

YES, I want to stop the Arms Race where it Starts.
Here is my contribution to support your work.

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(For tax exempt status, make checks payable to Agape Foundation, earmarked for UCNWLCP.)

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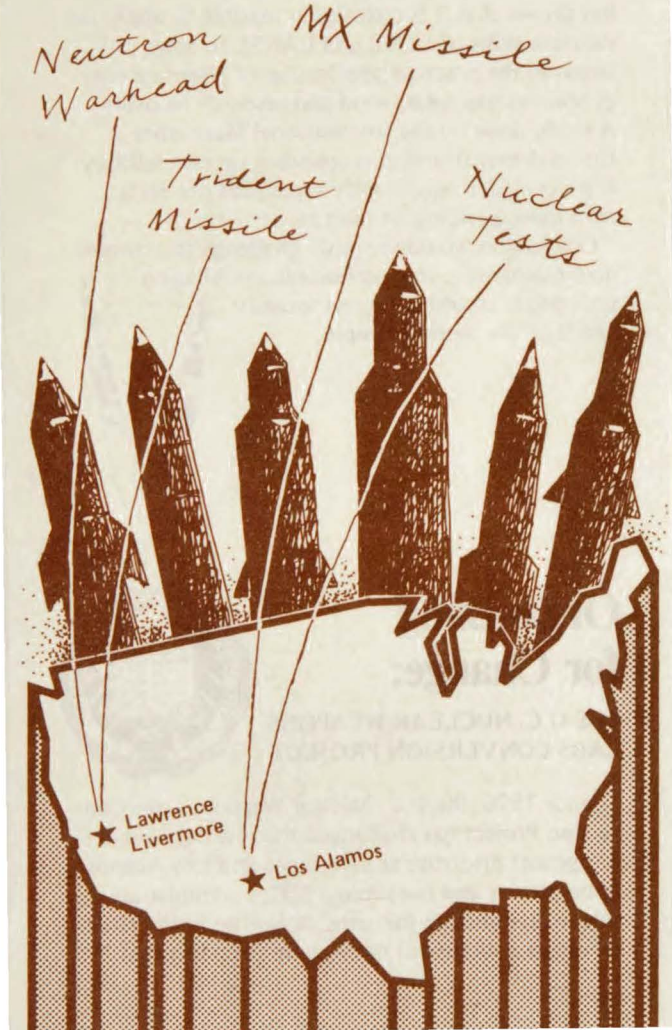
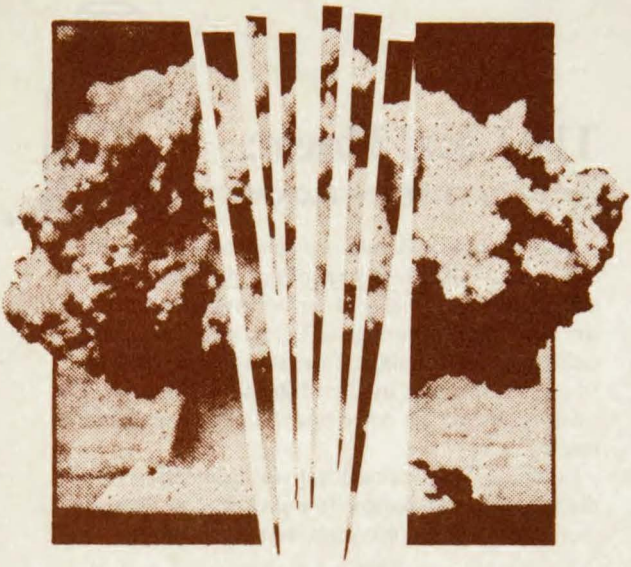
Stop the arms race where it starts.





The Global Threat:

ARMS RACE OR HUMAN RACE?

Since the first atomic bombs were dropped in 1945, the likelihood of a catastrophic nuclear war has steadily increased. In the name of national security, we have stockpiled 31,000 nuclear warheads, enough to kill every Russian 40 times over. We build three new nuclear bombs a day.

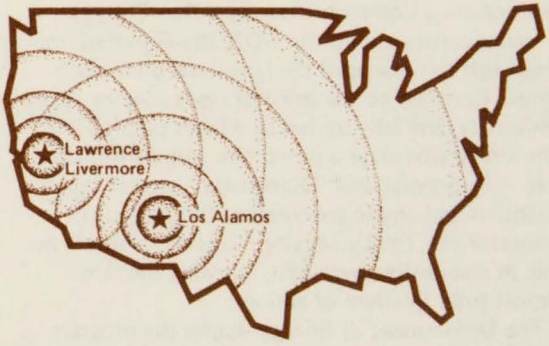
Not content with this overkill capacity, the U.S. is entering a fearful new stage in the arms race. By providing the accuracy for a "first strike capability" and the ability to wage a "limited" nuclear war, the new generation of nuclear weapons like the MX and the neutron bomb make the initiation of a nuclear war a "thinkable" option.

The Soviet threat is often used as the rationale in continuing and escalating the arms race. Most military experts believe that we are now at a rough equivalency in nuclear strength with the Soviets. But new developments by the U.S. or the Russians prompt each side to advance the nuclear arms race a step further in response. As Herb York, former director of Lawrence Livermore National Laboratory (LLNL), states, "The great irony of the arms race is that nearly all the weapons which in the hands of others were (and are) threatening to our national security, have been invented or perfected by us in the first place."

Military spending has become a bottomless financial pit. The U.S. has spent $2 trillion since World War II on defense and expects to spend another $2 trillion in the 1980's, yet Americans feel increasingly insecure. Escalating military budgets give us inflation, unemployment, the deterioration of our cities, and cutbacks in essential human services. Meanwhile, the guns or butter priority debate has decidedly shifted in favor of the military.

> "The most damaging misconception that must be faced and corrected in our view is the national delusion that nuclear war is unthinkable."
>
> —Air Force Association
> 1978 Policy Statement

Disarmament and arms reduction agreements provide a sounder basis for security than does an unending arms race. The U.S. as historic leader of the nuclear arms race can help reverse the momentum by declaring a freeze on the development of new weapons and seeking agreement with the Soviets to follow suit.



The Weapons Labs:

THE BOMBS START HERE

Every single nuclear weapon in the U.S. arsenal from the Hiroshima bomb to the neutron warhead was conceived, developed and tested by the nation's two nuclear weapon's laboratories: Lawrence Livermore National Laboratory (LLNL), located

40 miles east of San Francisco, and Los Alamos National Scientific Laboratory (LANSL) in New Mexico. These labs are the brains of a vast nuclear weapons production complex. The Department of Energy (DOE) provides about $900 million a year to the labs, more than half of which goes to weapons work. Current programs at the labs include development of nuclear warheads for the neutron bomb, the MX and the cruise missile.

"We at Los Alamos have a small, but very elite group that meets with outside people in the defense community. They are working very aggressively, trying to influence the DOD to consider using these neutron weapons. . ."

—Harold Agnew,
former Director of Los Alamos

Lab officials do more than just design the weapons. Their active role in pushing for new weapons systems and lobbying against nuclear test ban treaty proposals profoundly shapes national military policy. In 1978, a *Washington Post* editorial charged that the labs have led a "brass-knuckled bureaucratic battle" to beat down the American negotiation position on a Comprehensive Test Ban Treaty.

Under contract with the DOE, the University of California has managed the labs since their beginnings. Contrary to the spirit of open inquiry at the University, the labs are isolated from public view. The University plays a protective and legitimizing role – its prestige and "objectivity" attract capable scientists and ample government funding to the laboratories. The University, however, assumes no role in responsible oversight, allowing the labs almost total freedom of action.

The Department of Energy shapes the program priorities at the laboratories. Because weapons development retains first priority of importance within the DOE, long-range U.S. energy planning takes place within a nuclear and military framework preempting needed research into alternative, renewable options. Pervasive secrecy within both the DOE and the laboratories denies the public information necessary for intelligent debate and decision on nuclear issues.

The Local Threat:

A RADIOACTIVE ENVIRONMENT?

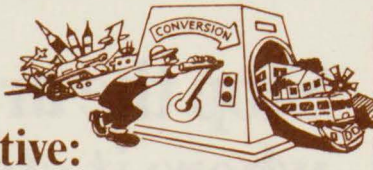
Even if nuclear bombs are never used again, the development of these weapons at the labs poses enormous health hazards for lab employees and the surrounding communities. Large amounts of highly radioactive materials, such as plutonium, are routinely transported, used and stored at the labs. The Livermore Lab sits on or near 13 active earthquake faults.

Livermore Lab representatives insist the work of the labs poses no danger to public safety. Recent events, however, contradict that assumption.

- In January, 1980, a 5.5 earthquake rocked the lab. Structural engineer John Rutherford stated that the plutonium building received "significant structural damage."
- In April, 1980, the State Department of Health released a study concluding that melanoma, a rare form of skin cancer, occurs nearly 4 times more frequently among lab employees than among residents of surrounding communities.

> **"I grew up in St. George (Utah) and I watched the bombs go off. You can run a geiger counter over my body and it clicks."**
>
> **—Elizabeth Catalan**

- Above ground nuclear tests conducted by the labs prior to 1963 exposed thousands of civilians and soldiers to low level radiation. Today, accidental ventings during below ground nuclear testing subject residents in the Southwest to serious health risks.
- Thousands of cannisters of nuclear waste, produced in part by Lawrence Livermore, have been dumped off the Farallon Islands. These cannisters are now leaking, thus introducing radioactive contamination into San Francisco Bay marine life.



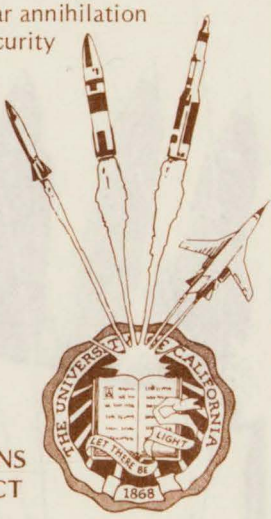
The Alternative:

CONVERTING THE LABS

There is only one way to end the global threats and local dangers posed by weapons work at the labs – conversion. Conversion means taking people out of soul-destroying and economically dead-end defense work and returning them to productive civilian activity.

We do not need more nuclear bombs. We do need basic long-range research done on how the world is to best meet its energy needs. Preliminary analysis has shown that it is technically feasible to apply the valuable skills of LLNL and LANSL to solve problems in the practical application of alternate energy sources like solar, wind and resource recovery. A study done by the International Machinists Union demonstrates that spending on non-military work provides significantly more jobs per dollar than does spending on military activity.

Conversion would seriously challenge the current mad momentum toward nuclear annihilation thus better meeting the real security needs of the world's people.



Organizing for Change:

THE U.C. NUCLEAR WEAPONS LABS CONVERSION PROJECT

Since 1976, the U.C. Nuclear Weapons Labs Conversion Project has challenged the research and development priorities at Livermore and Los Alamos Laboratories and questioned U.C.'s administrative role in legitimizing the arms race. The Project has mounted a successful nonviolent campaign that has

made the U.C. operation of the labs a major issue and reawakened local public concern about the dangers of the nuclear arms race.

The Conversion Project's current goals are to work through education and nonviolent action for:

1. An end to all nuclear weapons related work by LLNL and LANSL and their conversion to socially constructive uses as a step toward global disarmament.
2. An end to the non-democratic management of LLNL and LANSL, providing for rigorous public scrutiny and insuring public control.
3. An end to the University of California's ties to nuclear weapon development.
4. An end to all work by the labs which involves radioactive materials posing a threat to the health and safety of lab employees and residents of surrounding communities.

During the past few years we have

- researched, produced and distributed a conversion analysis for LLNL;
- motivated state and federal agencies to undertake a number of studies to evaluate the health dangers posed by the labs;
- organized efforts to force the U.C. regents to publically debate and vote for the first time in 36 years on continued University involvement with the nuclear research labs;
- mounted a successful legal challenge to obtain the right to display our literature at the Visitors Center of LLNL. This victory may result in the placement of alternative literature at other Department of Energy weapons facilities nationwide.

"I found your analysis and proposals for the conversion of the Lawrence Livermore and Los Alamos laboratories. . . to be. . . very penetrating. I have never read anything that has even come close to it. I want to ask if you mind if I inserted it. . . into the Congressional Record."

—Rep. Tom Harkin, (D-Iowa) in response to UCNWLCP Conversion Study

YES: COUNT ME IN, PLEASE!

- ☐ Send me more information on the Conversion Project.
- ☐ Put me on your mailing list.
- ☐ I would like ____copies of this brochure.
- ☐ Here is a donation of $ _____.

NAME_____

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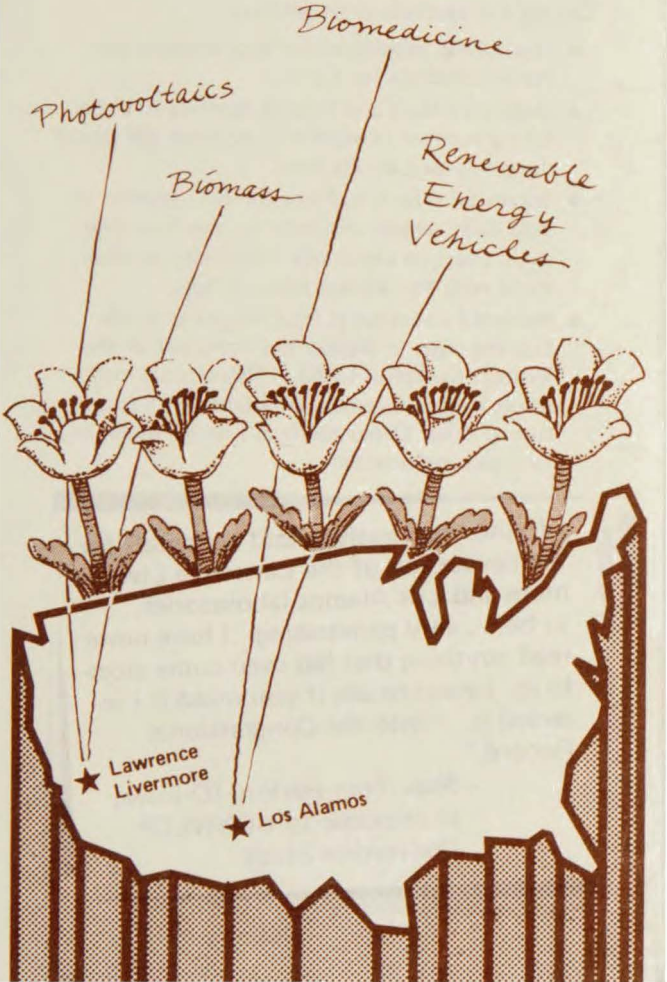

To combat the menace of nuclear war

Council for a Livable World

National Office
11 Beacon Street
Boston, Mass. 02108
Phone: (617) 742-9395

Legislative Office
100 Maryland Avenue, N.E.
Washington, D.C. 20002
Phone: (202) 543-4100

Why it exists

The Council for a Livable World was founded in 1962 by the eminent nuclear physicist Dr. Leo Szilard to combat the menace of nuclear war and strengthen national security through rational arms control.

The Council continues to pursue its objectives by blending the resources of its knowledgeable scientists with the skills of practical politics, and by concentrating its efforts on the U.S. Senate which has unique advise and consent powers in foreign affairs.

Those efforts are two-fold:

First, the Council's Washington Program provides Senators with sophisticated technical and scientific information that allows them to make intelligent decisions about nuclear arms control and strategic weapons, both present and planned.

Second, the Council's Candidate Assistance Program helps elect to the Senate men and women who support serious arms control.

The Council has enjoyed significant successes on both fronts: It was instrumental in passing the Nuclear Test Ban Treaty, halting ABM, banning biological weapons, advancing the SALT process under four presidents and slowing nuclear proliferation.

On the election front, the Council has helped elect 57 U.S. Senators since 1962, including 29 Senators now in Washington.

How it works in Washington

The Council's Washington Program monitors and influences arms control legislation in the U.S. Senate.

Council board members and other knowledgeable authorities outside of government provide valuable technical, scientific and strategic information to Senators and their staffs at regular Council Seminars.

These off-the-record sessions, often attended by as much as one third of the Senate, give plain-English explanations of the nature and dangers of present weapons systems, such as the neutron bomb, and of future technologies, such as "charged particle beams," an anti-satellite device still under research.

The Council also helps initiate and draft legislation, monitors appropriate committees — from the initial hearing to final markup, produces expert witnesses for crucial hearings and keeps accurate head-counts before crucial arms control votes are taken.

In addition to its Senate activities, the Council lobbies key members of the Executive Branch, including representatives of the White House, the National Security Council, the Department of State, the Pentagon and the U.S. Arms Control and Disarmament Agency.

Why it succeeds in elections

The success of the Council in helping elect 57 U.S. Senators in 19 years is due to the sophisticated methods of its Candidate Assistance Program.

The program begins with exhaustive political intelligence, gathered months, even years, before the elections take place. (This information is shared with Council members through its newsletter.) The Council carefully assesses every incumbent and every challenger in every state where there is a Senate election.

But the Council does *not* get involved in *every* race. It chooses those races where the differences between the candidates on arms control issues are clear cut. It prefers to concentrate on smaller states and primary elections where campaign dollars go farther. And it recommends close races where funds from Council supporters can be crucial to the outcome.

Unlike any other candidate assistance groups, the Council lets its supporters decide which of its endorsed candidates they prefer to support. Thus, Council supporters make contributions directly to candidates of their choice, but through the Council. This guarantees that the candidates will know that the donations are issue-oriented, for arms control.

Finally, the Council assesses each endorsed candidate's true financial need. Because that need varies widely, Council supporters have in the past provided individual candidates with as little as $1,000 and as much as $70,000.

Present Senators aided by Council for a Livable World

Max Baucus . . . . . (D-MT)
Birch Bayh . . . . . (D-IN)
Joseph Biden, Jr. . . . . (D-DE)
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Alan Cranston . . . . . (D-CA)
John Culver . . . . . (D-IA)
Dennis DeConcini . . . . . (D-AZ)
Thomas Eagleton . . . . . (D-MO)
Mike Gravel . . . . . (D-AK)
Gary Hart . . . . . (D-CO)
Mark Hatfield . . . . . (R-OR)
Edward Kennedy . . . . . (D-MA)
Patrick Leahy . . . . . (D-VT)
Carl Levin . . . . . (D-MI)
Charles Mathias . . . . . (R-MD)
George McGovern . . . . . (D-SD)
John Melcher . . . . . (D-MT)
Howard Metzenbaum . . . . . (D-OH)
Edmund Muskie . . . . . (D-ME)
Gaylord Nelson . . . . . (D-WI)
Claiborne Pell . . . . . (D-RI)
Abraham Ribicoff . . . . . (D-CT)
Donald Riegle . . . . . (D-MI)
Paul Sarbanes . . . . . (D-MD)
James Sasser . . . . . (D-TN)
Adlai Stevenson, III . . . . . (D-IL)
Donald Stewart . . . . . (D-AL)
Harrison Williams . . . . . (D-NJ)

Who runs the Council for a Livable World

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11 Beacon Street
Boston, MA 02108
(617) 742-9395
Jerome Grossman, President

100 Maryland Avenue, N.E.
Washington, DC 20002
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WORLD CITIZENS FOUNDATION
Help ensure human survival.

The World Citizens Foundation is part of a vital movement to ensure human survival on this planet.

The World Citizens Foundation was incorporated in 1979 to assist organizations working for peace and a world community, including the World Citizens Assembly.

The Foundation is a membership organization where each member has a vote to help direct its programs. Everyone who embraces the goals of the World Citizens Foundation is welcome to join.

Foundation goals are closely aligned with the World Citizens Assembly.

For the human race to make it on this planet we must promote these principles to a global level of thought and action, **now**!

1. Communications and technology have made our world interdependent. World Citizenship that goes beyond national boundaries must be promoted to make it a true World Community.

2. Global institutions must be reinforced and new ones organized to develop the global solutions we need.

3. The basic human needs of adequate food and education can be met if our resources are redirected from the destruction to the preservation of life. To achieve this goal a way must be found to end the arms race.

© Emilio Mercado

At this crucial point in history a global approach to problem solving is **necessary.** The World Citizens Foundation needs your help to make it happen.

Foundation membership will help shape the kind of world we need.

Become part of this vital effort by joining the World Citizens Foundation. Contribute your thoughts and volunteer spare time if you can. Your $25 membership donation is tax deductible in conformity with the Foundation's non-profit status.


One WORLD, one PEOPLE.
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The Medical Consequences of Nuclear Weapons and Nuclear War

Herbst Theater, Veteran's Building
Van Ness Avenue and McAllister St.
San Francisco, California
November 17 & 18, 1980

The Medical Consequences of Nuclear Weapons and Nuclear War

Sponsored by:
The University of California, San Francisco
Stanford University School of Medicine
University of California, Berkeley,
School of Public Health

November 17 and 18, 1980
San Francisco, California

Organized by:
Physicians for Social Responsibility
Council for a Livable World Education Fund

The Medical Consequences of Nuclear Weapons and Nuclear War

November 17 and 18, 1980

"The splitting of the atom has changed everything save our mode of thinking, and thus we drift towards unparalleled catastrophe. . ."

ALBERT EINSTEIN

This symposium, organized by *Physicians for Social Responsibility (PSR), Inc.*, and the *Council for a Livable World Education Fund*, is designed to educate the physician about the medical consequences of nuclear weapons and of nuclear war. A broad-based and renowned faculty will contribute expertise in academic and clinical medicine to the discussions.

Physicians for Social Responsibility (PSR), Inc., is a nonprofit organization committed to public and professional education on the medical implications of nuclear technology.

The Council for a Livable World Education Fund is a nonprofit corporation organized to educate the public about nuclear weapons, the dangers of the arms race, and the desperate need for serious arms control.

The program will be held in historic Herbst Theatre of the War Memorial Veterans Building, the site of the original signing of the United Nations Charter in 1945. Herbst Theatre is located in San Francisco's Civic Center, Van Ness Avenue and McAllister Street.

REGISTRATION

Date: Monday, November 17, 1980

Time: 8:00 a.m.

Place: The Lobby
Herbst Theatre
War Memorial Veterans Building
Civic Center, Van Ness Avenue and McAllister Street
San Francisco, California

Fee: $75.00 to physicians receiving CME Credit
$15.00 non-physicians

PROGRAM

Day I, Monday, November 17, 1980

8:00 a.m. Registration

8:50 **Welcome**
Peter G. Joseph, M.D.
President, San Francisco Bay Area Chapter, Physicians for Social Responsibility

9:00 **Introduction**
Howard H. Hiatt, M.D., D.Sc.
Dean, Harvard School of Public Health
Professor of Medicine, Harvard Medical School

THE THREAT OF NUCLEAR WEAPONS

9:45 **Moderator**
Marvin Goldberger, Ph.D.
President, California Institute of Technology

10:00 **The Present Nuclear Danger**
Herbert Scoville, Jr.
Former Deputy Director for Research
United States Central Intelligence Agency
President, Arms Control Association

11:00 **Medical Effects of Nuclear Weapons Production**
Carl Johnson, M.D., M.P.H.
Director of Health, Jefferson County, Colorado
Associate Clinical Professor of Medicine,
University of Colorado Medical School

11:45 **Physical Characteristics of a Nuclear Explosion**
Kosta Tsipis, Ph.D.
Associate Director, Program in Science and Technology for International Security, Massachusetts Institute of Technology

12:30–2:00 Lunch

NUCLEAR WAR: ACUTE EFFECTS

2:00 **Moderator**
Joseph F. Boyle, M.D.
President, California Medical Association,
Vice Chairman, Board of Trustees, American Medical Association

2:15 **Effects of Nuclear Weapons and Nuclear War on Civilians**
Sydney Drell
Professor of Theoretical Physics and Deputy Director, Stanford Linear Accelerator Center

3:00 **Acute Medical Problems Among Survivors**
H. Jack Geiger, M.D.
Arthur C. Logan Professor of Community Medicine
City College of New York

4:00 **Psychological Effects of the Nuclear Arms Race**
John E. Mack, M.D.
Professor of Psychiatry, Harvard Medical School
Winner, Pulitzer Prize

4:45 Summary
Helen Caldicott, M.B., B.S.
Associate in Medicine, Children's Hospital Medical Center, Boston
President, Physicians for Social Responsibility

Reception to Follow Program S. Th.

Day II, Tuesday, November 18, 1980

NUCLEAR WAR: INTERMEDIATE AND LONG TERM EFFECTS

9:00 a.m. **Moderator**
Warren Winkelstein, Jr., M.D., M.P.H.
Dean, University of California, Berkeley, School of Public Health

9:15 **Surgical Problems Among Survivors**
John Constable, M.D.
Assistant Clinical Professor of Surgery, Harvard Medical School
Visiting Surgeon, Massachusetts General Hospital

10:00 **Cancer Incidence and Genetic Effects in Atom Bomb Survivors of Hiroshima and Nagasaki**
Stuart Finch, M.D.
Professor of Medicine, Rutgers Medical School
Former Director of Research, Radiation Effects Research Foundation, Hiroshima

11:00 **Long Term Effects of Nuclear Explosions**
Bernard Feld, Ph.D.
Professor of Physics, Massachusetts Institute of Technology
Editor-in-Chief, *Bulletin of the Atomic Scientists*

12:00–2:00 Lunch

POLITICAL AND ECONOMIC ASPECTS OF THE NUCLEAR ARMS RACE

2:00 **Moderator**
Owen Chamberlain, Ph.D.
Professor of Physics, University of California, Berkeley
Nobel Prize in Physics

2:15 **The Economic Impact of Preparing for Nuclear War**
Seymour Melman, Ph.D.
Professor of Industrial Engineering
Columbia University School of Engineering

3:00 **How a Nuclear War Might Start**
Gene R. LaRoque
Rear Admiral, United States Navy (Retired)
Director, Center for Defense Information

4:00 **Preventing Nuclear War**
Roger Fisher
Williston Professor of Law, Harvard Law School
Consultant to the Assistant Secretary of Defense for International Security

4:45 **Closing**
H. Jack Geiger, M.D.
Arthur C. Logan Professor of Community Medicine
City College of New York

ACCREDITATION

As an organization accredited for continuing medical education, Extended Programs in Medical Education of the University of California School of Medicine at San Francisco (a division of Continuing Education in Health Sciences) designates this continuing medical education offering as meeting the criteria for **12 credit hours in Category I** of the Physican's Recognition Award of the American Medical Association and the Certification Program of the California Medical Association.

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Registration

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MEMORANDUM E: The Scientists' Committee For A Livable World

September 17, 1962

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Professor of Biochemistry
Stanford University
Palo Alto, California

* Geoffrey F. Chew
Professor of Physics
University of California
Berkeley 4, California

* Charles Coryell
Professor of Chemistry
Massachusetts Institute of Technology
Cambridge 38, Massachusetts

* William Doering
Professor of Chemistry
Yale University
New Haven, Connecticut

* John T. Edsall
Professor of Biological Chemistry
Harvard University
Cambridge 38, Massachusetts

* Bernard T. Feld
Professor of Physics
Laboratory for Nuclear Science
Massachusetts Institute of Technology
Cambridge 38, Massachusetts

Robert Finn
Professor of Mathematics
Stanford University
Stanford, California

* Maurice S. Fox
Associate Professor of Biology
The Rockefeller Institute
New York 21, N. Y.

M.G.F. Fuortes
Section Chief
Neurophysiology-Opthamology
National Institutes of Health
Bethesda 14, Maryland

Donald Glaser (Nobel Prize 1960)
Professor of Physics
University of California
Berkeley, California

Temporary address:
Department of Biology
Massachusetts Institute of Technology
Cambridge, Massachusetts

Marvin L. Goldberger
Eugene Higgins Professor of
Theoretical Physics
Princeton University
Princeton, New Jersey

Robert Gomer
Professor of Chemistry
Institute for the Study of Metals
The University of Chicago
Chicago 37, Illinois

Hudson Hoagland
Executive Director
The Worcester Foundation for
Experimental Biology
Shrewsbury, Massachusetts

* David S. Hogness
Associate Professor of Biochemistry
Stanford University
Palo Alto, California

Halstead R. Holman, M.D.
Professor of Medicine
Stanford University
Palo Alto, California

Dale Kaiser
Associate Professor of Biochemistry
Stanford University
Stanford, California

Arthur Kornberg (Nobel Prize 1959)
Professor of Biochemistry
Stanford University
Palo Alto, California

Norman Kretchmer
Professor of Pediatrics
Stanford University
Palo Alto, California

Robert B. Livingston, M.D.
Chief, Laboratory of Neurobiology
National Institutes of Health
Bethesda 14, Maryland

* Matthew Meselson
Associate Professor of
Molecular Biology
Harvard University
Cambridge, Massachusetts

Herman J. Muller (Nobel Prize 1946)
Professor of Genetics
Indiana University
Bloomington, Indiana

Aaron Novick
Professor of Molecular Biology
Institute of Molecular Biology
University of Oregon
Eugene, Oregon

Arthur B. Rosenfeld
Associate Professor of Physics
University of California
Berkeley 4, California

Leonard I. Schiff
Professor of Physics
Stanford University
Stanford, California

William Shurcliff
Research Fellow, Physics
Cambridge Electron Accelerator
Harvard University
Cambridge, Massachusetts

* Franklin W. Stahl
Associate Professor of Molecular Biology
Institute of Molecular Biology
University of Oregon
Eugene, Oregon

* Leo Szilard
Professor of Biophysics
The Research Institutes
The University of Chicago
Chicago 37, Illinois

Temporary address:
Hotel DuPont Plaza
Washington 6, D. C.

George Streisinger
Associate Professor of Molecular Biology
Institute of Molecular Biology
University of Oregon
Eugene, Oregon

Those marked with an asterisk serve as Fellows of the Committee for 1962.

Meselson and Szilard serve as secretaries of the Fellows in 1962.

Total 28

To combat the menace of nuclear war

Council for a Livable World

11 Beacon Street
Boston, Mass. 02108
Phone: (617) 742-9395

GEORGE KISTIAKOWSKY
Chairman

JEROME GROSSMAN
President

HARRIET M. AVERY
Director

100 Maryland Avenue, N.E.
Washington, D.C. 20002
Phone: (202) 543-4100

JOHN ISAACS
Legislative Director

You are cordially invited to meet

HERBERT SCOVILLE, JR., President, Arms Control Association

KOSTA TSIPIS, Massachusetts Institute of Technology

SYDNEY DRELL, Stanford Linear Accelerator Center

JOHN E. MACK, Harvard Medical School

ROGER FISHER, Harvard Law School

JEROME GROSSMAN, Council for a Livable World

from the symposium on MEDICAL CONSEQUENCES OF NUCLEAR WAR

Sunday, November 16, 1980

three to five p.m.

at the home of Mr. and Mrs. John Fowle

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F-01 **Danger! Radioactive Waste.**
A 50 minute documentary originally produced for NBC.

F-02 **Paul Jacobs and the Nuclear Gang**
A 60 minute documentary about the effect of radiation exposure on soldiers, civilians and workers and the government's attempts to cover up the story.

F-03 **War Without Winners**
A 28 minute testament to the absurdity of the nuclear arms race and the unsurvivability of nuclear war by the Center for Defense Information.

¾ Inch Color Videocassetes*

V-01 **The Medical Implications of Nuclear Energy**
38 minutes. A talk by Dr. Helen Caldicott before a medical audience.

V-02 **Decision at Rocky Flats: A Question of Trespass**
45 minutes. The expert testimony of Drs. Gofman, Stewart, Johnson, Morgan, Martell et al. on the effects of the leakage of plutonium near Denver, Colorado.

V-03 **Clouds of Doubt**
50 minutes. The history of the Nevada atom bomb tests and the suppression of their medical consequences.

Slide Shows

S-01 **From Trident to Life**
30 minutes. The facts about America's new Trident nuclear submarine program by the Trident Conversion Campaign of the American Friends Service Committee (Script on paper, no tape).

S-02 **John, Mary, MIRV and MARV: The Arms Race and the Human Race**
20 minutes. Slide-Tape about trying to be "number one" in weapons by Operation Turning Point.

Audiocassettes

A-01 **Highlights of a Symposium on the Medical Consequences of Nuclear Weapons and Nuclear War**
2 Hours. Summary of PSR organized symposium held at Harvard Science Center on February 9-10, 1980 with Drs. Abrams, Feld, Geiger, Hiatt, Kendal, Kistiakowsky, Lifton, Luria, and Mark.

*Please contact the PSR office about fees and availability of audio-visual materials. The number is: 617-924-3468.

Printed Information

P-01 **Medical Hazards of Radiation Packet**
Key articles about the health effects of radiation.

P-02 **Nuclear Power and Weapons Packet**
Key articles and newsclips about the nuclear fuel chain and alternatives.

P-03 **Health Dangers of the Nuclear Fuel Chain and Low Level Ionizing Radiation-A Bibliography and Literature Review**
By R.F. Woollard and E.R. Young of the British Columbia Medical Association, updated by Bay Area PSR.

P-04 **PSR Bibliography**
Key references on the medical effects of ionizing radiation.

P-05 **PSR Membership Card**

P-06 **What is the Physicians Role in Preventing a Nuclear War?**
A PSR Brochure.

P-07 **The Physician and Nuclear Power: Questions and Answers**
A PSR Brochure.

P-08 **Danger — Nuclear War**
Poster reprint of full-page New York Times Ad of 3/2/80.

P-09 **The Health Effects of Nuclear Power and Nuclear Weapons by Dr. Katherine Kahn**
A summary for medical professionals of the effects of ionizing radiation and the hazards of the nuclear fuel chain.

Books

B-01 **Nuclear Madness: What You Can Do! by Dr. Helen Caldicott**
An account for the public of the threats of nuclear power and weapons. Autumn Press, 1978.

B-02 **The Counterforce Syndrome: A Guide to U.S. Nuclear Weapons and Strategic Doctrine by Robert Aldridge.**
A review of present nuclear weapons systems showing how the U.S. is developing a pre-emptive first-strike capability. Institute for Policy Studies, 1979.

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Sid Drell

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Journal of the American Academy of Arts and Sciences

U.S. Defense Policy in the 1980s

FALL 1980: U.S. DEFENSE POLICY IN THE 1980s

Issued as Vol. 109, No. 4 of the Proceedings of the American Academy of Arts and Sciences

SIDNEY D. DRELL

Arms Control: Is There Still Hope?

THE PATTERN OF RECENT EVENTS provides very little encouragement and few, if any, auspicious signals for the future of arms control. SALT II has been derailed, at least temporarily; the mutual balanced force reduction talks in Vienna remain stalled; little progress is reported from the negotiations for a comprehensive test ban treaty or for limitations on antisatellite activities. Indeed, one hears more these days about rearming than about reducing arms.

Advances in weapons technologies are bringing with them prospects of a broader repertoire of missions for our nuclear armories, which continue to grow in numbers and improve in quality. More and more we hear of *usable* nuclear weapons and of nuclear war-fighting and winning. With these developments we have come once more to one of those perilous forks in the road from which several very different paths diverge. It is time for us to stop and ask as we enter a new decade: What are our goals? Where are we going? Do we even still remember what nuclear explosions do? Does the the post-Hiroshima generation actually appreciate the horror of nuclear weapons and the dangers posed by the prospect of a nuclear conflict?

Thirty-five years have passed since the fireballs of the first atomic bombs over Alamagordo, Hiroshima, and Nagasaki lighted the dawn of the nuclear age, the age Winston Churchill called "the second coming in wrath." Their increase by a factor of one thousand in the scale of destructiveness was followed swiftly by yet another increase—again by a factor of one thousand—in explosive power with the advent of the hydrogen bomb. Since then the world has stockpiled some forty thousand nuclear bombs, about 99 percent of which belong to the United States and the Soviet Union. This growth of nuclear stockpiles has occurred at the same time as, and despite, frequent official statements affirming the nations' solemn commitments to control and reduce the nuclear threat; despite also the realization that we have accumulated so many nuclear weapons that the survival of civilization as we know it would be threatened were our nuclear stockpiles ever unleashed. Indeed, the number of nuclear warheads deployed by the United States and the Soviet Union on our long-range strategic systems has grown to more than fifteen thousand, or by a factor of more than two and one-half since we began the intensive SALT negotiating efforts a little more than ten years ago, with the primary purpose to limit these very same weapons. Not only have they increased in numbers, their prodigious tech-

nological improvements have created new difficulties for arms control, for verification, and for strategic stability at a faster pace than negotiations have progressed.

We may draw some comfort from the fact that during all this period our fear, revulsion, and respect for nuclear weapons have been effective in keeping us from using them—in spite of the fact that there have been numerous conflicts and opportunities. Indeed, deterrence has worked for more than three decades because we have recognized so far that the purpose of nuclear weapons is to deter nuclear war, and we have behaved accordingly. But how long will deterrence last? The latest advances in weapons technology, especially in missile accuracy and reliability, now threaten to erode the very doctrine of deterrence itself. In its place are offered visions of limited nuclear war-fighting and winning. I consider these visions to be phantoms, phantoms that are dangerous as well as technically false. Their emergence, however, emphasizes the urgent need for us to learn to do things differently. That need is even more urgent now than it was twenty years ago when Jerome Wiesner wrote so eloquently in the 1960 issue of *Daedalus* devoted to arms control: "Mankind's almost universal desire is to halt the frightening arms race and to provide, by rule of law, the security now sought so futilely from nuclear armaments and ballistic missiles. While the goal is clearly visible, the course is not."

Today we are still faced with a deadly dangerous dilemma. On one hand, we have no evidence from history to lead to the conclusion that war in the long run can be avoided. On the other hand, there is also no evidence from history to tell us what a nuclear war would mean. An all-out nuclear conflict would shatter the whole fabric of our society and of our civilization built over the centuries. Beyond that, the long-term worldwide effects of a major nuclear conflict on man and the environment, and on their future evolution, are largely unpredictable. This dilemma of our nuclear times could be resolved in principle by doing away with war—or by doing away with nuclear weapons. Although neither of these achievements is very likely in the coming decade, or in the foreseeable future, they stand as mankind's ultimate goals. They are, moreover, goals to be addressed with some determination and hope.

There is an old Navy saying to the effect that one wants to avoid disaster on his watch. In the past the limited goal of "avoiding disaster on one's watch" has proved tolerable for national security policy. But now that we are sitting on a deadly nuclear powder keg, such a view is no longer good enough. We can no longer work simply to "get by on our watch." Not only must we avoid a nuclear conflict in our time, we must also meet the challenge to reduce and ultimately to remove the threat of a nuclear holocaust. This is the greatest challenge of our generation as well as our obligation to future generations.

Andrei Sakharov has often expressed this same priority, most recently in a statement from his lonely exile in Gorky: "I consider that averting thermonuclear war has absolute priority over all other problems of our times." How, then, should we begin addressing the question of nuclear survival? The recent collapse of the SALT II ratification process reminds us forcefully that it is necessary to have momentum and hope in our broad political task of resolving conflicts and tensions while building toward a stable, just, and peaceful

international order. In the narrower focus of efforts to control and reduce nuclear weapons and to avoid, or at least to minimize, the likelihood of nuclear conflict, we have, in practice, but two means available to us: formal negotiations and mutual restraint in new weapons programs. (A third means, unilateral disarmament, I do not believe can carry us very far.) These two means—negotiations and mutual restraint—need not and should not be mutually exclusive. Indeed, we need them both! The record of the past two decades shows that neither means alone will suffice if we are to make effective progress in controlling and reducing nuclear weapons. During this time we have also experienced the difficulties that arise when negotiations have been allowed to stimulate antirestraint in the race to accumulate bargaining chips that too often, like Pinocchio, develop lives of their own.

Neither the United States nor the Soviet Union has a laudable record of restraint. Two notable examples of missed opportunities are MIRVs and the continuing ICBM buildup following SALT I. Recall that the original justification for MIRVs was for penetrating ballistic missile defenses by saturating their computers and radars and overwhelming their defensive firepower with an intense rain of many warheads. Nevertheless, U.S. MIRV programs proceeded full tilt after the SALT I treaty, which severely limited the deployment of ABM defenses and thereby removed the purported rationale for MIRVs. Recall also that the consequence of the SALT I interim agreement on offensive systems was primarily to deflect the main focus of work from the restricted to unrestricted areas rather than to decrease its intensity. As a result, work proceeded full speed on missile improvements, leading to greater accuracy and reliability, and on more extensive MIRV deployments as the Soviets, in particular, built right up to the SALT limits.

Independent of this dismal record of failure in restraint, both the United States and the Soviet Union have recognized the importance of negotiations and have worked hard at them, at least until very recently. Our progress is modest; to many, the achievements after years of effort are disappointing. They are not, however, negligible. In particular, we have the all-important SALT I treaty limiting ballistic missile defenses to a very low level of deployment. And, of course, we also have the limited atmospheric test ban treaty, on the books since 1963. This is a major achievement. We, as will generations to come, value that treaty primarily for its contribution to protecting our environment from radioactive fallout. As an arms control measure, perhaps its greatest value was in setting so important and successful a precedent of visible cooperation in the arena of nuclear weapons between the two major nuclear powers.

Nevertheless, independent of these achievements and of the eventual fate of the SALT II treaty, the bankruptcy of modern man in our approach to nuclear weapons is evident. These are weapons of mass destruction, and the possibility of ever using such weapons raises fundamental ethical and moral issues that should be faced at the center of our national and international discussions and negotiations of nuclear weapons policy. Yet today these issues are muted in policy formulation as we continue to proliferate and diversify our nuclear stockpiles. How long can and will we continue to avoid the fundamental questions of using weapons of mass destruction? As Enrico Fermi and Isidor Rabi wrote in

their addendum to the report by the General Advisory Committee of the AEC in 1949 on the decision of whether or not to develop the so-called "super":

> It is clear that the use of such a weapon cannot be justified on any ethical ground which gives a human being a certain individuality and dignity even if he happens to be a resident of an enemy country.
>
> The fact that no limits exist to the destructiveness of this weapon makes its very existence and the knowledge of its construction a danger to humanity as a whole. It is necessarily an evil thing considered in any light.

At about this same time George Kennan wrote a personal paper as the counselor to Secretary of State Dean Acheson, expressing his concerns about the impact on U.S. policy of a growing reliance on atomic weapons of mass destruction in our arsenals. The occasion was his resignation as director of the State Department Planning Staff, and he summarized his concerns eloquently:

> The weapons of mass destruction . . . reach backward beyond the frontiers of western civilization, to the concepts of warfare which were once familiar to the Asiatic hordes. They cannot really be reconciled with a political purpose directed to shaping, rather than destroying, the lives of the adversary. They fail to take account of the ultimate responsibility of men for one another, and even for each other's errors and mistakes. They imply the admission that man not only can be but is his own worst and most terrible enemy.

And now thirty years and forty thousand nuclear weapons later the question of whether the use of nuclear weapons can be justified on any ethical grounds is rarely heard in our national debates, and almost never in our formal negotiations. All attention is riveted on questions such as how to put a ceiling on the further growth in numbers of weapons by limiting the number of warheads to no more than ten per ICBM or fourteen per sea-launched ballistic missile! I am not suggesting that this is not also, in fact, an important question—as is our concern for maintaining a strategic stability based on our confidence that our nuclear weapons cannot be destroyed in a preemptive attack against them. But we seem to have so completely accepted the inevitability of a nuclear overarmed world, that we are lost in the maze of such details *alone*. Enmeshed in these details, we seem to have lost view of the *scale* of the problem. We have grown so relaxed about the threat and so accustomed to coexistence as mutual hostages under a nuclear sword of Damocles, that all our attention and effort is devoted to finely tuning a nuclear balance.

With regard to our vast nuclear armories, which are continually being refined and polished and admired, I am reminded of the famous lines from Alexander Pope's *Essay on Man:*

> Vice is a monster of so frightful mien,
> As to be hated, needs but to be seen;
> Yet seen too oft, familiar with her face,
> We first endure, then pity, then embrace.

Recall how Pope continues:

> But where th' Extreme of Vice, was ne'er agreed.

and concludes:

> No creature own it in the first degree,
> But thinks his neighbour further gone than he.

In a nutshell, that expresses our dilemma. Consumed by a detailed, quantitative balancing of the nuclear vice that we have learned to endure and now embrace, each country accuses the other of owning more of what is evil than he himself possesses, and our nuclear debates and discussions have become like those of the scholastics of the thirteenth century. To them, the fundamental ethical and moral issues of religion had degenerated largely into questions of how many angels can fit on the head of a pin! In his recent book *Endgame: The Inside Story of Salt II*, Strobe Talbott has drawn the macabre parallel of how, for us, the nuclear debate has similarly microscoped down to how many MIRVs can fit on the head of our modern pins, the ICBMs. And, just as the desolation and devastation of the fourteenth century, with its hundred years of wars, followed the thirteenth, are we destined to a similar or a worse fate in the twenty-first? Will future historians, if there are any, look back on the second half of the twentieth century as the golden age of nuclear scholastics?

If modern civilization is to improve its chances for avoiding nuclear holocaust in the long run, it is absolutely necessary to return to fundamental issues such as the one raised by Fermi and Rabi: "It is clear that the use of such a weapon cannot be justified on any ethical ground which gives a human being a certain individuality and dignity even if he happens to be a resident of an enemy country." In today's world, with the initial conditions fixed by the existence of so many thousands of nuclear bombs and strategic rockets and bombers, we should not and cannot responsibly duck the same detailed issues that SALT has elevated to such exaggerated prominence. It will help us to "get by on this watch" if we can reach agreement on these specific issues—such as by negotiating verifiable limits on numbers of warheads per missile, or on the volume, total thrust, and total throw-weight of different missile or bomber types. But it is now abundantly clear that we cannot and will not get very far if *all* our concerns and efforts are focused very narrowly on such detailed issues. Furthermore, the rapidly advancing weapons technology and the growing repertoire of uses and targets for nuclear weapons are threatening to remove even the limited security we have sought through mutual deterrence.

Before unbridled technology leads to this, we had better identify some basic principles that we must adhere to if we are to keep control over what is happening. Perhaps then we may succeed in shaping the future directions in arms control. I identify six such major principles. If we can hold to them and insist that they define the context within which consistent negotiating policies and restraint measures will be pursued, we may have a chance. These principles are:

1. The sole purpose of nuclear weapons in today's world, and for as long as they are deployed, must be to *deter* nuclear war. No other purpose should be assigned them.

In singling out deterrence of nuclear attack among the missions of our strategic nuclear forces, I am emphasizing that there are no sensible alternatives to a policy of deterrence for the foreseeable future. Other missions for our strategic

nuclear forces have frequently been proposed, ranging from political or military coercion to limited nuclear war-fighting and "winning." However, you can't win if you don't survive. I am convinced that the overwhelmingly likely course of events of actually implementing any of these limited missions would be an escalation of hostilities to an almost total mutual destruction. Furthermore, this is a destruction against which, on technical grounds alone, there is no effective defense. Hence, I conclude that deterrence of nuclear attack is the proper mission of our nuclear forces. Weapons development and force structures must be planned toward this goal as the single overriding priority.

It has become stylish this year for revisionists to criticize as being immoral this view of deterrence as the U.S. strategic policy—it is frequently caricatured with the acronym MAD, for mutual assured destruction. We are told that the United States should not be targeting cities and planning the annihilation of tens to hundreds of millions of people—but, with a higher morality, should target military and counterforce targets, sparing the innocent civilians. Frankly, I am puzzled as to why this strawman has been exhumed and is being flailed at this time, since it represents a circumstance with essentially no logical connection with today's weapons realities.

Assured destruction requires but a small percentage of our deployed warheads. Of our current total of well over nine thousand nuclear warheads on our strategic bombers and missiles, only a few hundred are needed to obliterate the largest Soviet cities along with two thirds of their total industrial base and close to 100 million residents—and this is due to immediate damage alone. Evidently, the United States has a sizable counterforce capacity in addition to its capacity for assured destruction. In fact, we have had a substantial counterforce capability since the early 1960s. At present the characteristics as well as the large numbers of our rapidly retargettable, highly MIRVed forces present very extensive counterforce capabilities. They give us, in particular, the potential to respond in measure with the provocation—known as flexible response—against a broad spectrum of Soviet military targets, including naval bases, air bases, petroleum depots, assembly points, transshipment points, and so on. A broad repertoire of flexible response and counterforce is a reality of today's strategic forces—both for the United States and the Soviet Union. In fact, it has long been recognized that flexible response enhances deterrence by increasing the range of political options and maneuvers prior to conflict. Moreover, flexible response is still growing as a result of our technical virtuosity with nuclear weaponry. It is this very growth in the repertoire of conterforce missions, to include the capabilities to strike an opponent's missile forces in their hardened silos, that we now see posing a threat to deterrence. Today's debate in the United States on Minuteman vulnerability and the need for a new basing scheme for a large new MX missile with ten MIRVs is a reaction to the developing Soviet counterforce threat against the Minuteman silos.

The deployment of missiles that pose substantial and credible preemptive threats against major components of each other's arsenals of nuclear retaliatory forces conflicts with the goal of maintaining a stable strategic deterrence. A clear choice between these two alternatives must be made by both the Soviet Union and the United States. At this perilous fork in the road, both countries must effectively limit, as well as direct, the development of new weapons technology

in order to maintain a deterrence based on survivable retaliatory forces. Such a stable deterrence is not an end in itself, but it can provide a base from which to work toward substantial reductions and, eventually, toward comprehensive disarmament.

2. No matter how small its yield, a nuclear weapon is fundamentally different from a nonnuclear one. It has a long memory—a deadly radioactive memory. Furthermore, once the first nuclear weapon is used in anger, once the one-way bridge is crossed from nonnuclear to nuclear conflict, what will restrain the nations involved from escalating further when they believe their vital interests are at stake and they hold such vast stores of nuclear weapons in reserve? Will there be any effective limiting forces amidst the confusion and pressure of battle?

This assertion that there is a fundamental difference between nuclear and nonnuclear weapons was widely challenged several years ago during the extended debate about the so-called neutron bomb—the enhanced radiation weapon that would be tailored to give more radiation that is deadly to humans only, but less blast and heat that destroys everything in their way. This weapon was proposed as a more usable nuclear weapon—particularly in the defense of highly developed and densely populated areas such as Western Europe—because of the reduced collateral damage it would produce if delivered with precise accuracy. On this basis it was argued that the improved warhead, by making the initial use of nuclear weapons in battle seem more credible, would enhance deterrence. However, there is another side to this coin. By the same token, it can be argued that this warhead also *increases* the likelihood that nuclear weapons would actually be used in combat. Once this or any other nuclear weapon has been used, the danger of further nuclear escalation is just as great. A decision to use the neutron bomb would be no less grave than a decision to use any other tactical nuclear weapons. I can think of no more dangerous folly than trying to fuzz the fundamental difference between nuclear and nonnuclear weapons.

3. Nuclear war would be so great an extrapolation of the scale of disaster in human experience, and so great a physical disturbance of our environment and ecosphere, that the unknowns of a nuclear conflict clearly far outweigh the knowns or predictables. Yet there appear more and more detailed calculations that describe how hundreds of millions of people will behave in all-out conflict, when deadly radioactive rain will fall for many months. These calculations also predict casualty levels and recovery times with incredible precision. The fascination with these calculations reminds me of the exchange in George Bernard Shaw's *Major Barbara* between Lomax, a young man-about-town, and Andrew Undershaft, a millionaire munitions manufacturer. To Lomax's comment, "Well, the more destructive war becomes, the sooner it will be abolished, eh?" Undershaft retorts: "Not at all. The more destructive war becomes the more fascinating we find it."

Keep this in mind when you hear claims made on the basis of calculations as to how much civil defense will contribute to the survival of how many people, and thereby to an ultimate victory, in a nuclear war for a nation that will suffer

only 20 million fatalities while killing 60 million of their enemy! It is also well to keep in mind how rapidly individual units of society descend to chaos and fall apart at much lower levels of stress—just remember what happens during sudden blackouts. It makes you wonder how societies will react after just one thermonuclear weapon has hit—much less a hundred or several thousand.

Civil defense is, of course, a very important issue. It is also a very personal, and at times emotional, one because it touches the basic human instinct of survival. The potential for disaster is ever present in our society, and it hardly seems prudent to make no plans for survival or recovery in the event of a natural or a man-made disaster or accident, nuclear or otherwise. It is one thing, however, to view civil defense preparations as one does the lifeboats on an ocean liner, as insurance against unanticipated disasters. It would be quite a different matter to chart a course through ice fields and to risk running into icebergs because one plans to rely on the lifeboats for survival. The analogue of this reckless course would be to prepare to wage limited nuclear conflicts, relying on extensive civil defense preparations to reduce nationwide fatalities due to fallout to relatively low levels. Yet this is precisely what the Defense Department advocated in late 1974 in its presentation to the Congress. Fortunately, many of the claims of civil defense effectiveness and of prospects of "acceptably low" casualty levels were quickly shown to be false in a study organized by the Congressional Office of Technology Assessment, and the United States did not reorient its basic policy of deterrence toward one of preparing, on dubious technical and dangerous strategic grounds, for limited nuclear war-fighting.

4. In striving for progress in arms control, one needs bold steps that are timely and negotiable—and preferably simple. In order to begin and to sustain such bold steps, there must exist a strong political will and commitment by our leaders. Otherwise, the experts become mired—at times, hopelessly—in microscopic issues of technical balance, in insignificantly delicate details. The SALT II negotiations became an object lesson on this very point. There are *no* issues of nuclear survival that require the negotiation of a finely tuned balance. The crucial value of political will and decisiveness for progress was well illustrated early in 1972. After several years of almost stalemated haggling both within the government as well as in the negotiations themselves, President Nixon provided an important impetus when he announced that we *would* have an ABM treaty that year. And, indeed, it was not long thereafter that the experts successfully negotiated an ABM treaty that remains our greatest arms control achievement at this time. There is also a lesson in the failure of the comprehensive SALT II proposal of March 1977 by the Carter Administration. This proposal called for substantial reductions in the deployment of strategic forces, along with restraints on missile tests that would have prevented, or at least greatly delayed, the weapons improvements that have created today's worries about ICBM vulnerability and the perceived need for the MX. Unfortunately, that most important part of the March comprehensive proposal was burdened by many detailed numerical provisions that were highly contentious; the proposal was presented publicly in a manner that diminished its negotiability; and eventually there was no alternative but to retreat from its bold and imaginative

provisions. I hope the lesson learned from that failure will improve negotiating tactics in the future, but not scare either the United States or the Soviet Union from making bold proposals.

5. In our society there is no substitute for, nor power equal to that of, a responsible public constituency that is informed and aware of the basic issues of nuclear weapons policy. One need not master all technical details in the arms control debate, but the question of *scale* must be comprehended.

In "avoiding disaster on our watch" for the past thirty-five years, the searing, vivid memories of the holocaust of Hiroshima and Nagasaki have been important. I wish I knew an effective means to keep those memories from fading away. A world that retains such vast nuclear armories as we have today, but that loses its special fear and appreciation of their enormous scale of destructiveness, will be a more dangerous place to live. A nuclear overarmed world that has forgotten the horror that led five-year-old Myeko in John Hersey's *Hiroshima* to ask, in the midst of the dust and debris of the devastated city, "Why is it night already?" is surely not safe.

6. Arms control is an important part of our national security. Thus far we have had no effective controls on offensive nuclear weaponry, and it is clear that each step forward in the arms race to more and improved weapons has *lessened* our security. If we are to reverse this trend, it will be necessary to understand the arms control impact of new weapons before making a decision whether to deploy them. The importance of the arms control factor was understood, and played an essential role, in the ABM debate of ten years ago. This also led to our negotiating the very valuable SALT I treaty that severely limited ABM deployments. By way of contrast, we lost important opportunities for arms control by the decision to move ahead on MIRVs without first making a serious effort to avoid their extensive deployment. At this very time we see the dollar costs and the strategic costs of that lost opportunity in the form of the MX program. The MX is designed to be the U.S. response to the growing threat to our land-based Minuteman force posed by the highly accurate and reliable MIRVed ICBMs now being deployed by the Soviet Union. It is a symbol of the failure of arms control.

The deployment of the MX is a very major decision now being faced by our country. Not only will it shape the U.S. nuclear deterrent through the rest of this century, it will also have a major effect on the future of arms control. For these reasons I want to describe it in some detail.

As currently proposed by the Carter Administration, MX refers to a large new missile and to a new basing scheme. The missile is the largest one consistent with the provisions of SALT II. Its warhead is fractionated into ten MIRVs, which is also the largest number for an ICBM that is consistent with SALT II. (Do we see here, unfortunately, another effect of negotiations on restraint?) The proposed MX deployment is in a land-based multiple aimpoint system that relies extensively on secrecy and deception in order to maintain uncertainty in the location of the missile, so that it cannot be targeted. Until a short time ago this basing scheme took the form of two hundred racetracks. The racetracks have

since been straightened out into a linear grid pattern, but this change has very little impact on the operational complexities and deficiencies of the system. On each grid there will be twenty-three hardened concrete shelters, one genuine MX missile, and twenty-two dummy missiles. The dummy missiles are there to protect the location uncertainty of the real one by simulating all the signatures of a real MX in each of the shelters or on the move between shelters.

The first question it is natural to ask about the MX is: Do we need it? The loss of the Minuteman force would not mean the loss of U.S. retaliatory capability. The other two legs of our strategic triad include approximately three fourths of our deployed nuclear warheads. They are secure and are being strengthened, the strategic bombers with longer-range air-launched cruise missiles and the nuclear submarines with the modern new Trident boats, as well as the longer-range and more powerful Trident missiles. Therefore, it is natural to ask whether we need to respond at this time to the perceived growing threat to our land-based ICBMs in the fixed, hardened silos. Apparently, this question has already been answered in the affirmative by the country for a variety of reasons, in part political, in part strategic, and in part technical. It has been judged to be an unacceptable policy for the United States simply to accept, without a response, a substantial decrease in confidence in the invulnerability of a major component of our strategic retaliatory power, and we are now moving ahead with an MX program. The missile itself is being developed with initial flight tests scheduled in 1983. The basing scheme, however, is still being debated in the Congress.

Although I recognize that the Carter Administration has made a serious effort to devise a basing mode that is consistent with the past record of the SALT negotiations, and that will not impede prospects for future progress in arms control, I have serious problems with its proposal. I believe that a linear grid scheme—and, in fact, any land-based multiple aimpoint scheme—is seriously flawed for contributing to our national security and, furthermore, it presents serious problems for arms control. I list the following as its most serious problems:

- The requirement of maintaining confidence in secrecy, in deception, and in extensive simulation procedures amidst our society.

- An acute sensitivity to the threat. It is necessary to be able to forecast accurately the number of warheads the Soviets will be deploying and that could threaten the MX. In particular, the SALT II restraints on numbers of warheads per missile, as well as on total numbers of missiles, are required in order to plan the number of shelters and dummy missiles we will have to deploy. In the absence of current or future SALT limits on the maximum number of threatening Soviet warheads, a multiple aimpoint system has no assurance of catching up with the threat. It may lead to nothing more than an open-ended race between Soviet warheads and U.S. concrete shelters—hardly an attractive prospect. An alternative prospect of defending the MX with an antiballistic missile system has also been discussed. This would require abrogating the ABM treaty of SALT I, an even less attractive prospect.

- The requirement of cooperative operational procedures to ensure that no more than the stipulated number of missiles are deployed in the guise of decoys; these procedures, which include barriers on access roads and removable plugs in ceilings of assembly buildings and shelters to allow periodic satellite viewing, will further stress the verification requirements of an enforceable arms control treaty. This will be a particular problem if the Soviet Union follows our example by deploying a multiple aimpoint system of their own as their response to the extensive countersilo threat against their ICBMs that will be posed by the two thousand very accurate MIRVs on our two hundred MX missiles.

The United States should not now make the commitment to deploy the MX linear grid system. It has flaws, and creates difficulties. Moreover, it is not necessary for us to plunge ahead at this time—given the two other components of the strategic triad that are strong and secure and are currently being further strengthened by major modernization programs. It is precisely the strength of the triad, that one can rely confidently on two good legs while solving the vulnerabilities that threaten the third one. It is far more important that we make a wise decision than a quick one for the new MX deployment.

As a technical man, I realize that it is not always possible to come up with a good technical answer to every technical problem, but I am confident that we can do beter than the MX linear grid system, both for our national security and for arms control prospects.

It is at discouraging moments like this—with both the United States and the Soviet Union moving toward decisions on major new weapons systems and with formal arms control negotiations recessed for an indefinite period—that we must remind ourselves again why we cannot give up hope for arms control. We, meaning both the Soviet Union and the United States, must remind ourselves of the enormity of the destructive power of the nuclear weapons we are dealing with and of the scale of human tragedy and suffering if they were ever used. It is imperative that we reestablish an effective, aggressive, national—as well as international—forum for discussing the basic issues such as addressed thirty years ago by those who questioned whether the use of nuclear weapons could *ever* be justified on *any* ethical grounds. It is not enough just to discuss and analyze the nuts and bolts of weapons technology. We must never lose sight of the change in the nature of war due to nuclear weapons. Shakespeare in *Henry IV, Part II*, wrote of the Archbishop of York who could justify his path of insurrection by saying:

> I have in equal balance justly weighed
> What wrongs our arms may do, what wrongs we suffer,
> And find our griefs heavier than our offences.

That was before the nuclear era, which in our times transforms the Archbishop of York into Father Siemes, a Jesuit priest writing from the rubble of Hiroshima to the Holy See in Rome, as reported by John Hersey:

> The crux of the matter is whether total war in its present form is justifiable, even when it serves a just purpose.

That question is today as inescapable as it is difficult. President Kennedy addressed it directly in his speech "Toward a Strategy of Peace," at American University in 1963:

> I speak of peace because of the new face of war. Total war makes no sense in an age when great powers can maintain large and relatively invulnerable nuclear forces and refuse to surrender without resort to these forces. It makes no sense in an age when a single nuclear weapon contains almost 10 times the explosive force delivered by all of the Allied airforces in the Second World War. It makes no sense in an age when the deadly poisons produced by a nuclear exchange would be carried by the wind and water and soil and seed to the far corners of the globe and to generations yet unborn. . . . Peace need not be impracticable, and war need not be inevitable.

Finally, we—and by this I mean, of course, the Soviet Union as well as the United States—must also not lose sight of the eventual goal of eradicating the vice of nuclear weapons as we parry and propagandize as to who owns, in Alexander Pope's words, the "Extreme of Vice." Right now is the time when it is crucial that both sides adhere to rules of reasonable self-restraint until negotiations get back on track. It is surely a deeply shared need of the United States and the Soviet Union not to let too many more watches pass before we make genuine progress in controlling and reducing nuclear weapons.

References

This paper is based on talks that I gave at the Leo Szilard Award session of the American Physical Society (April 29, 1980, Washington, D.C.) and at the M.I.T. Faculty Convocation (May 21, 1980, Cambridge, Mass.) in honor of Jerome B. Wiesner on his retirement as president of M.I.T.

To combat the menace of nuclear war

Council for a Livable World
11 Beacon Street
Boston, Mass. 02108

Gertrud Weiss Szilard, M.D.
8038 El Paseo Grande
La Jolla, CA 92037

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George Kistiakowsky is the Lawrence Professor Emeritus of Chemistry at Harvard University and Chairman of the Board of Directors of the Council for a Livable World. He is a world leader in pursuit of nuclear arms control.

Dr. Kistiakowsky was Science Advisor to President Eisenhower and worked on the General Advisory Committee to the U.S. Arms Control and Disarmament Agency.

Dr. Kistiakowsky was awarded the National Medal of Science by President Johnson and the Medal of Freedom by President Eisenhower.

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Million Doomed In S.F. A-Blast, Doctors Warned

By Charles Petit
Science Correspondent

A single one-megaton nuclear bomb detonated over San Francisco's City Hall would kill 780,000 persons outright and leave 382,000 persons doomed to die, a physician told a medical audience in San Francisco yesterday.

A horrifying scenario of the collapse of organized medicine in the aftermath of nuclear war was carefully spelled out by physicists and medical doctors in the War Memorial Veterans Building as part of a series of meetings designed to recruit the medical profession into active opposition to the nuclear arms race.

Its organizers emphasized that they do not support unilateral disarmament by the United States. They expressed alarm at suggestions that the United States must acquire more and more nuclear arms, and at suggestions by some defense analysts that a nuclear war is winnable.

The human casualties of a nuclear blast over San Francisco were spelled out to about 1000 persons, half of them physicians, by Dr. H. Jack Geiger, professor of community medicine at the City College of New York.

He estimated that, from blast and radiation effects, and the firestorms following, 780,000 of the 3.6 million persons living in San Francisco, Alameda, Marin, San Mateo, and Contra Costa counties would die immediately.

There would be 382,000 persons seriously injured. Few would live. Many would survive if they were cared for in a modern medical center, he said, but such care would be virtually unobtainable.

If the bomb hit during working hours, he estimated that of the 24,000 doctors in the five counties fewer than 3000 would survive in healthy enough condition to provide care. A third or more of the 63 hospitals and their 12,000 beds would have been destroyed, and those still standing would lack electricity or water and would soon run out of medications.

"We tend always to think in terms of rescue from the outside," said Geiger, "but in any likely scenario today there will be no outside, because every other major area will be similarly afflicted."

"There essentially would be no hope," he said. "If every doctor treated people as fast as he could, and worked 20 hours a day, it would take them 15 days to work their way through all the injured, spending 15 minutes with each.

"Without X-rays, diagnostic equipment, and medication, what good does it do to be a doctor?"

Dr. Howard H. Hiatt, dean of the Harvard School of Public Health, urged doctors who remain aloof from nuclear arms issue to reconsider.

"Our very silence permits or encourages the nuclear arms race to continue, making almost inevitable, either by design or by chance, what could be the last epidemic our civilization will know," he declared.

The meeting was organized by Physicians for Social Responsibility and the Council for a Livable World Education Fund, with sponsorship from the University of California at San Francisco, Stanford University School of Medicine, and the University of California, Berkeley, School of Public Health.

The meeting in San Francisco follows similar meetings earlier in the year in Cambridge, Mass., and New York. But whether they mark a genuine growth in popular support for disarmament is still not clear. An optimistic note among supporters of aggressive negotiation of disarmament was sounded by MIT physicist Bernard T. Feld, one of the participants in the Manhattan Project and editor of the influential Bulletin of the Atomic Scientists.

Much of the traditional disarmament movement has been dominated by physicists, he said, "but those are just crazy physicists in the eye of the public, guilty over building the bomb in the first place. If other groups, such as physicians, begin to speak up, however, maybe people will listen.

"I must say that for reasons I can't really quantify, in the past six months people are getting more involved. There is interest from doctors, and also from educators and other professionals. These are not just ban-the-bomb-at-any-cost types, but thoughtful people who are seriously concerned."

Oakland Tribune
EASTBAY
TODAY
Tuesday, November 18, 1980

A small nuclear explosion would cripple Bay Area

By Fred Garretson
Tribune Regional Affairs Writer

A nuclear bomb explosion in the San Francisco Bay Area metropolis would kill most of the region's doctors, destroy most of the hospitals and leave so many seriously injured people stumbling among the corpses seeking aid that "it's very probable the survivors would envy the dead."

Dr. H. Jack Geiger, a community health professor at the City College of New York, gave this grim picture at a special conference on "The Medical Consequences of Nuclear Weapons and Nuclear War," which opened in San Francisco on Monday.

Geiger made a detailed study of the effects of various kinds of nuclear weapons attacks on San Francisco to show the kinds of acute medical problems an atomic war would produce in the United States.

Using the example of a one-megaton explosion — a relatively small bomb — exploded over the San Francisco financial district, Geiger said one out of every three people within a five-county area would be dead or seriously incapacited, not counting radiation poisoning and people with lesser injuries.

That's 780,000 people killed outright and 382,000 people with critical injuries from one moderate-sized bomb in one metropolis. There has never been a comparable disaster, Geiger said. And because similar disasters would be happening all over the nation at the same time, there would be little, if any, outside help.

Geiger said a recent count showed the five-county area — San Francisco, Alameda, Contra Costa, Marin and San Mateo — has more than 12,000 physicians, 63 hospitals, 12,000 hospital beds and five burn centers, almost all of them concentrated with the projected nuclear blast zone.

Assuming an afternoon attack, on a weekday, most of the hospitals would be gone and only 2,000 doctors would remain. Among the surviving physicians would be many retired doctors, medical adminstrators and others "who haven't seen blood for years," he said.

They would have little equipment, drugs or medicine to work with, and for practical purposes, could have very little effect, Geiger said. There would be 1,000 to 1,700 critically injured patients for every surviving physician. This doesn't include people with lesser injuries.

Assuming every surviving physician was willing and able to come out into a radioactive environment and work 20 hours a day, and assuming the doctors spent only 10 minutes diagnosing and treating each patient, it would still be eight to 14 days before each critically injured victim could be seen for the first time by a doctor, Gieger said.

The immediate effects of a one-megaton air burst over downtown San Francisco would effectively destroy that city.

A projected major damage circle would extend into downtown Oakland where at Lake Merritt, 8.5 miles from ground zero, people would be blinded even by reflected light of the fireball. Exposed persons would have second degree burns (blisters) of the skin.

At that distance most downtown Oakland buildings would survive the blast, with heavy damage, but might then be destroyed by fires.

The overpressure of the shock wave hitting downtown Oakland would be "only" two pounds per square inch, but this is enough, Dr. Gieger said, to shatter window glass into a thousand pieces and hurl the shards through the air at 100 miles per hour.

Most survivors would have radiation injuries, but there is no way, in the first few days and weeks, that a doctor could distinguish between symptoms of the patients who were already among the walking dead and others who had suffered minor radiation sickness and could survive if given proper treatment.

There would be 300,000 to 500,000 unburied corpses in the metropolis from which human diseases would spread, and cockroaches, mosquitoes, flies and other disease-carrying organisms would survive and thrive in the postattack world.

The only comparable situation known to modern medicine was the city of Manila which had 39,000 corpses on the ground when the Americans recaptured the city in World War II. It took a well organized, well-equipped, outside force — the U.S. Army — eight weeks to dispose of the corpses, Geiger said. No such outside corpse-disposal force would be available for the San Francisco Bay Area metropolis, Geiger stressed.

Epidemics sweeping through the ruins might kill up to 25 percent of the survivors, he said.

The medical effects of a one-megaton bomb are enormous, but it is more likely that the metropolis would be hit by a 20-megaton bomb, Geiger said. That weapon would kill or wound 77 percent of the population of the five counties.

If there were two 20-megaton bombs in one day — targeted as a deliberate city-killing effort to eradicate the population — the projections indicate 100 percent of the population would be dead or critically injured after the second attack, Geiger said.

THE BOSTON GLOBE FRIDAY, NOVEMBER 14, 1980

The Boston Globe

Poison from the air: Ending Chinese atmospheric testing

By JEROME GROSSMAN

Our new friends, the Peoples Republic of China, exploded a nuclear bomb in the atmosphere on Oct. 17 at a desert testing range in northwest China. This blast caused the formation of clouds carrying poisonous radioactive material that dropped over many sections of the United States, including New England.

Some friends.

China is the only nation still exploding nuclear weapons in the atmosphere. It is the only country sending clouds of radioactive dust around the world to fall on grazing lands where cows and other animals ingest the dangerous material and pass it on to human beings.

Australia, Japan and other Pacific nations have protested vehemently. The China desk of the US State Department has expressed deep concern and has sent a formal protest citing the dangers to its inhabitants and to the safety of international aviation.

This is not the first time the United States has made such a protest. After the last Chinese nuclear test in December 1978, Vice-Premier Deng Xiaoping visited the United States. Nuclear testing by China was discussed with him by President Carter. US Rep. Jonathan Bingham of New York organized a petition signed by a number of congressmen urging the Chinese to join the 106 signatories to the Limited Test Ban Treaty or at least to forswear further atmospheric tests as intolerable acts of aggression against present and future generations. Sen. Robert Dole of Kansas and other congressmen confronted Deng in person with the problem.

Deng's response to all was the same:

1.) Chinese nuclear weapons tests amount to only a small fraction of the tests in the atmosphere conducted in past years by the United States and the Soviet Union.

2.) The Chinese are far behind the two superpowers in nuclear weapons and feel that they must catch up in order to be safe from attack.

3.) The Chinese would like to stop testing in the atmosphere and shift underground, but do not have the technology and the know-how to do so.

4.) If the Americans would teach the Chinese how to test underground and give them the technology, the Chinese would end atmospheric testing.

National Security Adviser Zbigniew Brzezinski and his deputy, David Aaron, have said that the United States has no intention of facilitating Chinese development of nuclear weapons by helping them with the technology for nuclear underground testing.

In July 1979, I confronted high officials of the Chinese government in Peking on their nuclear testing and received the same answers as those given by Deng.

Clearly the time has come to marshal the full force of world opinion against these arrogant and irresponsible acts which threaten the health of all humans, particularly those who live in the Northern Hemisphere. At the very least the United Nations ought to consider and condemn the Chinese tests. Or perhaps an action should be brought before the International Court of Justice seeking injunctive relief or damages for radioactive aggression.

Perhaps the best way to put pressure on China would be for the other nuclear powers — the United States and the Soviet Union in particular — to complete and sign the Comprehensive Test Ban Treaty (CTB) (now 90 percent complete), which would close for all nations the present loophole of underground testing. (Most underground tests also vent radioactive debris into the air.) Most important, the treaty would undercut the Chinese excuses and concentrate world pressure upon the Peoples Republic to stop poisoning us.

Jerome Grossman was an organizer of the movement that led to the Partial Test Ban Treaty of 1963. He is now president of the Council for a Livable World.

To combat the menace of nuclear war

Council for a Livable World

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ADVICE TO INTERNATIONAL PASSENGERS ON LIMITATION OF LIABILITY

REV. 1-74

Passengers on a journey involving an ultimate destination or a stop in a country other than the country of origin are advised that the provisions of a treaty known as the Warsaw Convention may be applicable to the entire journey, including any portion entirely within the country of origin or destination. For such passengers on a journey to, from, or with an agreed stopping place in the United States of America, the Convention and special contracts of carriage embodied in applicable tariffs provide that the liability of certain carriers, parties to such special contracts, for death of or personal injury to passengers is limited in most cases to proven damages not to exceed U.S. $75,000 per passenger, and that this liability up to such limit shall not depend on negligence on the part of the carrier. The limit of liability of U.S. $75,000 above is inclusive of legal fees and costs except that in case of a claim brought in a state where provision is made for separate award of legal fees and costs, the limit shall be the sum of U.S. $58,000 exclusive of legal fees and costs. For such passengers traveling by a carrier not a party to such special contracts or on a journey not to, from, or having an agreed stopping place in the United States of America, liability of the carrier for death or personal injury to passengers is limited in most cases to approximately U.S. $10,000 or U.S. $20,000.

The names of carriers, parties to such special contracts, are available at all ticket offices of such carriers and may be examined on request. Additional protection can usually be obtained by purchasing insurance from a private company. Such insurance is not affected by any limitation of the carrier's liability under the Warsaw Convention or such special contracts of carriage. For further information please consult your airline or insurance company representative.

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REV. 4-77

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If you break your journey for more than 72 hours at any point, please reconfirm your intention of using your continuing or return reservation. To do so, please inform the airline office at the point where you intend to resume your journey at least 72 hours before departure of your flight. Failure to reconfirm will result in the cancellation of your reservation. If your journey is wholly within Europe, this notice does not apply to you.

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REV. 1-80

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TRAVEL INC
LA JOLLA CA
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DATE AND PLACE OF ISSUE

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O	TO SAN FRANCISCO	WA	2926	K	19NOV	155P	OK	K			
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Rev. 4/25/69

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1. As used in this contract "ticket" means this passenger ticket and baggage check, of which these conditions and the notices form part, "carriage" is equivalent to "transportation", "carrier" means all air carriers that carry or undertake to carry the passenger or his baggage hereunder or perform any other service incidental to such air carriage, "WARSAW CONVENTION" means the Convention for the Unification of Certain Rules Relating to International Carriage by Air signed at Warsaw, 12th October 1929, or that Convention as amended at The Hague, 28th September 1955, whichever may be applicable.

2. Carriage hereunder is subject to the rules and limitations relating to liability established by the Warsaw Convention unless such carriage is not "International carriage" as defined by that Convention.

3. To the extent not in conflict with the foregoing carriage and other services performed by each carrier are subject to: (I) provisions contained in this ticket, (II) applicable tariffs, (III) carrier's conditions of carriage and related regulations which are made part hereof (and are available on application at the offices of carrier), except in transportation between a place in the United States or Canada and any place outside thereof to which tariffs in force in those countries apply.

4. Carrier's name may be abbreviated in the ticket, the full name and its abbreviation being set forth in carrier's tariffs, conditions of carriage, regulations or timetables; carrier's address shall be the airport of departure shown opposite the first abbreviation of carrier's name in the ticket; the agreed stopping places are those places set forth in this ticket or as shown in carrier's timetables as scheduled stopping places on the passenger's route; carriage to be performed hereunder by several successive carriers is regarded as a single operation.

5. An air carrier issuing a ticket for carriage over the lines of another air carrier does so only as its agent.

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8. This ticket is good for carriage for one year from date of issue, except as otherwise provided in this ticket, in carrier's tariffs, conditions of carriage, or related regulations. The fare for carriage hereunder is subject to change prior to commencement of carriage. Carrier may refuse transportation if the applicable fare has not been paid.

9. Carrier undertakes to use its best efforts to carry the passenger and baggage with reasonable dispatch. Times shown in timetable or elsewhere are not guaranteed and form no part of this contract. Carrier may without notice substitute alternate carriers or aircraft, and may alter or omit stopping places shown on the ticket in case of necessity. Schedules are subject to change without notice. Carrier assumes no responsibility for making connections.

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AIR	LV SAN FRANCISCO	155 PM	WESTERN	FLT:2926	ECONOMY
	AR SAN DIEGO	310 PM			
AIR TICKETS FOR SZILARD GDR			TKT NBR	WA1423540978	128.00
		SUB TOTAL			128.00
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FROM PROCEDENTE de	TO DESTINO
SAN	SFO
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SEAT NUMBER NUMERO de ASIENTO	**SEAT NUMBER** NUMERO de ASIENTO
6F	

855

Western Airlines

Canada / USA / Mexico / Bahamas / Great Britain

FLIGHT VUELO	DATE FECHA	GATE PUERTA de SALIDA
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FROM PROCEDENTE de	**TO** DESTINO	**BOARDING TIME** HORA de ABORDAR
SFO	SAN	1 30 P
SEAT NUMBER NUMERO de ASIENTO		**NO SMOKING** NO FUMAR
7F		**SMOKING** FUMAR

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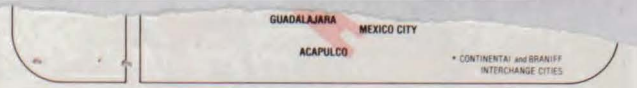

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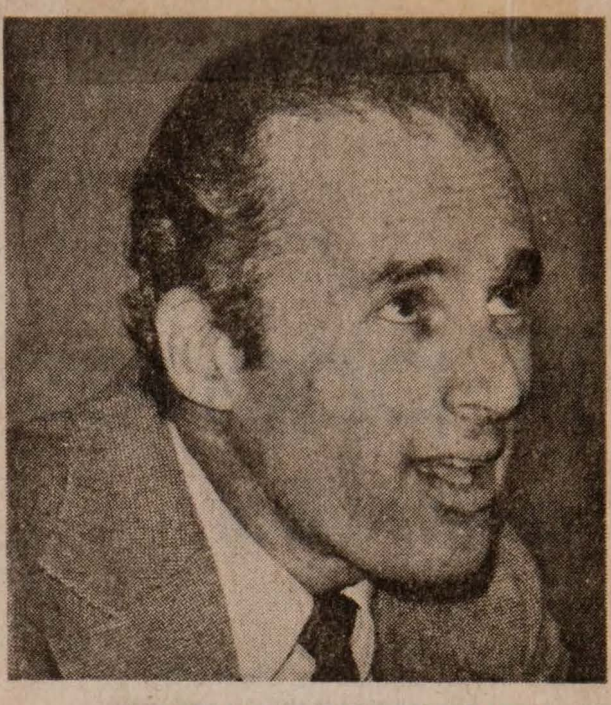


HARVARD DEAN HOWARD H. HIATT
He made a plea for doctors to speak out

Million Doomed In S.F. A-Blast, Doctors Warned

By Charles Petit
Science Correspondent

A single one-megaton nuclear bomb detonated over San Francisco's City Hall would kill 780,000 persons outright and leave 382,000 persons doomed to die, a physician told a medical audience in San Francisco yesterday.

A horrifying scenario of the collapse of organized medicine in the aftermath of nuclear war was carefully spelled out by physicists and medical doctors in the War Memorial Veterans Building as part of a series of meetings designed to recruit the medical profession into active opposition to the nuclear arms race.

Its organizers emphasized that they do not support unilateral disarmament by the United States. They expressed alarm at suggestions that the United States must acquire more and more nuclear arms, and at suggestions by some defense analysts that a nuclear war is winnable.

The human casualties of a nuclear blast over San Francisco were spelled out to about 1000 persons, half of them physicians, by Dr. H. Jack Geiger, professor of community medicine at the City College of New York.

He estimated that, from blast and radiation effects, and the firestorms following, 780,000 of the 3.6 million persons living in San Francisco, Alameda, Marin, San Mateo, and Contra Costa counties would die immediately.

There would be 382,000 persons seriously injured. Few would live. Many would survive if they were cared for in a modern medical center, he said, but such care would be virtually unobtainable.

■

If the bomb hit during working hours, he estimated that of the 24,000 doctors in the five counties fewer than 3000 would survive in healthy enough condition to provide care. A third or more of the 63 hospitals and their 12,000 beds would have been destroyed, and those still standing would lack electricity or water and would soon run out of medications.

"We tend always to think in terms of rescue from the outside," said Geiger, "but in any likely scenario today there will be no outside, because every other major area will be similarly afflicted."

"There essentially would be no hope," he said. "If every doctor treated people as fast as he could, and worked 20 hours a day, it would take them 15 days to work their way through all the injured, spending 15 minutes with each.

"Without X-rays, diagnostic equipment, and medication, what good does it do to be a doctor?"

Dr. Howard H. Hiatt, dean of the Harvard School of Public Health, urged doctors who remain aloof from nuclear arms issue to reconsider.

"Our very silence permits or encourages the nuclear arms race to continue, making almost inevitable, either by design or by chance, what could be the last epidemic our civilization will know," he declared.

■

The meeting was organized by Physicians for Social Responsibility and the Council for a Livable World Education Fund, with sponsorship from the University of California at San Francisco, Stanford University School of Medicine, and the University of California, Berkeley, School of Public Health.

The meeting in San Francisco follows similar meetings earlier in the year in Cambridge, Mass., and New York. But whether they mark a genuine growth in popular support for disarmament is still not clear. An optimistic note among supporters of aggressive negotiation of disarmament was sounded by MIT physicist Bernard T. Feld, one of the participants in the Manhattan Project and editor of the influential Bulletin of the Atomic Scientists.

Much of the traditional disarmament movement has been dominated by physicists, he said, "but those are just crazy physicists in the eye of the public, guilty over building the bomb in the first place. If other groups, such as physicians, begin to speak up, however, maybe people will listen.

"I must say that for reasons I can't really quantify, in the past six months people are getting more involved. There is interest from doctors, and also from educators and other professionals. These are not just ban-the-bomb-at-any-cost types, but thoughtful people who are seriously concerned."

THE WALL STREET JOURNAL,
Friday, November 28, 1980

How Doctors Hope to Stop Nuclear War

By RICHARD D. JAMES
Staff Reporter of THE WALL STREET JOURNAL

SAN FRANCISCO—A somber audience of about 1,000 persons spent two days recently considering a ghastly scenario: Suppose a nuclear bomb packing the punch of a million tons of TNT were to burst over this city at 3 p.m. on a clear fall day.

A circle of devastation would be spread three miles wide. Winds of 500 miles an hour generated by the shock wave would sweep everybody and everything out of high-rise office buildings.

Four miles distant, wood frame houses and clothing would ignite spontaneously, the listeners were told. At more than eight miles, exposed people would suffer second-degree burns and windows would be turned into lethal particles traveling 100 miles an hour. Even at a distance of 16 miles, firestorms would raise temperatures to 2,000 degrees, and at 35 miles, persons who looked at the bomb's fireball would be blinded.

In sum, it would be an almost unimaginable holocaust, killing about 800,000 people and fatally injuring another 400,000. The medical problems afterwards would be horrific. The medical aspect was what the 1,000 persons, half of them doctors, had gathered to hear about at a symposium here.

Concerned Physicians

Medical experts and nuclear scientists, members of a group called Physicians for Social Responsibility, vividly detailed the likely consequences of a nuclear blast and considered how doctors and nurses might deal with them.

Their conclusion was that the country's sophisticated medical system would be overwhelmed by even a limited nuclear war and that there couldn't be any possible effective medical response or civil defense.

The symposium, sponsored by the University of California and Stanford University medical schools, was one of several held around the country in past months.

Consciousness Raising

The aim is to reduce the likelihood of nuclear war by raising public consciousness about the medical consequences. "Leaders of the world appear not to understand the medical realities of nuclear war and we are here to describe them," says Dr. Howard H. Hiatt, dean of Harvard's school of public health. "Where treatment is ineffective, attention must be given to prevention."

Physicians for Social Responsibility describes itself as an organization "dedicated to public education on medical aspects of nuclear technology." According to its president, Dr. Helen Caldicott, a Boston pediatrician and author, membership has grown to 2,500 physicians from 10 two years ago.

One symposium theme was that a nuclear attack would wipe out most of a city's doctors, nurses and hospitals because of their central location. Using data from Hiroshima and Nagasaki, Dr. H. Jack Geiger, medical professor at New York's City College, estimates that, in the hypothetical San Francisco blast, only 2,000 of the area's 12,400 doctors would live and only 2,000 of 12,500 hospital beds would be left intact.

Unenviable Plight

"It works out that there would be one doctor for every 1,000 to 1,700 injured persons," he says. "We are talking about injuries of the most severe nature." With surviving physicians working 20 hours a day, it would take them eight days to see every injured person. Even then a doctor could spend only 10 minutes with each patient, and without electricity and sophisticated medical equipment, the visit would be of little use. That also assumes, he explains, that doctors wouldn't spend any time treating other illnesses.

Burns would be the most crushing burden, according to Dr. John Constable, Harvard Medical School professor and surgeon. Second and third degree burns would be sustained out to six miles from the blast. "There is no injury that takes more medical manpower," he says.

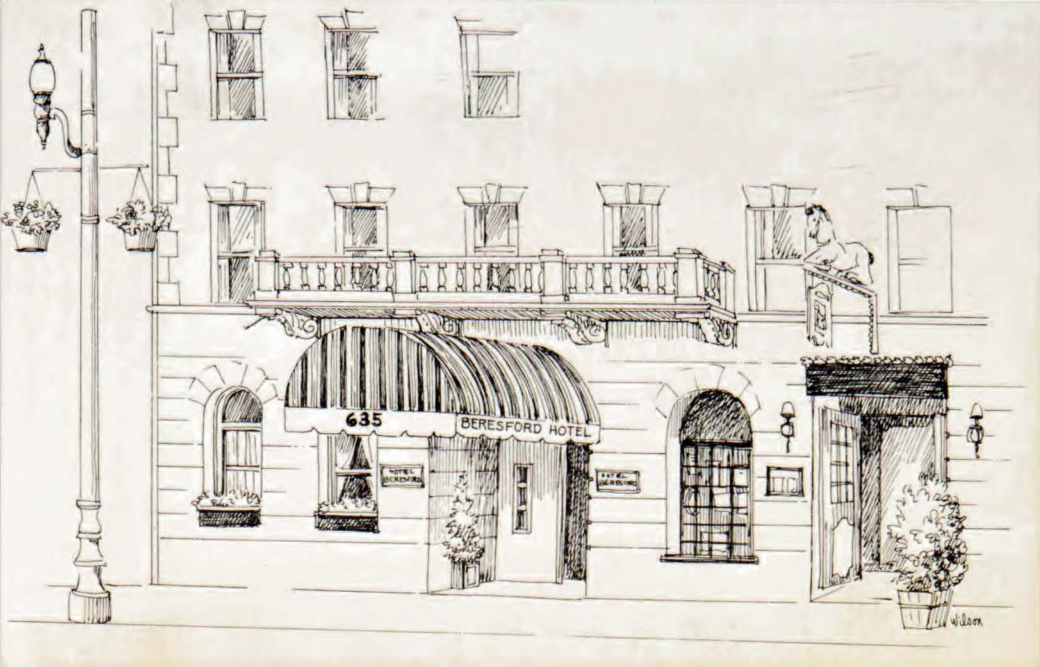
"There would be thousands of severe burn cases, yet U.S. hospitals only have the capability of treating a total of 1,000 burn victims at one time; the medical system would choke completely on burn victims alone," Dr. Constable says.

History No Guide

Disease from the dead would be widespread. In the San Francisco blast, it was estimated there would be 300,000 to 500,000 corpses. "We can find no recorded event of that magnitude," Dr. Geiger says.

The scientists also dealt with other devastating effects. Radiation from detonating only a small fraction of existing nuclear weapons (about 50,000) would seriously deplete the atmosphere's ozone layer which screens out most of the sun's harmful ultraviolet rays. Anyone venturing outside without eye protection would be blinded. "We can wear sunglasses, but the animals and birds can't," says Kosta Tsipis, Massachusetts Institute of Technology physicist. "They would be blinded and die, and the entire ecosystem would collapse."

The sobering two-day meeting concluded with warnings from several quarters. "Military men today honestly think they can win a nuclear war," former Pentagon strategist Gene LaRocque, a retired U.S. Navy rear admiral, said. "That's the nature of the military mind. We are conditioned to think we can pick ourselves up from the rubble and start again. Well, after a nuclear war, forget it."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Small Hotels of San Francisco Give Special Charm to the City

BY JERRY HULSE
Times Travel Editor

SAN FRANCISCO—And now for an update of our file on San Francisco's little hotels.

A roll of the drums, maestro, please.

Although it has been three years since our last roundup, first place goes once more to that pleasant small hotel, the Raphael.

It wins hands down and for good reason.

The Raphael is spotless, it's cheery, it's charming and it's cheap (singles are $37 a night, doubles go for $49).

Undisputedly, it remains San Francisco's friendliest small hotel. Everyone, it seems, is smiling: the doormen, the maids, the cashier. Yes, even its urbane manager, Phil Creamer.

With 150 immaculate rooms, the Raphael at 386 Geary St. is convenient to the theater district and only half a block off Union Square.

Here is one of the city's few small hotels that provides air conditioning (other hoteliers insist this is nonsense in wind-washed San Francisco).

In addition, each of the Raphael's rooms contains two telephones (one in the bath, the other beside the bed) as well as color TV and AM-FM radio.

But it is neither telephone nor TV that provides the charm. It is the little touches that count. Among them is an exhibition of modern art: framed posters of such masters as Chagall, Matisse, Picasso and others.

And then there are the guest room doors: Throughout the hotel each has been hand-painted and signed by artist Jedson Dalton.

Bowls of flowers brighten the Raphael's cheery lobby with its books, its chandelier and grandfather clock.

Steps away, guests snack in a coffee shop and bar.

Proprietors of the Raphael bill it as "San Francisco's 'little' elegant hotel." Sens. Alan Cranston and Barry Goldwater have slept here, as well as the Bishop of London.

It is first rate. What more can I say?

And then there is the Beresford at 635 Sutter St. (singles $28-$30, doubles $32-$34), with its intimate Victorian lobby and neatly furnished rooms.

Office workers gather after work in the hotel's publike lounge, the White Horse Taverne. No London local ever provided more atmosphere. Pints are served to a standing-room-only crowd of San Franciscans and out-of-towners.

Please Turn to Page 13, Col. 1

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THE PREVENTION OF NUCLEAR WAR AS A MEDICAL PRIORITY

Report to the
Committee on Environmental Health
California Medical Association

October 10, 1980

by

Howard Kornfeld, M.D.

Howard Kornfeld, M.D., is an emergency physician on the staff of Kaiser-Permanente Medical Center in Richmond, California, and Herrick Hospital and Health Center in Berkeley, California. He is a member of the California Medical Association, the American College of Emergency Physicians, and Physicians for Social Responsibility.

What is the physician's role in the prevention of nuclear war? Recently, two physicians approached the organized medical community with this question. Speaking before the Board of Trustees of the American Medical Association, Howard Hiatt, M.D., Dean of the Harvard School of Public Health, suggested that, "Talk of the use of nuclear weapons is a kind of epidemic . . . but with the term epidemic stretched beyond any meaning previously known."[1] Roger Bulger, M.D., President of the University of Texas Health Sciences Center in Houston, wrote in the September 12, 1980, issue of the Journal of the American Medical Association that, ". . . we as physicians have the obligation to transmit to our fellow citizens the nature of the effects of a nuclear war on us and the whole human race."[2]

Eighteen years ago, a group of physicians took up this question and published an article entitled, "The Medical Consequences of Thermonuclear War," in The New England Journal of Medicine.[3] The introduction reminded readers that, ". . . there are some situations in which prevention is the only effective therapy. It is hoped that readers . . . will be stimulated to play a greater part in the search for peaceful alternatives to thermonuclear war."[4]

If the physician should accept a role in the prevention of this ultimate medical catastrophe, it is then necessary to consider factors which either increase or decrease the likelihood of nuclear war. It is here that the organized medical community has traditionally declined to become involved, observing that these considerations are outside the boundary of medical expertise.

I would like to suggest that in several critical areas medical expertise can make an important contribution. These areas include:

(1) The need to estimate the injury, death and disease that result from nuclear detonations.

(2) The need to estimate the likelihood of accidental nuclear war due to the failure of technology and technology control.

(3) The need to estimate the likelihood of intentional nuclear war initiated by psychologically disturbed individuals.

A recent Scientific American inquiry suggests that a serious underestimation exists among some military analysts of the destructive effects of nuclear weapons on health and the environment.[5] This error may have led to the formulation of the new strategy of limited nuclear war. The effects of such a limited exchange may be far greater than realized and may lower the risk threshhold for all-out nuclear war.[6]

The editors of the New York Times were recently alarmed by the failure of a 46 cent electronic circuit at the Strategic Air Command that twice led to the incorrect perception of a Soviet nuclear attack within a three day period.[7] As physicians familiar with machinery upon which life depends we are

continued

cognizant of the potential for failure often inherent in complex systems. We are all aware of the occasional morbidity and mortality secondary to the malfunction of hardware such as respirators and heart-lung bypass devices. And we are all familiar with the rare but occasional failure of the well trained operators of such equipment. Whereas in our medical practice technological malfunction may affect the health of one patient in the arena of the command and control of nuclear weapons it may lead to global holocaust.

Finally, as physicians and scientists, we recognize the potential for the best of planning to be sabatoged by disturbed individuals. A glance at any daily newspaper informs us of the prevalence of this instability, too often present in the leaders of certain developing nations. It is thus most disturbing to know that the international availability of nuclear fuels for electricity generation is leading to the soon irreversible proliferation of nuclear weapons.[8]

It is quite likely that a medical contribution would result in an increased appreciation of the medical damage from nuclear detonations and an increased appreciation of the likelihood of nuclear war due to technological error or psychological aberration. This could be an invaluable contribution to the deliberations of policy makers who wish to increase the security of our country and the security of the world.

I strongly urge that the Committee on Environmental Health consider the question of the physicians role in the prevention of nuclear war. The continued evolution of our civilization, our science, and our grandchildren may await our timely answer.

REFERENCES

[1]Editorial, "Almost Unthinkable Thoughts", American Medical News, American Medical Association, August 22, 1980, 23:32, p.4.

[2]Bulger, R.J., "A Physician Considers Nuclear War," Journal of the American Medical Association, 244:11, September 12, 1980, p.1255.

[3]Ervin, F.R., Sidel, V.W., et.al., "The Medical Consequences of Thermonuclear War", The New England Journal of Medicine, May 31, 1962, 266:22, pp.1126-1145.

[4]Ibid., p.1127.

[5]Lewis, K.N., "The Prompt and Delayed Effects of Nuclear War", Scientific American, July, 1979, 241:1, pp.35-47.

[6]Editorial, "The New Nuclear Strategy and Its Perils", The New York Times, August, 1980.

[7]Editorial, "That Nuclear Alarm Wasn't False", The New York Times, June 30, 1980.

[8]Lovins, A.B., et.al., "Nuclear Power and Nuclear Bombs", Foreign Affairs, Council on Foreign Relations, Summer, 1980, 58, pp.1137-77.

To combat the menace of nuclear war

Council for a Livable World

11 Beacon Street
Boston, Mass. 02108
Phone: (617) 742-9395

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JEROME GROSSMAN
President

HARRIET M. AVERY
Director

100 Maryland Avenue, N.E.
Washington, D.C. 20002
Phone: (202) 543-4100

JOHN ISAACS
Legislative Director

September 1, 1980

Dear Council Supporter:

At the recent Democratic National Convention in New York, major speeches were made by Council Board members Paul Warnke on the MX and John Kenneth Galbraith on arms control. I, as Council President, addressed the convention on a range of issues connected with nuclear weapons; this was carried on prime time television by the three major networks.

The Council for a Livable World furnished important financial and organizational assistance to the delegates who sought to amend the Democratic platform by eliminating support for the MX. This effort lost by only 597 votes out of 3,151 despite the fact that President Carter appealed to each delegate in a handwritten letter as "your Commander-in-Chief" and put Defense Secretary Harold Brown as well as most of the Cabinet on the convention floor to lobby.

Our July newsletter "1980 U.S. Senate Elections and Arms Control" listed Senator Bob Packwood of Oregon as a hawk running for re-election. He was also described as the heavy favorite against state senator Ted Kulongoski.

Since then, Kulongoski has made extraordinary progress; public opinion polls now give him a good chance to upset the incumbent. There never was any question about Kulongoski's support for arms control, only about his electability. The Council for a Livable World endorses Ted Kulongoski with enthusiasm.

Senator Gaylord Nelson of Wisconsin is besieged by hawks and conservatives in his bid for re-election. In what has become the pattern for 1980, this solid and reliable arms control activist is being dramatically outspent.

This is the second time the Council has appealed for contributions for Senator Nelson. He needs the funds if he is not to be upset.

May we remind you that contributions made through the Council guarantee the candidates' awareness of a substantial issue-oriented constituency for arms control.

Sincerely,

Jerome Grossman

Jerome Grossman
President

Enclosures:
*Profile of Ted Kulongoski
*Profile of Senator Gaylord Nelson

TED KULONGOSKI

Endorsed by the Council for a Livable World
Democrat - Oregon

One of the sleepers of the 1980 election campaign may come in the Oregon Senate race. At the beginning of this year, Republican Senator Bob Packwood appeared to have clear sailing in his bid for a third term. Now he is faced with a determined challenge from a bright, young and articulate state senator, Ted Kulongoski, who has an increasingly promising opportunity for an upset.

Ted Kulongoski has taken strong positions on Council for a Livable World issues, including support for arms control measures and opposition to excessive military spending. But there was a serious question whether he could get elected against an incumbent raising record amounts of money and in a year when a tide seems to be running toward the Republicans. The evidence is building that in fact Kulongoski can win against the hawkish Packwood and that the challenger is building momentum for the final two months of the campaign.

In May Kulongoski won a surprisingly lopsided primary victory against four opponents, polling close to 50% of the vote. Then in July, the Oregon AFL-CIO, which has been heavily courted by Packwood for the last few years, surprised observers by overwhelmingly backing Kulongoski over Packwood. Other independent unions have also endorsed the challenger.

The latest polls also show a tightening race. Where Packwood led Kulongoski last December by a 55% to 25% margin with 20% undecided, the widely respected Oregon Poll released in August shows Packwood's margin down to 42% to 34% with 24% undecided—despite the fact that Kulongoski's name recognition is only 47% in the state. An incumbent with only 42% of the vote at this point in the campaign has serious weaknesses.

One of Packwood's problems is the general anti-incumbent feeling that has struck Republicans as well as Democrats, especially in Oregon. Moreover, there is disenchantment with his attempts to be all things to all people, rarely taking a strong position on issues. And finally, there is the money question. Packwood has been an extremely successful fundraiser in this campaign. He has already taken in over $1.5 million, the most by a factor of three in Oregon's political history. This money, helpful to be sure in running a campaign, has at the same time aroused resentment as an attempt to buy the election in a state known for low-key, low-budget retail politics.

If Kulongoski can go on to victory, it would be a strong pick-up for arms control in the Senate. Kulongoski, born in Missouri, is a labor lawyer elected as an Oregon state representative and then state senator. He is a strong supporter of the SALT II Treaty. "SALT II," says Kulongoski, "is needed even more today than last year, due to the heightened arms competition between the U.S. and the Soviet Union and due to the economic problems this country faces. It is in America's military and economic interest and America's hope for world peace to try to limit the arms competition rather than to engage to new arms escalation."

Kulongoski also opposes the MX missile. "To spend billions of dollars on the MX missile that all the military strategists say will be obsolete by the time it is to be deployed makes no military or economic sense."

Kulongoski has not hesitated to criticize the Carter Administration for its overreaction to the Soviet invasion of Afghanistan, accusing the Administration of trying to distract public attention from the equally serious problems of energy and the economy. He also opposes across-the-board increases in military spending whether in reaction to Middle East instability or to political pressures. Kulongoski told the Optimist Club in Roseburg, Oregon, that "I personally do not believe it is in the best interests of this country...to attempt to resolve the energy problems of America by larger and larger military budgets that direct more and more of this nation's natural resources to the military-industrial complex of our economy."

Packwood's record on arms control and military issues, on the other hand, has been dismal. He first won election in 1968 by knocking off the first and foremost opponent of the Vietnam war, the venerable Sen. Wayne Morse. Packwood won by fewer than 2,000 votes out of 784,000 cast. While being careful during the election campaign to avoid a label of hawk or dove on Vietnam and arms control issues, upon taking office Packwood quickly began establishing a generally hawkish posture on major issues that has continued to today.

In one of his earliest key votes, Packwood helped to save President Richard Nixon's ABM plan in the dramatic 1969 50-50 tie vote on an amendment by Sen. Margaret Chase Smith (R-Me.). Today, Packwood is a staunch supporter of the MX missile program, and voted against an amendment in 1979 by his fellow Oregon Senator Mark Hatfield (R) that would have terminated the program.

Midway through his first term, Packwood voted for the SALT I Treaty, but at the same time supported the Jackson (D-Wash.) amendment to the treaty resolution that weakened the spirit of the treaty and set the stage for the hawks' assault on SALT II last year. During the Senate's 1979 consideration of the now-shelved SALT II Treaty, Packwood refused to commit himself for or against the treaty, and raised concerns over the Soviet Backfire bomber and treaty verification.

When faced with military spending questions, Packwood tends to support higher military budgets. In 1979, for example, he voted for a Hollings (D-S.C.) amendment to the budget resolution to increase the defense budget by 5% real growth. During the debate on the Hollings proposal, Packwood jumped into the discussion with a September 18, 1979 speech that included the following:

> "At some stage, your level of military spending vis-a-vis that of your principal opponent goes below a threshold where not only your opponent, but others, do not regard you as credible; and I am afraid we have approached and gone below that point. All during the 1960's, we increased our military spending and Russia increased her military spending. All during the 1970's, we cut our military spending and Russia increased her military spending. Now, in relative terms, absolute terms, by every conceivable standard of comparison, they are spending more money than we are, and they will continue to do so absent some enormous change of policy, whether or not the SALT II treaty is ratified."

Over the years, Packwood has voted again and again against amendments to reduce the level of military spending.

In other key arms control votes, Packwood in 1977 followed the Scoop Jackson line by voting against Paul Warnke as chief SALT negotiator while supporting him as head of the Arms Control and Disarmament Agency. The same year, he again went against his Oregon colleague by voting against a Hatfield amendment to stop development of the neutron bomb. He also supported continued funding of the Clinch River breeder reactor, a system which has dangerous nuclear proliferation implications.

Packwood's record on other foreign policy issues has been mixed. While voting to support the Panama Canal treaties, he voted in the early 1970's to continue the bombing of Cambodia and Laos. In 1978 and 1979, he voted to discontinue sanctions against the white racist Smith regime in Rhodesia at a time when, if the legislative efforts had been successful, the opportunity for a peaceful settlement of the war might have been torpedoed.

Kulongoski, to be elected, needs substantial financial help. By mid-August he had raised only $75,000 toward a goal of $300,000 for the November election, an eventual total he feels sufficient for a solid Oregon campaign despite Packwood's overwhelming financial advantage. The state AFL-CIO's endorsement has begun to aid the fundraising effort, but he needs a lot of additional help to meet his minimum budget.

If you would like to contribute, please make your check out to KULONGOSKI FOR U.S. SENATE COMMITTEE and mail to:

COUNCIL FOR A LIVABLE WORLD
11 Beacon Street
Boston, Massachusetts 02108

GAYLORD NELSON

Endorsed by the Council for a Livable World
Democrat—Wisconsin

On May 6, 1965, only three U.S. Senators voted against President Johnson's request for money to launch a ground war in Vietnam. They were Ernest Gruening of Alaska, Wayne Morse of Oregon and Gaylord Nelson of Wisconsin. Nelson said before the vote: "The support in Congress for this measure is clearly overwhelming. Obviously you need my vote less than I need my conscience."

Senator Nelson's conscience is still guiding him in 1980. On key 1979 Senate votes on defense issues, he voted with the "arms control" position on four out of five amendments:

—*For* the McGovern amendment to reduce military spending by $1.7 billion and to transfer $1 billion of that to domestic programs (April 24, 1979)

—*Against* the Hollings amendment to increase FY 1980 military spending levels by 3% over inflation, in line with President Carter's request but more than the Budget Committee approved (September 18, 1979)

—*Against* the Hollings amendment to increase FY 1981 and FY 1982 military spending by 5% over inflation, above President Carter's request and way above the Budget Committee recommendation (September 18, 1979)

—*For* the Proxmire amendment to eliminate a fourth U.S. nuclear aircraft carrier (November 6, 1979)

—*Against* the Hatfield amendment to eliminate $670 million for development of the MX missile (November 9, 1979)

Nelson voted against the Hatfield amendment because, while he opposed MX deployment, he did not oppose continued research on the system, which is all the authorizing legislation allowed.

Nelson's current views on the MX: "I continue to have grave reservations about the MX system. In particular, I am concerned about the feasibility, environmental impact, and the tremendous cost of a system that can be made obsolete if the Soviets choose to target enough warheads against it."

Earlier Senator Nelson voted *for* the nomination of Paul Warnke as Director of the Arms Control and Disarmament Agency and chief SALT negotiator, *against* the neutron bomb, *against* arms for Egypt and Saudi Arabia, *for* the Panama Canal Treaty, and *against* the Clinch River Reactor.

Throughout his 18 years in the Senate, Nelson has been among the most dependable advocates of responsible arms control. It was Nelson's amendment which first established the right of Congress to veto arms sales abroad in excess of $25 million. He never wavered in his outspoken support for the SALT II Treaty. As recently as May 7, 1980, Senator Nelson tried to cut $2.4 billion from the 1981 defense outlays and transfer the funds to domestic programs. Unfortunately his amendment to this effect was tabled.

Gaylord Nelson is an institution in Wisconsin. He has held public office continuously since 1948, longer than any other statewide elected official. However, after the 1978 election when several of Nelson's liberal colleagues were defeated by unknowns, no incumbent enjoys an automatic advantage. The substantial vote for Ronald Reagan in the Presidential primary this year is significant and unsettling to Nelson particularly because of the large blue collar crossover to the Republican ballot.

Although Wisconsin has a liberal reputation, it is actually a state of political anomalies. It spawned Bob LaFollette and the Progressive movement as well as Joe McCarthy and his campaign against "Communism in high places." Richard Nixon carried Wisconsin twice, yet in the seventies the state became decidedly Democratic.

Although Nelson is unopposed on the Democratic ballot, four major conservative candidates, all associated with big money, are vying for his seat within Wisconsin's resurgent GOP. The primary date is September 9.

Three Republicans declared early for the race, including former Congressman Robert W. Kasten, Jr., an established political figure with broad-based support from a previous statewide race. The others are Terry Kohler of Sheboygan, son and grandson of Wisconsin governors, and G. Douglass Cofrin of Milwaukee, also well-known and also extraordinarily wealthy.

Shortly before the July 9 filing deadline the lieutenant governor jumped into the race. Russell Olson, a millionaire dairy farmer and an early Reagan supporter, is popular with the GOP estab-

lishment and immediately became, with Kasten, a favorite in the primary.

All four Republican candidates are concentrating their vast resources in attacks on Nelson. Kasten charges Nelson with "responsibility for U.S. military weakness," according to the Milwaukee Journal in February. Kohler has written: "If I were in the Senate I would oppose SALT II because I know you cannot trust the Russians to live up to their end of any bargain, but Nelson supports SALT II even though many experts have told him we have no way of making sure the Soviets are complying with it." The March 1st Madison Capital Times reports that Cofrin is a hawk, dead set against the SALT II Treaty, and a believer in "peace through military strength."

Nelson is threatened by a Republican money blitz. While Nelson had spent $194,000 by August 4, Cofrin had already spent $952,000 before July 1 and Kohler had spent $505,000.

Nelson has not needed a lot of campaign money for a long time. He was reelected in 1974 having raised only $270,000. This year, Nelson budgeted $525,000: he has $405,000 so far. His opponent in the general election will have the further advantage of a check for $216,000 from the Republican Senate Campaign Committee the day after the primary; Nelson can expect only $17,500 from the comparable Democratic committee.

In his quiet, homespun and unassuming way, Gaylord Nelson is an effective senator. He is one of the most popular senators among his colleagues, and they seldom take offense when he opposes them. They know he acts solely out of conviction and without posturing. They also know that he is passionately committed to the cause of arms control.

If you would like to help Senator Gaylord Nelson win a fourth term, please make out your check to NELSON FOR SENATE COMMITTEE and mail to:

COUNCIL FOR A LIVABLE WORLD
11 Beacon Street
Boston, Massachusetts 02108

PHYSICIANS FOR SOCIAL RESPONSIBILITY, INC.

P.O. Box 144, 56 North Beacon St., Watertown, Massachusetts 02172

SAN FRANCISCO BAY AREA CHAPTER
P.O. Box 5454
Berkeley, CA 94705
(415) 845-8395

November 17, 1980

Dear Symposium Participant:

On behalf of the San Francisco Bay Area Chapter of Physicians for Social Responsibility, Inc., we welcome you to the symposium on The Medical Consequences of Nuclear Weapons and Nuclear War. Your participation in this historic event will lead to a greater appreciation of the immense danger that threatens the health and survival of hundreds of millions of human beings. We hope that you will also gain an understanding of the desperate need for serious arms control measures in the world today. Only in this way can our national security be maintained.

In the past year and a half our chapter has taken a leadership role in the promotion of public and professional education in the area of nuclear technology. We have become a local resource on issues of the health effects of ionizing radiation, radioecology, and medical disaster planning. We have given numerous presentations at medical grand rounds and public meetings.

In the future we will continue our steadfast committment to the most crucial public health problem of the 1980's: the prevention of nuclear war. We will continue our work within the organized medical community and within the academic institutions of the San Francisco area. We will continue to be a resource for government agencies, elected officials and the general public.

We invite you to attend our next general membership meeting on January 12, 1981, at the Faculty Club, University of California, San Francisco, Millberry Union, 500 Parnassus Ave., San Francisco, at 7:30 P.M. Your participation and support, in any amount, is our organization's most vital resource. Only with a committed membership can we survive the days of scarcity that lie ahead. We hope to meet you soon and work together on this most urgent task.

Sincerely yours,

Howard Kornfeld MD

Howard Kornfeld, M.D.
Symposium Coordinator
San Francisco Bay Area Chapter

Peter G. Joseph MD

Peter G. Joseph, M.D.
President
San Francisco Bay Area Chapter

PHYSICIANS FOR SOCIAL RESPONSIBILITY, INC.

P.O. Box 144, 56 North Beacon St., Watertown, Massachusetts 02172

November 17, 1980

Dear Friend:

Thank you for attending our symposium on the medical consequences of nuclear war. As a result of this experience, you may want to join Physicians for Social Responsibility and help us in our national effort to educate the American public about this impending medical disaster.

At this time we have a membership of 2,000 physicians, dentists and medical students. Our current educational program includes:

1. Organizing 5 more national symposia on nuclear war over the next 12 months.

2. Increasing our chapter membership. We now have 35 chapters throughout the country.

3. Maintaining a national office, library and resource center with a full-time staff.

4. Operating a speakers placement bureau and a national speakers training program.

As a national organization we are primarily concerned with the medical consequences of nuclear war, and as a logical corollary, the health effects of the nuclear fuel chain.

Non-physicians may join as associate members. Enclosed is a membership form. We invite you to become a member of Physicians for Social Responsibility and to support this urgent work with a tax-deductible contribution.

You will also find our newsletter in this packet and a list of educational materials available from PSR, which you may find useful.

We will be pleased to work with you in the future on these medical problems.

Yours sincerely,

Helen Caldicott

Helen Caldicott, M.B., B.S.
President

HC:cp
Enclosures

EDUCATIONAL MATERIALS AVAILABLE FROM: PHYSICIANS FOR SOCIAL RESPONSIBILITY, INC.

16mm Films*

F-01 **Danger! Radioactive Waste.**
A 50 minute documentary originally produced for NBC.

F-02 **Paul Jacobs and the Nuclear Gang**
A 60 minute documentary about the effect of radiation exposure on soldiers, civilians and workers and the government's attempts to cover up the story.

F-03 **War Without Winners**
A 28 minute testament to the absurdity of the nuclear arms race and the unsurvivability of nuclear war by the Center for Defense Information.

¾ Inch Color Videocassetes*

V-01 **The Medical Implications of Nuclear Energy**
38 minutes. A talk by Dr. Helen Caldicott before a medical audience.

V-02 **Decision at Rocky Flats: A Question of Trespass**
45 minutes. The expert testimony of Drs. Gofman, Stewart, Johnson, Morgan, Martell et al. on the effects of the leakage of plutonium near Denver, Colorado.

V-03 **Clouds of Doubt**
50 minutes. The history of the Nevada atom bomb tests and the suppression of their medical consequences.

Slide Shows

S-01 **From Trident to Life**
30 minutes. The facts about America's new Trident nuclear submarine program by the Trident Conversion Campaign of the American Friends Service Committee (Script on paper, no tape).

S-02 **John, Mary, MIRV and MARV: The Arms Race and the Human Race**
20 minutes. Slide-Tape about trying to be "number one" in weapons by Operation Turning Point.

Audiocassettes

A-01 **Highlights of a Symposium on the Medical Consequences of Nuclear Weapons and Nuclear War**
2 Hours. Summary of PSR organized symposium held at Harvard Science Center on February 9-10, 1980 with Drs. Abrams, Feld, Geiger, Hiatt, Kendal, Kistiakowsky, Lifton, Luria, and Mark.

*Please contact the PSR office about fees and availability of audio-visual materials. The number is: 617-924-3468.

Printed Information

P-01 **Medical Hazards of Radiation Packet**
Key articles about the health effects of radiation.

P-02 **Nuclear Power and Weapons Packet**
Key articles and newsclips about the nuclear fuel chain and alternatives.

P-03 **Health Dangers of the Nuclear Fuel Chain and Low Level Ionizing Radiation-A Bibliography and Literature Review**
By R.F. Woollard and E.R. Young of the British Columbia Medical Association, updated by Bay Area PSR.

P-04 **PSR Bibliography**
Key references on the medical effects of ionizing radiation.

P-05 **PSR Membership Card**

P-06 **What is the Physicians Role in Preventing a Nuclear War?**
A PSR Brochure.

P-07 **The Physician and Nuclear Power: Questions and Answers**
A PSR Brochure.

P-08 **Danger — Nuclear War**
Poster reprint of full-page New York Times Ad of 3/2/80.

P-09 **The Health Effects of Nuclear Power and Nuclear Weapons by Dr. Katherine Kahn**
A summary for medical professionals of the effects of ionizing radiation and the hazards of the nuclear fuel chain.

Books

B-01 **Nuclear Madness: What You Can Do! by Dr. Helen Caldicott**
An account for the public of the threats of nuclear power and weapons. Autumn Press, 1978.

B-02 **The Counterforce Syndrome: A Guide to U.S. Nuclear Weapons and Strategic Doctrine by Robert Aldridge.**
A review of present nuclear weapons systems showing how the U.S. is developing a pre-emptive first-strike capability. Institute for Policy Studies, 1979.

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COUNCIL FOR A LIVABLE WORLD EDUCATION FUND

11 Beacon Street, Boston, Massachusetts 02108
Phone: (617) 742-9395

Council for a Livable World Education Fund (CLWEF) is a non-profit corporation with headquarters in Boston, Massachusetts. Contributions to CLWEF are tax-deductible under Section 501 (c) (3) of the Internal Revenue Code.

Chairman of CLWEF is George Kistiakowsky, Professor Emeritus of Chemistry at Harvard University and Science adviser to presidents Eisenhower, Kennedy, and Johnson. Internationally known scientists and educators serve on the board of directors, and participate in its activities.

While CLWEF was incorporated in January 1980, most of the scientists, through the Council for a Livable World, have been providing United States senators with sophisticated technical and scientific information that helps them make decisions about nuclear arms control and strategic weapons. The Council for a Livable World, founded in 1962 by the late atomic physicist Leo Szilard, was instrumental in passing the Nuclear Test Ban Treaty, halting ABM, banning biological weapons, advancing the SALT process under four presidents, and slowing nuclear proliferation.

CLWEF was formed to educate the public about nuclear weapons and the nuclear arms race as well as the antidote of serious arms control.

CLWEF has joined Physicians for Social Responsibility in organizing a series of nationwide symposia on "The Medical Consequences of Nuclear Weapons and Nuclear War." Eight of the seventeen members of the faculty at the symposium at Hunter College are associated with CLWEF.

A book on the MX has been commissioned by CLWEF for publication early next year. CLWEF will subsidize an inexpensive edition for mass distribution.

CLWEF plans to conduct regional competitions among college students awarding prizes for essays on the nuclear impasse to heighten consciousness on this the key issue of our time.

PROGRAM

Day I, Monday, November 17, 1980

8:00 a.m. Registration

8:50 **Welcome**
Peter G. Joseph, M.D.
President, San Francisco Bay Area Chapter, Physicians for Social Responsibility

9:00 **Introduction**
Howard H. Hiatt, M.D., D.Sc.
Dean, Harvard School of Public Health
Professor of Medicine, Harvard Medical School

THE THREAT OF NUCLEAR WEAPONS

9:45 **Moderator**
Marvin Goldberger, Ph.D.
President, California Institute of Technology

10:00 **The Present Nuclear Danger**
Herbert Scoville, Jr.
Former Deputy Director for Research
United States Central Intelligence Agency
President, Arms Control Association

11:00 **Medical Effects of Nuclear Weapons Production**
Carl Johnson, M.D., M.P.H.
Director of Health, Jefferson County, Colorado
Associate Clinical Professor of Medicine,
University of Colorado Medical School

11:45 **Physical Characteristics of a Nuclear Explosion**
Kosta Tsipis, Ph.D.
Associate Director, Program in Science and Technology for International Security, Massachusetts Institute of Technology

12:30–2:00 Lunch

NUCLEAR WAR: ACUTE EFFECTS

2:00 **Moderator**
Joseph F. Boyle, M.D.
President, California Medical Association,
Vice Chairman, Board of Trustees, American Medical Association

2:15 **Effects of Nuclear Weapons and Nuclear War on Civilians**
Sydney Drell
Professor of Theoretical Physics and Deputy Director, Stanford Linear Accelerator Center

3:00 **Acute Medical Problems Among Survivors**
H. Jack Geiger, M.D.
Arthur C. Logan Professor of Community Medicine
City College of New York

4:00 **Psychological Effects of the Nuclear Arms Race**
John E. Mack, M.D.
Professor of Psychiatry, Harvard Medical School
Winner, Pulitzer Prize

4:45 **Summary**
Helen Caldicott, M.B., B.S.
Associate in Medicine, Children's Hospital Medical Center, Boston
President, Physicians for Social Responsibility

Reception to Follow Program

Day II, Tuesday, November 18, 1980

NUCLEAR WAR: INTERMEDIATE AND LONG TERM EFFECTS

9:00 a.m. **Moderator**
Warren Winkelstein, Jr., M.D., M.P.H.
Dean, University of California, Berkeley, School of Public Health

9:15 **Surgical Problems Among Survivors**
John Constable, M.D.
Assistant Clinical Professor of Surgery,
Harvard Medical School
Visiting Surgeon, Massachusetts General Hospital

10:00 **Cancer Incidence and Genetic Effects in Atom Bomb Survivors of Hiroshima and Nagasaki**
Stuart Finch, M.D.
Professor of Medicine, Rutgers Medical School
Former Director of Research, Radiation Effects Research Foundation, Hiroshima

11:00 **Long Term Effects of Nuclear Explosions**
Bernard Feld, Ph.D.
Professor of Physics, Massachusetts Institute of Technology
Editor-in-Chief, *Bulletin of the Atomic Scientists*

12:00–2:00 Lunch

POLITICAL AND ECONOMIC ASPECTS OF THE NUCLEAR ARMS RACE

2:00 **Moderator**
Owen Chamberlain, Ph.D.
Professor of Physics, University of California, Berkeley
Nobel Prize in Physics

2:15 **The Economic Impact of Preparing for Nuclear War**
Seymour Melman, Ph.D.
Professor of Industrial Engineering
Columbia University School of Engineering

3:00 **How a Nuclear War Might Start**
Gene R. LaRoque
Rear Admiral, United States Navy (Retired)
Director, Center for Defense Information

4:00 **Preventing Nuclear War**
Roger Fisher
Williston Professor of Law, Harvard Law Scho
Consultant to the Assistant Secretary of L
International Security

4:45 **Closing**
H. Jack Geiger, M.D.
Arthur C. Logan Professor of Community Med
City College of New York

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A New Roots Interview

Dr. Helen Caldicott

WAKING AMERICA UP TO THE NUCLEAR NIGHTMARE

By Rob Okun

The Arms Race is picking up speed. Currently, 35 nations have nuclear weapons capabilities and by the year 2000 as many as 100 nations will know how to acquire them. Many nuclear scientists calculate our chances of reaching 2000 at less than 40 percent. Doctor, mother and scientist Helen Caldicott thinks that figure may be too high.

For close to a decade the Australian-born physician has been waging a public education campaign to inform the planet's peoples of the hazards of the Nuclear Age. She was instrumental in forcing France to halt its atmospheric nuclear testing in the South Pacific, and in alerting the Australian people to the dangers of fallout.

Although noted for her medically-based opposition to nuclear power plants (she is featured in two films discussing radiation and health), Caldicott has been concerned about nuclear arms since she first read On The Beach *in 1955. Nuclear power compared to nuclear war, Caldicott says, is like "a pimple on a pumpkin."*

Caldicott believes doctors must begin practicing "political medicine." In 1978 she helped revitalize Physicians for Social Responsibility, an early sixties anti-nuclear testing group. This year PSR will begin mailing letters to the half million doctors, dentists, and osteopaths in this country, detailing the hazards of nuclear power and weapons, and enlisting their support.

Last year she published her compelling, fact-packed book, Nuclear Madness: What You Can Do, *and is currently at work on a revised edition. Caldicott moved to this country three years ago with her physician-husband and three children, and assumed a post at Boston's Children's Hospital, specializing in the study and treatment of cystic fibrosis.*

Caldicott regularly criss-crosses the country to raise the nuclear question before church, college, civic and medical audiences. Last September she was one of a delegation of eight which visited the Soviet Union on a peace mission arranged by the American Friends Service Committee. While there Caldicott met with more than 100 Russian government officials, journalists, scientists, diplomats, physicians, nuclear reactor plant managers, academicians, military officers and citizens. Discussions centered around the SALT treaty and international nuclear weapons proliferation.

During her visit Caldicott discovered that the virtual parity in weapons that currently exists between the super powers is being threatened. To her horror, she realized that America's decisions to continue developing its Launch-on-Warning system and to deploy cruise and Pershing II missiles in Europe, could mean that within two years the Arms Race will be out of human control.

When she returned home in early October, the 41-year-old physician made one of the most difficult personal decisions of her life: she decided to virtually abandon the practice of medicine for the next two years to work on reversing the Arms Race.

Not long ago New Roots *News Editor Rob Okun interviewed Dr. Caldicott to learn more about her decision, how she plans to spend her time, and her secret ingredient for saving the planet—women.*

Why do you say there are only two years before the Arms Race will be out of control?

There are two reasons. Within two years the technologists at the Pentagon will have finished developing a system called Launch-on-Warning. That means when the computer in our reconnaissance satellite detects something in Russia — maybe it's a missile going off, maybe it's an accident, maybe it's nothing—it sends a message back to all the missiles in America which go off within *three minutes. And there's no human input!* No human being will be able to stop it.

Then there are the cruise missiles. They are small strategic weapons, about 10 to 20 feet long. Because they're so small they can be easily hidden and can't be counted. Up to now Russia and America could count each other's strategic weapons by satellite. That's why we got SALT II—you don't have to trust each other. Without the cruise, America and Russia—for the first time—are essentially equivalent. The cruise missile means the end of any possibility for detente, the end of the SALT talks. *Was there a national debate about this very important decision? Was it discussed in Congress and the Senate? No!*

We hear more talk about the energy crisis than the threat of nuclear war. Are the American people aware of how grave the situation is?

Not yet. Most of America is sound asleep. Do you know we nearly had a nuclear war last November 9? A fellow in the Pentagon plugged a war games tape into a supposedly failsafe computer and the computer took it for real. All the American early warning systems around the world went on alert for six minutes. Three squadrons of planes took off armed with nuclear weapons. At the seventh minute the Presidential 747 command post was readied for take-off. (They couldn't find the President. He was to be notified at the seventh minute.) If in 20 minutes it hadn't been stopped, we wouldn't be here right now. Remember 20 minutes is currently the time limit for a retaliatory nuclear attack. There would have been a full-scale nuclear war and it was *back page* in the *New York Times!* But it was front page headlines in the London *Guardian!* The rest of the world is petrified! This country is a sleeping giant! It is totally unaware of the incredible power it holds and the magnitude of destruction inherent in its arsenals.

Many nuclear critics believe that most of the media is so caught up in listening to the Doublespeak of the Defense Department and the Department of Energy that they regularly miss opportunities to break major stories. Why do you think they underplayed such a gripping, nearly catastrophic story?

It's typical. I really don't think they understand the gravity of the issue. Nuclear war has little to do with a post-Three Mile Island consciousness and it is something they don't want to think about. Were they told to hush it up by the Pentagon? I don't know. The rest of the world is more awake than America because they *know* what war is. That's why it made the front page overseas. Modern America has never suffered war on its own soil.

How many nuclear warheads does the United States have right now?

In the sixties, former Secretary of Defense McNamara figured that if the United States had between 200 and 400 nuclear warheads that would be enough to kill one third of the Russian population and destroy two thirds of its industry. And when they say destruction of people, they are only talking about death by fire or blast. They don't begin to estimate death by fallout.

America now has a staggering 25,000 to 30,000 tactical and strategic nuclear warheads, most of them hydrogen bombs much bigger than the A-Bomb dropped on Hiroshima. According to Randy Forsberg, director of the Institute for Defense and Disarmament Studies, there are enough hydrogen bombs aboard one Trident submarine to destroy every major city in the Northern Hemisphere, and America is intent on building 27 Trident submarines. In spite of the fact that America has enough bombs to *overkill* the Russian population 40 times, and Russia has enough to overkill the American population 20 times, America continues to make three to 10 new hydrogen bombs a day.

What would be the probable scenario of a nuclear war?

If the button is pressed in Russia or America, the weapons go out into space and re-enter the earth's atmosphere at 20 times the speed of sound. And, they're accurately on target. Meanwhile, the satellite from the other country has detected the attack and the button is pressed in that country. So a nuclear war takes about one to two hours to complete. If you live in a targeted area and you do manage to get into a fallout shelter, you won't survive because the firestorms will be so huge. One 20 megaton bomb (20 million tons of TNT equivalent) will create a firestorm of 3000 square miles. The fire will use up all the oxygen in the air, so if you're in a shelter, you'll asphixiate. One 20 megaton bomb would literally vaporize everything in Boston up to Route 128, except reinforced concrete buildings.

Are you saying that no one will survive all-out nuclear war?

Well, very possibly. And you might not want to survive. If you're in a rural area and you do hear the sirens and you get to a shelter in time, you can't come up for two weeks because short-lived radioactive isotopes are so intensely radioactive that you'd die. When you do come out in two weeks, from a psychiatric point of view, you'll be numb with grief, possibly psychotic. Certainly there will be no doctors left, or hospitals, because they're targeted. There will be no food. The water will be intensely radioactive. It's possible that the destruction of the ozone layer will be so intense that you won't be able to stay out in the sun for more than three minutes before you'd develop third-degree sunburn. That means the earth will be a parched, scorched planet. If you survive you must live underground to escape the fallout. And you'd probably get leukemia in five years.

The civil defense manual written by the Pentagon says to very quickly bury the millions of dead, decaying bodies before disease becomes rampant. In a radioactive environment the bacteria and viruses multiply and mutate to become more virulent and our immune mechanism is depleted. We'd see plagues of typhoid, polio, dysentery . . . Things we've cured. They'd all come back. There would have to be large stockpiles of heroin and morphine to inject into the dying people. You can let your imagination wonder a little bit and envision, generations later, the earth inhabited by bands of roving humanoids, unrecognizable as human beings. It will be the end of civilization—all the architecture, music, literature, art—and possibly, every organism on earth. There's real doubt whether any life would ultimately survive.

Remembering how unstable President Nixon was at the end, I wonder how many people have their finger on the button.

No one without classified information really knows. The president has sole authority but there is a political chain of command. The president isn't going to be the one feeding all the

codes through the black box. He can delegate authority. Nobody knows about the decision-making abilities of the captains of nuclear submarines or the men in the ICBM silos. There are two men in the Titan missile silo—termed the sanest men in America by the Pentagon—and each is armed with a pistol to shoot the other if he should exhibit abnormal behavior. Over the past few years, by official Army records, more than 30 of them have been diagnosed to be mentally unstable. So even though the president is in charge there are an unknown number of others down the chain of command.

When you were in Russia, you met with a number of scientists, doctors, government officials, and everyday Russian citizens. What are their feelings about nuclear war?

Uniformly, every person we spoke to is very much against the Arms Race. They desperately wanted a freeze on the deployment of strategic nuclear weapons, desperately wanted SALT II ratified. They didn't want America to deploy the cruise and Pershing missiles in Europe and they don't want China armed by America. They're frightened about nuclear war. They lost 20 million people in World War II and are very sensitive about war.

In light of this anti-war sentiment, what do you think of the Russian action in Afghanistan? It certainly hasn't eased tensions between the super powers.

Of course I think what Russia has done is wrong. But they're very frightened of China. Nearly a billion people live along a common border and they're afraid America will arm the Chinese. It's happening. Secretary of Defense Brown was there not long ago.

The Shah being brought here destabilized the entire mideastern area. It's Muslim area and there are 40 million Muslims living in the southern part of Russia. Russia has been in Afghanistan in a partial way since 1978. Their regime wasn't working well and I guess they thought they had to be strong. I think they've done the wrong thing because they've pushed America—although it was already very hawkish—into a much more war-like situation. A situation of hysteria now prevails on both sides and that's what leads to war. We can't have war anymore, yet we're both armed to the teeth, rattling our sabers.

After you returned from Russia you made some personal and professional decision in response to the escalating Arms Race. What have you decided?

I'm giving up much of my medical work. I was about to start doing some interesting research in cystic fibrosis. Now I've decided not to do it. The decision really tore me apart, because I love what I'm doing. But I go to work and I just can't feel there's any point when there's a danger that every organism on earth will be destroyed in a couple of years.

Certainly after people listen to you speak many must agree with your view of the nuclear situation. Do you have a prescription for mobilizing people to begin working to avert nuclear war?

Lionel Delevingne

"You don't have to be liberated to understand that your children may not survive to 2000."

There's a tremendous untapped majority out there—women. We have a highly developed nurturing instinct. I think if we get moving we can save the earth . . . but we haven't got much time. I propose establishing a Women's Party for Survival. Such a party would include every woman in this country, every single woman. This isn't just a feminist issue. You don't have to be liberated to understand that your children may not survive to the year 2000, let alone the next five to 10 years. When women hear the warning, they blossom and a tremendous power becomes mobilized. Feminists have an important role to play. What they've done over the last 10 years has been vital—they've helped women find their power. But now women have to move or we all won't be here much longer.

Back in the early sixties, women were at the center of the fight against nuclear atmospheric testing. Groups like *Another Mother For Peace* mobilized the kind of woman power you're talking about. Their local drives and marches on Washington made the government sit up and take notice. Why do you think that momentum was lost?

I think women by nature are passive. We haven't been bred to power. We have the babies; we nurture life. We are not exerting power in the world. Dr. Mary Ellen Avery, chief of medicine at Children's Hospital at Harvard says, "Power not used is power lost," and she's right. We have tremendous power. It's part of being a mother to make sure the world is safe for our babies. The situation we're in today demands a revolution for survival.

I understand you've been discussing the *Lysistrata* notion of women deciding en masse not to have any more babies until we have a peaceful planet. Do you support this idea?

Yes. At a feminist conference in Germany recently, some women advocated not having babies until the world is safe for children. I know I'd think carefully before having children again.

What do you think environmental and anti-nuclear groups ought to do to help reverse the Arms Race? Clear the decks of their own agendas and join you?

This issue cuts across all movements. But people are just start-

ing to think about it. These groups must make the Arms Race a part of their work, while not abandoning their other projects. Linus Pauling said recently that if we do survive we're going to need an unpolluted planet for our descendants to inhabit. And it's not just the nuclear power plants. It's the chemicals, the toxic wastes . . . We're fouling our own nest.

People can fall into a trap—it doesn't matter if you have a solar house, and eat the right food if we're all going to blow up in two years. We've got to get this in perspective. We've got to open our eyes, even if it's painful.

You always seem to radiate—pardon the expression—a powerful, positive energy every time I've seen you speak. How do you keep from getting depressed when you face the realities of the nuclear nightmare so often?

Well, sometimes I do get depressed. When I was writing the chapter on nuclear weapons in my book *Nuclear Madness*, I became extremely depressed. I lived it and dreamt it, night after night. I saw bombs dropping out of planes; saw what the world would be like if there was a nuclear war and somehow my children and I survived. It was too terrible. But most of the time I practice what Robert Jay Lifton calls psychic numbing. He's the psychiatrist who worked with survivors of Hiroshima and Nagasaki. Most of the time I don't think about it. I pretend that life will go on. I sew for the kids. I make cakes and look after the family. That's where my joy comes from—the family, the earth, other people. Life's a fantastic, precious thing. I don't think about it ending except when I write or talk about it.

Sometimes I find myself having to consciously decide not to think about the horror of World War III. What do you do in the way of spiritual practices to nurture yourself?

I meditate most days and pray and that helps a lot. I get a lot of strength from that. Until two years ago I was an atheist. But now I believe there is some force you can tap into and it certainly helps me.

When you spoke of your personal nuclear nightmare, it made me think of Hiroshima. You were in Japan last year. What was that like for you?

I went to Hiroshima on the anniversary of the dropping of the bomb. The bomb was dropped at 8:15 in the morning on a hot, muggy summer day. We were in the Peace Park at exactly 8:15 when they released thousands of doves into the air. I was profoundly sad but at the same time I felt an intense anger. I thought of all the people who are still dying now from what they called A-Bomb disease, but was in fact, cancer. The cancer incidence is still rising—35 years later. These bombs just don't kill people suddenly. They go on forever killing people. But we've learned nothing from that! In fact, I think we're hooked on nuclear weapons like a drug. We're paying for it with our taxes. Reverend William Sloane Coffin, who was one of the three clergy who visited the American hostages in Iran, and a member of the delegation that visited the Soviet Union says it's like we're all sipping from the Pentagon Kool Aid vat.

Your working so hard on behalf of the planet and its peoples indicates a tremendous respect for the earth. Where does it come from?

When I studied medicine and I learned how the cells work, how the human body works—and how beautifully coordinated the whole thing is, it gave me a great reverence for life. When I had my own babies it was the most fantastically creative thing I ever did, giving birth. The babies cried and my breasts prickled with milk. The connection was even stronger. All women feel this potential creativity, I think, even if they've never given birth to a baby.

So many people draw inspiration from your work to help them with their own efforts. What advice can you offer them to stay positive?

Well, I think in the face of catastrophe to do nothing and be passive is very depressing because you feel so powerless. But if you *try* and do something, it's the most exciting action you can take. If I'm feeling I'm having an effect and other people are starting to be mobilized, there's a *tremendous* reward. So I say to myself, "Even if the bombs go off, at least I'll be able to say I tried." For me, it's a religious commitment to continue evolution, to continue God's creation. We are the curators of life on earth. But with the press of a button, we can wipe it out.

Are you hopeful that people are heeding your message and will begin to work toward nuclear disarmament?

What I'm talking about is the ultimate form of preventative medicine. Human beings are capable of such amazing relationships—such creativity. You know, this may be the only life in the whole universe, yet with the push of a button we can destroy it all. We have a responsibility to continue evolution on earth. Every single one of us can be as powerful as Henry Kissinger or Jimmy Carter because we inherited the earth just as they did. It's our birthright. □

Thanks to Frances Crowe of the American Friends Service Committee, and Randy Kehler, co-director of the Traprock Peace Center, for assistance in the preparation of this article. Traprock Peace Center, Woolman Hill, Deerfield, Mass., offers seminars and workshops to groups interested in learning how to effectively address the issue of disarmament.

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Avant-garde Photography in Germany 1919–1939, Friedrich Seidenstücker, *Gerustbau*

San Francisco Museum of Modern Art November December 1980 Calendar

Lectures

A Conference on Picasso—Art as Autobiography
Sunday, November 23—9:30 am to 4:30 pm
Herbst Theatre, first floor

The Museum and the Friends of the San Francisco Psychoanalytic Institute are sponsoring an all-day conference on the 20th century master, Pablo Picasso. A distinguished roster of lecturers and panelists representing Picasso scholars in the fields of art history and psychoanalysis will discuss Picasso, the man, his psychology and his art.

9:30 am Welcome by **Stanley Steinberg, M.D.,** Training Analyst and Chairman of the Extension Division of the San Francisco Psychoanalytic Institute.

Opening Lecture: Herschel Chipp, Ph.D., Professor and Chairman, Department of Art History, University of California, Berkeley.

Lecture: Poet **John O. Jordan, Ph.D.,** annual distinguished lecturer of the Friends of the San Francisco Psychoanalytic Institute who will talk on Picasso and the Minotaur. Jordan is also Associate Professor of English Literature, University of California, Santa Cruz. Currently he is completing a study of Picasso to be entitled, *Violence, Paternity and Art in Picasso: 1881–1937.*

Lunch: 12:00 to 1:15 pm

1:30 pm Lecture: Mary Mathews Gedo, Ph.D., art historian and author of *Picasso—Art as Autobiography* will talk on Picasso's Blue Period. Her lecture will be followed by an investigation of the creativity of Vincent van Gogh and Picasso by **John Gedo, M.D.,** Training Analyst, Chicago Psychoanalytic Institute and author of articles on theoretical and applied psychoanalysis.

Panel Discussion with panelists:
Whitney Chadwick, Ph.D., Professor of Art History, San Francisco State University and author of *The Golden Labyrinth: Myth and Surrealist Painting.*
Herschel Chipp, Ph.D., Professor and Chairman, Department of Art History, University of California, Berkeley.
Mary Mathews Gedo, Ph.D.
John Gedo, M.D.
Albert J. Lubin, M.D., Professor of Psychiatry, Stanford University; Faculty, San Francisco Psychoanalytic Institute, and author of *Stranger on the Earth: A Biography of Vincent van Gogh.*
Jerome D. Oremland, M.D., Faculty, San Francisco Psychoanalytic Institute; Professor of Psychiatry, University of California Medical School. Professor Oremland will talk on the application of psychoanalysis to art and creativity.
Sidra Stich, Ph.D., Visiting Assistant Professor of Art History, University of California, Berkeley. Published writings *Joan Miro: Development of a Sign Language,* exhibition catalogue, Washington University, 1980; various reviews and critical essays in *The New Art Examiner* (Chicago) and *Art In America* (New York).

Advance tickets are available by sending a self-addressed and stamped envelope with your remittance and photostat copy of student body card to the Education Department of the Museum to arrive no later than November 14.

Admission: $4 Members; $6 General; $2 Students (enrolled full-time)

The Museum is supported in part by a grant from the San Francisco Hotel Tax Fund. In addition, a portion of our general operating funds have been made available by the California Arts Council and the Institute of Museum Services, a Federal Agency in the Department of Health, Education and Welfare.

November

Tuesday	4	Reception, Rental Gallery, 5:30 pm
Wednesday	5	Opening Day, Art-Eco Icons
Sunday	9	Closing Day, Mike Henderson-Carlos Villa/New Works
Tuesday	11	Lecture, The House as Art, Stanley Tigerman, The Galleria, 8:30 pm
Sunday	16	Closing Day, Lorser Feitelson and Helen Lundeberg: A Retrospective Exhibition
Monday	17	Concert, San Francisco Contemporary Music Players, Green Room, 8 pm
Tuesday	18	Business Lunch, 11:45 am
Friday	21	Art & Conversation, 10:30 am
Sunday	23	A Conference on Picasso, Herbst Theatre, 9:30 am
Tuesday	25	Lecture, The House as Art, Bruce Goff, The Galleria, 8:30 pm
Sunday	30	Closing Day, New Images from Spain Closing Day, Day of the Dead

December

Sunday	7	Closing Day, 1980 SECA Photography Invitational
Monday	8	Concert, San Francisco Contemporary Music Players, First Unitarian Church, 8 pm
Tuesday	9	Members' Holiday Party and Sale, 5:30–8:30 pm
Wednesday	10	Members' Preview, Wiley Territory, 8 pm
Thursday	11	Opening Day, Wiley Territory
Tuesday	16	Business Lunch, 11:45 am
Thursday	18	Reception, Avant-garde Photography in Germany 1919–1939, 6 pm
Friday	19	Opening Day, Avant-garde Photography in Germany 1919–1939
		Art & Conversation, 10:30 am
Sunday	21	Closing Day, Art-Eco Icons

San Francisco Museum of Modern Art 1980 Calendar

New Exhibitions

Wiley Territory
December 11–January 25, 1981
Fourth Floor Galleries

The distinctive, personal imagery of Bay Area artist William T. Wiley is seen in a selection of paintings, constructions, drawings, watercolors, and prints from the past twelve years. His own everyday experiences are subject matter, represented in wry, humorous allegorical images. Dream-like landscapes evoking undiscovered worlds, mysterious maps suggesting journeys of the mind, figures in storybook garb recalling wizards of distant times, are aspects of his world. Working and teaching in Northern California, Wiley in his "homespun" thematic approach has found resource in the area and in his friends. He has also been an influential force locally and on the national art scene.

Organized by Walker Art Center in Minneapolis, this exhibition concludes its five museum tour in San Francisco, where it is supported by a grant from the National Endowment for the Arts, Washington, D.C., a Federal agency, and a generous gift from Mason Wells and Frank Hamilton. Catalog available.

Since Wiley is an artist for whom collaboration and participation in different modes of performance have been important, an evening of film, music and performance, "Wiley and Friends," is scheduled for the evening of Thursday, January 22, 1981, in Herbst Theatre.

Members' Preview
Wednesday, December 10
8 to 11 pm

Avant-garde Photography in Germany 1919–1939
December 19–February 8, 1981
Fourth Floor Galleries

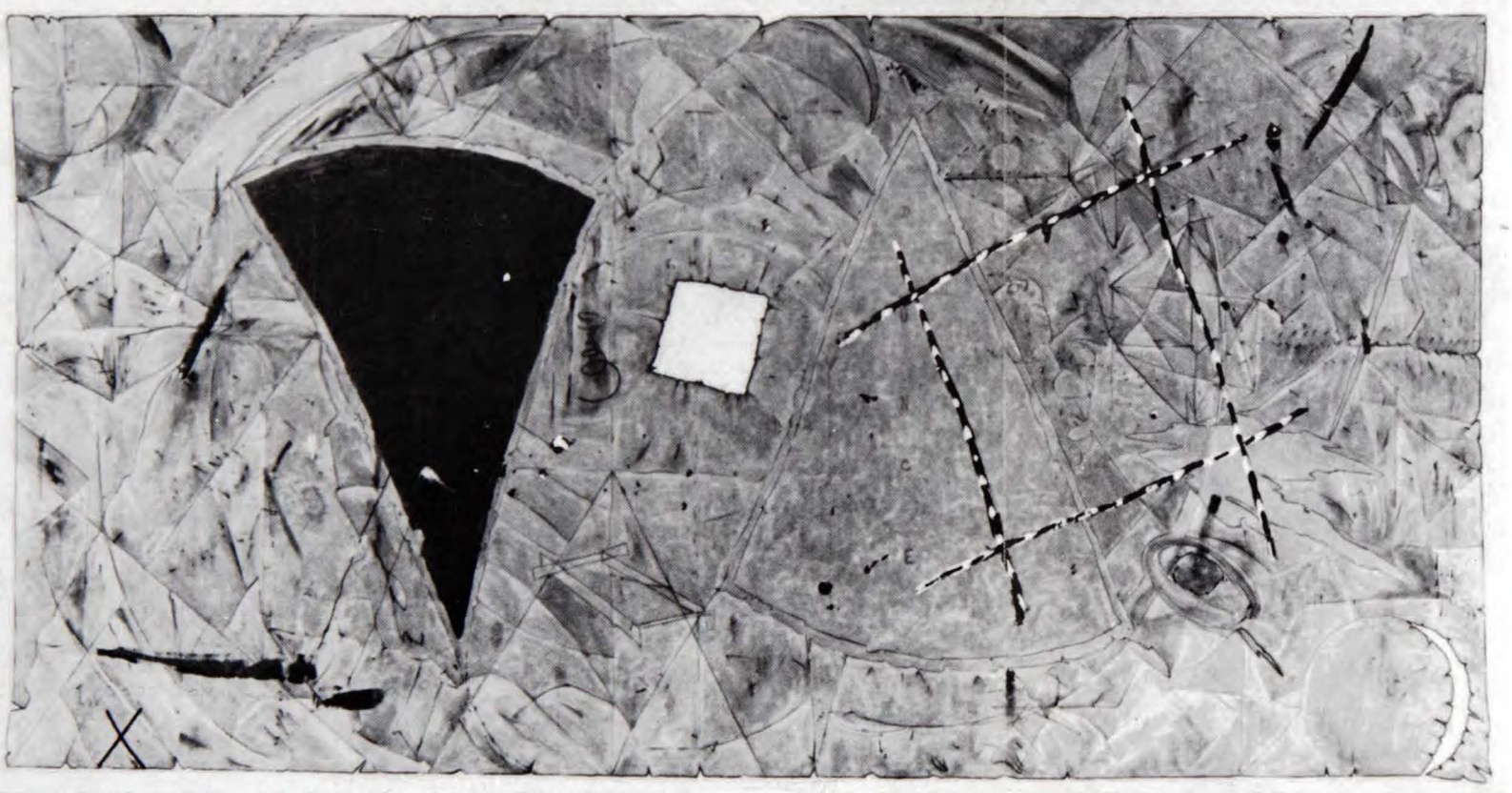
The basis for much of what we think of as modern photography can be traced to the photography that took place in Germany in the 1920s. This exhibition of innovative photography through the 1930s reflects the influences of Constructivism and Surrealism as well as developments in camera design. Developed during this period was a variety of responses to the growing role of technology and consequent changes in society, a "new vision," fostered in Germany in the 1920s by innovative schools of design, with the Bauhaus being the best known. Represented in the exhibition is work by such innovative photographers as Laszlo Moholy-Nagy, Herbert and Irene Bayer, Lux and Andreas Feininger, Raoul Hausmann, Lotte Jacobi, Gyorgy Kepes, Lucia Moholy, Albert Renger-Patzsch, August Sander, and Umbo, as well as other photographers of that time.

Organized by the San Francisco Museum of Modern Art, the exhibition is supported by a grant from the National Endowment for the Arts, Washington, D.C., a Federal agency. After the opening in San Francisco, the exhibition will travel to six museums throughout the United States. Catalog available.

Members' Preview
Thursday, December 18
6 to 8 pm

Art-Eco Icons—a participatory educational exhibition by Fredric Hobbs
November 5–December 21
Interpretation Gallery, fourth floor

Seven mixed-media icons by painter-sculptor-filmmaker Fredric Hobbs will allow the public a "hands-on" participatory experience to learn about color, form and composition as well as to understand the artist's vision of how human-kind can survive on this planet through art and science. The exhibition coincides with the publication of Hobbs' book, *Eat Your House: Art Eco Guide to Self-Sufficiency,* distributed by Mayfield Publishing Company.



Wiley Territory, William T. Wiley, *I Won't Forget Again One Jillion Times,* 1973

Continuing Exhibitions

Mike Henderson-Carlos Villa/New Works
through November 9
Fourth Floor Galleries

This exhibition presents current work by San Francisco Bay Area artists Mike Henderson and Carlos Villa. Both artists work on off-the-stretcher canvases of monumental proportion. Mike Henderson collages cut-out fragments of painted canvas on raw canvas to create highly textured surfaces and map-like abstract compositions. Objects and writing marks are incorporated into some of the works. Also included in the selection are small watercolors on paper. Paper castings of body fragments, body marks, and collaged feathers on raw canvas and paper are highlighted in Carlos Villa's new work. The artist's facial and body features are imprinted on the surface of the canvas or paper. Feathers, bones, and hair pieces are added to give the works a ritualistic appearance. Organized by the San Francisco Museum of Modern Art. Brochure available.

Lorser Feitelson and Helen Lundeberg: A Retrospective Exhibition
through November 16
Fourth Floor Galleries

This retrospective exhibition of one hundred twenty paintings covers the careers of two of America's pioneer modernist painters who worked in Southern California. Lorser Feitelson and Helen Lundeberg were associated through work and marriage from the early 1930s until Feitelson's death in May of 1978. The longevity and harmony of their relationship as well as their capacity to retain their individuality as artists is a rare phenomenon.

Feitelson spent his early years in New York and Europe and, while still in his twenties, moved to Los Angeles where he became a spokesman for the avant-garde. Philip Guston and Ruben Kadish, as well as Lundeberg, were among his students. In 1934, Feitelson and Lundeberg co-founded a school of "subjective classicism" or "post-Surrealism" which remained influential until 1942. During the late 1930s both artists worked on the Southern California federal art project where Feitelson became an administrator.

In the 1950s and 1960s Lundeberg's painting continued to develop along post-Surrealist lines with more emphasis on real and imagined space. Feitelson turned toward hard-edge painting and formed a group called the "Abstract Classicists" along with John McLaughlin, Karl Benjamin, Frederick Hammersley, and the Los Angeles critic Jules Langsner. An exhibition of the Abstract Classicists was seen in Los Angeles, San Francisco, and London in 1960.

Organized by the San Francisco Museum of Modern Art, this retrospective will travel to The Frederick S. Wight Art Gallery, University of California, Los Angeles, in March, 1981. The exhibition is co-sponsored by the Museum and the UCLA Art Council of the University of California at Los Angeles. Catalog available.

New Images from Spain
through November 30
Fourth Floor Galleries

This exhibition features the work of nine Spanish artists and is the first presentation in the United States of contemporary Spanish art in 20 years. The artists represented are Sergi Aguilar, Carmen Calvo, Teresa Gancedo, Muntadas, Miguel Navarro, Guillermo Perez Villalta, Jorge Teixidor, Dario Villalba, and Zush. While each artist works in a highly individual vein, together they represent a broad range of styles, from realism to figuration, geometric abstraction, color field, and conceptual art. Organized by The Solomon R. Guggenheim Museum, New York, in collaboration with the Spanish government, Instituto de Cooperación Iberoamericano, Comite Conjunto Hispano-Norteamericano para Asuntos Educativos y Culturales, the exhibition was funded by the Merril G. and Emita E. Hastings Foundation. Catalog available.

Day of the Dead
through November 30
Fourth Floor Galleries

This exhibition is based on the traditional Mexican celebration of the Day of the Dead, featuring two life-size altars. The exhibition also includes an introduction to the history of that celebration and original woodcut prints on the subject by the Mexican master printmaker José Guadalupe Posada, from the collection of Arsacio Vanegas Arroyo, Mexico. Organized by the San Francisco Museum of Modern Art. Brochure available.

1980 SECA Photography Invitational
through December 7,1980
Fourth Floor Galleries

Over 100 photographs by eleven emerging photographers who live west of the Mississippi will be presented in this exhibition by the Society for the Encouragement of Contemporary Art (SECA), an affiliate organization of the Museum. A wide range of photography will be presented including black and white landscapes and portraits, hand-colored photographs, and works of a conceptual nature. Artists represented are: Gay Block and Sally Gall from Texas, Tom Neff from Colorado, Steve Yates from New Mexico, Jack Butler, Vida Freeman, Victor Landweber, Jane O'Neil and Susan Rankaitis from Southern California, and Gail Skoff and Wolf von dem Bussche from the San Francisco Bay Area.

Organized by the San Francisco Museum of Modern Art. Catalog available.

Classes

Bay Area Museum-Gallery Visits
Wednesdays, November 12 through December 17
1 to 3 pm
First session in the Lecture Room, third floor

Participants will have the opportunity to become acquainted with contemporary art forms, styles and attitudes. Investigating and discovering different aspects of art will be part of the inquiry during the weekly visits to many Bay Area exhibitions. To enroll, send tuition fee, name, address and daytime telephone number to the Education Department.
Instructor: Janet Boguch, M.A., artist. Teaching includes University of Michigan, University of California, Davis, and California College of Arts and Crafts, Oakland.
Fees: $25 Members, $30 General

Bookshop

This Christmas, in addition to a selection of excellent art books and cards, the SFMMA offers you many gift possibilities for children and adults.

New Books:
Moholy-Nagy: Photographs and Photograms by Andreas Haus. 150 duotone plates. $35.00
The Art of Maurice Sendak by Selma G. Lanes. 280 illustrations, many in full color. $40.00
A Day In The Zoo, $8.95 and *International Circus,* $7.95. Two reproductions of antique pop-up books by Lotnar Meggendorfer.
Richard Diebenkorn: Paintings and Drawings, 1943–80 by Robert T. Buck. 193 plates, 33 in color, $17.50
Wiley Territory by Graham W.J. Beal and John Perreault. 100 illustrations, 8 in color. $6.95
Superrealist Painting and Sculpture by Christine Lindey. 150 plates, 50 in color. $29.95

20% discount to Museum Members on most purchases.

Music

Mondays-at-Eight concert series presented by the San Francisco Contemporary Music Players

Program Three
Monday, November 17—8 pm
Green Room, first floor
Aaron Copland, "Sextet" (Short Symphony), for piano, clarinet, and string quartet; *George Rochberg,* "Slow Fires of Autumn" (UKIYO-E no. 2), for harp and flute; *Charles Wuorinen,* "Harp Variations," for harp, violin, viola and cello; *Tristan Murail,* "Ethers," for flute, trombone, violin, viola, cello and maracas.

Program Four
Monday, December 8, 1980—8 pm
First Unitarian Church, Franklin and Geary Streets
Charles Boone, "String Piece," 1978, for seven violins, three violas, two cellos and one string bass; *Olly Wilson,* "Expansions," for organ; *Mark Winges,* premiere performance of a piece for organ and strings and written especially for the San Francisco Contemporary Music Players; and *Janice Giteck,* premiere performance of piece for gamelan, strings and recitant.
Guest Artist: Alexander Post
Admission: $4 Members, Students, Seniors; $5 General

Architecture Lectures

The House as Art
Tuesdays—8:30 pm
The Galleria Design Center, 101 Kansas Street

The final lectures of a series that has delved into the aesthetics of contemporary domestic architecture, a series co-sponsored by the Museum and the Northern California Chapter of the American Institute of Architects.

November 11: Stanley Tigerman, Architect, Chicago. This internationally known architect has designed a number of important houses, the most recent of which relate to the "Post-Modern" movement in their use of eclectic imagery. Mr. Tigerman is currently the 1980 Architect-in-Residence at the American Academy in Rome and has won over 30 design awards for his work.

November 25: Bruce Goff, Architect, Texas. One of the most individualistic 20th century architects. Mr. Goff is well known for his expressionistic style and his rare and unusual house designs. His philosophy centers around the ability to express total artistic freedom. Introduction by Mrs. Eric Mendelsohn.

SFMMA and AIA members $5; General Public $6; Students and Seniors $3 (Students must be full-time and have current registration card).

Special Events

Art & Conversation
Friday, November 21
10:30 am
Board Room

Friday, December 19
10:30 am
Board Room

Business Lunch
Tuesday, November 18
11:45 am
Board Room

Tuesday, December 16
11:45 am
Board Room

Members' Holiday Party and Sale
Don your gay apparel and join us for the Museum's annual Holiday Party on December 9th from 5:30 to 8:30 pm.

Gallery Going Group
The Modern Art Council offers a service for Museum members on one Friday of each month called the Gallery Going Group. It meets early in the morning and travels by bus to visit galleries, museums and artists' studios in the Bay Area. There is a $10.00 mailing list fee, and also a $10.00 fee per trip.
Please call the Council Office, 863-8800, for details.

Volunteers

You can help by volunteering
If you wish to donate time to the Museum, please call us. As a volunteer during the week you can assist the staff in many departments: Curatorial, Education, Photography, Conservation, Publicity as well as the Library of Collections and Research. On weekdays and weekends we need volunteers to staff the membership information desk on the fourth floor. Wherever you give your time, you will make an important contribution to the Museum. Please call us now.

Rental Gallery

John Mattson/Paintings
Stuart Fineman/Paintings
November 4–November 29
Reception: Tuesday, November 4
5:30 to 7:30

Group Exhibition/Gallery Artists
December 2–December 24

The Rental Gallery is located in Building 308, Fort Mason, San Francisco.

Visit the Rental Gallery's new extension at 505 Sansome Street in Transamerica Center. This new space will be open from 11 am to 2 pm weekdays.

Hours

Galleries	
Tuesday, Wednesday & Friday	10–6
Thursday	10–10
Saturday & Sunday	10–5
Monday	Closed
Bookshop	
Tuesday, through Friday	10–6
Saturday & Sunday	11–5
Monday	Closed
Telephone	863-2890
Cafe	
Tuesday through Saturday	10–4
Sunday & Monday	Closed

Conservation Laboratory	
Monday through Friday	10–4
By Appointment only	ext. 52
Library	
Monday through Wednesday	1–5
Museum Telephone	863-8800
Rental Gallery	
Fort Mason #308, Laguna Street entrance, S.F.	
Tuesday through Saturday	11:30–5:30
Telephone	441-4777

San Francisco Museum of Modern Art
Van Ness Avenue at McAllister Street
San Francisco, California 94102