

A—BOMB RELATED RESEARCH ACTIVITIES AND ANTINUCLEAR MOVEMENTS OF JAPANESE SCIENTISTS*

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I. A History of the Research Activities of Japaneapanese Scientists

A. Medical Care Soon after the Bombings

Prior to August 1945 the cities and prefectures of Hiroshima and Nagasaki had established the air defense headquarters, evacuated people and demolished certain buildings, organized a medical rescue system, and stocked medical supplies. These precautions, however, were designed to cope with the repeated U.S. air raids by conventional bombs. The atomic bombings of Hiroshima and Nagasaki, therefore, left the entire cities momentarily immobilized.

A 1943 directive by the governor of Hiroshima Prefecture had authorized an "air defence medical rescue plan," which forbade evacuation of medical doctors and ordered formation of medical rescue squads consisting of one physician, one dentist, one pharmacist, three nurses, and one clerk. Town councils and civil defense teams worked with these squads for the protection and relief of each local district. Of the 298 mobilized doctors in Hiroshima City, 270 became A—bomb victims. Casualty rates among pharmacists and nurses ranged between 80 percent and 93 percent. Death rates among all medical personnel were high. The well-prepared medical care system for all practical purposes was rendered totally useless.

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The destructive power of the atomic bomb dropped on Nagasaki City, too, far exceeded Nagasaki's defence and relief capabilities. Even though prefectural police and special rescue squads, local policemen, firemen, and civil defense teams in the city area were mobilized, they found the situation completely beyond their capacity to cope with it. The main medical relief center -- Nagasaki Medical University and its hospital -- was hit hard, with many dead and wounded among its doctors and nurses, and many private doctors in the city killed or injured. The city's preparations for medical relief were wrecked from top to bottom.

The main problems in the early stage was burns, and application of zinc oxide oil or ointment was about the only treatment. Zinc oxide oil was often not available, so in many cases rapeseed oil, cooking oil, castor oil, and even machine oil was used. For disinfecting burns and wounds, whatever was at hand -- iodine tincture, mercurochrome, rivanol, boric acid solution or ointment -- was used. Among traumas, the most difficult to cope with was the removal of countless glass splinters embedded in the skin and muscles. Furthermore, it was especially hard to stop A-bomb wounds from bleeding; the application of compresses moistened with bosmin proved only slightly effective. Open wounds easily festered, and often gangrene set in. Before long, diarrhea and bloody stools became common complaints, but all attempts to obtain cultures of dysentery bacilli from the stools yielded negative results. Antibacterial drugs also were ineffective in relieving the symptoms. And to make things worse, it was summertime; so flies swarmed on open wounds, laid eggs, and then maggots appeared in the wounds to complicate treatment. As hospital personnel and research teams began to detect decreases in blood cells, they gradually recognized the possibility of radioactive injury.

B. Immediate Postbombing Surveys

Surveys and studies of A-bomb casualties were begun soon after the 6 August 1945 bombing of Hiroshima. The first surveys were planned by administrative and military agencies in cooperation with scientists of various universities and institutes. Their main objective was to determine the essential nature and the actual conditions of the damages caused by the bomb. The survey teams in Hiroshima worked energetically, and on 10 August a joint army-navy meeting was held under the auspices of the Imperial Headquarters' survey team. It was at this meeting that the bomb was first confirmed to be an atomic bomb.

A survey team from Kyushu Imperial University detected radioactivity in Nagasaki City on 14 August, five days after the bombing of Nagasaki, and systematic measurement was begun in September.

Early pathological autopsies, essential for clarifying radiation effects on the human body, were performed with fifteen cases in mid-August at Hiroshima and with fourteen cases in September at Nagasaki.

C. Early Surveys by Universities and Institutes

Many changes occurred in the domestic situation after Japan was occupied by the Allied Forces soon after surrender on 15 August. But from late August to early September, before these changes took place, various universities and institutes were active in conducting surveys and sending relief teams to Hiroshima and Nagasaki.

Masao Tsuzuki and others at Tokyo Imperial University, with the cooperation of the Army Medical School and the Institute of Physical and Chemical Research, organized a survey team and arrived at Hiroshima on 30 August. A study team from Kyoto Imperial University was organized by the end of August, and entered Hiroshima on 3 and 4 September. The Okayama Medical School relief team entered Hiroshima on 11 September. Hiroshima Univer-

sity of Literature and Sciences and other schools inside the city were greatly damaged, and almost all research ceased with the explosion. Takeo Fujiwara (physicist) and other members of Hiroshima University of Literature and Sciences, however, organized a small party for estimating residual radioactivity.

Survey and relief teams from Kyushu Imperial University, Kumamoto Medical College, and Yamaguchi Prefectural Medical College were sent to Nagasaki between late August and early September. The facilities of Nagasaki Medical University, located close to the hypocenter, were heavily damaged. The few remaining doctors, nurses, and medical students, who had barely escaped death, organized small medical squads and gave treatment to victims.

D. Researches of the Scientific Research Council of Japan and the Science Council of Japan

While universities and institutes made their surveys, the research scope and criteria for dealing with A-bomb casualties were vigorously discussed by Yoshio Nishina (atomic physicist) and members of the Ministry of Education and the Scientific Research Council of Japan. Finally, on 14 September, they decided to establish the "Special Committee for the Investigation of A-bomb Damages" within the Scientific Research Council of Japan. This Special Committee had nine sections: physics, chemistry and physical geography; biological science; mechanical engineering and metallurgy; civil engineering; electrical engineering; medicine; agriculture and fishery; forestry; veterinary and livestock science.

Data from surveys made by universities, institutes, and hospitals were received by the Special Committee, and funds were distributed for surveys to be continued until 1947. The main data of the surveys of the Special Committee were arranged and compiled by the Science Council of Japan. The Japan Council for the Promotion of Science published a summary report

in August 1951, and two volumes of the full report were published in May 1953 as the "Collection of the Reports on the Investigation of the Atomic Bomb Casualties." These two volumes contained 1,642 pages, with 38 sections on science and engineering, 6 on biology, and 130 on medicine.

The history of A-bomb casualties surveys would have been completely different if this kind of systematic study had been supported and continued thereafter. As it was, the project was actively pursued for only a year and a half. One reason for the halt in systematic study was the revision of the educational and scientific system, but the most serious factor was Occupation Policy. On 19 September 1945, the General Headquarters (GHQ) of the Allied Forces issued a press code restricting speech, reporting, and publication. The study and publication by Japanese scientists of A-bomb casualties were therefore greatly restricted until the occupation ended with the San Francisco Peace Treaty of 1951.

E. Formation and Activity of the Japan – U.S. Joint Commission

Immediately after the Occupation, the Special Manhattan Engineer District Investigating Group, headed by Thomas Farrel, was dispatched from the United States to Japan, and the group was divided into two teams. The first team entered Hiroshima on 8 September 1945, and the second team entered Nagasaki on 9 September. Marcel Junod of the International Red Cross joined the first team.

Ashley Oughterson, GHQ Consultant Surgeon, prepared a survey plan on the medical effects of the atomic bombings. The plan was approved by GHQ, and a U.S. Army Surgeons Team was organized on 28 August. At the same time the Americans came into contact with Masao Tsuzuki, since the Japanese scientists had already been actively investigating the effects of the A-bombs and their cooperation was in fact indispensable for this study. These are the background of the formation of the Japan – U.S. Joint Com-

mission.

Headed by Oughterson, the Joint Commission was composed of the GHQ Army Surgeons Team, the Manhattan Project Team, and the Japanese Government Team. They were divided into two groups, with one entering Nagasaki on 28 September and the other entering Hiroshima on 12 October. A joint survey was commenced at once and was completed by late December 1945. In September 1946 the survey data were compiled by Ashley Oughterson, Shields Warren, and others in the "Medical Report of the Joint Commission for the Investigation of the Effects of the Atomic Bomb in Japan Atomic Energy Commission Classified Document, 1946."

Mimeographed copies of the Japanese data were distributed to the Japanese participants but, by American decision, were not made public. The data were later compiled into the "Collection of the Reports on the Investigation of the Atomic Bomb Casualties," as mentioned before, by the Science Council of Japan in 1953.

The plan for producing a documentary film of A-bomb casualties, which was started originally by the Nippon Eiga-sha (Japan film) Corporation of early September 1945 in cooperation with the Japanese scientists, was changed later to produce and complete at the request of the U.S. Strategic Bombing Survey in mid-December 1945. The filming was continued until February 1946. The 15,000-foot-long film, entitled "The Effects of the Atomic Bombs on Hiroshima and Nagasaki" was completed by the end of April 1946. All films, including 30,000 feet of negatives and other data, were requisitioned by the American authorities and sent to the United States in mid-May.

F. Formation of the Atomic Bomb Casualty Commission (ABCC)

As analysis of various data obtained by the Japan-U.S. Joint Commission and the U.S. Strategic Bombing Survey progressed, the Americans felt

it was necessary to continue the investigations of the A-bomb effects in Japan. Then President Truman issued on 26 November 1946 a supporting directive to the National Academy of Sciences and National Research Council (NAS-NRC), leading to the establishment of the Atomic Bomb Casualty Commission (ABCC).

The NAS-NRC dispatched a survey team headed by Austin M. Brues and Paul Henshaw to Japan in December 1946. The team recommended that the ABCC should study the following subjects in Japan: cancer, leukemia, shortening of life, loss of vigor, growth and developmental disorders, sterility, genetic alteration, visual alteration, abnormal pigmentation, epilation, and epidemiological changes. The hematological study of exposed survivors at the Hiroshima Red Cross Hospital by James V. Neel in April 1947 was the first investigation carried out by the ABCC.

The Japan Ministry of Health and Welfare and the Japan National Institute of Health arranged for funds, personnel, and research planning, and in January 1948 the ABCC office was set up temporarily in a former army facility in Hiroshima City. A permanent ABCC building in Hiroshima was completed in early January 1951 atop Hijiyama hill. The ABCC in Nagasaki started its activity in July 1948 at the Nagasaki Health Center, and its permanent facilities were set up in July 1950. The successive directors of the ABCC until 1975, when the ABCC was succeeded by the Radiation Effects Research Foundation, were the Americans, and the associate directors during this period in Hiroshima and Nagasaki were Hiroshi Maki and Isamu Nagai respectively.

In the following years from 1957, the Adult Health Study on 20,000 subjects was reactivated, as were the Life Span Study on 100,000 subjects in 1959 and the Pathology Program in 1961. A better understanding between the two countries was awakened by that time, and strong efforts were being made for the establishment of a Japanese Advisory Committee, and publica-

tion of the ABCC Technical Report as well as its distribution to concerned organizations of the world.

After reorganization of the ABCC was discussed among Japanese and United States government officials, both governments reached in June 1974 an agreement that a new research organization, which was to replace the ABCC, should be established in Japan, and be managed by two nations on an equal footing. As a result, the Radiation Effects Research Foundation was established in April 1975.

G. End of the Occupation and Revival of Japanese Research

Research on atomic bomb casualties and publication of the results by Japanese scientists were greatly restricted during the Occupation period, but conditions improved in 1951 when the San Francisco Peace Treaty was signed.

On 9 December 1951 a meeting on studies of A-bomb effects was held under the auspices of the ABCC and the Hiroshima Association of Medical Sciences. It was not until the fourth annual meeting of the Hiroshima Association of Medical Sciences in February 1952 that Japanese academic societies were able to engage freely and independently in investigations of A-bomb injuries. In April of that year, a symposium on radiation and A-bomb injuries was held at the annual meeting of the Japan Hematological Society in Osaka

With the end of the Occupation, reorganization of comprehensive research on A-bomb casualties was discussed by the seventh section of the Science Council of Japan. These discussions led to the formation of the Atomic Bomb Casualty Research Group, which was supported by scientific research funds from the Ministry of Education in 1952. This composite research group worked together for six years until it was reorganized in 1958 as the Comprehensive Research Group on Atomic and Hydrogen Bomb

Injuries, with the addition of Bikini H-bomb injuries to its program. This group worked actively till 1960.

The Atomic Bomb Casualty Councils of Hiroshima and Nagasaki had been formed in January and May 1953 respectively. These Councils cooperated with medical associations, universities, hospitals, local governments, and citizens' groups, especially in promoting physical checkups of exposed survivors. And, in 1959, the Councils took the initiative in founding the Research Society for the Aftereffects of the Atomic Bombs. This society was composed of people throughout the country who were interested in A-bomb aftereffects, though the leading members were physicians and scientists in Hiroshima and Nagasaki. Annual meetings of the society have been held since in Hiroshima and Nagasaki alternately.

H. Developments since the Bikini Incident

The Hydrogen bomb test conducted by the United States in March 1954 at Bikini atoll and the consequent exposure of Japanese fishing crewmen of the Fukuryu-Maru-No.5 restimulated research on the A-bomb casualties. This incident made clear not only the increasing danger of nuclear weapons but also the fact that the A-bomb injuries in Hiroshima and Nagasaki were not mere past accidents.

At its seventeenth annual meeting in April 1954, soon after the Bikini incident, the Science Council of Japan issued statements calling for "abolition of atomic weapons and effective international control of atomic energy" and for "open, democratic, and independent research and use of atomic energy." It also decided to establish a liaison committee for the scientific investigation of A-bomb injuries. The resulting Special Research Committee on Radiation Effects had a comprehensive scope, and the investigations of aftereffects in Hiroshima, Nagasaki, and Bikini were included. One noteworthy effort of this Special Research Committee during its early stage was

the holding of a joint Japan - U.S. conference in November 1954 on the use and effects of radioactive materials in regard to the Bikini incident.

In order to cope with the pressures arising from the Bikini incident, the Japanese government decided in October 1954 to organize the Liaison Council for the Investigation of A bomb Aftereffects.

At its eighteenth annual meeting in October 1954, the Science Council of Japan adopted a resolution calling for establishment of an institute for nuclear radiation research. After much effort, the National Institute of Radiological Sciences was founded in July 1957 under the jurisdiction of the Science and Technology Agency.

In April 1958 the Institute for Nuclear Radiation Research was founded in the School of Medicine of Hiroshima University and led to the establishment of the Research Institute for Nuclear Medicine and Biology in April 1961. The Atomic Disease Institute was established in the School of Medicine of Nagasaki University in 1962.

The research activities stated hitherto were mainly concerned with natural scientists and not directly with the antinuclear peace movements, but the results obtained by those researches have been used as the basic knowledges for peace movements. The research activities done by Japanese social scientists have been few.

II. A History of the Antinuclear Movements

A. Development of White Paper Movement on A-bomb Casualties

Following the signing of the San Francisco Peace Treaty (1951), testimonies of A-bomb experiences became strongly antinuclear. A whole series of works, beginning with the 1953 *Genbaku ni Ikite – Genbaku Higaisha no Shuki (Life after the Atomic Bombing – Notes of Atomic Bomb Victims)*, recounted the victims' living conditions and went on to condemn nuclear weapons. With the First World Conference against Atomic and Hydrogen Bombs in 1955 after the Bikini incident, a new type of testimony appeared, such as that edited by the Nagasaki-based A-bomb Youth and Maidens Association, *Mô Iya da – Genbaku ni Ikite iru Shônintachi (We've Had Enough – Living A-bomb Witnesses)*.

The Hiroshima-Nagasaki Peace Pilgrimage, organized with the help of Barbara Reynolds on 16 June 1964, had an interview in New York City with U.N. Secretary-General U Thant, to whom they presented a petition that, in essence, called for a "U.N. commission to investigate the realities of A-bomb damages in Hiroshima, Nagasaki, and Bikini; and for the results to be disseminated throughout the world to help achieve a ban on nuclear weapons." Acknowledging the import of the petition, the Secretary-General, it is reported, expressed his wish that "the Japanese government bring this problem before the United Nations," and also that the U.N. Science Commission should study the problems of radiation. This Peace Pilgrimage also delivered to the United States government a request for the return of the documentary film "The Effects of Atomic Bombs on Hiroshima and Nagasaki" and all scientific documents which the U.S. military had confiscated and taken back to America. These materials were returned to Japan in several installments beginning in 1967.

The "Hiroshima Appeal" issued by the First World Conference against Atomic and (Hydrogen Bombs) in 1955 had proclaimed, "The unfortunate

situation of the A-bomb victims must be made known to people around the world. Aid to the victims must be hastened through a worldwide relief effort. Such is the foundation of a true antinuclear movement." In discussions at the Third World Conference in 1957, strong appeals were made for a "relief white paper." Thus, in 1961 a committee of experts appointed by Nihon Gensuikyô published the "*White Paper on Damages by Atomic and Hydrogen Bombs – The Hidden Truth.*"

On 3 October 1964, the Peace Problems Research Group (Danwakai), composed of university scholars from Hiroshima, Yamagushi, and Okayama prefectures, presented a petition to the national government. The gist of this petition was (1) that the 1965 national census include a supplementary survey for determining the damages suffered by all A-bomb victims, including those who have died; (2) that a comprehensive scientific analysis be added to this survey to produce a white paper on A-bomb damages; and (3) that the national government petition the United Nations to compile a report on nuclear damages. The government's response, however, stopped short of this request.

On 5 May 1965, Hideki Yukawa and others of the Committee of Seven to Appeal for World Peace issued a statement advocating "the urgent necessity for compiling, from an international standpoint, a scientific white paper on nuclear damages." On 5 August of that year a petition signed by over forty prominent persons – including Hideki Yukawa, Seiji Kaya, the governors of Hiroshima and Nagasaki prefectures, and the mayors of Hiroshima and Nagasaki cities – was taken by five representatives, led by Kazuo Ohkôchi, to the then Prime Minister Eisaku Satô to press vigorously the case for compiling a white paper on nuclear damages.

The Committee for Promotion of an A-bomb Damages White Paper (Seiji Kaya, chairman) was formed on 7 December 1965; and on 27 June of the following year it handed the government a new "Petition for an A-bomb

damages white paper to be compiled by the Japanese government.” This petition included an appeal for the United States to return documents on A-bomb damages. In both Hiroshima and Nagasaki, citizens’ movements arose to promote a nuclear damages white paper, and the municipal assemblies of the two cities passed resolutions supporting early compilation of such a white paper.

The white paper movement was then picked up by the Science Council of Japan in its campaign to found a “Nuclear Damages Documentation Center,” as well as by the Hiroshima movement to preserve A-bomb documents, the movement to reconstruct maps of the bombed areas in Hiroshima and Nagasaki, and the testimonial movement.

Meantime, due to efforts by the Committee for Promotion of an A-bomb Damages White Paper, U.N. Secretary-General U Thant developed a deep interest in the problem; experts from various countries (including Takashi Mukaibo from Japan) were entrusted with the task of producing a “White Paper on Nuclear Weapons.” This led to the publishing of a report by the U.N. Secretary-General, entitled “The Effects of the Possible Use of Nuclear Weapons and the Security and Economic implications for States of the Acquisition and Further Development of These Weapons.” Because this report was compiled before adequate surveys were carried out in Japan, it was not wholly accurate regarding actual conditions, especially the number of deaths resulting from the atomic bombings.

Given the Japanese government’s failure to conduct a complete survey of A-bomb victims or to compile a white paper on A-bomb damages, Toshihiro Kanai, and others in Hiroshima organized in 1968 the Hiroshima Research Group for Documentation of A-bomb Damages. By 1972 it had produced the three-volume “General Catalogue of Documents on A-bomb Damages.” In 1970, Tomin Harada and others formed the A-bomb Film Production Committee, which re-edited documentary films made soon after

the bombings and arranged for them to be shown at many places throughout the nation. All these activities naturally had a strong impact on Nagasaki, where the city sponsored compilation of the "Catalogue of A-bomb Records" (Nagasaki International Cultural Hall 1970), and abridged versions of the documentary film returned from America were shown.

B. To the Abolition of Nuclear Weapons from Ascertaining Data on the Atomic Bombings

The Peace Problems Research Group was formed at Hiroshima University in September 1951. In February 1953, volunteers from universities within Hiroshima City organized the University Group to Preserve Peace and Learning. In Nagasaki, the University Group to Protect Peace and Democracy came into being around 1960, and in 1965 the Nagasaki Constitution Council appeared. These groups engaged in research and held lecture meetings on many problems related to peace.

At the Hiroshima Conference held in November 1970 a citizens' conference involving both Japanese and foreign experts studying peace problems, and also peace movement participants -- the Hiroshima-Nagasaki experience was discussed from a comprehensive standpoint, as were current problems of peace. The conference further assessed possibilities for concerted international action to ban nuclear weapons.

In July 1975, *Kaku Hoshasen to Genbakusho (Nuclear Radiation and A-bomb Disease)* was published by NHK (Japan Broadcasting) Publishing Co., Ltd., which was edited by Naomi Shohno and Soichi Iijima and a comprehensive book on the A-bomb casualties.

These problems were tackled again in the Hiroshima International Forum on the thirtieth anniversary of the bombings in August 1975. Two hundred participants, including several dozen foreigners, analyzed the continuing nuclear arms race and discussed prospects for the complete eradication of

nuclear weapons.

In December 1975 a "national delegation" was dispatched to the United Nations headquarters to demand "an international treaty completely banning nuclear weapons and immediate measures to ban their use." In October 1976 the central executive committee responsible for dispatching the delegation sent to the U.N. Secretary-General "An Introductory Report on the Damage and After-effects of the Atomic Bombings of Hiroshima and Nagasaki."

This was followed by a supplementary document, "The Actual Conditions of Atomic Bomb Damages in Hiroshima and Nagasaki," presented to the U.N. Secretary-General in November 1976 by Hiroshima Mayor Takeshi Araki and Nagasaki Mayor Yoshitake Morotani, to "promote total abolition of nuclear weapons and realization of general and complete disarmament."

With this background of cumulative research and surveys, as well as repeated overtures to the United Nations, plans were laid for the NGO-sponsored International Symposium on the Damage and After-Effects of the Atomic Bombing of Hiroshima and Nagasaki. From late July to early August in 1977 the main scheduled events were the symposium involving about thirty experts from the world, A bomb victims, and representatives of citizens' groups, and a mass rally attended by several thousands. The symposium's full report, "*A Call from Hibakusha of Hiroshima and Nagasaki*" was published by Asahi Evening News in 1978.

Some of the immediate results of this symposium were: the sending of a Japanese delegation to the NGO International Conference on Disarmament to be held in Geneva February 1978 and of another delegation to the U.N. Special Session on Disarmament in May and June of that year; an exhibition of Hiroshima and Nagasaki photographs in the United Nations headquarters; and a campaign to collect thirty-five million signatures supporting a general

and complete ban on nuclear arms.

Hiroshima City and Nagasaki City organized the Committee for the Compilation of Materials on Damage caused by the Atomic Bombs in Hiroshima and Nagasaki in 1978, and published a Japanese Book in July 1979 through Iwanami Shoten. The English edition entitled "*Hiroshima and Nagasaki – The Physical, Medical, and Social Effects of the Atomic Bombings*" was published in this year (1981) by Basic Books, Inc., New York and Iwanami Shoten, Tokyo. (Ohkita, Ichimaru and Shohno, the delegates to IPPNW and among the authors.)

These efforts have fostered a wide diffusion of antinuclear consciousness among the Japanese people and at the same time, served to internationalize the meaning of Hiroshima and Nagasaki.

III. PROPOSAL ON NUCLEAR DISARMAMENT EDUCATION

Based upon our past experience, the social responsibility of scientists, including physicians, toward the prevention of nuclear war is to participate actively in the achievement of the following nuclear disarmament educational objectives.

- 1) Nuclear disarmament education should not only enlighten the public but should also influence the decision makers of the world. It should aim at bringing those people of the world who are opposed to nuclear disarmament, whose opinions are based upon incomplete and inadequate information, to a more accurate level of understanding. Such education ought to have a firm basis on independent scientific research and provide a rational basis for nuclear disarmament.
- 2) Nuclear disarmament education should eventually lead to efforts that will realize the control, reduction, and finally complete elimination of nuclear weapons under international surveillance.

It can also be understood as the most important step in the process of creating new world peace order for the resolution of international conflicts by altering the systems of the present day armed nations, so that war will no longer be a nation's prerogative. People will be able to direct their own futures and live in a safety based on justice and solidarity.

- 3) Nuclear disarmament education must particularly emphasize the urgent need for an international convention banning the use of nuclear weapons, in light of the present situation where nuclear war threatens to annihilate humanity. Another important task of nuclear disarmament education is that of reminding humanity of the high moral value of unilateral abandonment of nuclear weapons.

- 4) Nuclear disarmament education should attach great importance to international understanding, sensitivity to ideological and cultural differences, and confidence in social justice and human solidarity.
- 5) Nuclear disarmament education should be a matter of concern for not only schools, universities and research institutes, but also for all segments and strata of society. We should not forget that each group in a society has its own task, but close cooperation and mutual assistance among groups is essential.

Based upon the above mentioned concept, I would like to propose the following actions for nuclear disarmament education to be taken by the participating physicians in the IPPNW.

1. Establish a center within IPPNW to gather all necessary and relevant information for nuclear disarmament education.
2. Promote campaigns to provide simple and understandable audio-visual materials on nuclear disarmament to all public and private hospitals and medical offices throughout the world.
3. Coordinate activities and cooperate with other scientists and scientists' organizations such as Pugwash Conference.
4. Appeal to the United Nations.
5. Make sure that IPPNW's activities will not lapse into mere elitism. We must emphasize those specific measures which reflect public understanding and opinion, while maintaining high academic and scientific standards.

With the passage of time, memories become dimmer. People forget the horror; they forget Pearl Harbor; they forget Hiroshima-Nagasaki; they forget Auschwitz and all that.

What is the science that has produced a possibility of nuclear genocide? What is the nation? What is the human being? Hiroshima, Nagasaki, Pearl Harbor, and Auschwitz throw always these severe questions toward mankind.

If we want to live through the nuclear age, we must bear in mind serious historical incidents, and must endeavor jointly to own universally the meaning of those incidents by amplifying our imagination.