

Science for Peace

UNIVERSITY COLLEGE, UNIVERSITY OF TORONTO, TORONTO, ONT. M5S 1A1 (416) 978-6928

BULLETIN

Vol. 6, No. 2, February, 1986

President's corner

What did these men have in common: Alfred Nobel, a Swede, Albert Einstein, a German, Leo Szilard, a Hungarian, Norbert Wiener, an American, Philip Noel - Baker, an Englishman, Andrei Sakharov and Peter Kapitza, Russians?

Alfred Nobel invented dynamite. He thought his invention was a contribution to peace because the horrendous power of the new explosive would make war unthinkable. He died in 1896 and so was spared the spectacle of World War I. But he may have had some doubts about dynamite as a peace-maker: he balanced his contribution to the cause of war (as it turned out to be) by a more direct contribution to peace - - the prize that bears his name.

Albert Einstein and Leo Szilard suggested the possibility of constructing an atomic bomb and pointed out the danger that the Germans would be the first to add it to their arsenal. Their letter, delivered to US Pres. Roosevelt in October, 1939, was the embryo from which the nuclear monster grew.

After the war Einstein said, "If I had known that the Germans would not succeed in constructing the atomic bomb, I would not have lifted a finger."

In the spring of 1945 Einstein and Szilard again wrote to Pres. Roosevelt, pointing out that "any military advantage the bomb might bring to the U. S. would be offset by grave political and strategic disadvantages."

Roosevelt never read Einstein's letter and Szilard's memorandum. Both were found lying on his desk untouched on April 12, 1945, the day he died.

(Cont. on pg. 4)



Albert Einstein and Leo Szilard promoted atomic education through the Emergency Committee of Atomic Scientists, which raised nearly \$100,000 in its first appeal. (Courtesy Time, Inc., March of Time.)



* Hydro & tritium

In response to Ontario Hydro's invitation to submit recommendations on policies to assure the peaceful use of the tritium to become available in 1987, a Science for Peace Consultative Group has prepared a brief which is now available from the national office.

Members of the Consultative Group were G. Brenciaglia, J. Dove, A. Rapoport, N. Rubin and L. Trainor. Additional statements were included from Gerhard Herzberg, Michael Pearson, C. Leroy Sanders, for the Ottawa Chapter, and James Gardner, for the Waterloo Chapter. Another comment is expected to go directly to Hydro from John Hewitt, Ottawa.

Recommendations to Ontario Hydro were essentially as follows:

"We recommend that no tritium be sold to nuclear weapons states or to near-nuclear weapons states until conditions have changed significantly to alleviate our concerns which are

- "1. Substitution,
- "2. Direct use of Canadian tritium in nuclear weapons,
- "3. Impact on non-proliferation regime,
- "4. Implicit political support for the nuclear arms race, and
- "5. Impact on fusion energy research in Canada.

"Exporting tritium diminishes the advantage that Canada has in attracting a major international fusion research centre to Canada."

Chapters

Colin Bell, Treasurer of the BC Chapter, is working with Educators for Nuclear Disarmament to publish a national directory of all Canadian post secondary institutions which offer courses (present or planned) in the peace education and world order studies. As Colin writes, "At the moment we are defining this topic very broadly to include areas such as third world development, food distribution, women's studies, etc., as well as peace and disarmament."

Enclosed is the letter and questionnaire being used in the study. If you can supply information, please do. Otherwise, pass the form along to a colleague for whom it is applicable. Chapters have been supplied with the form also.

Annual general meeting of Science et Paix Quebec will be held May 14 in Montreal.

Chapter Members are planning to issue brochures in French and to translate the principal Science for Peace briefs and papers.

Science for Peace Ottawa will arrange this year for a regional prize at the Youth Science Fair in Ottawa, gaining experience before "going national" in succeeding years. Chapter President Mingarelli reports, "Things are proceeding very well so far."

A special prize fund has been set up - contributions from as far as Montreal and Winnipeg have been made. Individuals and other chapters can contribute - send checks earmarked for the Peace Science Prize to the national office.

The Toronto Chapter's seminar and lecture series (Wednesday evenings at 8 pm at University College, University of Toronto) features Prof. David Parnas (University of Victoria) speaking on the topic "Why the SDI System Can Never Be Trusted" (Feb. 5). Other seminar speakers for the month are John Bacher, Derek Rasmussen and Christian Bay.

There will be a general membership meeting of the chapter on March 27 to elect an enlarged executive committee and a new chairman.

LIPRA award

Nominations are in order for the 1987 Lentz International Peace Research Award, which will be given to that person or group who has made an outstanding contribution to peace research and/or its promotion. The winner will be selected by an international panel of judges.

The prize itself is \$1000 cash and a replica of the original LIPRA sculpture which is located at Washington University in St. Louis, USA. Alan and Hanna Newcombe (1974) and Anatol Rapoport (1975), SFP board members, are among previous recipients.

Nominations should be sent to Louise Robinson, Lentz Peace Research Laboratory, 6251 San Bonita, St. Louis Mo. 63105 USA, by Sept. 1, 1986. Nominations should be accompanied by supporting documents, curriculum vita of the nominee, publications, etc.

Letters

Montreal, Quebec

Visiting in Vancouver on Dec. 14, my wife and I crowded into a downtown hotel ballroom at 8 am with nearly 700 others to witness one of the downlinks of a historic event - the first live teleconference with simultaneous transmission from five continents. The occasion was the presentation of the Beyond War Award for the Five Continent Peace Initiative to its leaders: Raul Alfonsin (Argentina), Rajiv Gandhi (India), Miguel de la Madrid (Mexico), Julius Nyerere (Tanzania), Olaf Palme (Sweden) and Andreas Papandreu (Greece).

The early hour in Vancouver was necessary because the program spanned thirteen time zones. (It was late evening in India.) Nine satellites were required for the hook-up which was coordinated by Beyond War president, Richard Rathbun, in San Francisco.

- Ross Smyth

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Ottawa, Ontario

Canadian Student Pugwash is a university based, educational organization concerned with social and ethical issues arising from science and its technological applications.

We have an information service which at present is preparing the first in a series of directories, tentatively titled Defence and Arms Control. Canadian Student Pugwash is hoping to provide, in an easily accessible form, sources of information on the social and ethical implications of military research and development in the areas of defence and arms control.

- Susan M'Gonigle

Information Service Coordinator

Arcola, Saskatchewan

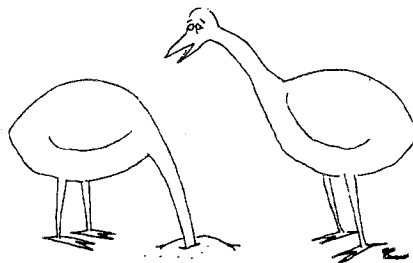
On Dec. 17 and 18 in early morning the noise of jets filled the air over this little town in southeast Saskatchewan, great looped patterns of jet trails marked the sky and fighting craft were clearly visible. An ex-Air Forces man I met on my way to work exclaimed, "They're not ours because we don't have any like that."

I phoned my MLA, who knew nothing of the incident. His office eventually determined that NORAD was conducting "exercises" in the area, but that command headquarters at Moose Jaw and North Bay declined to discuss the matter.

I expect that urban people are not subject to such events because of the regular air traffic. I also expect that they are not aware that such events are occurring in rural areas.

A thank-you to all the scientists who are turning their efforts towards the well-being of mankind and not to making new weapons of ever-greater destructive power. And thank-you to those responsible for publishing the informative Science for Peace Bulletin.

- Isabelle George



"And what kind of a world would this be if everyone decided not to get involved?"

Ottawa, Ontario

I thought you might be interested in the report of the Consultative Group on Canada's role in multilateral fora. You will notice that the concept of verification figures strongly in the report. I also enclose the Canadian resolution on verification which was adopted by consensus (both US and USSR participating) in the UN Disarmament Committee. This was a breakthrough and reflects the Canadian government's emphasis on verification work as a positive contribution to arms control agreements. Furthermore, on Dec. 4 the government's study on chemical weapons monitoring was presented to the Secretary General of the UN.

- Douglas Roche
Ambassador

(Editor's note: The report and a copy of the resolution are available from the Dept. for External Affairs, 125 Promenade Sussex Drive, Ottawa K1A 0G2.

the Big Two

January 16 - Geneva, end of the month - Stockholm: two sets of discussions started, renewing the attempt to bring sanity, security and confidence building back into the purview of the world's peoples. In 1983, US President Reagan called for the total abolition of nuclear weapons. In early January the USSR extended a 6-months unilateral test ban for 3 more months and invited the US to negotiate seriously to rid the world of all nuclear weapons by the year 2000.

USSR General Secretary Gorbachev has included in his proposals previous positions urged by the US: by 1990 a 50% reduction in Soviet and American strategic weapons capable of reaching each other's territory; the removal of all American and Soviet intermediate range missiles from Europe (Reagan, 1981); reductions in chemical weapons and conventional forces in Europe.

The Russians have also agreed to on-site inspections to verify Soviet compliance with arms control agreements - the point on which previous disarmament negotiations have always stalled.

Mikhail Gorbachev, A Time for Peace (1985) Richardson & Steirman, New York.

A collection of the Soviet leader's letters, speeches, commentaries and interviews; an introduction written by the author, a biography and eight pages of colour photographs approved by him.

\$17.95 Cdn. at local bookstores or from H.B. Fenn & Co., 7110 Torbram Rd., Mississauga, Ont. L4T 4B5, sole distributors in Canada.

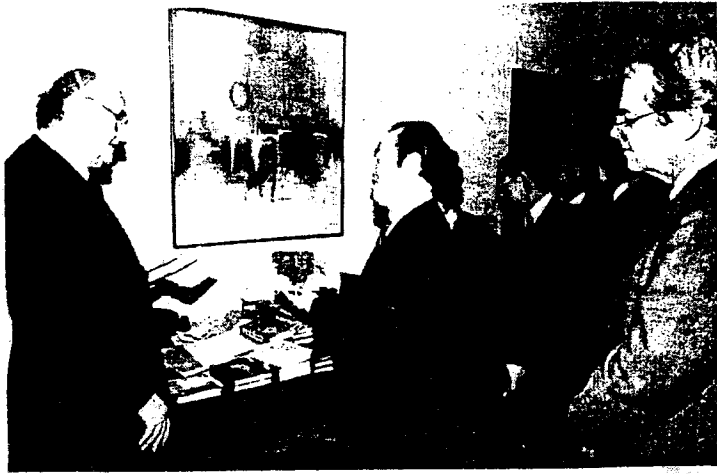
Star wars

Caroline L. Herzenberg (Argonne National Laboratory, U.S.A.) in an article in Physics & Society (Vol. 15, 2, 1986) points out that if an orbiting laser system such as that proposed by the American SDI program operated at a wavelength at which the atmosphere is transparent, it could be used for incendiary attacks against cities. Her calculations indicate that a single laser battle station could create enough ignition points to cause a firestorm that would destroy a city.

The text of the complete article can be reprinted for you by the national office.

- John Dove

Sitting in the Consultative Group were SFP members Norman Alcock, Ronald Babin, Dr. Donald Bates, Paul Cappon, Dianne DeMille, William Epstein, Franklyn Griffiths, and George Ignatieff.)



Peace books donated

Representatives of the Canadian chapter of the Japanese lay Buddhist organization, the Nichiren Shoshu Sokagakkai, last week presented Chancellor George Ignatieff (left) with two sets of a 25-volume collection, in English, of writings on world peace and religion. One will go to the Emmanuel College Library, while the other will go to the peace studies collection of the Laidlaw Library. The Sokagakkai is the largest lay religious organization in Japan, with over 10,000,000 members. It will be sponsoring an exhibition in May at U of T on nuclear arms which will include Hiroshima artefacts. Seen here with Ignatieff are Mickey Mashuda, vice-chairperson of the Canadian chapter and Doug Jay, principal of Emmanuel College.

- from the BULLETIN of the University of Toronto

The exhibit mentioned in the caption will be on display during the international conference in Montreal April 21-23, and in Toronto beginning May 8.

Apologies to Mrs. Epp, librarian at University College, University of Toronto: this BULLETIN (January, 1986) seemed to quote her as saying a "peace library" had been established in University College through the donation of a shelf of books from the Science for Peace Collection. As Mrs. Epp so correctly pointed out, a donation of books is quite different from the establishment of a special collection. The wishful thinking of Science for Peace board members is the culprit here.

Bookshelf

Gordon Edwards, INTRODUCTION (1985). An outline of the concerns of the Canadian Coalition for Nuclear Responsibility since 1975, with particular attention to the role of AECL. From the SFP office, or write CCNR, C/P 236 Succ SNOWDON, Montreal, Que. H3X 3T4

Katie Stortroen, "Letters from Canadian Peace workers", PEACE RESEARCH REVIEWS, Vol. X, No. 2, Oct., 1985. 25 Dundas Ave., Dundas, Ont. L9H 4E5.

A content analysis of 61 returns to a request for life-experience letters answering the question, "What made you decide to work for peace?"

Gaston Fischer, Are There Other Civilizations in the Universe With Whom We May Hope to Establish Contact? In French or English from SFP.

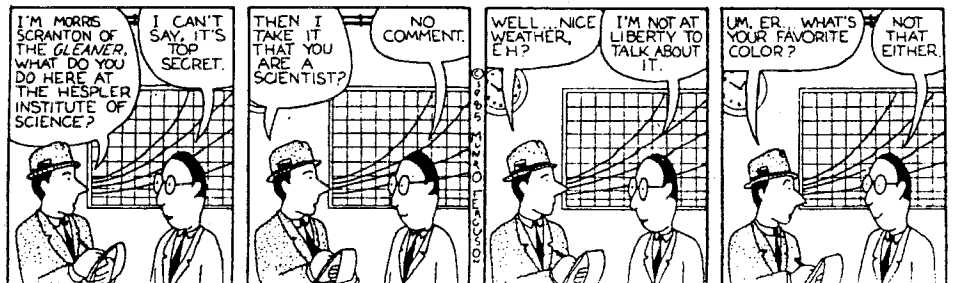
Anatol Rapoport, "Subjective Aspects of Risk", Risk Abstracts, Univ. of Waterloo Press, Vol. 3, No.1, Jan. 1986. (Reprints from SFP.)

"Consider the frequently invoked idea of the 'risk' of a nuclear war. Clearly a population of 'repeated' nuclear wars is, for practical purposes, inconceivable. There is, therefore, no way of estimating the 'real' (objective) probability of a nuclear war. We can, in principle, determine probabilities of (repeatable) events of which a nuclear war would be a fairly certain consequence, and we are interested in the meaning, if any, of the probability of a nuclear war as a consequence of specific policies."

Eric Fawcett, "Teaching About Physics and Nuclear War". Physics in Canada, Sept., 1985. Reprints available from the national office.

J.M. Pearson, The Canadian North and a Possible Canadian Influence on US Defence Policy. Brief to the Special Joint Committee on Canada's International Relations for Science et Paix, Quebec. Available from the national office.

EUREKA



Derek Paul, editor, Defending Europe: Options for Security, Taylor and Frances, Ltd., London and Philadelphia, 1986.

(Advance publications orders can be placed with the Science for Peace office.)

This book, which is based on a conference organized by Science for Peace and held in Toronto last May, offers a range of perspectives on current circumstances. Its contributors include academics and people with practical experience in European security affairs, and they have many useful things to say. Their contributions touch upon some of the difficulties with present NATO policy and policy-formation, the conduct of past negotiations (concerning Central Europe in particular), and the problems of verifying agreements for restraint. Attention is given to various proposals for risk-reduction, demilitarization, and alternative, "non-provocative" defence strategies. The paper by Ulrich Albrecht on alternative security arrangements for Central Europe is especially suggestive and stimulating.

While no real consensus emerged from the conference that gave rise to this book, most of the participants are dissatisfied with present policies and agree on the need for rethinking certain priorities (such as the doctrine of "flexible response"), exploring new paths to security, and devising better means for crisis management.

Perhaps our main objective, as several contributors suggest, should be the search for "comprehensive" security: a security that is premised on the joint framing of policies for mutual advantage. Such a redirection of political energy would depend on the recognition, in both East and West, that we have deep interests in common, and that this mutuality is a more promising foundation for European security than is the unceasing pursuit of military - technological advantage. Present policy is full of contradictions and inherently fragile. While better alternatives have yet to be fully worked out, Defending Europe is an admirable guide to what we have inherited, why this inheritance is flawed, and what might emerge from the debates that are now underway.

- Robert Malcolmson
Queen's University

PRESIDENT'S CORNER

Norbert Wiener, the acknowledged father of cybernetics, warned about the dehumanizing effects of the Second Industrial Revolution (the impact of information technology) and proposed ways of avoiding them in The Human Use of Human Beings. Wiener also discontinued all work on military applications of cybernetics and urged his colleagues to do likewise. In God and Golem, published just before his death, Wiener warned against "using the magic of modern automation to further personal profit and let loose the apocalyptic terrors of nuclear warfare."

Philip Noel-Baker was a World War I hero, recipient of the Silver Medal for Valour and the Italian Croce di Guerra. After the war he was Parliamentary Secretary to the Minister of War Transport and Secretary of State for Air. In 1958 he published The Arms Race, the first comprehensive study of its inexorable dynamics, in the light of which it becomes clear that the Richardsonian equations are not just a mathematical exercise but a basically faithful (albeit drastically simplified) model of stark reality. Noel-Baker drove home Richardson's lesson: the arms race is inherently unstable. This means that it can explode in war or, possibly, could be reversed to turn into a disarmament race, but it cannot be "stabilized". Noel-Baker was awarded the Nobel Peace Prize in 1959.

Andrei Sakharov was once regarded as Edward Teller's opposite number - the father of the Soviet hydrogen bomb. At the time he was strongly convinced that he was "working for peace". When the Soviet bomb became reality, he thought that peace was assured and that the time was ripe for re-appraisal, that it was pointless to continue the arms race. His first action in the cause of peace was to try to convince Khrushchev to discontinue atmospheric tests of atomic weapons. Khrushchev refused, and the tests went on. But Sakharov kept on thinking. He could no longer keep himself confined in the insulated world of nuclear physics. He started to make public statements on many issues ranging from reforms in the teaching of mathematics to democratization of Soviet society. He spoke out in favour of liquidating the Cold War and embarking on far-reaching and lasting collaboration with the rest of the world on global problems. Central in the broad spectrum of his concerns was the horrendous danger posed by the arms race. As he later told Hendrick Smith of the New York Times,

"I gradually began to understand the criminal nature not only of nuclear tests but of the enterprise as a whole."

Sakharov was awarded the Nobel Peace Prize in 1975.

Following the explosion of experimental bombs at Bikini, Peter Kapitza, perhaps the most outstanding atomic physicist of the Soviet Union, a former assistant of Rutherford, declared:

"To speak about atomic energy in terms of the atomic bomb is comparable with speaking of electricity in terms of the electric chair."

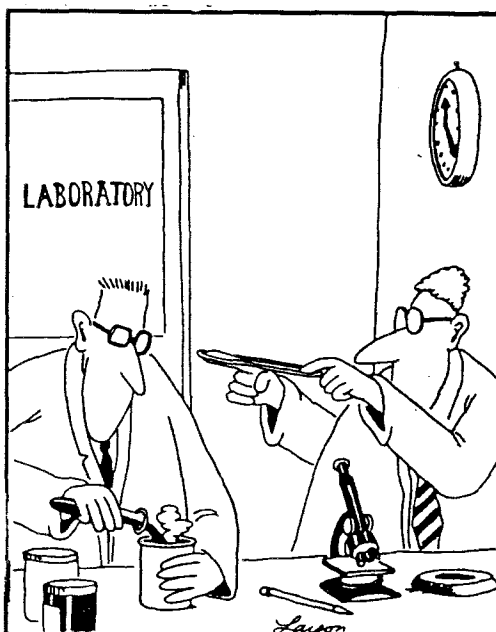
Soon afterwards he was ordered to work on the production of Soviet atomic weapons. He said No. To Stalin. He was placed under house arrest and remained practically confined to his home for seven years. American physicists visiting the Soviet Union in 1956 were told that Kapitza was subsequently sentenced to deportation and compulsory labour.

These seven wise men - an inventor, a public servant and five scientists - recognized their responsibility to humanity, some sooner, some later. Two of them were severely punished for their integrity and steadfastness. But humanity has honoured them and will not forget them - should it survive.

- A.R.

I am organizing nuclear Awareness Units for 60 grade 12 students at Laurier Secondary School, and I have discovered that appropriate materials are hard to find. I would appreciate anything dealing with the nuclear age which you could send me free of charge.

Brian McHenry
Sir Wilfred Laurier
Secondary School
450 Millbank Drive
London, Ont. N6C 4W7



On Oct. 23, 1927, three days after its invention, the first rubber band is tested.

the Board

The Board of Directors of Science for Peace, in its monthly meeting Jan. 28, activated the nominating committee elected at last spring's annual meeting. Suggestions to the nominating committee are now in order and may be sent to Chairman Lynn Trainor, Physics Dept., University of Toronto, or to the national office. Other members of the nominating committee are Ursula Franklin, Eric Fawcett and Anatol Rapoport (ex officio).

Pergamon Press, Ltd. is publishing a World Encyclopedia of Peace, to which A. Rapoport has been asked to contribute two articles.

Beginning with this issue the national office is able to mail the BULLETIN directly to Chapter members. Those who have missed issues since September can order copies from the national office. In some instances copies are available from Chapter secretaries.

Science for Peace

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