President's Corner

Since my return from my Christmas trip to Europe, I have been considering elements of a Defence Policy for Canada. I do not believe that the defence of Canada can be planned within reasonable economic and social limits without allies, and that we should not retreat into a Fortress America approach rather than an internationalist approach, especially when the Soviet side is offering a more cooperative international relationship for peace based upon an interdependent system of common security and defence.

I happen to believe that it is true that since nuclear war is unthinkable since it would mean the end of civilization, neither the USA nor the USSR can seek to dominate the world by force. We have to adjust our planning of security on the hypothesis that if war is not inevitable, then peace may be inevitable.

Should the opportunity arise for a more constructive and cooperative East - West security regime, as suggested by Gorbachev in his new book, Perestroika, NATO could evolve into the western half of such a system. Canada should become an ardent advocate of using NATO as an agency for the collective management of arms reduction and disarmament, as well as resolving by political means the division of Europe. The question of the conditions under which the two Germanies may be unified is being raised actively, especially on the part of West Germany.

We should commit ourselves to the transformation of NORAD into part of a cooperative East - West strategic cooperative regime for the Arctic. The deployment of nuclear submarines in the Arctic would be inconsistent with such a cooperative approach to security.

In accepting holus - bolus the Pentagon's outdated cold war assumptions, the Government's Defence White Paper fails to recognize the essential inter-relationship between defence spending and the state of the economy of both superpowers, not to mention the diversion of scarce resources from economic development of developing countries. Very heavy investments in armaments has eroded the commercial competitiveness of the USA and the country is out of balance with all its main trading partners in Asia, Europe, as well as with Canada.

the PEACE FROM SCIENCE AWARD

Dear Colleagues:

Once again Science for Peace and the Youth Science Foundation will be sponsoring a National Award on Peace from Science for an appropriate project by high school students. Last year we received eleven nominations from regional and Canada-wide Science Fairs. Several could have been worthy of recognition, and an Honorable Mention was awarded as well as the prime prize of an all-expenses paid, escorted trip to the U.N. Conference on Disarmament and Development in New York City.

It is important that plenty of good nominations be generated by Regional Science Fairs, and this can best be done by encouraging the organizers and advisers locally. Offering prizes and one's services as judges are good ways of generating such interest. The Youth Science Foundation is distributing announcement and nomination forms to the Regional Fairs and high schools. Enclosed is a list of Regional Science Fairs, their contact persons and their daytime telephone numbers (if available). This should help Science for Peace members and chapters to communicate with local organizers. Last year Ottawa Chapter offered to help several Eastern Ontario Fairs. Please note that the deadline for nominations is May 31. We hope to choose a winner in time to attend another UN Conference on Disarmament in May-June.

Jim Neelin
National Prize Coordinator

Last year's prize winners were Elizabeth Henderson and Andrea Grigotza from Glebe Collegiate, Ottawa. Their project simulated the effects of a nuclear winter.

In order to have any chance of having an international impact in this vital time of transition in strategical thinking, Canada needs a broad consensus on an innovative policy that looks to the future. In view of Canada's strategic position geographically between the two powers we should surely be more responsive to the development of new thinking which provides new opportunities to move towards detente and be less dependent upon the traditional militarist balance of terror and the unpredictable destabilizing effects of innovations in weapons systems of mass destruction.

George Ignatieff

the Tritium Case

The ruling in Energy Probe's "Tritium Case" has gone completely against the plaintiffs, according to Norm Rubin, research director. The Court upheld the 1977 Minister's Exemption of Ontario Hydro from Environmental Review. Consideration is being given to an appeal.

SAGE

Four young students visited 162 communities in all ten provinces of Canada in 1986-87 and spoke with 120,000 high school students. The four attended the IPPNW Seventh Congress in Moscow, sponsored by Canadian FPNW. The report by Seth Klein, one of the SAGE Four, on this trip to a superpower city is now available from the Bulletin.
IN MEMORIAM
Hans Blumenfeld

"I February, 1987

"In 1908 my high school teacher in Hamburg, Germany, tried to indoctrinate us with the principle of the Ancient Romans: 'ei vis pacem, para bellum'. He presented a fairly good case: since Germany had become Europe's strongest power, the continent, for the first time in its history, had enjoyed 40 years of unbroken peace; as long as Germany remained strong, peace would prevail. I objected...War could be avoided, I felt, only by an agreement to limit armaments..." 1987 may well be the last year of the stoggap of 'MAD'. There is still time to reverse course and to base international relations on the rule of law.

Hans Blumenfeld

Hans died January 30, 1987, in Toronto, in his 96th year. Hans Blumenfeld was a life member of Science for Peace and was honored by this title when he placed the Franz Blumenfeld Peace Foundation in trust with Science for Peace. This was a memorial to the memory of his brother who was killed in the First World War in Germany.

His final paper for Science for Peace, from which the above abstract was taken, is available from the BULLETIN on request. Its title: "Does Deterrence Deter War?"

DISCUSSION AT BROCK

Be it resolved that in the opinion of this House, the countries of NATO should renounce unilaterally the use and the threat of using nuclear weapons under all circumstances, and without condition destroy all stocks of such devices, and that this should be done quite independently of any action or lack thereof by the countries of the Warsaw Pact.

To be debated Wed., Feb. 17 at 7:30 pm in the Senate Chambers at Brock University, organized by Science for Peace Brock. Peter Micholls, chair of the Dept. of Biological Sciences and lifetime member of the Union Debating Society, Cambridge, England, will move the motion. It will be seconded by Ms. Marcia Timmel of the Olive Branch Catholic Worker Movement, Washington, D.C. Opposed will be William Mathie, Professor of Political Science, Brock, seconded by George Bell, Professor of Strategic Studies at York University, Toronto.

In the chair will be Mr. Matheson, Vice-President, Brock University.

MAKING TREATIES WORK

The Markland Group organized a Workshop on Arms Control Treaty Compliance Systems at the University of Toronto Law School November 28/29. The Workshop was made up both of experts and citizen representatives. The experts included professors of international law and former diplomats (including George Ignatieff) and was led by John Holmes (GITA, SPP member). The participants explored various alternative mechanisms and institutions that might be available for attachment to arms control treaties for the purpose of promoting compliance.

A most important institution explored is a new international agency to administer the inspection provisions of treaties. This agency would hire inspectors, analyze data and determine whether or not a violation is taking place.

We believe further that treaties can only be made effective if we create a new international body to promote compliance. This body should function as a UN related agency. Once such organizations are in place and operating, there will be a framework into which a whole series of new arms control treaties can be fit. Without that framework, new treaties may well be impossible and existing treaties start to fall apart.

The outcome of this expert/citizen workshop was the establishment of a committee to draft concrete policy recommendations to be submitted to the Department of External Affairs in spring.

-Doug Scott, President

RECOMMENDED READING:

.... Volume 43, Number 4, 1987 of the Journal of Social Issues, Beyond Deterrence. Issue editor: George Levinger. "Beyond Deterrence" is the lead article by Richard Ned Lebow and Janice Gross Stein. This is followed by 13 comments on the theme and replies from Lebow and Stein.

VETERANS IN MOSCOW

Leonard Johnson

I was in Moscow last week with delegations from VANA and the USA organization, Veterans for Peace, Inc. We met with the Soviet War Veterans Committee and a number of other bodies, including the Department of Disarmament and Armaments Affairs in the Ministry of Foreign Affairs. Nobody can convince me now that the USSR is aggressive and expansionist or any threat to anyone. During our final session, we signed a statement asking the veterans of every nation to unite in one final campaign in support of the abolition of war and the elimination of violence as an instrument of policy.

COMBINED STATEMENT OF VETERANS:

We veterans of the defence of our separate nations have met in the shadow of nuclear winter to help defend and preserve our common species. We agree that a significant change in the mind-set of humanity is an essential first step towards the adoption of measures to preclude our early extinction. The human mind cannot comprehend the awesome power of modern weapons nor envision the horrors ahead if present policies continue. Differences in ideology are trivial matters while the continuity of life is threatened. The "image of the enemy" must be banished.

Warriors can no longer protect their homelands from total destruction. The security of our planet now depends on mutual respect and confidence, on faithful adherence to existing agreements, and the fashioning of further covenants that will achieve the aspirations of all rational peoples to build a world without war. Therefore:

1. We veterans urge the abolition of war and violence between nations by the year 2000.

2. The abolition of war and violence poses a difficult task for leaders. We ask the veterans of every nation to unite in one final campaign in support of the abolition of war and the elimination of violence as an instrument of policy.

Done at Moscow on January 21, 1988 in three copies, each in the English language.
S/Gerald Genesio, Veterans for Peace, Inc., USA
S/Nikolai Volkov, Soviet War Veterans Committee, USSR
S/Lenard Johnson, Veterans Against Nuclear Arms, Canada.

**Bookshelf**

**THE NAME OF THE CHAMBER WAS PEACE**


(Editor's note: Phillip Wallace's major, pre-publication review is not reprinted here since members received an extensive review of the contents of the book with the January BULLETIN. Only Professor Wallace's conclusions about the book are here - the full text is available from the BULLETIN on request.)

For several years the Toronto chapter of Science for Peace has collaborated with other peace groups in organizing the "Science for Peace Public Lectures", a weekly series of evening lectures dealing with a broad range of social and political issues related to the search for a stable and peaceful world order. The present book represents a selection of articles based on lectures from its 1986 program.

The book is a remarkably rich reservoir of fact and analysis covering a broad spectrum of problems and as such represents an important resource for sensitizing thoughtful people to the most fundamental problems facing the global community in our time. There is no uniformity here, no central doctrine, but rather an exploration of perspectives as broad as can be found in the peace movement itself. It is the very diversity of outlook which makes the book thought-provoking; whether one applauds or finds quarrels with individual articles, none of them should leave the reader indifferent. Perhaps, in fact, the most controversial articles are the most stimulating, in that they force attention to very fundamental issues. And there are many visions of a peaceful world; we cannot afford to ignore any of them.

**PHILIP WALLACE**

**SCIENCE, TECHNOLOGY AND THE NUCLEAR ARMS RACE**


I have found this book useful as a text in a course at the University of Montreal followed mainly by political science undergraduates. At this time I know of no other single text that could replace it. Moreover, not only political scientists, but also physical scientists and the general public will find this an excellent introduction to questions of war and peace.

Particularly impressive is the way in which the technological, historical, political and strategic themes are developed in parallel, and the interplay between them made clear. In this respect, Schroer's book is incomparably more ambitious than Kevles's *A Mirror of Our Time*. For example, often one is reminded of D. R. Inglis' 1973 book, *Nuclear Energy: Its Physical and Social Challenge*.

The treatment of all these different themes is by no means uniform. Given that Schroer is a physicist by training, it is strange that his discussion of physics and technology is often much less successful than his presentation of strategic concepts or his accounts of various arms - control negotiations. The sections on the physics of fission and on radiation dosage are often most confusing and bear all the signs of having been hastily written. This could be a result of his very familiarity with these fields. Here, particularly, Schroer's book compares unfavorably with Inglis'. The section, "Nuclear Accuracy", is just about incomprehensible as it stands.

But the most conspicuous defect of the book is the fact that it is already badly out of date. For example, although there is excellent coverage of ABM, there is nothing at all on SDI. Furthermore, the scant attention given CJI is very much a reflection of the times in which the book was written. The need for a new edition is pressing.

In undertaking this task, Schroer might reflect on his frequent use (beginning with the title) of the phrase 'nuclear arms race', as though this were synonymous with the whole question of nuclear weaponry. Recent events have given us some reason for hoping that the nuclear arms race might be starting to grind to a halt. But nuclear weapons will be around for a long time to come, and the knowledge to make them will last as long as civilization. People will always be meditating on the nuclear issue and writing books such as Schroer's, arms race or no arms race.

- J. Michael Pearson

**COMPUTERS IN BATTLE: WILL THEY WORK?**


In this important book Dave Parnas discusses the context and types of military software. He does so in reference to a table of increasingly demanding roles, both in terms of the increasing degree of automation (from off line to full automation) in terms of function (communications where we control the specs to target identification and tracking where they do). He points out three reasons for what the Pentagon refers to as the "software crisis". 1) While the theoretical accuracy of digital arithmetic is unlimited, finite approximations of real numbers can lead to stark discrepancies: "hard-to-find errors are the result". 2) We can and do create programs that have no compact descriptions and that are so complex that we can't understand them completely and whose behaviour often surprises us. 3) The ease of change of software in a system often results in a program that has lost its original structure and is not adequately understood.

Simulation, now touted by SDI proponents as the way to make SDI software reliable, is just another form of testing and faces the same statistical limitations. Simulation designers often tend to make the same assumptions as the program designers. It is difficult, sometimes impossible to keep simulation and design consistent as the system evolves.

Also discussed in the book are
COMPUTERS IN BATTLE (cont.)

artificial intelligence as military technology and the so-called Strategic Computing Initiative, the latter to develop highly parallel processors and steer AI research into applied areas via prototype projects. The sophisticated requirements articulated by DARPA are, at great odds with the state of the art.

Clark Thomporsen reminds us that 70% of academic research in computing is funded by the Department of Defense (US). "The DOD took over control of academic computer science in the 80's. There is now more funding for applied DOD research than for all basic research in Computer Science."

And David Mizell points out, "From my point of view, Strategic Computing is already a success. We've got the money."

SDI computer research is not classified as research but as "advanced development" (6.3). They have selected an architecture and they are now building the system.

Alan Borning warns: "We must recognize the limits of technology. The threat of nuclear war is a political problem and it is in the political human realm that solutions must be sought." The advice to policy makers is to forget about the chimera of the 'technological fix'.

Given the central vexing problem of producing reliable software for complex systems, especially military systems that would face an organized assault from a resourceful, intelligent adversary, it is arguable that trustworthy software is the central challenge in modern military systems.

David Norwood
Software Specialist in Large Operating Systems

BIZARRO

Well, we got in a brand new piece of complex, high-tech, computerized, state-of-the-art equipment today and it turns out we're just too stupid to use it.

TRIBUTE TO OUR COMMON FUTURE, the World Media Institute, Inc., 349 Besserer St., Ottawa K1N 6C6

In April, 1987 newspapers carried lengthy stories about the Brundtland Report, a three-year study by the World Commission on Environment and Development headed by Dr. Gro Harlem Brundtland, prime minister of Norway. September, 1987 - World Media, Inc. published this special issue of their quarterly magazine, TRIBUTE, on OUR COMMON FUTURE. Financed by CIDA, the report is aimed to produce a summary and guide to the Brundtland Report.

TRIBUTE summarizes the findings of the 23 members of the WCED who represented a cross section of nations with a variety of racial, political, economic and cultural backgrounds. The Commission held hearings in many parts of the world, discussing environmental and economic problems with government officials, holding public meetings and talking to people. They learned that neglect of the environment is world wide and of epidemic proportions. With each passing day the "third world" is losing land, forests and fresh water, and the developed countries are consuming more and wasting more. The two main enemies of the environment are poverty and population. But the Report argues that by adopting cooperative policies and by using existing technologies, communication and production techniques, the present environmental destruction can be reversed and a more equitable quality of life can be obtained for all.

As summarized in TRIBUTE, the UN is pivotal to the success of a plan of action outlined in Chapter 12 of the Report. But by problems as it is, it is still the only world agency with resources and infrastructure for the project. The UN needs a mandate from its constituents to institute a global programme of environmental responsibility. Elected officials are urged to join with business, universities, non-governmental bodies and concerned citizens to develop and implement policies and legislation to provide environmental protection.

A limited number of copies of TRIBUTE is available from Science for Peace BULLETIN, or write World Media Institute.

- Marjorie Wilton
The BUFFETIN has begun a collection of newspaper clippings, conference reports, resource publications (such as reports from AFFEN, the Asia-Pacific People's Environment Network) which are concerned with environment issues. Such material is available on request. Readers' contributions are welcome.

RELEASD JANUARY, 1988:


An information package concerning the PROPOSED TRANSPORTATION OF PLUTONIUM THROUGH NORTHERN CANADIAN AIRSPACE is provided by the Hon. Audrey McLaughlin, M.P. for Yukon. Address: House of Commons, Ottawa, Canada K1A 0A6.

REPRINT AVAILABLE:

From the Atlantic Monthly, January 1988, Jonathan Tasini, "Washington Nuclear Missions".

"Plans for reactors to power SDI weapons systems have gone further than the drawing board despite unresolved questions about practicality and safety."

UNSOLVED:

A statement prepared by Derek Paul for Science for Peace was presented by Ann Gertler (Project Ploughshares) at the 11 Jan. meeting of NGO representatives to the UN. A joint NGO Brief to the Preparatory Conference preceding the III UN Special Session on Disarmament will be prepared from the statements. A copy of the Paul paper is available from the BUFFETIN.

The December issue of Soviet News & Views is devoted to a survey of the Summit results, an interview with Gorbachev by NBC on the eve of his trip to Washington and the text of the Joint Soviet-US Statement. This publication is free from USSR Embassy Press Office, 1108-400 Stewart Street Ottawa KIN 6L2.

PROFESSIONALS AND SOCIAL RESPONSIBILITY: CONFLICT OR CONSCIENCE?

A major conference at the University of Waterloo, 14-15 March 1988. Participating:

C.C. Cotlieb, Rose Sheinin, Beth Savan, Anatol Rapoport

"SUPERPOWERS AND NATIONAL SECURITY" from the Winter 1987-88 CIPS magazine, PEACE & SECURITY, is available as a reprint from the BUFFETIN, or the magazine can be ordered directly from CIPS. The article, by Don Munton, is receiving extended press coverage. It reports on a recent CIPS survey which has shown that most Canadians perceive the policies of both superpowers, not just the Soviet Union, as the major threat to national security.

Letters

I've just read the latest BUFFETIN - one of the best yet! Anatol's article on his USSR visit was terrific and provided great insight into today's USSR. The review of Gorbachev's book was also excellent.

- David Boulston

Waterloo

I do enjoy reading the BUFFETIN - particularly in the last number, the two articles on page 3-4. I subscribe to a lot of groups which promote "sanity" in national and international affairs as far as my limited resources permit.

As a scientist my chief concern has been with the wise use of natural resources and the necessity of an ecological approach to the problems of humanity. If homo sapiens is to be worthy of the scientific name he has given himself. This, to me, is the meaning of "Science for Peace".

As Claude Bernard said a century ago, "True science teaches you to doubt and in ignorance to refrain." But the methods of science have been used to produce man's ultimate folly: nuclear weapons. True scientists will have no part in this.

- Reg Balch

Fredericton, N.B.

Your note about the newly-found Einstein letter (the BUFFETIN, Sept., 1987) shows how much we all feel the presence and impact of Einstein's revolutionary thinking. As a result of having written a paper on the Einstein-Podolsky-Rosen Paradox and on time, I have become acquainted with some of the considerable work being done in this area theoretically and experimentally. The most exciting idea is that there is still room left for evolution in our conception of time.

I would like to know whether some people in Science for Peace would be interested in entering a discussion of our conception of time to the depth at which it is now being discussed in numerous books and in symposia organized by the Int'l Society for the Study of Time, which includes a number of Canadian scientists.

- Michel Duguay

11 Lewis Point Road

Fair Haven NJ 07704

USA

The Journal of World Peace (editor, W. Peterfi, Univ. of Minnesota) is going to publish "Native Philosophy of Peace" in a slightly changed version next year. Continuing the idea, we are trying to put some mention of "Native Science" in public schools. To that end I have prepared "Raven the Original Scientist" and "Pedagogy of Silence". In a sense, Natives in Canada and the USA do not have "peace" - they are still suffering under cultural depression. I wonder if anyone else in Science for Peace is interested and able to help?

- Sam Kounouso

Lethbridge, ALTA

Editor's note: Original manuscripts of these papers available from the BUFFETIN.
These are "Cartoons to the Editor" - Enjoy!

NUKES

Beating swords into tank parts.

Waterloo Chapter

Science for Peace: Waterloo - Guelph is a projected program for SFP members in this area for 1988. If attempted joint programs prove successful, the relationship will be formalized by re-naming the present Waterloo Chapter. New officers elected at the Chapter's annual meeting are president James Gardner, vice-president James Cross, treasurer Cynthia Polzer, secretary Cam Robinson, meetings convener Frank Thompson, publicity director Rob Dickinson.

David Roulston, secretary since the Chapter's founding, goes on sabbatical May 1 and will spend the year at Oxford University, England. Leonard Johnson, Gwynne Dyer, Pauline Jewett and Tad Homer-Dickson were to participate in the first Peace Festival at Wilfred Laurier University 31 January to 5 February.

Norbert Wiener Award

The Computer Professionals for Social Responsibility Norbert Wiener Award has gone this year to David Panas, Queen's, Kingston, national board member and a regional research and education director of Science for Peace. The Award was established to recognize extraordinary and exemplary practice of the highest standards of social responsibility in the computing profession and to honor someone who makes a significant personal sacrifice for the sake of public safety, the reduction of risk, and the maintenance of the highest example of professional conduct.

New Release

The book, Strategia Doctrines and their Alternatives, is a result of an international cooperative effort led by Prof. Yoshikazu Sakamoto, Faculty of Law, Univ. of Tokyo, with the collaboration of the UN University. Scholars from West Germany, France, Canada, Japan, USA, India, Norway, Finland, Yugoslavia and Sweden participated. Ari Zoll Rapoport was Canada's representative.

Publisher's address: Gordon and Breach Science Publishers, 50 West 23rd St., New York, NY 10010, USA.

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