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NUCLEAR FORCES AND NUCLEAR WEAPON-FREE ZONES

Nuclear Forces

In June, 1983, after the Eighth Workshop on Nuclear Forces in Europe, our Executive Committee recommended postponement of deployment and the continuance of negotiations in the likely event of no agreement in December in the US-USSR bilateral talks. This view was shared by many governments and segments of the public, but it was overridden by the official NATO decision to proceed with deployments thereby showing "resolve", (according to several NATO government leaders) which would force the USSR hand at the bargaining table. This practically ensured what indeed followed - an equal show of "resolve" by the WTO group and the announcement of counter measures by the USSR to "balance" the situation by new deployments in the GDR, Czechoslovakia and in submarines off the coast of the USA.

The end result is increased tension, a heightened risk of war and another upward thrust to the arms race which leaves the world even worse off than before negotiations started. In the present unfavourable climate, quick resumption of official negotiations is not only unlikely but could well be counter-productive. This is in marked contrast to our own meetings which provide one of the very few channels for continuity of East-West exchanges, particularly valuable at times of tension and breakdown of official negotiations. This was evident during our Ninth Workshop held in Geneva on 11 and 12 December soon after INF and START negotiations broke off.

The work of the Workshop is described in John Holdren's fine personal account (p.107). The spirited discussions were dominated by the awareness of the serious consequences which we will witness over many months. At the end of the Workshop, the Executive Committee, speaking for itself, drafted a statement in which it called for a stop to all deployments, and for independent (unilateral) measures to improve the poisoned atmosphere making the resumption of official negotiations feasible (p.105). There was general agreement that the workshops should continue. Some of the participants wanted the Tenth Workshop to be held in February, 1984, others in April, but the Executive Committee opted for early June to permit a lapse of time before Pugwash has another crack at trying to influence the situation through an exchange of views based on respect and goodwill rather than preconceived notions and a show of military might.

Once more we express our warm thanks to the Friends of Pugwash in Switzerland who acted as hosts to the Workshop.

The Executive Committee, in its post-workshop session in December also took decisions on our meetings during 1984 (see calendar on last page) with special emphasis on the 34th Conference in Sweden. Preparations for the Conference are in full swing with early notification of conveners of working groups, writers of commissioned papers, and hard work by the Swedish Pugwash group. Our aim is to maintain the high qualitative level of our Conferences with the new procedures for conferences adopted in Warsaw.

Nuclear Weapon Free Zones (NWFZ)

In late October, in Bucarest, we had another Symposium on NWFZs, the first one having been held in Oslo last year (see book review on p.134). In Bucarest we were concerned with the possibility of setting up such a zone in the Balkans - on the face of it a far-fetched idea in view of the stormy past of the Balkan countries which is a history of mutual antagonisms and wars. But we live in a different time and one peculiarly favourable for making a contribution not only to amity in that part of the world but to European security in general. The end-product of the Symposium leaned heavily on the experience of the Tlatelolco treaty covering a NWFZ for Latin America, and twenty years of efforts - still unconsummated - with regard to the Nordic area as a NWFZ. The report and a draft of important provisions for a treaty (p.120) took into account, and even exploited, the fact that the Balkans comprise members of the NATO and WTO alliances as well as non-aligned countries. We consciously prepared

an input for a meeting on the subject by a group of experts followed by one of heads of state to be held in Greece in January 1984. Chances for some degree of success from the January meetings are increased because two political leaders have publicly expressed support for the idea - Ceausescu of Romania and Papandreou of Greece and two other countries (Bulgaria and Yugoslavia) apparently welcome the possibility. We have taken steps to bring the report to the attention of the foreign ministries of European countries, especially the Balkan ones.

The participants at the Symposium had the privilege of a one and a half hour exchange of views with President Ceausescu and Mrs Ceausescu (a chemist, who is also head of the Romanian Council of Science and Technology). The Romanian Pugwash group arranged excellent hospitality, especially a memorable musical evening with the cream of Romania's musical artists.

M. M. Kaplan

DISINFORMATION ABOUT PUGWASH

Perhaps it is a mark of Pugwash success on the international scene that we have become the target of calumny and disinformation spread by extreme right wing groups. Our first overt experience of this was in Venice when members of the Energy Fusion group, headed by the notorious Larouche from the USA, plastered posters around the streets of Venice and wormed their way into press conferences spouting lies.

Now the "Executive Intelligence

Review", a high cost subscription journal for western business executives have begun spreading false rumours about Pugwash through telephone calls and written distortions.

Although lies and distortions are seldom overtaken, we want our members to be aware of the above moves since some of our participants have already suffered villification from these groups.

Ninth Pugwash Workshop on "Nuclear Forces in Europe and Their
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STATEMENT OF THE PUGWASH EXECUTIVE COMMITTEE

The Ninth Pugwash Workshop on Nuclear Forces in Europe was held in Geneva, Switzerland, on 11 and 12 December 1983. Participants in the Workshop comprised 40 scientists and public and military figures from 16 countries.

The purpose of the Workshop, which followed the termination of both sets of nuclear force-reduction negotiations that had been underway in Geneva between the United States and the Soviet Union, was to promote an exchange of ideas and an exploration of possibilities for reducing the dangers posed by the present situation. The participants took part as individuals, not as representatives of their governments. The present statement was prepared following the Workshop by the Executive Committee of the Pugwash Council (see last page), which has sole responsibility for its contents. It should not be interpreted as a consensus of the Workshop participants, among whom a wide range of views was represented.

The Situation

At the conclusion of the Eighth Pugwash Workshop on Nuclear Forces in Europe six months ago, we wrote:

"The past and projected European deployments of "theatre" nuclear weapons on both sides are part of a dangerous action-reaction syndrome driven by questionable perceptions of military requirements and by international competitiveness. Each round in this competition decreases the security of Europe and of the rest of the world."

Since then, the continuation of this deplorable process has produced the initiation of NATO deployments of Pershing II and ground-launched cruise missiles, the announcement of Soviet counter-deployments, and the collapse of both sets of Geneva negotiations - those aimed at reductions in intercontinental nuclear forces as well as those dealing with nuclear weapons in Europe. These developments, superimposed on an appalling array of regional disputes and conflicts in which the superpowers see their interests as threatened, have created a level of East-West tensions probably unequalled since the Cuban missile crisis. As a result, the nuclear arms race may escalate to still more dangerous levels.

What Should Be Done Now?

The most immediate aim of a sensible policy must now be to minimize the damage that the recent developments have done to the prospects for peace and for arms control. The process of new deployments and counter-deployments is likely to become irreversible unless it is stopped as a matter of urgency. The way to accomplish this halt is by early, independent declarations on both sides of a freeze on all nuclear deployments in Europe, including the European part of the Soviet Union. This mutual halt would provide a "cooling off" period, which should be used for further independent measures to reduce tensions, build confidence and generate a re-examination of the nuclear policies and doctrines that have helped produce the present predicament.

Without such tension reduction, confidence building, and wide-ranging re-examination, there is little hope that formal negotiations could have any constructive result. On the other hand, the improved climate that could be created by feasible independent initiatives and re-examination, should facilitate the necessary removal of the initially deployed new NATO missiles and the Soviet counter-deployments. The early goal of this process of stepping back from the new phase of the arms race now underway would not be merely the status quo ante of November 1983, however. There is reason to think that earlier Soviet proposals at the Geneva negotiations for large reductions in the number of SS-20s would stand, once the status quo ante was restored.

Constructive independent initiatives are not only necessary but feasible. They are feasible partly because many of the details with which formal negotiations have been bogged down do not really matter. The key fact is that nuclear weapons have no useful military function other than to deter others from using theirs, and for this purpose both sides already possess more than enough. It follows from this key fact that the pursuit of numerical parity in every sub-category of nuclear weaponry - a pursuit which negotiations often have encouraged and perpetuated - is neither necessary nor desirable. As soon as this point is conceded, the scope for unilateral initiatives expands greatly.

Among specific measures that could be undertaken unilaterally by either or both sides, inasmuch as they would increase the security of all parties and reduce tensions whether

or not they were reciprocated, the following were suggested:

- Declare that no nuclear weapons will be deployed within at least 100 kilometres of the NATO/Warsaw Treaty Organization boundary, reducing pressures for early use of nuclear weapons in the event of a conflict in that region.

- Halt the development and deployment of weapons that threaten the retaliatory capacity of the other side.

- Adopt measures to reduce the chance of nuclear war being initiated by a mistake or malfunction, including, for example, announcing a commitment not to adopt a strategy of launch-on-warning.

A further important unilateral measure, already adopted by the Soviet Union, is a policy of no-first-use of nuclear weapons. While apparently the leaders of NATO are not prepared to adopt such a policy without further consultation and reflection, we wish to emphasize that the earlier NATO finds it possible to renounce first use, the better for the security of all parties.

Further Goals

The foregoing measures represent a minimum prescription for reducing tensions, building confidence, and stimulating re-examination of nuclear policies and doctrines to the degree necessary to recreate a climate in which more far-reaching arms-control goals can be usefully pursued; progress should then be possible through a combination of further reciprocal initiatives and new negotiations. Such goals should include a more comprehensive freeze on deployment, testing and produc-

tion of nuclear weaponry, as well as deep cuts in nuclear arsenals. As an early component of these cuts, the expansion of the above-mentioned nuclear-free-zone in central Europe - to encompass eventually the whole continent from the Urals to the Atlantic - should be vigorously sought, as well as appropriate

reductions in conventional forces.

It should be obvious, finally, that efforts to reduce tensions, restore stability, and prevent further conflicts are urgently needed, not only in Europe, but also in the Middle East, Latin America, Asia and Africa.

THE NINTH PUGWASH WORKSHOP ON NUCLEAR FORCES IN EUROPE

Report by John P. Holdren (USA)

The Statement of the Pugwash Executive Committee, reprinted above, tells much of the story of the ninth workshop in this series treating nuclear forces in Europe and their relation to strategic and conventional forces. New rounds of nuclear-weapons deployments are underway on both sides. In both sets of official negotiations on nuclear weaponry, deadlock has been supplanted by complete collapse. There is not only little hope but little point to resuming these negotiations unless and until the present poisonous atmosphere of relations between the superpowers is somehow dissipated. Identifying specific steps that could begin to re-establish the basis for a constructive approach to the problems posed by nuclear weapons is not actually so difficult, as an abundance of good suggestions put forward at the two-day workshop made clear; the real difficulty is in persuading political leaders of the need for the drastic change of course that taking such steps would represent.

Negotiations versus Independent Initiatives

The failure of the ENF/INF and

START negotiations (preceding the workshop by two weeks and by three days, respectively) stimulated considerable discussion about the merits of independent initiatives as an alternative to the pursuit of negotiated agreements for arms control. Some participants expressed the view that the whole concept of arms control through negotiations is deeply flawed - that negotiations, by their nature, encourage an unnecessary and counterproductive preoccupation with parity, and that the negotiating process has more often served to codify the arms race than to ameliorate it.

Others argued that, notwithstanding its shortcomings, the concept of negotiated arms control has yet to be supplanted by anything demonstrably better. Among those holding this latter view, most attributed the failure of the ENF/INF and START negotiations simply to lack of sufficient interest, on one or both sides, in reaching an agreement. (Some emphasized that the Reagan Administration seemed to want its new weapons more than it wanted a treaty; other suggested that the Soviet side may have felt, until the last minute, that it could "win"

through Western public opinion without conceding much at the conference table.)

There was substantial agreement, in any case, that rushing to reinstate a set of formal negotiations on intermediate-range and intercontinental nuclear weapons makes little sense at present. Negotiations, after all, should not be thought of as an end in themselves. The end we seek is reduction of the chance of nuclear war. A necessary (albeit not sufficient) condition for pursuing that goal successfully by means of negotiations is a sense of convergent interests, if only in a limited domain, on the part of the participants. When this condition is not met, as seems to be the case today, then we must pursue the goal in other ways even as we seek to re-establish circumstances in which negotiations might be more promising.

In the present circumstances, then, independent initiatives make sense both as an alternative to negotiations and as a way to restore an atmosphere in which negotiations could succeed. In this connection, former US Defense Secretary, Robert McNamara's list of 18 ways the US could reduce the chance of nuclear war (published in the December 5 Newsweek) provided a timely and useful focus for discussion. Some of these proposals apply only to the US; some would be useful if implemented on the Soviet side as well; and many of them, it was generally agreed, would increase the security of both sides even if only taken by one - that is, they make sense as unilateral measures and therefore need not await negotiation. Several of these measures, embodying themes familiar from previous Pugwash dis-

cussions, were mentioned in the Executive Committee's statement.

Doctrines, Intentions and Capabilities

Among the McNamara proposals, those calling explicitly or implicitly for re-examination and revision of doctrines/strategies concerning nuclear war generated particular interest at the workshop. Such proposals included making commitments: not to adopt a strategy of launch-on-warning; to eschew "decapitation" strikes aimed at the adversary's leadership and command-and-control centres; to refrain from retaliation before determining the exact nature of an attack; and, of course, not to use nuclear weapons first. Predictably, these proposals stimulated extended discussion of the difficulty of separating declarations of intentions from considerations of capabilities.

From the Soviet standpoint, precisely the trouble with the Pershing II is that its capabilities suggest an untoward interest in decapitation - giving concrete embodiment to the lamentable rhetoric of Presidential Directive 59 - compounded with a degree of vulnerability that suggests the weapon is intended for use in a **first** strike. It is true that neither side is remotely close to achieving the actual capability for a first strike effective enough to preclude intolerable retaliation, with or without trying explicitly for "decapitation". But merely moving in the general direction of such a capability is mistake enough, because it signals perverse intentions, establishes precedents in both doctrine and hardware, and increases the other side's incentives to "pre-empt" or at least to

"launch-on-warning" in time of crisis.

There is much symmetry in these arguments. NATO makes essentially the same complaint about the doctrine/intentions implications of the SS-20's capabilities as the Soviets do about the Pershing II. And if NATO finds it impossible to renounce "first use" while the Soviet Union continues to strengthen its tank armies, it should not be surprised if the Soviet Union refuses to rule out "launch-on-warning" as long as NATO continues to build up its prompt-counterforce weapons. As Mr McNamara's proposals are trying to tell us, it is high time that both sides re-examine the interactions among the systems they deploy, the doctrines they profess, and the doctrines they would like the other side to profess.

Danger and Hope

I am convinced - as I believe most if not all of the other participants in the workshop are - that the events of the past few years, and particularly those of the past few months, have markedly increased the danger of nuclear war. This is not because any single new deployment has, by itself, very greatly disturbed the military equilibrium; with thousands of delivery vehicles and tens of thousands of nuclear bombs and warheads on each side, the recent and ongoing deployments involving hundreds of warheads cannot make such a big quantitative difference. The increased danger comes rather from the qualitative characteristics of the new weapons - most especially from the disproportionate influence on attitudes and doctrines that the counterforce /first-strike decapitation proper-

ties of the weapons are producing, and from the way these deployments and the accompanying psychological effects are setting precedents that bode ill for the future of the nuclear arms race and East-West relations more generally.

Where, then, is the basis for hope? For one thing, the deterioration of official East-West negotiations and relations has been accompanied by an increase in the frequency, intensity, and productivity of unofficial contacts, of which Pugwash activities such as this most recent workshop provide but one among many possible examples. Coupled with increased public concern on both sides with the danger of nuclear war, the enhancement of unofficial contacts and collaborations may provide the basis for the changes in direction needed to make official relations fruitful again.

Second, while the trends in nuclear forces are ominous, they may yet be reversible. There is reason to think that Soviet responses to NATO's new missile deployments will be measured, that an early pause on the NATO side would be reciprocated on the Soviet side, and that a runaway action-reaction syndrome can thus be avoided. The scope for independent initiatives - useful even if unilateral, but amplified in effectiveness if reciprocated - is large. Even so ambitious a measure as a rather comprehensive freeze on nuclear deployments and testing might be accomplishable through independent initiatives, if either side could only find the sense to recognize that there is no great risk - but great potential benefit - in declaring a **temporary** freeze and encouraging the other side to respond.

For the basis of hope to be converted into concrete accomplishment, of course, what is now required is a conviction by the leaders on both sides that accommodation must replace confrontation. To proceed on

the present course - "toughing it out" - is a prescription for disaster. Making this plain to our leaders is 1984's most urgent task for sensible scientists and citizens everywhere.

A COMPROMISE PROPOSAL FOR INTERMEDIATE NUCLEAR FORCES (INF) IN EUROPE

Jorma K. Miettinen (Finland)

The recent round of talks on limitation of intermediate nuclear forces in Europe was discontinued on November 23, 1983. The Soviet Union said the cause of the break was the onset of the deployment of American intermediate range missiles. Obviously, there also exist wider causes, such as the diametrically opposed views of the two parties on the other side's defence needs. Furthermore, early announcements of inflexible goals made agreement impossible. But we need not give up all hope of an agreement, because permanent failure of the treaty would be much worse than even a modest treaty. Considerable progress was made in the negotiations, and a compromise may well become possible after some cooling down and reflection. No treaty would mean deployment of 572 American missiles in Western Europe during the next four years and counter deployment of numerous intermediate range and tactical missiles in Eastern Europe as well as an increased sea-based threat to the USA. This could lead to additional deployment of American, British and French intermediate missiles which could compel the Soviet Union to deploy still more missiles and so on. The treadmill of arms race would start to rotate

swiftly in Europe. Such developments can and should be stopped by a limitation treaty. Almost any compromise treaty would be more advantageous to the two great powers and, above all, to the European countries than the uncurbed arms race which already looms.

Problem of deterrence

The Soviet Union demands that no US missiles should be brought to Europe. It maintains that this would mean a new strategic threat against it which it finds hard to balance. It wants to sign with the USA a treaty on zero US missiles but equal numbers of Soviet and British plus French missiles. Since Britain and France are not parties in the negotiations they vehemently protest any superpower decision on their sovereign strategic deterrents "over their heads". For the moment, their strategic forces are only of the order of one per cent of those of the two greater powers, but both have plans for an almost tenfold increase of their warhead numbers within the next 10 years. The British have ordered Trident II missiles with 8 - 14 warheads for their four submarines, which may bring their warhead number to some 500 to 900.

The French plan to have some 600 to 710 warheads by 1995.

The Federal Republic of Germany has no other strategic deterrent than the so-called "extended deterrence" provided by the American nuclear guarantee. But the credibility of this "extended deterrence" was reduced in the minds of many Europeans during the 1970s because of the changes in the central strategic balance. First, the Soviet Union increased its strategic arsenal to reach parity with the USA. Second, it started in 1977 to sharply increase the number of its intermediate range weapons in Europe (the warhead number doubled from 1977 to 1982). Third, the Soviet Union started to modernize its tactical (battlefield) nuclear arsenal by deploying nuclear artillery (203 and 240 mm) and modern tactical nuclear missiles (SS-21, SS-22, SS-23). This unravelled the perception that NATO would continue to balance the assumed Soviet superiority of conventional forces by its tactical nuclear weapons. The view that these weapons could not bring an advantage to the defender began to gain preponderance within NATO, which is now slowly changing its posture and doctrine, from a "possible-first use" one, towards one in which defence by conventional forces and nuclear deterrence by intermediate range forces seem to gain in priority. The case regarding the Federal Republic of Germany is complicated. The old "German questions" may loom behind the eagerness of the French to have American INF forces in Europe.

Some key proposals

An inflexible Western demand has been that a balance is only sought

between the US and Soviet intermediate forces with the exclusion of British and French strategic forces.

In November 1981, President Reagan proposed his "zero-zero" proposal, which has been rejected by the Soviet Union. In December 1982, the Soviet Union proposed to reduce the Soviet INF missiles to 162, equal to the British and French (but not in warhead numbers!). This was rejected by the USA. In October 1983, General Secretary Andropov reduced the number of Soviet missiles from 162 to 140, i.e., 420 warheads to match the British and French warheads. President Reagan proposed in November 1983 an "interim" global ceiling of 420 to the US and Soviet INF missiles. This was the situation when the talks were suspended on November 22, 1983.

The elements of a compromise

It is evident that the rapid increase and modernization of Soviet nuclear weapons on all the three levels - strategic, intermediate and tactical - has diminished the credibility of the US "extended deterrence" to its allies. This became most critical to the Federal Republic of Germany which has no other deterrent. A limitation treaty seems now hardly possible without a deployment of at least some American INF missiles in Europe as a linkage to the strategic deterrent. Presently, a realistic discussion ought to deal with the smallest possible number by which this political-psychological linkage could be established. Some missiles are already in Europe and 41 altogether will be installed during the first year. The inflexibility of the Soviet Union does not help it any more in this respect. Its error was

doubling of its already powerful INF force (from 500 to 1000 warheads) which undermined the credibility of the US extended deterrence, particular in the FRG. In order to reach a compromise it is necessary for both sides to admit having made errors and exaggerated their defence and deterrence requirements. The point on which the USA ought to show flexibility is to recognize somehow the existence of the British and French INF missiles in Europe. They are different from the Soviet land-based SS-20s - that is true. But they do exist and the Soviet Union is genuinely worried about their huge growth plans. Although France does not integrate its nuclear forces in the NATO military structure, these three Governments have bound themselves - through the Atlantic Alliance and other Government treaties - to fight together against the Soviet Union. Therefore, it is natural that the Soviet Union build deterrent forces against all of them. Since the British and French forces were left outside the SALT treaties, they have to be recognized in some way in the INF balance. But how - that is the problem!

Counting the missiles and warheads

The French and British strategic forces are quite different from the Soviet SS-20s. Only France has land-based missiles, 18 silo-based purely strategic IRBMs. It also has five submarines containing 80 SLBMs, each having one warhead. Britain has four submarines which all have just been fitted with new Chevaline-type missiles. There exists a great discrepancy regarding their warhead number. The British Defence Minister, Francis Pym, stated in January 1980 that these missiles are not "MIRVed".

According to non-official British sources (e.g. Jane's Weapons Systems, 1979 - 80 and later volumes) these missiles have several warheads about 40 kt each, which evade ABMs in such a way that some approach the target almost vertically or almost horizontally, some between these extremes. Some of the "warheads" are dummies, some penetration aids. However, according to The Observer of October 30, 1983, each Chevaline contains 2 MIRV warheads (source: a report of the US Joint Chiefs of Staff). Thus, the Chevalines should be counted as having 2 warheads or, if the news of The Observer is erroneous, at least using a weighing factor, for instance 1.5. Thus, in comparison with MIRVs the British warhead number would be either 96 or 128. Together, the two countries have accordingly either 176 or 208 SLBM warheads plus 18 IRBMs.

As we all know, SLBMs are not directly comparable with IRBMs. Their warheads have so far been relatively inaccurate and communication to submarines still remains difficult. In fact, today they are almost pure deterrents having rather little war-fighting capability. Less than 60% of the submarines can be simultaneously in launching position. Of the four British submarines, only two can be 75% of the time in launching position; of the five French submarines, at least two - maximally three. In comparison with land-based MIRVs one should evidently use some reduction factor, for example, 0.5. If one would use this reduction factor, the Western forces would amount to 106 - 122 equivalent warheads. If the Soviet Union wants to keep 420 warheads, this would leave some 314 to 298 American warheads to be counted in to make up for the difference.

However, it is not my intention to play here the "numbers game". The above numbers were presented only to illustrate the principle of how to narrow down the differences by "weighing" and "positioning" factors. It is, of course the responsibility of the negotiating parties to agree on such factors as well as on the ceiling. If both parties show greater flexibility and political will, a workable compromise is without doubt possible.

A compromise is important to all parties

A compromise treaty need not bind Britain and France, but ought to be designed so that any increase in their warhead numbers in the future would authorize the Soviet Union to carry out an equivalent increase without breaking the treaty. The treaty would thus have a strong inhibitory effect on the French and British increases. These countries might well find out that the fixed balance would be a safer and more economic alternative to them than a continuous, free arms race. For the Soviet Union a treaty, which would fix for the US INF-missiles a low ceiling, would of course be a much better alternative than 572 American INF missiles to begin with and freedom to add if needed.

For the USA, too, such a treaty would be better than no treaty at all. The trends in several West European countries (Holland, Denmark, FRG) threatening NATO with disintegration would calm down. The improved deterrence would reinforce the present security system in Europe. A threat to this security system leads to political turmoil. Its stabilization would make detente possible again.

For all European countries a ceiling that would fix low numbers would be most advantageous.

In Eastern Europe, particularly the GDR, where 19 to 20 Soviet divisions with their nuclear weapons are already located, deployment of additional missiles naturally causes great anxiety, too. Missile units require wide safety zones around them thus reducing the real estate available. They form dangerous nuclear targets, raising in the population similar fears as in the West.

All this means that chances still exist for a compromise treaty. Let us hope that both sides now pay serious and urgent attention to the present situation, endeavouring for a compromise that would be more beneficial for all parties concerned than an unrestrained arms race.

The role of peace movements

Peace movements have been active in the West during the autumn but it is questionable whether this activity has promoted or retarded the effecting of a treaty. Many peace movements directed their activity solely against the not yet deployed NATO missiles which did not help because the credibility of the US guarantee had already faded. The "European" INF missile crisis is not primarily caused by the situation in Europe but by the global competition between the superpowers. A concerted effort of peace movements and all Europeans is now needed to use pressure on **both** superpowers to agree upon a workable compromise treaty with a low ceiling. One-sided propaganda would only result in a continued arms race.

I do not think that the risk of war would increase even if the pause of negotiations continued for a few months or even a year. Only a small part of the US missiles will have been deployed by then, and if a lower ceiling is agreed upon, they

can easily be removed. The important thing is that some kind of an INF treaty is agreed upon next year. It would make possible the continuation of detente and facilitate progress in other arms control negotiations.

WHAT THE US CAN DO

Robert S. McNamara (USA)

(Reproduced from Newsweek, 5 December 1983)

We live in a world of 40,000 nuclear warheads - with a destructive power 1 million times that of the Hiroshima bomb - divided roughly equally between the United States and the Soviet Union. Even the most optimistic arms negotiators would not believe it likely that this total could be reduced by more than 50 percent in the next 10 or 15 years. Therefore, we and our children and our children's children will be living in a world with tens of thousands of nuclear weapons - a few hundred of which could destroy Western civilization for decades to come.

Neither side wants war with the other. But deterrence may fail - perhaps as a result of events on the periphery of NATO and the Warsaw Pact. If it does, under today's conditions there is a high risk of the use of nuclear weapons. We must act to reduce that risk. There is much that we can do.

We should begin by accepting two overriding principles. First, we must recognize that each side must maintain a stable deterrent - a nuclear arsenal powerful enough to

discourage anyone else from using nuclear weapons. Neither the United States nor the Soviet Union should move in a way to destabilize the other's deterrent or to provide an incentive for a pre-emptive strike. That is absolutely imperative. Second, we must recognize that nuclear weapons have no military value whatsoever other than to deter one's opponent from their use. All arms negotiations, military strategies, war plans, weapons development and military-force structures should be based on that principle.

If we accept those two premises, we are well on the way toward reducing the risk of nuclear war. Still, there is much more we can do. Some of these steps would require agreement with the Soviet Union, but many could be taken unilaterally.

1. Negotiate a reduction in the ratio of nuclear warheads to launchers, ultimately moving to single-warhead missiles. This is very, very important both to increasing the stability of deterrent forces and to reducing the temptation to launch a pre-emptive strike. The more warheads to

launchers each side has, assuming a given level of accuracy, the greater the possibility that if one side launched an attack first, he could destroy the other's launchers and leave them with insufficient power to inflict unacceptable reciprocal damage. Under these circumstances, the Soviets, for example, might try to launch against us first because by doing so they could reduce the damage to themselves. If each of us put only one warhead on a launcher, that kind of calculus would be impossible.

2. Renounce the strategy of launch-on-warning. The great danger of launching on warning is that we may be responding to an attack that didn't occur - to an accident, a human or mechanical failure, or a simple misunderstanding. There is absolutely no reason to fear that if we don't launch on warning, we can't launch at all. That argument - if it ever was valid - is not valid today because our forces are invulnerable. The Scowcroft Commission proved there is no window of vulnerability. Even if the Soviets could destroy all of our land-based missiles, we would still have our Polaris under the sea and our bombers.

3. Announce that we would not retaliate against a nuclear strike until we had ascertained the source of the attack, the size of the attack and the intentions of the attacker. I term this a strategy of "no-second-use-until ..." and it would apply to any strike against the West, including this country. This would further reduce the risk that we might be responding to something that we misjudged - an accident or an attack by a terrorist group, for example.

4. Strengthen command-and-control systems. We must ensure that under all circumstances our retaliatory capability is assured, and that we are capable of retaining control of our forces regardless of the size of an attack upon them. The administration is acting to strengthen these systems - but much more must be done.

5. Renounce the strategy of decapitation strikes. Publicly stating that we would spare the enemy's command-and-control apparatus during a nuclear exchange would be a very important step in reducing Soviet incentives to strike pre-emptively and would preserve the ability of the Soviets to terminate a nuclear conflict should one start.

6. Strengthen our conventional forces. Even in this period of fiscal austerity, non-nuclear forces could be strengthened substantially. Much could be done within the presently approved military budgets of NATO. This would permit NATO to substantially raise the nuclear threshold and greatly reduce the likelihood that nuclear weapons would be used in the early hours of a military confrontation in Europe.

7. Announce immediately a policy of no-first-use of nuclear weapons. Our present policy - with nuclear weapons deployed far forward on the eastern border of West Germany - carries the high risk that we would use them in the early hours of a military conflict. We should publicly state that a conventional attack by the Soviet Union would be met by NATO's conventional forces. If the attack could not be contained by such forces, only as a last resort would nuclear weapons be

used by NATO. This proposal has drawn a lot of opposition from political leaders in Europe who do not understand it and who fear that it might tempt the Soviets into making incursions. But there is gathering support for it among many top military leaders. Gen. Bernard Rogers, the supreme allied commander in Europe, has indicated that he would be willing to consider a no-early-first-use policy.

Actually, no-early-first-use was part of the strategy of "flexible response" that we first proposed in the early 1960s. But when NATO finally approved in 1967, the ministers did not take the corollary action of strengthening their conventional forces in order to support a high nuclear threshold.

8. Propose that NATO heads of government announce that within five years, NATO's conventional forces will have been strengthened to the point where NATO will adopt a policy of "no-first-use" of nuclear weapons. This is a very controversial proposal. Some military and political leaders believe there is remaining deterrent value in the threat of first-use nuclear weapons. But that threat has become less and less credible in the last 20 years. As the Soviets have substantially expanded their retaliatory capabilities, it is becoming increasingly clear that if NATO initiated the use of nuclear weapons it would almost surely lead to the destruction of Western civilisation. There is less and less deterrent value to threatening to commit suicide.

More and more military and political leaders are saying this publicly. Field Marshall Lord Carver,

the retired chief of the British Defence Staff, last year stated that first use of nuclear weapons by NATO would be "criminally irresponsible", because it would trigger a Soviet reaction that would destroy the West. Former Defense Secretary Melvin Laird and Adm. Noel Gayler, former commander in chief of US forces in the Pacific, agree with Carver. And Gen. Johannes Steinhoff, the former commander of the German Luftwaffe, said under no circumstances would he recommend first use of weapons from German soil, because, of course, it would bring a devastating nuclear strike against Germany. Former Secretary of State, Henry Kissinger, in Brussels in 1979 said it was wrong for the West Europeans to believe that we would ever initiate the use of strategic weapons against the Soviet homeland because it would be suicide for us to do so. He did not extend that statement to tactical weapons, but it is now generally recognized that a nuclear war, once started, will not remain limited.

9. After consultation with our allies, withdraw half of our 6,000 nuclear warheads now stockpiled in Western Europe. This could be done immediately. The atomic demolition munitions that are intended to block mountain passes and other "choke points" on potential Soviet invasion routes cause particular concern because, to be effective, they would have to be in place before the war actually began. That could aggravate the crisis and contribute to the likelihood of a war's actually starting. The nuclear-armed air-defence systems, which are old and unreliable, are also designed to be used at the onset of a conflict. Many of the other weapons are obsolete.

10. Redeploy to rear areas the remaining nuclear warheads deployed along West Germany's eastern border. This would reduce the vulnerability of those missiles to an enemy attack in the early hours of a conflict and reduce the temptation to use them rather than lose them to the enemy.

11. Negotiate with the Soviets to establish a nuclear-free zone - perhaps 60 miles wide - on both sides of West Germany's eastern border. This would build confidence on both sides that pressures for early use of nuclear weapons could be controlled.

12. Unilaterally halt development of destabilizing weapons systems and those that have no deterrent value. The neutron bomb, for example, has no deterrent value. The MX is a destabilizing system because it has a very high ratio of warheads to launchers - which means that it has a very high kill capability and, since it would be very easy to take out, it provides an incentive for a pre-emptive strike. Similarly, the Pershing II missiles are destabilizing because the Soviets believe they could be used for a "decapitation" strike. There is a strong temptation for the Soviets to prevent such an attack by launching a pre-emptive strike.

13. Negotiate a ban on weapons in space. We are on the verge of a major new frontier in the arms race. We can gain no military advantage by crossing over it. And an attempt to do so will vastly increase our defence budget and run the risk of destabilizing the balance of Soviet and US deterrent forces.

14. Introduce "permissive action

links" into every NATO warhead. These devices - known as "PAL's" - would make it impossible for anyone to detonate the warhead without a specific electronic or mechanical input from the President. Having applied such controls to our own warheads, we should endeavour to obtain the agreement of the Soviets to apply similar devices to their warheads.

15. Negotiate a comprehensive test ban with the Soviets. With hindsight, the United States and its NATO allies would be more secure today if the limited-test-ban treaty of 1963 had been expanded then to a comprehensive test ban. We will be better off tomorrow if we negotiate such a ban today, along with the appropriate verification safeguards.

16. Strengthen nuclear non-proliferation programmes. In particular, the United States, our allies and the Soviet Union should work to reduce the possibility that terrorists may obtain access to nuclear weapons. We need more discipline among the nations of the West that export nuclear technology to countries other than the existing nuclear powers. None of us has been as disciplined as the Soviet Union.

17. Negotiate the establishment of a joint US-Soviet information and crisis-control centre. Sen. Sam Nunn of Georgia and the late Sen. Henry Jackson of Washington made similar suggestions. Nunn recommended the formation of a multinational crisis-management team of highly trained civilian and military personnel with access to top military and political leaders. It would be in operation 24 hours a day, 365 days a year, and its purpose would be to give leaders quick

and reliable information about the size and source of any nuclear explosion. Such a watchdog group would encourage cooperation between the super-powers, even when political relations were strained, and it would significantly reduce the temptation of third countries or terrorist groups to use nuclear weapons.

18. Announce a strategy of lesser retaliation. McGeorge Bundy, the national-security adviser to Kennedy and Johnson, has suggested that any nuclear attack be met with a retaliatory strike at a lesser level, and I completely agree. If a nuclear war starts, one must try to stop it; this lesser-response strategy would lead to a de-escalation rather than an escalation of any nuclear conflict. Strengthening our command-and-control system, and waiting to retaliate until we had verified the source and size of the attack, would ensure that we could make this sort of reasoned, rational response. Stating this as a policy would not reduce the deterrent value of the retaliatory threat. The damage that even a lighter nuclear response would inflict on the Soviets - or any potential enemy - would far outweigh any benefit they could hope to

gain from launching an initial attack.

There is no military requirement for NATO to deploy the Pershing IIs and cruise missiles in order to maintain a stable deterrent. However, European leaders say there is a political requirement to deploy those weapons; they are convinced the weapons will strengthen the belief that the United States would come to the defence of Europe if the Soviets attack. The 300,000 U.S. troops in Europe already guarantee such a response, and deployment of Pershings and cruise will not add to the guarantee. So the Europeans are operating on a misperception, but as long as it is held, it must be treated as a reality.

However, once deployed, we should keep the Pershing II and cruise missiles there only for as long as it takes to convince the Europeans that those weapons are serving no military purpose. Then they should be withdrawn unilaterally. When they are withdrawn, we should make it clear that we are not removing them in response to Soviet pressures, which would be taken as a sign of weakness, but because we do not need them to maintain a stable deterrent.

CORRIGENDUM

In the January 1983 issue of the Newsletter (Vol.20 No.3) pages 93 and 94 were inadvertently reversed. i.e. p.94 should follow p.92. The editor apologizes for this error.

44TH PUGWASH SYMPOSIUM

"A Nuclear Weapon-Free Zone in the Balkans", Bucharest, 28-31 October, 1983

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REPORT

At the invitation of the Romanian Pugwash Group, 29 scientists and scholars from 16 different countries participated in three days of discussions relevant to the establishment of a nuclear weapon-free zone in the Balkans. They had in mind from the first both the potentiality of the Balkan states for initiating a new era of cooperation between nations and the particular possibility of a constructive input to the official meetings on the subject planned to take place in January 1984, which would involve at the first stage groups of experts, followed by political leaderships.

The concept of nuclear weapon-free zones has a long history going back to the Rapacki plan. The proposals discussed on this occasion take full account of earlier treaties, especially the Treaty of Tlatelolco, on the provisions of which some clauses in the outline of the draft Treaty appended (p.123) are based. The twenty-year long discussions on a Nordic nuclear-free zone have been an important source of ideas on the subject.

The current political situation in the Balkans, following a long

period of conflict arising from historical enmities, seems to provide a favourable opportunity for building bridges aimed at the realization of common goals, such as peace, stability and shared prosperity. The long-standing tensions between the states have eased and in any case reflect differing needs: proposals for cooperation should recognize these and work with them rather than attempt to thwart them. Membership of the different military alliances or non-aligned states is no longer a main obstacle to such cooperation.

While ethnic, cultural and linguistic divisions and minority problems remain, positive steps towards working together are already helping to reduce them. What is required is a break with the past, such as might be facilitated by evident changes in the relationship between the generations, in interrupting the transmission of historic enmities. The Balkan peoples are now in a position to assert their mastery of their own destinies rather than accepting a role as victims of history and of external international rivalries.

In this context a nuclear weapon-free zone successfully nego-

tiated and implemented could not only be important in its own right as an arms control agreement restraining proliferation of nuclear weapons, but, even more significantly, as an act of political cooperation, reducing tension and distrust and building confidence. Some participants saw its potential as the basis for a far-reaching zone of peace, collaboration and good neighbourliness; others as an initiative leading to nuclear disengagement in Europe and the establishment of a buffer zone across the continent, extending through a Nordic nuclear weapon-free zone; but there was a general consensus that the first proposals must not be over-ambitious but based on the minimum provisions which would make sense. They should be not so limited as to discourage enhancement and the progressive addition of new signatories, and not so comprehensive as to generate obstructions and prevent acceptance and implementation at a very early date. It is important to get the process of a Balkan NWFZ started even if it embraces only part of the territorial jurisdiction of the Balkan countries. There was a division of opinion among participants on a possible provision allowing for the accession of parts of states subject to the agreement of all signatories of the treaty.

Desirability of a Nuclear Weapon-Free Zone (NWFZ)

Many participants assumed that the desirability of a NWFZ was self-evident. The view was, however, expressed that the sensitivities of the alliance groupings needed to be taken into account; for instance, in strategic terms NATO might be perceived to have more to lose than

WTO. These factors and others, in particular the effect there might be on relationships between Greece and Turkey, require careful consideration in the light of the overall consequences for the peace of the region.

The general and strong support for a NWFZ treaty applicable to the Balkans is based on the belief in such a proposal as a confidence-building measure of some military but of a greater political significance, rather than as a comprehensive legal and technical arrangement. The expectation is that such a confidence-building measure would reduce somewhat the risk of war taking place and have an inhibiting effect on aggressive acts in time of tension. Disengagement proposals of this kind also have in a crisis an early warning function. Violation of such an agreement by one party would give an unambiguous signal of aggressive intent and thereby promote clear decision-making on the part of others.

In circumstances in which a major war could well occur through the escalation of local conflicts outside Europe, rather than through direct confrontation, the existence of a NWFZ and respect for its status would be one way of reducing threats and perceptions of threats. This would be so partly because of the integral and essential part to be played by guarantees of the NWFZ by existing nuclear weapons states in the implementation of the concept. Serious concern was expressed about the possibility of nuclear weapons being withdrawn from a NWFZ, only to be redeployed in neighbouring states.

Definition of a Nuclear Weapon-Free Zone and a Draft Agreement

The problem of defining a NWFZ was recognized and the need to keep such a definition simple emphasized. A possible definition is implicit in the articles of the Draft Agreement appended to this report. In arriving at this draft agreement, which is intended only as a skeleton or framework for a full treaty, the following important considerations were taken into account:

1. Problems of overlap with the Nuclear Non-Proliferation Treaty (NPT) particularly in so far as Article 1.1 is concerned. The wording takes account of the fact that Albania has not subscribed to the NPT.

2. The question of transit of nuclear devices into or across signatory states (Draft 1.2(c)) should be considered and resolved. Alliance naval manoeuvres constitute a particular problem which has to be resolved. The group is firmly of the view that in all such respects the sovereignty of a state over its territory, on land, sea, or in the air, is the determining factor, taken along with the provisions of pre-existing treaty agreements.

3. The group recognized that such a Treaty or Agreement would depend for its effectiveness on the guarantees of respect and support for it by existing nuclear weapon states. Such guarantees should not, however, be regarded as a precondition for reaching agreement but might instead be a matter for subsequent negotiation. It would be expected that such powers would agree to respect the status of the NWFZ both in peace and war, and not to use or threaten to

use nuclear weapons against signatory states. At the same time continuing membership by signatory states of military alliances would still be feasible and with it the existence of **non-nuclear** foreign alliance bases on their territory. In view of the difficulties of verification, some participants took the view that any foreign bases are incompatible with a NWFZ. This aspect and other issues raised the question of verification procedures. In view of their complexity and sensitivity it was agreed that they should be elaborated by the Agency for the Promotion and Maintenance of the NWFZ in the Balkans and not dealt with in detail in the Agreement. This agency will need to be organized in a manner appropriate to dealing with these problems, the complexity of relationships in the Balkans region, and set up at an early stage in order to perform a preparatory function.

Verification

The difficulties of verification were recognized throughout the discussion. the following specific points were made:

It would be up to member states to propose methods for verification that only non-nuclear forces and equipment were using their territory. Satellite surveillance could assist in some respects. In the longer term, a joint local capability by states in the region might be developed.

The technical possibilities of detecting nuclear weapons on the ground should be investigated, especially to deal with the problem of dual-purpose delivery systems.

The assumption could be made that signatory states would want to be as open as possible in their own interest and do their best to ensure observation of the conditions of the NWFZ agreement.

The possibility that denuclearization in the region might be used as a reason for increased nuclearization elsewhere is a serious consideration in relation to verification procedures as well as in other respects.

Nothing in the Treaty should prejudice existing rights to use nuclear energy for peaceful purposes in conformity with the terms of this Treaty.

Conclusion

Participants were convinced of the merits of an agreement for an NWFZ in the Balkans. Such an agreement should be of unlimited duration, and aimed at the avoidance of war and the construction of peace. Because its main role was to build confidence by reducing distrust, it would be necessary not only to take account of current sensitivities,

whether of a bilateral nature, or of an inter-alliance character concerned with the global balance of forces, but to recognize that the operation of the agreement was subject to existing agreements under international law about such matters as rights of passage e.g. through the Black Sea Straits. Its successful implementation will depend upon a constructive view of international relations and should be so drawn up as to allow for the accession of signatories and the extension of territories, including, as indicated, parts of states, if all parties agreed. It is above all important that the overall objectives should not be lost in a sea of technicalities, each generating its own resistance to the whole. In the right circumstances the Balkan states could, by establishing an NWFZ in the region, establish a model applicable in other areas and a basis for further arms control measures. Other initiatives in, for example, cultural, economic, medical and social co-operation, taking place in parallel, will be necessary in order to maximize the results of a basic military and arms control agreement of this nature.

MAJOR PROVISIONS OF A DRAFT TREATY ON A NUCLEAR WEAPON-FREE ZONE IN THE BALKANS

PREAMBLE

The States concluding this Treaty, hereinafter referred to as "High Contracting Parties",

Declaring that their goal is to achieve for the Balkan countries a zone of peace, collaboration, good neighbourliness and without nuclear

weapons, and expressing their determination to construct the framework of a process to attain these aims;

Convinced that such a zone would strengthen the security of each member state of the Balkan area as such and of Europe as a whole;

Convinced that a nuclear weapon-free zone in the Balkans would bring a positive contribution to halting the arms race, to disarmament and to nuclear disarmament in particular;

Appealing to other states, especially to those possessing nuclear weapons, to support the efforts to establish a nuclear weapon-free zone in the Balkans and to observe any ensuing arrangements to do so;

Reaffirming their sovereign right to develop and use without hindrance all peaceful applications of nuclear energy for their economic and social development;

Have agreed as follows:

Article 1

1. The High Contracting Parties hereby undertake to use exclusively for peaceful purposes all fissionable nuclear materials which are on their territories or under their jurisdiction.

2. They further undertake to prohibit and prevent in the areas mentioned above:

(a) the development, testing, use, production or acquisition by any means or form whatsoever of any nuclear weapons and other nuclear explosive devices, by the Parties themselves or by anyone else, directly or indirectly;

(b) all kinds of deployment and storage of nuclear weapons or other nuclear explosive devices by other states;

(c) all kinds of transport or transit of such weapons or

other nuclear explosive devices. This provision is not intended to affect the international legal regime of straits to which the High Contracting Parties are bound.

Article 2

In special circumstances a state may (accede to) (become a party of) the Treaty for a part of its territory as a nuclear weapon-free zone. This may only take place at the request of the state concerned and with the approval of all parties to the Treaty.

A state (acceding) (becoming party) to the Treaty under this article must comply with the underlying scope and purpose of the Treaty.

Article 3

For the purpose of this Treaty, a nuclear weapon is any device which is capable of releasing nuclear energy in an uncontrolled manner. (Any instrument that may be used for transport or propulsion of nuclear weapons is included in this definition if it has as its main purpose for its installation the transport or propulsion of such weapon or device.)

Article 4

1. In order to ensure compliance with the obligations undertaken under this Treaty, an **Agency for the Promotion and Maintenance of a Nuclear Weapon-Free Zone in the Balkans** is established.

2. The Agency shall be responsible for the preparation and the convening of consultations among the

Contracting Parties in matters relating to the effective operation of the Treaty and the supervision of full compliance with the purposes of and the obligations arising from the Treaty. It shall perform its functions with due consideration to the promotion of good neighbourly relations and co-operation between the states in the area.

3. The Agency shall assume its functions upon deposit of the fourth instrument of ratification of the Treaty.

Article 5

1. The responsibility for ensuring compliance with the obligations of this Treaty rests with the member states.

2. The Agency will establish a Supervisory Commission composed of all the member states whose main task will be to verify compliance with the provisions of this Treaty.

Article 6

1. If a High Contracting Party is not complying with its obligations, the Agency shall take immediate action to restore compliance with the Treaty. If the recommendations of the Supervisory Commission are not complied with, the Agency shall with all possible urgency take such measures as it deems appropriate.

2. The Agency shall elaborate the procedures to be followed if a case of non-compliance might endanger international peace and security.

Article 7

Nothing in this Treaty shall prejudice the rights of High Con-

tracting Parties to use nuclear energy for peaceful purposes in conformity with the provisions of this Treaty.

Article 8

This treaty shall be open for signature by Albania, Bulgaria, Greece, Romania, Turkey and Yugoslavia.

Article 9

1. This Treaty shall be subject to ratification.

2. This Treaty and the instruments of ratification shall be deposited with the Secretary General of the UN.

Article 10

This Treaty shall enter into force after the deposit of the fourth instrument of ratification.

Article 11

1. This Treaty is open to accession.

2. It shall not be subject to any reservation (except for the possibility of nuclear weapon transit at sea, in connection with naval manoeuvres).

Additional Protocol I

The Governments of the nuclear weapon states undertake fully to respect the status of the nuclear weapon-free zone in accordance with this Treaty.

This protocol shall enter into

force for the States which have ratified it, on the date of the deposit of their respective instruments of ratification with the Secretary-General of the United Nations.

Additional Protocol II

The Governments of the nuclear weapon states undertake not to use

or threaten to use nuclear weapons against the High Contracting Parties of this Treaty.

This protocol shall enter into force for the States which have ratified it, on the date of the deposit of their respective instruments of ratification with the Secretary-General of the United Nations.

ABSTRACTS OF WORKING PAPERS

N.B. Complete texts may be obtained by writing directly to the author.

Balkan Nuclear Weapon-Free Zone: From Theoretical Model to Practical Steps.

Nansen Behar & Ivan Nedev

The paper discusses the following topics: the origin of the idea, the conceptual frameworks of the zone, political and economic premises, and the tentative outline of a BNWFZ. Special attention is given to the verification problems. The authors express their views that in any case the problem of the verification of the treaty should not be turned into an obstacle for its conclusion but should follow from the treaty itself.

It is imperative to go over from the theoretical models of a nuclear weapon-free zone to concrete practical steps in this region.

A Nuclear Weapon-Free Zone in the Balkans as a Contribution to a Peaceful Europe

Gheorghe Dolgu, Nicolae Ecobescu,
Maria Popescu & Ioan M. Pascu.

The establishment of nuclear weapon-free zones (NWFZ) in various regions of the world, including Europe, is once again receiving careful consideration within the framework of disarmament efforts in general, and that of nuclear disarmament in particular. A clear demonstration of this is the manifest interest in the idea and the numerous proposals and stands in the field that have been advanced by various Balkan leaders to date.

The creation of an international regime of military denuclearization in the Balkan Peninsula is among the earliest of such proposals. Since the late 1950s, the idea of creating a zone of peace, collaboration and good-neighbourliness, free of nuclear arms has constituted one of the major aims of Romania's foreign policy. It has also served as a topic for discussion between the countries of the region, at the CD in Geneva and at various other international fora, though not at the UN.

The fundamental implication and

objective of such a project would be to transform the region, once called the "powder-keg" of Europe, into an important factor of peace, stability, security and cooperation on our continent. Thus, on the one hand, the denuclearization of the Balkans is and should be, in our opinion, only one element of the larger context of a Balkan zone of peace, collaboration and good-neighbourliness, and on the other, a contribution to the strengthening of peace and security in this area and in Europe as a whole.

To attain this aim, we believe that there is a strong need for coordinated governmental efforts - in this respect, particular attention is attached to the proposals for a Balkan summit suggested by President Ceausescu and the meeting of experts advanced by Prime Minister Papandreou, as well as intense scientific search to find solutions to some of the problems inherently facing the negotiators today.

Some Aspects Concerning the Planned Nuclear Weapon-Free Zone in the Balkans,

Otto Hoffmann-Ostenhof.

In the past the Balkans were almost always a region of instability. But in recent years some positive developments have taken place. Thus, a few months ago, the Heads of State of Romania and of Greece, countries belonging to the two opposed military alliances, have proposed to convene a conference of the Balkan states to foster cooperation and the creation of a NWFZ in the Balkans.

Some tensions still existing in the area may pose difficulties. But

the possession of nuclear weapons will certainly not help either side to satisfy its aspirations.

A very difficult problem will be the reaction of the superpowers but there may be hope that consent can be reached by negotiation. If, for whatever reason, some Balkan states cannot join the NWFZ, it nevertheless seems desirable that the remaining states establish a NWFZ on their territories, to serve as a nucleus for the future.

For various aspects, the Latin American NWFZ, as established by the treaty of Tlatelolco may be used as an example. This zone started with a few participants only and still does not comprise all countries of the region. But at present Latin America is free of nuclear weapons.

A Conception of Denuclearization of the Balkans.

Wojciech Multan.

Any attempt to eliminate nuclear weapons from the European continent, or if only from a part of it, deserves full support since, once it is successfully completed, it will have far-reaching positive consequences for international relations. The importance of establishing a nuclear weapon-free zone (NWFZ) is all the greater when it is to embrace territories of states belonging to the opposing politico-military groupings. And this is precisely the case with the idea to have such a zone created in the Balkans, that is to say, on the territories of states representing opposing politico-military groupings as well as states belonging to neither of them.

The diversification of the Balkan states as regards their socio-political systems and military allegiances is not by any means conducive for reaching the necessary agreements settling the legal-international status of a nuclear weapons-free zone. However, the chances for bringing them to a fruitful conclusion today seem to be greater than ever before. Paradoxical as it may sound, this appears to be the truth. Despite a general deterioration of the international situation and an undiminished pace of nuclear armaments, the chances for the ultimate goal look genuinely viable. But that is not to say that this is certain nor that it is anywhere within easy reach.

In order to meet the requirement of effectiveness, the agreement on the Balkans will have to take account of the recognised principles of creating nuclear weapon-free zones as well as solutions already applied in the existing zones. It is also evident that there will arise a need to work out completely new genuine solutions adequate to the specificity of the region. These would most probably include the following issues:

1. The relationship between the obligations of states ensuing from their participation in the zone, on the one hand, and the obligations of some of those states stemming from their alliances, on the other;

2. A precise delimitation of the zone territory. At least two aspects of this problem are likely to present difficulty. First, a precise definition of the notion "the Balkans", and second, the solution of a situation when the boundaries of the region are not identical

with the Balkan states frontiers;

3. The question of the Black Sea straits, especially in the context of the right of transit enjoyed by the sovereign states;

4. A precise definition of the range of subjects to be covered by an agreement on a zone.

There is a great chance that these as well as all the remaining problems will be solved with due account being taken of the vital interests of the interested states. The success of the idea of denuclearization of the Balkans would be profitable for the entire European continent. It is for this reason that the creation of a nuclear weapon-free zone in this Peninsula lies in the interest of the whole of Europe.

The Feasibility of a NWFZ for the Balkans

Peri Pamir

The examination of the application of a NWFZ to the Balkans calls for a realistic appraisal of the practical political realities facing the countries of the region today. While the undeniable desirability and need for such a zone in this and other parts of the world is widely recognized, each proposal needs to be examined within its own particular context. Regarding the Balkans, the recent growth of regional consciousness notwithstanding, national interests, bilateral differences and bloc allegiances still take precedence over common political or military interests. In this context, the opposition of the US to the creation of a BNWFZ presents a formidable obstacle to the realization of this

intent. Hence, the freedom allied nations have in pursuing preferred policies is very much a function of the extent to which national and superpower interests converge. In more general terms, for countries considering a NWFZ option, the risks associated with such a posture have to be compensated by its perceived advantages in terms of their national interests. The assessment of this position would depend on whether they believed that their security interests would be best served under a NWFZ regime, which in turn is contingent on: the types of guarantees they receive from the nuclear weapons states (NWSs) and on the amount of trust they place on them; on whether they suspect they would be sacrificed (more easily) in the event of a major shuffle in the power balance of the region; on how essential they view the possession of nuclear weapons to be for their own defence system and strategy. The latter, in turn, is related to the amount of threat they perceive from a NWS or from a potentially hostile neighbour who has access to nuclear weapons or has the support of a NWS. It is only when the perceived disadvantages override the alleged advantages of possession that countries would consider removing nuclear weapons from their defence arsenals.

With respect to the Balkans, realistically speaking, only a general reduction in overall east-west tension and the consequent spreading of enhanced confidence would induce the states of the region to feel secure enough to undertake participation in a NWFZ. A reverse process would seem to be an unrealistic expectation since smaller countries tend to respond to rather than to initiate important

political changes. Given the complexity of the issues, the most likely development in the immediate term would be an increase in regional cooperation as well as the fostering of good-neighbourly relations between all Balkan states through confidence-building measures and bilateral negotiations where the resolution of outstanding differences are concerned. Such endeavours would create a favourable psychological atmosphere which may, in turn, pave the way for greater political cooperation in the future, especially as shared anxiety over the dangers of nuclear war mounts with time.

Is a Balkan NWFZ Possible?

Costas Papatriantafillou & Costas Kricos.

In the present paper we examine the minimum conditions necessary for the creation of a NWFZ in the Balkan area. We first introduce our definition of a NWFZ. Then we present a set of conditions that have to be met before a NWFZ can be created. Those conditions guarantee the NWFZ status mainly in peacetime but, as widely recognized, the main contribution of a NWFZ to peace and disarmament is its very existence in peacetime. In that respect the guarantees of the nuclear weapon states to the NWFZ, although welcome, are judged not to be necessary, while the decisive factor is the political will of states wishing to create the NWFZ.

The necessary conditions are then:

1. The absence of foreign bases on the territories of the zonal states, because of verification problems.

2. For those states participating in alliances it is necessary to renegotiate their status and obligations in the alliance so that they comply with all NWFZ provisions, including that of verification.

3. The ratification of NPT by all zonal states, combined with guarantees from the corresponding UN agency, regarding careful and strict enforcement of NPT provisions.

Finally, we point out that the formulation of necessary conditions referring to the problems of transit nuclear weapons as well as the possession by any of the zonal states of dual capable systems, requires further study due to its complexity.

A Nuclear Weapon-Free Zone in the Balkans.

Stanislav Patejdl

The history of Balkan countries is very interesting. There were a number of unresolved disputes but now relations among Balkan states are normalized with the exception of Albania and Greco-Turkish relations over Cyprus.

While Greece's attitude to a nuclear weapon-free zone in the Balkans is given by a revaluation of the general situation in the area, i.e. rejection of the cold war doctrine of an imminent "danger from the north", the policy of Turkey has so far not reached such conclusions.

The Turkish fidelity to the NATO alliance, which is at the present time the axis of Turkish foreign policy, should not, however, be an

obstruction to the further negotiations of Balkan countries on the creation of a nuclear-free zone in the Balkans. If Turkey does not consider its participation in these negotiations possible at the present time, it should not make the creation of a NWFZ in the Balkans conditional on its participation.

Without Turkey a NWFZ in the Balkans would be an asymmetric formation, because there would be two Warsaw Treaty countries and only one state from the NATO alliance. Nevertheless, I believe that it is up to the goodwill and free deliberation of states which want to join such a formation to judge for themselves the advantages and disadvantages of such a move.

Public opinion on European security which, according to statistics issued on the basis of public opinion polls, favours the creation of different nuclear weapon-free zones in Europe, is such that whenever and in whichever region nuclearization negotiations get started, it is always to the benefit of European security and each territorial unit, however small, which is turned into a nuclear-free zone, spells progress towards the gradual aim of making Europe a denuclearized continent.

Efforts at creating nuclear-free zones in Europe, including the Balkans, are in complete harmony with European public opinion, the Final Act of the Helsinki Conference, the policy of non-aligned countries and UN recommendations, which recognize the establishment of the international legal institution of nuclear weapon-free zones.

While international hostility can be decreed, international cooperation cannot be declared by words, but has to be substantiated by deeds.

The Balkans with its rich resource of human connectedness can become a source of human linkage rather than divisiveness.

Nuclear Weapon-Free Zones: The Finnish Experience

Jukka Valtasaari

Discussion, at the level of the Nordic governments, concerning nuclear arms control in Northern Europe, including the creation of a Nordic nuclear weapon-free zone (NNWFZ) has been active for more than twenty years. It has continued despite different views entertained by various Nordic governments with regard to the zone proposal and irrespective of changes of international political climate. Its intensity has remarkably increased in the 1980s.

Northern Europe has always been de facto free from nuclear weapons and will in all likelihood remain such. The countries of the region have undertaken commitments in order to manifest their interest in remaining aloof of the destabilizing

effects which the introduction of nuclear rivalry in the region would entail. The prevailing nuclear weapon-free situation in the region is an important element in the political stability of Northern Europe and in the security policies of the countries of the region.

The two tenets of the proposals made by President Kekkonen of Finland in 1963 and 1978 are a voluntary agreement by the countries of the region to conclude a Nordic arms control arrangement to consolidate the nuclear weapon-free situation in Northern Europe and assurances by the nuclear states that nuclear weapons will not be used against the region or that it will be threatened with these weapons.

Despite differences of views a certain convergence offers a basis for assessing future prospects of the zone. The crux of the proposal for NNFWZ is that its implementation must enhance the security of the countries in the region. The Nordic countries have adopted different solutions for their security. The NNWFZ arrangement must be conceived within the framework of these solutions. The proposal shall not upset the existing strategic balance of the superpowers. Contributions of nuclear powers through security assurances are necessary for the implementation of a NNFWZ.

LETTERS TO PRESIDENTS ANDROPOV AND REAGAN ON INF TALKS AND ACTIONS OF NATIONAL PUGWASH GROUPS

In October of 1983, the USA-USSR negotiations on intermediate forces in Europe (INF) were, as expected, leading nowhere. The start of deployment of Pershing II and cruise

missiles in December, according to the NATO dual-track decision of December 1979, was in the offing with the almost certain consequence of Soviet counter-measures. After

consultation with Bernard T. Feld, Chairman of the Executive Committee, the following letter, with appropriate modification of names, was sent to Presidents Andropov and Reagan. Pugwash national secretaries were notified of this action. Several national Pugwash groups issued statements independently in their own country, as indicated below. Normally, only the Council or Executive Committee can authorize public statements using the name Pugwash - this procedure must be adhered to in order to prevent any misunderstanding of official Pugwash policy in the international scene. In this instance, as well as in relation to the report on "Nuclear Weapon-Free Zone in the Balkans" (p.120), national secretaries were requested by the Secretary General to take action on the specific issues involved, especially with their foreign ministries.

9 November, 1983

Dear Mr. President,

The Pugwash Conference on Science and World Affairs was founded in Pugwash, Nova Scotia, in 1957 following an appeal by Bertrand Russell and Albert Einstein. They called on scientists, regardless of differences in political and ideological views, to meet together to appraise the perils resulting from the development of nuclear weapons and to take action to prevent nuclear and other wars. Since 1957 Pugwash has convened more than 100 meetings where over 2,000 scientists and scholars from all parts of the world have participated in extensive analyses and discussions on problems of global security and the prevention of war. On its 25th anniversary in August 1982, Pugwash issued

a Declaration on the Dangers of Nuclear War, endorsed by 111 Nobel laureates in the natural sciences, which cited the dangers and consequences of such a war, and called for a halt to the arms race and for deep cuts in nuclear arsenals.

A series of Pugwash meetings which started in January 1980 shortly after the NATO dual-track decision in December 1979 has been specially concerned with the problem of medium/intermediate range nuclear weapons in Europe. Eight meetings on this subject have been held thus far in Geneva, and the ninth meeting is scheduled for December of this year. In a statement on the eighth meeting held in June 1983 and attended by prominent scientists and public figures from eastern and western countries, the Pugwash Executive Committee called on both sides to postpone further deployments of nuclear weapons and to continue negotiations in the event of no agreement by December. I take the liberty of enclosing the text of the statement by the Pugwash Executive Committee with the list of participants who attended the meeting on 11 and 12 June.

Unfortunately, according to all reports the official negotiations in Geneva do not appear to be making any progress. NATO plans to deploy Pershing IIs and cruise missiles are proceeding without pause and predisposing to the likelihood of counter-measures by WTO.

In view of the deteriorating situation, we urge a maximum effort by both sides to arrive at an agreement by December, and to postpone deployment of additional weapons while continuing negotiations until an accord is reached. It is our firm

conviction that nuclear weapons have no military utility whatsoever, and that the security of both sides will be lessened rather than increased if these weapons are deployed. Moreover, such deployment would increase tensions and mistrust rendering subsequent negotiations infinitely more difficult, and would certainly heighten the chances of war and nuclear holocaust.

Professor Bernard T. Feld, Professor of Physics at the Massachusetts Institute of Technology and Chairman

of the Pugwash Executive Committee, and myself are at your disposal to provide any further information you may wish.

I am sending a similar letter to President Yuri V. Andropov (Reagan) for his urgent attention.

I have the honour to be,

Respectfully yours,

Martin M. Kaplan
Secretary General

SOME RECENT ACTIONS BY NATIONAL PUGWASH GROUPS

FRG Pugwash Group.

The Vereinigung Deutscher Wissenschaftler (VDW), which acts as the FRG Pugwash Group, published in October a memorandum on European Security which outlined specific measures for the FRG government to follow for stopping and reversing the arms race, including deployments of Pershing IIs, cruise missiles and SS 20s. The complete text in German is obtainable from Mr. Horst Fischer, Secretary of the FRG Pugwash Group, Ruhr - Universitat Bochum, Postfach 102148, 4630 Bochum, Federal Republic of Germany.

Dutch Pugwash Group.

Several members of the Dutch Pugwash group were received by the Prime Minister in November to discuss at length the problem of INF deploy-

ments which the Dutch group opposed. A detailed analysis of the European arms situation was prepared by the Dutch group and released to the press. The text in English will be supplied on request to Dr. Philip Smith, Secretary of the Dutch Pugwash Group, Westersingel 34, 97618 CM Groningen.

Canadian Pugwash Group.

The Canadian group requested the Prime Minister to visit Moscow and Washington in an effort to continue bilateral negotiations and to avoid the deployment of weapons.

Similar actions are underway by the British and Italian Pugwash groups.

BOOK REVIEWS

"The Dangers of New Weapons Systems", edited by William Gutteridge and Trevor Taylor, Macmillan Press, London, 1983, 300 pages, £25.

This publication is the result of the 36th Pugwash Symposium held in London in December 1980. Despite the lapse of time for publication the contents retain their great value for those interested in arms control involving new weapons systems. The book is divided into three parts which are, respectively, "The Nature of Technological Change in Weapons"; "Weapons Technology, the Military Balance and the International System"; and "Thresholds and Arms Control". These subjects are excellently covered by a roster of well-known Pugwash experts including F.A. Long and K. Tsipis (USA), U. Albrecht and H. G. Brauch (FRG), J. Miettinen (Finland), A. Karkoszka (Poland), K. Sumbrahmanyam (India), J. P. Robinson and T. Taylor (UK) and many others.

Some fundamental questions are asked: Has the tank had its day? What will be the effect of a computerized command and control system? How can new technologies be used to develop mutual trust and so promote international security? Some answers are provided but the reader is rightly left to think things out for himself.

While the price seems rather high, it corresponds to the present market rates. The book should find its way into many private as well as public libraries.

* * *

"Nuclear Disengagement in Europe", edited by Sverre Lodgaard and Marek Thee, Taylor and Francis, London and New York, 1983, pp. 270 + xiii, £17.

Proposals for a Nordic nuclear weapon-free zone were explored in a Symposium which Pugwash convened in Oslo, Norway, in May 1982. This book contains revised versions of papers submitted to that Symposium, as well as papers commissioned especially for the book. The work was coordinated at SIPRI in Stockholm by Sverre Lodgaard, a member of the SIPRI research staff and Chairman of the Norwegian Pugwash Group, in collaboration with Marek Thee, editor of the Bulletin of Peace Proposals, International Peace Research Institute, Oslo.

The book is divided into four parts: (1) nuclear disengagement, which broadly covers the history in central Europe, functions and characteristics of nuclear weapon-free zones, with emphasis on a Nordic NWFZ, verification and prospects and procedures; (2) proposals for nuclear disengagement in Europe, covered by five papers by east and west authors; (3) the northern seas in Soviet and US strategy; (4) elements of a Nordic NWFZ, with a treaty text and model; and (5) procedures towards achieving a NWFZ. The background articles take into account historical developments such as the Rapacki plan, the Tlatelolco treaty covering a NWFZ for Latin America, possibilities for a Balkan NWFZ, military considerations and political difficulties. The authors are all experts in their respective fields. A partial list includes, apart from the editors, such

well-known names as N. Behar and I. Nedev (Bulgaria), S. Miller and C. Jacobsen (USA), J. Prawitz (Sweden), F. Calogero (Italy), K. Tornudd and A. Rosas (Finland) and W. Schutze (France). The book is an indispensable reference on NWFZs.

* * *

"Managing US-Soviet Rivalry : Problems of Crisis Prevention", by Alexander L. George, Westview Press, Boulder, Colorado, 1983, pp.415 + xii, paperback.

The author writes in his preface that the idea for the book originated in his participation in a Pugwash workshop on "Political and Psychological Aspects of Crisis Management and Prevention" held in Geneva in December 1978. Nine other contributors join him in writing a valuable and needed compilation with respect to prevention of political and military crises of the past, with emphasis on post-World War II crises.

The book examines the lessons of the US-Soviet experiment with detente in the 1970s, with particular attention to the effort to develop a basis for cooperating in crisis prevention. The authors, less concerned with who was to blame for the failure of detente than with understanding the flaws in its conceptualization and implementation, have joined efforts to analyse the difficulties the two superpowers experienced in their attempt to

avoid dangerous confrontations and crises that would damage the overall detente relationship.

The book includes case studies of several Middle East conflicts, the Angolan crisis of 1975, the Rhodesian conflict, the Ogaden war of 1977-1978, the abortive US-Soviet talks on limitation of conventional arms transfers to third areas, and the Soviet combat brigade in Cuba. It also provides an analysis of preventive diplomacy as a strategy for mediating third-area conflicts and avoiding superpower confrontations, and offers guidelines for reshaping US relations with the Soviet Union and for moderating competition for influence in the Third World.

Arms controllers, psychologists and social scientists will find this book worthy of serious study. It does not pretend to give all the answers to the problems dealt with, since flexibility is of the essence in the minefield of international relations. I found particularly valuable the last chapter by Alexander George on "Crisis Prevention Reexamined", where he tries to summarize the analyses of the various authors and works towards a synthesis as a guide to foreign policy for the USA. The "hawks" in the Reagan administration should - but probably won't - read the book. Soviet scholars would also gain valuable insights from a study of it, although they may disagree with some of the analyses.

MMK

OBITUARIES

Engelbert Broda

Professor Broda, an internationally known physical chemist at the University of Vienna, died suddenly while walking on the banks of the Danube on October 26 1983. He was to have travelled the following day to attend the Pugwash Symposium in Bucharest.

Professor Broda was Chairman of the Austrian Pugwash Group for many years and a long and ardent supporter of Pugwash activities.

During the second world war, he worked on basic research aspects of the nuclear energy programme in the UK. Later he turned to biophysics and the production and use of energy by living cells. In recent years, he wrote extensively on the history and philosophy of eminent physicists of the 19th and 20th Century, notably Boltzmann, Einstein and Planck.

Alfred Kastler

Professor Alfrd Kastler died in January 1984 at the age of 81.

Professor Kastler was awarded the Nobel Prize in 1966 for the discovery and development of optical methods for studying Hertzian resonances in atoms. His contribution bore directly on subsequent development of the laser. Professor Kastler was a strong and active supporter of the French Pugwash Group and attended a number of international Pugwash meetings. His most recent participation was at the Pugwash/UNESCO Symposium on "Scientists, the Arms Race and Disarmament" held in Ajaccio, Corsica in February, 1982.

James Waterman Wise

James W. Wise died in November 1983 a few days before his 83rd birthday. Jim Wise was an early supporter of Pugwash activities and provided financial assistance and hospitality for meetings on a continuous and anonymous basis since the early 1960s. He attended the 18th Pugwash Conference in Nice in 1968 as a guest, where he made warm and lasting friendships with many Pugwashites.

ISODARCO

The tenth course of the International School on Disarmament and Research on Conflicts (ISODARCO) will be held in Venice (Italy) from 17 to 27 July, 1984. ISODARCO is organized by the Italian Pugwash Group.

The Course will be focused on two main topics: "The Arms Race and Arms Control : Status and Prospects" and "Refugees as Victims and Cause of Conflicts".

All enquiries should be addressed to the Director of the School : Professor Carlo Schaerf, Istituto di Fisica, 1 Università di Roma, "La Sapienza", Piazzale Aldo Moro, 2, 1-00185 ROMA (Italia).

CALENDAR OF FUTURE MEETINGS

1984

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| 17 - 19 March | 45th Pugwash Symposium: "Conventional Forces in Europe", Vedbaek, Denmark |
| 1 - 2 June | Tenth Pugwash Workshop on Nuclear Forces, Geneva, Switzerland. |
| 3 - 5 June | Pugwash Workshop on Proposals for a Freeze on Nuclear Weapons, Geneva, Switzerland. |
| 9 - 15 July | 34th Pugwash Conference, Bjorkliden, Sweden. |
| Autumn (tentative) | 46th Pugwash Symposium : "Political Conditions and Obstacles for Peace and Security in Central Europe". FRG. |
| Autumn (tentative) | Pugwash Symposium : "African Security", Cairo, Egypt. |
| Autumn (tentative) | 11th Pugwash Workshop on Chemical Warfare, USSR or GDR. |

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| July | Pugwash Symposium : "Latin American Security", University of Campinas, Sao Paulo, Brazil. |
| July | 35th Pugwash Conference, University of Campinas, Sao Paulo, Brazil. |

1986

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| Summer | 36th Pugwash Conference, Hungary. |
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