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## PUGWASH EVENTS

### SOUTH-EAST ASIA REGIONAL PUGWASH CONFERENCE

The first Regional Pugwash Conference in South-East Asia was held in Melbourne, from the 23rd to 27th January 1967. The Conference was attended by 26 scientists from Australia, Ceylon, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan and Singapore. There were also several observers, including from the U.N., the Continuing Committee, and the Australian Department of Foreign Affairs.

The discussion centred around three main topics:

a) regional co-operation in development and education; b) food science and technology in developing countries; c) problems of security and development. Sixteen papers submitted by participants served as background for the discussions. A statement from the Conference was issued to the Press at the conclusion of the meeting.

A report of the Conference and the text of the statement, as well as abstracts of the papers, will appear in the next issue of the Newsletter.

### FORTHCOMING MEETINGS

(a) Study Group on European Security. The next meeting of the Pugwash Study Group on European Security will take place in Zagreb from the 21st to 25th February 1967. Following this there will be another meeting of the Group in Marianske Lazne from 13th to 16th May 1967.

(b) Study Group on Biological Warfare. The next meeting of the Study Group will take place in

Marianske Lazne, probably on May 11th and 12th, 1967.

(c) 17th Pugwash Conference. Preparations are in progress for the 17th Pugwash Conference to be held in Ronneby, Sweden, from the 3rd to 8th September 1967. A detailed programme of the Conference will be given in the next issue of the Newsletter.

### HISTORY OF PUGWASH

A book under the title "Pugwash - History of the Conferences on Science and World Affairs" by Professor J. Rotblat, is due to be published shortly by the Czechoslovak Academy of Sciences. It will contain an up-to-date account of the

Conferences and of other Pugwash activities. All participants in the Ronneby Conference will receive a copy of the book. The book will probably also be on sale; details will be announced later.

ABSTRACTS OF PAPERS PRESENTED AT THE

16th PUGWASH CONFERENCE IN SOPOT

V. Y. Aboltin

THE MAIN PROBLEMS OF PROGRESS TOWARDS GENERAL  
AND COMPLETE DISARMAMENT

One of the obstacles hindering progress towards disarmament is the desire of the so-called military-industrial complex to maintain and increase its profits from the arms race. Another obstacle is the tendency towards aggression, militarism, domination over other countries and peoples, inherent in the monopolistic capital. The policy of sabotage pursued by the U.S. military-industrial complex delayed considerably the cause of disarmament and aggravated international relations in various parts of the world and in particular in South-East Asia.

The U.S. war in Indo-China is gradually assuming a character threatening to the whole of mankind.

That means that the United States pursue a policy of drawing the peoples of the world into a Third World War, into a thermo-nuclear holocaust.

The policy of escalating war in Vietnam pursued by the U.S. Government despite the mounting protests from increasingly broader sections of the world public predetermine its negative position towards the disarmament problem. And there is a logic of its own in

such a position: those who aim at a broader armed interference in the internal affairs of other countries do not wish to reduce their armaments.

An immediate cessation of bombing raids against the Democratic Republic of Vietnam, withdrawal of American and all foreign troops from South Vietnam, no foreign interference in the affairs of Vietnam, Laos and Cambodia, return to the Geneva Agreements - that is the way to the solution of the problem of Vietnam.

I cannot help mentioning that the problem of liquidation of military bases in foreign territories is one of the most important problems the solution of which must be reached before going over to tackling the problem of general and complete disarmament.

Despite existing international tension, the implementation of certain partial measures must be carried out without delay. We cannot postpone the solution of such urgent problems as the termination of underground nuclear tests and the prevention of further proliferation of nuclear weapons. These measures must be immediately

carried out in order to check the arms race in the world.

Summing up, we would like to emphasize the necessity to step up the study of scientific and theoretical questions connected with disarmament. Both the scientists working in the field of natural sciences, and the scientists working in the field of social sciences must contribute to the solution of this task. And if they succeed, it will result in a serious contribution to the solution of the problem.

Among the general problems requiring scientific and theoretical study are:

1. Necessity and reality of disarmament. We gave this question the top priority because of the fact that there exists a belief in the Western countries that disarmament is not necessary and is impossible.

2. Main principles of the disarmament process.

3. Analysis of the existing plans for disarmament and their

perfection.

Among partial problems which need study, one might name the following:

- a. The problem of control and the problem of trust.

- b. Nuclear umbrella.

- c. Non-proliferation of nuclear weapons.

- d. Military bases on foreign soil.

- e. Economic and social consequences of militarism and disarmament.

The Soviet participants of the Pugwash Movement believe that the tenth anniversary of the Movement next year must be marked with scientific research contributing to the lessening of international tension and to progress in disarmament.

Thermonuclear weapons were created by the human mind, and must be eliminated by the human mind too.

H. Bondi and W. F. Gutteridge

#### ARMS SUPPLY TO DEVELOPING COUNTRIES

The supply of sophisticated and major armaments from arms-producing countries to developing countries has a number of severe disadvantages for the recipients, and to some extent throughout the world:

1. The purchase of the arms imposes a heavy financial strain. Even if the arms are given free, the financial strain of their maintenance may be considerable.

2. Since armaments are

often required only vis-a-vis a neighbouring state, the exclusion of some types of arms from the area in question would leave the balance of power undisturbed and both states better off.

4. Some arms could have consequences reaching far beyond the area of the state in question. Nuclear weapons are an obvious example, but a nuclear-powered

submarine could also enable a quite minor country to engage in world-wide action.

Joint action by the potential suppliers, on their initiative or that of the recipient states of an area, could have very beneficial effects, e. g. the OAU might take the initiative to prevent tanks being introduced into vast areas of Africa.

M. M. Dubinin

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#### VIETNAM - THE SCENE OF EMPLOYMENT OF MASS DESTRUCTION WEAPONS

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During the 5th Pugwash Conference, scientists were worried about statements in various quarters, on the preparation of chemical and biological weapons for use in war. At this moment, we find before us the undisputed fact that the U. S. military forces in South Vietnam have brought into use poisonous substances - one of the weapons of mass destruction.

Starting with the dispersal of destructive components, aiming at destroying agriculture and vegetation in large fields, the U. S. Army is now also beginning to apply poisonous substances which are incorporated in their weapons. Many definite instances are mentioned in the paper.

The statements made by the Pentagon leaders that the chemicals used by them are harmless, are refuted by clinical examination of the victims, among

which are many fatal cases. To the expert, it is clear that in Vietnam there is now gradually developing an up-to-date war with poisonous substances, with the aim of destroying many human beings.

By their action in Vietnam, the U. S. military forces have acquired unlimited power to try out such methods, and are using the territory for field-testing their new chemical weapons. Thus, one of the methods of mass killing - chemical warfare - is now being applied in a war started in Vietnam by American imperialists.

Soviet scientists, like the Soviet people, protest at this barbarous development, which is against all international standards of humanity, and which leads to the death and suffering of large numbers of people - including aged, women and children.

The Pugwash Conferences

cannot be indifferent to these appalling facts and it must censure this situation in Vietnam, where

chemical weapons are being used in war.

B. T. Feld

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TOWARDS AN AGREEMENT ON THE NON-FIRST-USE  
OF NUCLEAR WEAPONS

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An analysis is presented of the barriers still to be overcome for the achievement of a non-proliferation agreement. It is concluded that one of the major barriers remaining is the necessity for the nuclear powers to provide effective guarantees to those nations capable of producing nuclear weapons, but are asked to refrain from doing so, that their security interests will not be jeopardized by their adherence to a non-proliferation treaty. It is argued that an agreement among the five nuclear powers, that they would not use nuclear weapons against any nation agreeing

to forego their acquisition, would be the most effective guarantee now available to the non-nuclear powers. The arguments for and against such a limited no-first-use pledge are considered, and the conclusion is reached that the achievement of such an agreement is not only feasible, but that this agreement would greatly facilitate the attainment of a non-proliferation treaty and universal adherence thereto, and that it would, in addition, represent a significant step in the limitation of the nuclear armaments of the nuclear powers.

B. H. Flowers and J. K. Wright

EUROPEAN SECURITY MEASURES:  
THE RAPACKI, GOMULKA AND LACHS PLANS

Central Europe is the region where political differences between the Warsaw Pact and N. A. T. O. countries remain the most acute; the military position in the area stems from the political tensions there. In the absence of political progress, particularly towards the reunification of Germany, it is difficult to see how a way can be opened up to a more secure Central Europe.

for the defence of Western Europe against attack by the Warsaw Pact powers relies on nuclear weapons stationed in Central Europe to deter the aggressor both before fighting starts, and, by the threat of escalation, after it has started also. The complete denuclearization of Central Europe, as the Rapacki Plan proposes, is therefore militarily unacceptable to N. A. T. O.

The N. A. T. O. strategy

While it may be true that

no increase in the number of nuclear warheads in Central Europe is needed in order to deter any aggressor, the problems of verifying whether or not they are being increased have not been solved either by the proponents of the Gomulka Plan or, indeed, by any other competent authority. Adequate verification is particularly important for such confidence-building measures. The Plan also poses problems of political discrimination between members of alliances.

The principal barrier to the Lachs Plan for a regional non-proliferation agreement is also held to be the main barrier to a world-wide non-proliferation agreement, namely the problem of the control of nuclear weapons within the N. A. T. O. alliance. Insofar as the Lachs Plan singles out one member of that alliance it is less likely to be politically acceptable than a world-wide agreement which discriminates against no one.

J. Galtung

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TWO APPROACHES TO DISARMAMENT:  
THE LEGALISTIC AND THE STRUCTURALIST

The thesis of the paper is that disarmament thinking and particularly disarmament negotiations are governed by a legalistic frame of reference patterned after domestic law, based on the ideas of establishment of a set of norms (a treaty), a detection apparatus, an adjudication apparatus concerned with verification, conviction, and sentences, a system of sanctions, a system of enforcements and a validation system (Supreme Courts in domestic law). As long as this kind of thinking prevails we are unlikely ever to get disarmament, since the distrustful legalistic mind will always find loopholes in the control mechanisms. Besides, it is also probable that many control mechanisms are counter-productive and produce cheating, and sanctions are almost certainly counter-productive when they are based on the principle of collective guilt in the

nation breaking the treaty.

Equally dangerous is the tendency that legalistically-thinking negotiators will disregard factors that may stimulate disarmament, because they cannot be located within their paradigm. Such factors are the idea of morality, positive exchange between the parties and cooperation, positive sanctions to nations that keep the treaty, instead of punishment to those who do not, efforts to punish individuals rather than nations if somebody should be punished, inspection by the people, unilateral steps, tacit agreements, and a dilution of the legalistic dominated environment for disarmament negotiations with people with all kinds of background.

Finally, the thesis is that legal language and legal paradigms provide the parties with a false

sense of being able to communicate, when in reality, what they do is to understand each other

too well, so well that they disregard major possibilities.

V. Hanga and I. Agarbiceanu

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THE IMPORTANCE OF THE MUTUAL ECONOMIC AND CULTURAL  
RELATIONS BETWEEN VARIOUS COUNTRIES

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The complete and final settlement of the problem of European security can be achieved step by step. It is necessary to create a relaxed climate of mutual confidence and understanding between the States of Europe, who should strive toward increasing their cultural and economic

co-operation. All this would contribute to understanding between nations and consequently to maintaining peace and security. Countries in close economic and cultural interchange would not be rivals. The most effective way to achieve these goals is the conclusion of bilateral treaties.

A. Joxe and J. K. Wright

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A NON-AGGRESSION PACT BETWEEN THE N. A. T. O. AND  
WARSAW TREATY POWERS

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1. This proposal would have much to commend it, provided it were considered, not in isolation, but as part of a wider political settlement including some effective steps towards reunification. It would then perform the useful function of confirming an intention peacefully to respect the settlement reached.

2. The general proposition as advanced has, however, a number of weaknesses. A non-aggression arrangement would be largely meaningless until real progress had been made towards removing the causes of East-West tension. It would not by itself solve any of the problems of

European security nor contribute to a reduction of tension. Indeed, the record of such non-aggression pacts as have been signed is far from reassuring.

Furthermore, such an arrangement might formalize the status quo in Germany, and thus diminish the prospects for German reunification; also, it would give the N. A. T. O. and Warsaw Pact organizations a political role, which they do not now have. An arrangement which had the effect of crystallizing the existing divisions of Germany and indeed of Europe would rather perpetuate present sources of tension.

Robert Jungk

### CAN NEOMILITARISM BE CHANGED?

The argument that armaments are unproductive no longer cuts ice among modern economists. They often see the armaments race as a necessary evil just because it is unproductive and allows big investments, whose results will not clog up the channels of distribution.

If we want to fight neo-militarism more effectively we will have to think about large peaceful goals and projects, which would be powerful enough to play roles as "locomotives" for continuing scientific and technological development.

Advocates of peace have been very productive in their arguments against the armaments race and war. They have so far been rather unproductive in formulating conceptions as well as detailed and concrete proposals to the world for which they strive. I

therefore propose that the Pugwash Movement in an effort to become more solution-orientated than in the past, might consider:

(a) the sponsoring of international "look out institutions" (a very suggestive term coined by Bertrand de Jouvenel);

(b) the creation of international "Think Factories" devoted to proposals of a civilian and peaceful nature as large and as powerful as the existing military "Think Factories".

Such institutions, which would try to anticipate future problems and propose solutions to them before they get critical, might not only strengthen the role of the Pugwash Movement in dealing with coming contingencies, but also instill in its participants less rigid attitudes toward present political deadlocks.

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H. Kröger and A. Kolesnyk

### THE SECURITY NEEDS OF THE GERMAN DEMOCRATIC REPUBLIC

In Europe, an acute and permanent threat to their security hovers over the German Democratic Republic and its citizens.

This is definitely caused by the fact that the government of the F.G.R. has been until this very day, unashamedly putting forward and making an axiom of

its entire domestic and foreign policy, the thesis that the F.G.R. has the claim to be the sole spokesman for the German nation. It does not merely mean that the government of the F.G.R. does not stop interfering in the affairs of other states by its efforts to impose on them the so-called Hallstein-Doctrine, the acceptance of its

arrogation of sole representation of Germany. It means, moreover, its categorical refusal to respect the integrity and security of the G. D. R., and the right of self-determination of the citizens of the G. D. R. Finally, this point of view of the F. G. R., expressed in the "claim to sole representation", reaches its climax in the military planning and military-strategic concepts of West Germany, whose objectives are directed against the G. D. R. and its neighbouring socialist states.

Safeguarding of the right of security for the G. D. R. and its people, safeguarding of security throughout Europe and stabilization of world peace therefore demand:

(a) renunciation of the

"claim to sole representation" by the government of the F. G. R., and the recognition of the right, guaranteed by the international law, of all states to security, and the duty of all states to safeguard international security;

(b) joint efforts to be undertaken by the forces which are concerned with peace and security, with a view to enforcing respect for the provisions of the U.N. - Charter by all states and vis-a-vis all existing states, thereby eliminating any acute sources of conflict;

(c) setting up of a European security system to safeguard international peace and international security in Europe.

M. A. Lakany

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#### ON THE STRUGGLE OF PEOPLES AGAINST IMPERIALISM, COLONIALISM AND NEOCOLONIALISM

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The author explains, from his point of view, the basic changes which have taken place in the international situation after the Second World War. One of these changes is the emergence of the bloc of Afro-Asian nations which have taken their independence by their own struggle, and the emergence of national movements in Asia, Africa, and Latin America. This bloc became an important element in international circles by developing their own policy of non-alignment, which is based on peaceful co-existence with all other peoples on grounds of mutual respect, confidence, and equality.

The paper shows that the changes in the international situation make the balance of power in favour of peoples, and gives the example of Suez as a part of the struggle of peoples against colonialism. The nationalization of the Suez Canal Company was not only a great blow to imperialism, but was also a great encouragement to all Arab people to get rid of the domination of imperialism on the Arab oilfields.

The author concludes that: colonialism in all its forms is a factor of instability, which threatens peace everywhere, and as long as it is misusing science, the struggle

of all peoples against colonialism in all its forms should be considered as the most noble

fight for establishing a lasting peace on this planet.

Betty G. Lall

#### MEMBERSHIP OF GERMANY IN THE UNITED NATIONS

The purpose of this paper is to argue for admittance of Germany into the United Nations and to suggest a way to bring this about.

No state as strong as Germany should remain outside the political parts of the international community. To postpone German membership in the United Nations will be a drag on efforts to achieve a more stable Europe.

One way to focus on the need for German membership in the United Nations is for the United Nations - the General Assembly, the Security Council or both - to invite Germany to become a member and leave to the two parts of Germany to work out the way in which Germany might be represented.

A divided Germany in the United Nations would have to have part of its vote divided. Several combinations are possible. One formula would be to give each part of Germany one-half a vote. On some issues each half vote would be cast a different way thereby cancelling out any German vote. Although this might often be the case, German delegates at least would be seated in the General Assembly,

listening to and participating in the debates, contributing representatives to special committees established, and paying Germany's proper share of the budget. In other cases it is quite likely that both parts of Germany would agree and a full vote could be cast. This would be the probable case when no differences existed on a given issue between Western and Communist states.

A second formula might be to give the Federal Republic a greater percentage of the vote because it represents a larger part of the population of Germany, but on important issues, in order to achieve the co-operation of East Germany, to require a fifty-fifty split. The voting formula would determine the manner in which the budget payments were shared by the two parts of Germany.

In voting Germany would always have to abide by the Charter requirement of one state one vote. How that vote was cast would be decided by the two Germanies as an internal matter. When they could not agree and if the German vote were divided in half then Germany would not vote or would abstain on the issue in question at that time.

Other formulae might be possible. They should be considered because efforts to have Germany in the United Nations should not

languish because there is at present no feasible method to bring about German unification.

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Betty G. Lall

### PEACEKEEPING

This paper is directed to three ways in which the ability of the United Nations to maintain peace might be strengthened.

1. Individual nations prepared to earmark part of their armed forces for use by the United Nations should make these arrangements more formal and binding through bilateral agreements with the U.N. Security Council. The Security Council, through passage of a resolution, might invite countries to make agreements with it, designating the number and type of forces a country is prepared to place at the disposal of the United Nations, conditions under which the force can be utilized, means of financing the force when under U.N. command, and any technical matters affecting the use of the force. To facilitate the negotiations of such agreements the Security Council might request the Secretary General to have drafted a model-type agreement which could guide individual nations in proposing agreements to the Security Council.

2. The Security Council should explore whether the problem of financing peacekeeping operations

might be partially solved by a readiness of its members to include in Security Council resolutions dealing with peacekeeping operations formulae on the means of financing the particular peacekeeping operation involved. Furthermore, when it is expected that all U.N. members will pay toward the costs of peacekeeping operations, the General Assembly should have an opportunity to approve the recommended assessment.

3. In an effort to remove the territory of many of the smaller nations from involvement in big power controversy and politics, there should be a non-intervention treaty guaranteeing such powers immunity from all types of military intervention on their territory. A non-intervention treaty should provide for a U.N. team to be sent automatically to investigate any charge of intervention by a nation which believes armed agents, armed forces, or military equipment are being landed on its territory for the purpose of carrying out some form of military or paramilitary intervention.

Lawyers Group

SOME PRINCIPLES FOR AN ALL-EUROPEAN SECURITY SYSTEM

A group of lawyers from Western and Eastern countries submitted to the Conference some outlines for a European Security System. Parties to this Pact should be the member states of both alliances, as well as other European states.

The military security measures should contain a non-aggression clause and some regulations concerning the obligation to the obligatory peaceful settlement of conflicts through conciliation, mediation, arbitration. Other leading principles are: the principle of non-intervention, the fixing of a maximum level for national armament, some control system, as already in existence in the framework of the West European Union (WEU). There may be attached some other measures in the field of military security: freezing and non-proliferation of nuclear armaments, measures for preventing surprise attack, etc.

The political stability

measures should be guided by the overcoming of a certain type of thinking in the two blocs. In this context, the boundary question regarding the Oder-Neisse Line should be solved. This boundary is considered by the Eastern countries as final, while the Western countries regard it to be left for future settlement. The Security Pact would have to make sure that the German reunification will be achieved only by peaceful and democratic means.

Some outlines for economic co-operation and intensifying the cultural relations are attached. The last chapter deals with some legal problems: the relation to the U.N. - Charter, the membership of the U. S. A. (though not a European country, but engaged in European security), the Pact forming a bridge between the two blocs, the membership of the G. D. R. in spite of the non-recognition of it by the member states of the N. A. T. O., etc.

Julian Lider

SOME COMMENTS ON THE INTERDEPENDENCE OF POLITICAL,  
MILITARY AND DISARMAMENT DOCTRINES

In the analysis of the problem of disarmament, just as in all ways leading to mutual understanding among nations and governments, it is necessary to take into consideration rules and interdependence existing in basic

fields of state activity and the fact of their subordination to the political doctrine of the state. This may facilitate finding: (1) common points of view held in various states; (2) problems worth discussing which might be settled by compromise; and

finally (3) problems worth discussing, although they are unlikely to be solved in a short time.

A dependence which should always be kept in mind is the dependence of the disarmament concept upon political doctrines (political strategy included) and upon military doctrines (military policy included); furthermore, the dependence of military doctrines on political ones, and their evolutionary character also must be considered. They are shaped gradually under the influence of various factors, international as well as internal; they are inspired by national tradition and can hardly be changed by external pressure, if the result is not compatible with national interest.

This phenomenon occurs in all countries, irrespective of their political systems. In some it inspires a consequent policy towards complete and general disarmament, on which principles they base their disarmament negotiations. Such a policy springs from the very roots of these states, their doctrines and pursued ends, which are clearly reflected in a programme of peaceful co-existence adopted by them and entirely defensive military doctrines which recognize a necessity to preserve the territorial status quo.

Such dependences are also reflected in the policy of capitalist powers. In some of them they become, however, a formidable obstacle during

disarmament negotiations.

This last thesis can be exemplified by the analysis of two countries. Although they do not play the same role in the world and in the world structure of military power, as one is a nuclear power and the other has only just begun to pile up a large military potential - prospects for easing tension depend to a great extent on their goodwill. They are the United States of America and the Federal German Republic.

It seems obvious that there exist possibilities to find some point in common between views of both blocs on disarmament, or new vistas on which an agreement or a better understanding could be reached. Each proposal should, however, be considered not as a phenomenon existing in itself, but in relation to its place within the framework of political, military and disarmament doctrine. This method will enable the elimination of purely propaganda proposals having no connection with the political and military doctrines of the state from those which are likely to be realized. It will further facilitate finding means for the conclusion of such an agreement, which neither interferes nor endangers the political and military doctrines of the other party, or of how to influence the modification of doctrines through the presentation of one's own view.

F. A. Long

### THE NEED AND THE PROSPECTS FOR A COMPREHENSIVE BAN ON NUCLEAR WEAPONS TESTS

There are a number of reasons why it is important to obtain very soon a comprehensive ban on all nuclear weapons tests, e.g. a comprehensive test ban will be of direct assistance in minimizing the further proliferation of nuclear weapons; the need for the negotiation of a comprehensive test ban was agreed at the signing of the Partial Test Ban, and further technical progress and new directions in informal arrangements among nations enhance the probability of obtaining a workable scheme for monitoring a full test ban.

In the light of past experience, the most rapid and fruitful negotiations will probably occur if consideration is restricted to the extension of the current test ban, and final negotiations might reasonably be among the powers, U.K., U.S.S.R. and U.S.A., with strong efforts to obtain accession by all other nations.

There are three obvious possible agreements: (1) a simple extension of the current Partial Test Ban Treaty to cover underground nuclear tests with no

provisions for monitoring or for on-site inspection; (2) an extension of the current treaty with provision for a small annual quota of on-site inspections and perhaps also including procedures to receive and analyse world-wide seismic data; (3) an agreed moratorium (rather than a treaty) on underground testing with provisions for some sort of request-and-invitation procedure for occasional on-site inspections.

It is questionable whether the U.S. will agree to the first of these, and whether the U.S.S.R. will agree to the second. A number of possibilities for compromise exist, one of which is the frequently discussed "threshold" treaty, calling for a ban on all underground tests larger than a certain magnitude, for example, 4.76. A moratorium might be even easier to obtain agreement on, and could be a very useful first step toward a treaty. The need is for serious negotiations by nations which are aware of the considerable benefits which a comprehensive ban on nuclear weapons tests offers to them and to the world.

I. Malecki

### INTEGRATING INFRASTRUCTURE AS A FACTOR IN LESSENING POLITICAL TENSION

(1) The interstate technical infrastructure consists of some

objects situated on the territories of various States, and constituting

the fully and completely operating unit as a whole. The existence of such infrastructure represents an important factor for a lasting co-operation of those States, which at the same time may hold up an aggravation of political tension arising between those countries. Consequently, the reinforcement and the consolidation of the technical infrastructure between the various political blocs should be considered as positive symptoms, and do deserve every support.

(2) The scientific establishments, industrial plants and other permanent objects (e.g. Rest Centres), which have been built and exploited jointly by several States, all these constitute the interstate infrastructure too. The contribution made by the international scientific and research institutes towards development of co-operation for lessening political tension should be greatly appreciated. All efforts should be made in order to increase the number of institutes of that type in Europe and to advance their importance.

(3) The formation and actual extension of the local technical infrastructure of each particular country has been related indirectly to its foreign policy and to the range of the technical international co-operation. This co-operation has been subject to two factors: (i) safeguarding the rights for technological ideas

to be protected among others by a set of patents; (ii) adopting commonly accepted technical standards.

(4) It is very important for lessening political tension to extend the exchange of technological ideas between the various blocs of States. It concerns both inventions and licences of the "know how" type. Granting patents and issuing some regional licences valid and in force for the bloc of States as a whole, have been looked into as a new form of co-operation.

(5) In the field of standardization, the most important thing is to do everything in our power to consolidate and support the institutions responsible for standardization. These organizations, however, should bear in mind - to a greater extent than ever before - the interests and advantages of the customer who would like to make use of the goods for which there exists a mass demand.

(6) The deficiency of the infrastructure of the scientific and research establishments has frequently reduced some extant possibilities for conducting experimental researches and investigations. It has also restricted the range of international scientific co-operation. In many countries it is possible to allot more funds than ever before for reinforcing this infrastructure, without causing any detriment to the other spheres of state activities.

M. D. Millionshchikov

### WHAT IS NEEDED FOR ENSURING EUROPEAN SECURITY

We, scientists from European as well as non-European countries, are to discuss problems of Europe. We are aware that even now, the outbreak of a war in Europe would create an immediate and terrible threat to peace in the whole world. That is why today the problems of European security affect people living in all parts of the world.

The policy pursued by the aggressive circles in the U. S. A. threatens European security. The ruling circles of the United States, having no regard for the principles of humanity, ignoring world public opinion, go on with their unjustified, wanton war in Vietnam.

This threat is aggravated by the fact that U. S. ruling circles and the revanchist forces in West Germany come closer and closer together. The whole policy of the ruling circles in Bonn is aimed at aggression, at revenge, at recarving the present European boundaries.

If we want to avert the danger of war in Europe, the only way is through first lessening the military tension on the continent. Sovereignty, national independence, complete equality of rights, non-interference in the internal affairs of each other, mutually beneficial relations - such are the principles which should be adhered to in the relations between the states with different social systems.

To ensure European security, the very possibility of West Germany gaining access to nuclear weapons, in any form whatsoever, should be eliminated.

It is vital for ensuring European security, that all "countries" should recognize the stability of existing boundaries in Europe. The German problem must be solved by the German states alone, on the basis of their gradual drifting together. Unified Germany should never represent a threat to the cause of peace in Europe.

The problem of disarmament, which has always been the centre of attention of the Pugwash Movement, is one of the most important world problems. The attention of world public opinion has been drawn to proposals on non-proliferation of nuclear weapons, nuclear disarmament, ban on production, testing and use of nuclear weapons, the destruction of the stockpiles of nuclear weapons.

A sharp change in the development of international relations must be achieved, from escalation of war to escalation of peace.

A turning-point in this respect could become a termination of the aggressive war in Vietnam, waged by the U. S. A., and withdrawal of U. S. troops from this long-suffering land, fighting for its independence with unbelievable heroism.

S. Muller

### IMPROVING THE EUROPEAN CLIMATE

This paper proposes that the time has come to pursue more vigorously than ever the re-association of European states, both East and West. The avenues most open are not so much political as economic, cultural and social. Proposed are major projects aimed at economic and social welfare, involving the joint participation of Western and Eastern European states, as well as of the U.S.S.R. and the U.S.A.

Specifically suggested are:

(1) major water source development schemes for the Rhine, the Elbe and the Danube, which are essential for the future industrial and economic development of the entire European continent; (2) city and regional planning schemes affecting major areas of the continent which cross a number of national

frontiers, and concentrating on population growth, concentrated supplies of skilled labour, mass culture, land use, and development of under-industrialized areas; (3) planning of international airports serving several countries at once, and capable of receiving new supersonic passenger and freight aeroplanes; (4) application of computer techniques to the solution of economic and social problems, such as improvements in communication, transportation, exchange of information, and the planning process itself.

It is recommended that the Pugwash Movement promote meetings of specialists from Western and Eastern countries to analyse the possibilities of these and similar projects.

T. Nemec

### PUGWASH AND VIETNAM

The Pugwash Movement cannot remain silent at the U.S. aggression in Vietnam. U.S. acts in Vietnam are contrary to the Pugwash Movement's ideals. The expansion of war in Vietnam can lead to global nuclear war. The Pugwash Movement should appeal to all scientists

to exert their influence on the U.S. Government to announce the acceptance of the 1954 Geneva Agreements, to cease bombing the V.D.R., to stop military intervention in South Vietnam, to withdraw their troops from there, and to liquidate its military bases.

P. L. Ølgaard

#### A NEW APPROACH TO THE SOLUTION OF THE NUCLEAR PROLIFERATION PROBLEM

In this paper a new approach to the solution of the proliferation problem is discussed. It includes control of the atomic energy production facilities of the non-nuclear signatory states and guaranty arrangements for the same countries, based on nuclear retaliation by the nuclear signatory states in case a non-nuclear country is attacked by nuclear weapons on its own territory.

The approach is analysed

and found to have a high degree of credibility. This means at the same time that it is very improbable that nuclear retaliation or punishment will ever have to be carried out.

It is stressed that in order to get an effective non-proliferation treaty the incentive for the non-nuclear countries to procure nuclear weapons must be removed, and that this cannot be done without credible guaranty arrangements.

R. E. Peierls

#### A POSSIBLE USE OF "BLACK BOXES" IN CONNECTION WITH A COMPREHENSIVE TEST BAN

At an earlier stage of the discussions about a test ban considerable interest was shown in the possibility of using "black boxes" (recording instruments encased in sealed containers) to help in the detection and identification of underground tests. These containers would be placed by agreement in certain positions on each national territory, and returned from time to time for analysis to some international organization. Since then, progress in techniques of long-range seismic detection has been considerable, and a network of such "black boxes" would have to be very close indeed to add to the information obtained by long-range seismic arrays.

Nevertheless, some events may occur which would not be clearly identified as either natural earth tremors or underground tests, even though the location might be known fairly accurately. This uncertainty might well lead to arguments. The suggestion is put forward that a treaty might provide that in the event of any unidentified seismic disturbance, a "black box", with appropriate instruments, should be placed at the location indicated. This would not, of course, give any additional information about the disturbance, but if there had been an underground test, it would greatly facilitate the identification of any subsequent underground tests on the same site, and

make it virtually impossible to carry out more than one clandestine test at any given site. The need to develop a new site for each

test would probably be prohibitive in terms of cost and effort, and might act as a deterrent to any serious test programme.

Polish Pugwash Committee

## POLAND AND EUROPEAN SECURITY

While aware of the close relationship between the political events on the international scene, Poland's policy is being concentrated on the problems of Europe, though not neglecting world-wide problems.

There are two ways of solving the main contradictions and conflicts dividing Europe: by armed forces, by the threat to use them or through negotiations based on the respect of the interest of all parties concerned. This is the method used and promoted by Poland.

The recent security arrangements in Europe based on the existence of two military blocs are at present not satisfactory, and Poland (like other nations that joined in the 1955 Warsaw Treaty) is committed to the idea of dissolution of all military groupings in Europe. In the place of these military groupings, a system of collective security in Europe should be established in the form of an organization of European States, under article 52 of the Charter of the United Nations; such an organization would include all European States. The Organization of European Security would set up machinery for the peaceful settlement of disputes, for the promotion of an all-European co-operation in

the political, economic and cultural fields, as well as for confronting any aggression against any of the European States with the collective strength of all the members of the Organization.

While striving to establish such a system, Poland's foreign policy is actively promoting collateral measures in the field of disarmament on the regional level; stressing especially Central European areas, where two military blocs are directly confronting each other. Poland's proposals for a nuclear freeze (Gomulka Plan), and denuclearization (Rapacki Plan) in Central Europe, are still forming part of an active diplomatic dialogue between European Governments.

Poland has alliances with all her neighbours, i. e. U. S. S. R., Czechoslovakia and the German Democratic Republic, all of them socialist states. Poland has, at the same time, friendly relations with all other European states. The only exception is the Federal German Republic, whose government refuses to have normal diplomatic relations with Poland and urges a revision of Polish state frontiers. Knowing that the German people - like all peoples in Europe - are for peace and stability, Poland expects that, in due course,

Bonn's policy will become more ready to co-operate in a European Security System. Only in this way

can the road towards peaceful reunification of Germany be paved.

Jan Prawitz

#### A CODE OF ETHICS FOR URANIUM

The application of safeguards to all export and other transfers of nuclear materials and facilities is proposed. This measure would remove the nuclear option for the majority of states who are not self-supporting in uranium and nuclear technology. In addition, it will partially isolate existing nuclear weapons programmes. It will also form a basis on which additional measures, still in terms

of safeguards, can be added to achieve complete non-proliferation, cut-off and nuclear disarmament. The advantages in relying on the I. A. E. A. system only, are discussed. The importance and urgency of the proposed measure caused by the rapid growth of nuclear power production and the long duration times of trade agreements in the field is pointed out.

E. Rabinowitch

#### DISARMAMENT AND DEVELOPMENT

(1) A large fraction of money spent on the arms race in the U. S. A. and the U. S. S. R. is still devoted to preparations for winning or deterring a major nuclear war in Europe, although the danger of such a war is receding.

(2) At the same time, the increased discrepancy in living standards between the "developed" and the "developing" world creates a new growing danger to world peace. The investments made by the great powers in assistance to developing countries must be increased by an order of magnitude to begin coping with the problem.

(3) The only obvious source

for such funds is massive transfer from the military budgets of the U. S., the U. S. S. R. and of other major nations.

(4) To be fully effective, development aid must be freed from considerations of military policy, prestige and competition for influence between the donor nations. The aid must be given either through the existing or new U. N. agencies, or at least in a co-ordinated programme, developed with full participation of scientific, technical and economic experts from both the donor and the receiver nations.

(5) When the aid under such a programme will reach the order of magnitude of tens of billions of dollars

annually, needed to make it effective, the very fact of transfer of the agreed funds to development programmes will provide indirect proof of corresponding reductions in the military budget, thus making the problem of verification easier than in the case of simple agreed reduction of military budgets.

(6) It is therefore suggested that the U.S., the U.S.S.R. and other major nations proceed with negotiations on annual transfers of major funds from military to development budgets, and the elaboration of major co-operative or co-ordinated development programmes.

A. Rich

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ON THE POSSIBLE USE OF AUTOMATIC UNMANNED  
INSPECTION UNITS IN A COMPREHENSIVE TEST  
BAN TREATY

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It is generally agreed that it would be highly desirable to complete the partial nuclear test ban and thereby prohibit nuclear testing underground. The major difficulty in extending the treaty has been over the issue of inspection to verify whether a nuclear test has taken place as indicated by seismic data. The purpose of this note is to suggest the possibility of developing an automatic unmanned machine which could be used for inspection purposes.

These instruments could be taken by the host country to the suspected seismic epicentre by transport helicopter. The position of the instrument would be fixed by gyroscopic and radio communication so that it is clear that the proper site is being investigated. Since the epicentre is usually defined as a finite area, several of these instruments would be employed in any one investigation. The instruments

would be sealed and self-contained in such a way that they are tamper-proof. On arrival at the test site a variety of analyses could be carried out automatically. These might include drilling a test bore to a reasonable depth and collecting core samples as well as gas which could then be analysed for the appropriate radioactivity. In addition, other types of information may be collected, including seismic data or automatic photographic survey data. At the termination of the investigation the host country would transport the instruments outside the country, and the material would then be subjected to the necessary laboratory analysis.

These instruments would allow the collection of objective analytical data, which would provide information concerning adherence to the treaty. At the same time use of these machines would minimize interference in the host country.

F. Šorm

### REMARKS ON PAST AND FUTURE ACTIVITIES

Many good results have been achieved by Pugwash and these have become the subject of serious exploration by official representatives of several leading countries.

In particular, the results of the Study Group on European Security are promising. These problems are likely to remain the main concerns of the Pugwash Movement.

Another problem - that of the broadening aspects of peaceful co-existence marked by the present trends of scientific and technical

revolution deserves the attention of Pugwash. Pugwash should also study the impact of the development of science and technology on present human society.

Pugwash should give up the "behind-the-closed-doors" character, and widely publicize its recommendations.

Serious thought should be given to launching a Pugwash journal on disarmament. A larger number of top representatives of world science should be invited to future conferences.

N. A. Talensky

### PROBLEMS OF DISARMAMENT IN EUROPE

Today favourable conditions have ripened for the solution of the problems of European security. Tendencies towards the liquidation of features of the cold war and obstacles in the way of normal development of European co-operation, to the solution of controversial questions through mutual understanding and to normalization of international life constantly develop.

(1) Reduction and Liquidation of Stock-Piles of Nuclear Weapons: the solution of this problem is seen as a whole complex of arrangements, the successive implementation of which will minimize the danger of nuclear conflict in Europe, and will create more favourable conditions for European security.

This will facilitate the solution of the problem of general and complete disarmament - the importance of which should always be borne in mind.

Among these arrangements are: (i) an agreement on non-proliferation of nuclear weapons, including the banning of nuclear armament of the F.G.R.; (ii) maximum reduction of the zones of stationing and possible use of nuclear weapons; (iii) only nuclear weapons of European countries, situated within the boundaries of each particular country, should be stationed in European territory; (iv) European countries will undertake not to permit the use of their territories, territorial waters and islands situated in European waters, by non-European powers for

the stationing of nuclear weapon capabilities, or as bases for surface craft, submarines and aircraft armed with nuclear weapons.

(2) Reduction of Armed Forces and Conventional Armaments: the following practical steps should be taken: (i) withdrawal of foreign troops from the territories of other states; (ii) consecutive reduction of the armed forces of European countries stage by stage to an agreed level.

It would be advisable to start the reduction of armed forces with the armies of the two German states. To do this a number of political arrangements are necessary to ensure the security of each particular state and that of the whole European continent. They are: (a) recognition of the stability of national boundaries established after the Second World War; (b) all countries will repudiate the use of all forms of discriminatory measures and pressures against other countries, and will favour the establishment of normal relations, including normalization of relations between the two German states.

(3) Non-Aggression Pact between the N. A. T. O. Countries and the Member-Countries of the Warsaw Treaty Organization: the real guarantee of the security of each European country lies in the establishment in Europe, by the joint efforts of all European nations, of an effective system of security based upon relations of equality and mutual respect. In the meantime, it would be useful to conclude a non-aggression pact between the countries of N. A. T. O. and the Warsaw Treaty.

(4) Atom-Free Zone in Central Europe: the main point of the proposal comes down to the following: the atom-free zone in Central Europe will be made up of Poland, Czechoslovakia, the G. D. R. and F. G. R.

The statute of an atom-free zone in Central Europe must provide for absolute exclusion of stationing, production and acquiring by the countries in the zone of all sorts of nuclear weapons, the stationing of the nuclear weapons of their allies, including the use of any sort of nuclear capability from these territories, and any devices accompanying the use of nuclear weapons. The realization of the Gomulka Plan on the freezing of nuclear weapons in Central Europe would be an important step towards the creation of such an atom-free zone. Obviously, the nuclear powers must undertake not to use their nuclear weapons against objects located in the atom-free zone.

(5) Reduction and Withdrawal of Foreign Troops from the Territory of European States: despite the fact that over twenty years have elapsed since the end of the Second World War, the U. S. continues to maintain its troops and military bases in Western Europe.

The security of all European peoples demands the speediest withdrawal of all foreign troops, and the liquidation of all foreign military bases on European soil.

The process could practically be arranged in this way: (i) flights of foreign aircraft with nuclear weapons on board over the territory of the

European states, and the calling into ports of the European states of surface and underwater craft with nuclear weapons on board will forthwith cease;

(ii) all foreign troops, nuclear weapons and other armaments and military equipment will be withdrawn in the shortest agreed-upon periods.

H. A. Tolhoek

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EASING OF TENSIONS AND THE FUTURE POLITICAL  
ORGANIZATION OF EUROPE

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A number of similarities and differences between Eastern and Western Europe are summarized, e.g. with respect to education, social security, economic organization and methods of decision making. Some expectations concerning the future development are discussed, especially in view of the importance of the "scientific revolution". A number

of concrete suggestions are made, which could lead to a lessening of tensions between Eastern and Western Europe. With regard to the German problem, it is noted that this problem would be made much easier by a general lessening of tensions in Europe and progress in all-European integration.

H. A. Tolhoek

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THE POSSIBILITIES FOR DISARMAMENT AND THE IMPORTANCE  
OF IMPROVING THE EFFECTIVENESS OF THE  
UNITED NATIONS

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Remarks are made concerning the relative feasibility at present of (1) general disarmament, (2) regional and partial agreements concerning disarmament, (3) improvement of world stability by strengthening the United Nations. A number of problems are mentioned, which are of importance for finding improved "United Nations" rules, and where further research seems urgently needed.

The importance of the problem of escalation of smaller conflicts (e.g. in a divided country) to a world war is emphasized, and it is

recommended that further research on this issue be carried out in Peace Research Institutes, also by means of the method of Inter Nation Simulation games and by means of completely mathematical models.

It is further suggested that a certain division of the world into regional organizations with respect to security, could lead to a decrease in the danger of escalation of smaller conflicts, and that this possibility should be examined in detail.

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