

The Middle - East Problem  
Historical Realities of Illusions

The October Middle-East War apart from its local implications of loss of lives, resources and human hardships and suffering, is of very serious international significance.

For one thing it was a clear indication that artificial balances and situations cannot be kept in - definitely even with the support of connivance of great powers. Not only that, but also that sustained pressure to maintain such situations would lead to explosive up-heavels that may go beyond the control of those great powers themselves.

For another thing it proved that the same sustained pressures may generate enough energy for subjugated peoples to mobilise enough energy and dormant potentialities to upset all previous calculations and catch the super computers with their pants dangling down their ankles. Of-course this is not the first national historical manifestation of its kind. But rarely has it been so dramatically produced on the well publicised modern international stage.

What is really alarming is that an open invitation to war was issued to the Arab nations not only by a well informed but is misguided Israely leaderships, but that this invitation was virtually under written by the major

powers and through them by the international organisations in spite of the unheeded clamouring of the non aligned nations.

One would be more comforted by the harsh and cruel notion that this invitation was a calculated wish. All parties reactions on the other hand denies one this cruel comfort unless one accept the staggering supposition that calculations determining world peace and stability are no more reliable than those of the Watergate plumbing company.

Of course there are very knowledgeable people, in the advanced countries, qualified to criticise these events.

Very few of them, however, had the interest and one suspect, the courage and freedom, to sustain an objective stand in the face of a Macarthite propaganda campaign of unprecedented dimensions. This campaign, the most successful brain washing campaigns in modern history, through diverse techniques of (psychological) misinformation, indoctrination, intimidation and frank horse trading did not only paralyse institutional thinking but enforced a deceptive and purely subjective conformity in western intelligensia that needed a giant stature like a De Gaul to shake off its shackles.

One would be indulging in self deception if one does not realise that exceptional conditions contributed to this success. First among these conditions is the unique Western hypocrisy involved in a naive longing for absolutism from a dominant and tragic anti-semitic component of their quasi-christian culture by supporting their historical

victims to perpetuate the same genocidal attempts on a weaker underdog nation, the Palestinians. Second Western tragic inability to purge their subconscious mind of their long imperialistic stand towards inferior African and Asian races as expressed in ipso-facto need for a strong arm local policeman to discipline the natives especially if they by an historical "aberration" inherited a favourable strategic position or vast oil wealth. Third the Unique Zionist Movement with its unprecedented ramifications, ideological, political and economical clout understandably but tragically enslaved by its cruel Western past and, amazingly, its wrong lessons at the wrong time and the wrong place.

Fourth the disarranged and often stagnant Arab world more dominated by its internal conflicts and social-political upheavals than by the essential needs of the challenges of its contemporary world. A world apparently, hopelessly entangled in its Mother civilisations (Judaism only one of its off springs) and confused present, its dormant huge potentials and paralysing inability of mobilisation, its vast dreams of future extension of greatness and unity and its present impotence and divisions.

Yet, whatever the justifications, the basic lesson remains, our present day world system needs the bloodletting of a Vietnam and the shock of its massacres and the threat of its defeats and world explosion to wake up to the tragedies of its perpetuated crimes, and then what ?!

Isolate the tragedies from the world scenario and perpetuate the conflict in a new "controlled" set up minimising

international threats ?!

Unfortunately or may be fortunately for the Middle-East people this is unlikely to succeed here for obvious reasons.

One safeguard the Middle East people have, is that the powerful cannot escape involvement and never will.

So where do we go from here?! Do we go each to our old illusions for few more months or even years in preparation for the final shock or ~~have~~ enough of us learned the hard facts of history at this high and tragic price.

Does the extreme palestenians still hold to the undisputable moral right of freeing their intact homeland from a foreign invasion as they are fully justified in maintaining inspite of all the hypocritical and tragi-comic justifications.

Are they still under the illusion that morality did or ever will prevail in international affairs. Or are they ready to realise that the injustices and crimes committed against them should and could be ameliorated but not reversed.

Are the Zionists still under the illusion that the only lesson they can learn from their tragic Western past is <sup>to</sup> creat a unified single ghetto in the Middle-East and inflict the aggressive racialism on others that victimized ~~them~~ for so long.

Are the Zionists under the illusion that their historical role is to act as the strong arm policeman for

imperial domination over a backward and weak natives.

Are the Zionists still under the illusion that Arab states will perpetually remain devided , weak, poor and backward technically and thus furnish the only justification for Zionist supremacy in the Middle-East whether by local or international criteria.

Are the Zionist still under the illusion that their international organisations can orient even Western polic; against the basic interests of its people for the coming years, or decades or centuries.

Are the Zionists still under the illusion that because dear old Golda did not recognise the existance of a Pales- tinian people they can or anybody can (including the great- est power) eliminate this unpleasant fact of life to suit their illusion.

Are the Zionists still under the illusion that inspite of all the romantic blabbering what they are blindly commit- ted to is the creation of racial enclave which like Rhodesia and South Africa may give them a breathing space but in the long run is bound to compound their problems in our contem- porary world.

Are they really convinced that the Palestinian nation of a unified democratic non racial Palestine does not represent their first historical escape and probably their last.

Are the Zionists still under the illusion that for an aggressive and expanding Israel the only safe borders are

anywhere but at the Atlantic coast of Africa and Arabian Gulf. And the only guarantors of peaceful coexistence are a non subjugated and non wronged Arab world.

Are the Zionists under the illusion that they are real representatives of the true interests of the Jewish peoples. Or that their illusions may eventually undermine their status in different corners of the world as it did in the Arab world where it was the best. And that eventually their racial, dual-alliance, pressure groups, blind support of reactionary forces (Israel unique reactionary voting record in the United Nations) increasing entanglement with exploitation forces and increasing demands of blind support against national interests and increase aggressive use of defamation and intimidation techniques against opposition in the most powerful countries may in the long run make Zionism the most harmful influence to the welfare of the Jewish Peoples.

Are the Zionists still under the illusion that as an aggressive armed base safeguarding foreign interests and surrounded by subjugated enemies they can ever build a democratic state or safeguard their system against domination by military wind-bags and perpetuate racial divisions between Jews of Western Orient Origin as well as their Arab residents.

In the final analysis are the Zionists under the illusion that the basic safety of their state can be assured by posing as an unrelenting challenge to Arab, sovereignty, welfare, freedom and future development in short Arab civilization. And more, does Zionism feel it wise to shoulder

the responsibility towards its Jewish peoples to straddle them with the uncalled for consequences of such historical confrontations simply as an automatic reflex reaction to a western past that could never return.

And what about the other Arab states ?

Are any Arab states still under the illusion that Imperialistic vested interest rightly or wrongly and even after their political debacle of the October War and even after the dangerous confrontation of the oil-war still and for the foreseeable future intend to withdraw their Israeli support.

Are the Arabs still under the illusion that the real confrontation is not between Arab potentiality and the Israel state otherwise the challenge would never have been posed. But between Arab potentiality and Imperialist long term strategy and in this sort of confrontation there is very little likelihood of complete victories or moral judgement. Even though no challenge should deviate them from defending the integrity of their borders and self determination of the Palestinian nation.

Are the Arab countries still under the illusion that the Middle-East military confrontation in the long run will not handicap their socio-politico-economic development and its perpetuation will not serve the interest of the Exploiting powers and postpone the day for their full freedom, and perpetuates Israel total subjection to Imperialist policy against the interests of a substantial percentage of its own population.

Are the Arabs still under the illusion that military confrontations will not surely hamper the development of their potential democracy and pave the way to dictatorial tendencies.

Are the Arabs still under the illusion that proper exploitation of their great potentialities human and economic can be better served and enhanced, <sup>but</sup> in an atmosphere of peace and justice and their unity as a unity of peoples and not governments can only prosper with enhanced development .

And the great powers

Are the great Powers under the illusion that the problem of the Middle-East can be put in a cold storage after a dose of tranquiliser.

Are they under the illusion that this particular problem in this sensitive part of the world can in any perpetual sense be kept under calculated risk control without a ~~re-~~dicible solution.

Are they under the illusion that the classical policy of entangling underdog with underdog will in the long run serve the purpose of their strategic needs and world coexistence.

Are they still under the illusions that their interests in the Middle-East can be best served by subjugating their policy to the demands of vote catching in New York or pressure groups anywhere or senator Jackson unswerving loyalty to the International Zionist illusions.



Are they still under the illusion that sustaining the unrelenting pressures will serve to shift the political colour of the area (pink or Blue) in any predictable or controllable way.

Are they still under the illusion that the diversion of resources local or international to military expenditure while serving the immediate interests of their military industry is not likely with population explosion and world stagflation to lead not only to depleted local economics and sociopolitical consequences but increased demands on world limited resources and increase chances of future international confrontations.

Are they still under the illusion that the rest of the world the Non-aligned nations, Europe, Africa will tolerate subjugating their vital interests in this area to the great power play of power politics.

And Europe:

Are the Europeans still under the illusion that they can watch from afar the cold storage of this problem.

Are they under the illusion that their interest will be safeguarded by any partner to the problem without them shouldering their responsibilities and unifying their stand and clarifying their aims.

Are they still under the illusion that the Middle-East in general and the Arab World in particular cannot be a beneficial partner or a military-political and above all an economic liability to a neutralised, silent or divided

Europe.

Are they still under the illusion that World peace, their own vital interests can <sup>be</sup> totally subjugated to their guilt-complexes or pressure sectarian interests or old imperialist subconscious hang-over. In short can they remedy a guilt-complex by a guilt inducing act .

And the Non-Allianed Nations.

Are any of them under the illusion that they can return to the old unconcerned attitude in this conflict.

Are any under the illusion that the Palestenian liberation movement is less morally or politically justified that ~~other~~ liberation movements against racial domination in Portugese, Rhodesian or South African domination. Or that the unity of the Non Allianed Nation vital to every one of them be safeguard with <sup>out</sup> unity <sup>m</sup> fundamental issues of this kind.

Are any of them under the illusion that exactly like the purchase of Soviet weapons and the Nationalisation of the Saez Canal was an epock making act of a small nation for which Egypt paid the price of opening the way and was later joint in its struggle by all non-allianed nations. The safeguard of Palestenian people integrity and survival cannot be separated from problems of all subjugated peoples.

Are any of them under the illusion that the Middle-East confrontation does not envolve the Palestenian people only but is inreality a confrontation between the right of a large number of Africans and Asians to choose their

independent root of development, their political ideology, their economic choices, in short their equality & independence and on the consequence of this confrontation the future of the Non-Alliance Nations will depend just as it depends on our total support of the integrity of all peoples of Africa, Asia, and South America.

Are they under any illusion about the role designed for the Zionist base in Israel by the imperialist forces not only in the Arab World but also in Africa and other areas (has been shown in Nigeria, the Sudan and score of other countries) even against the real interests of ordinary Jewish people in Israel.

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The October war may be disputed in its Military outcome. Surely, however, there should be one Victor (REASON (Morality has long been buried, international affairs)).

Whether we all acknowledge it now or not, many illusions died on that battle field.

The question open to Pugwash is :

What can we do to bury them in spite of the self deceptive attempts at resuscitation.

Nothing is more hypnotising than self deception and nothing is more fanatically held than often repeated illusions.

Is it enough to have four wars to bury our illusions. Or do resuscitation prepare the way for yet another and definitely irreversible tragedy ??

TOWARD COMPLETE DISCONTINUATION OF ALL NUCLEAR WEAPON TESTS

During the third Soviet-American summit meeting both sides came to a conclusion on the necessity of firmly adhering to and implementing the policy set forth in the 1972-1973 documents."<sup>1</sup>

The new agreements signed from June 27 to July 3 are fully in line with the planned policy. These agreements "comprise a broad foundation for further development of Soviet-American relations and mutually advantageous cooperation."<sup>2</sup>

The Treaty on the limitation of underground nuclear weapon tests holds a special place among the new agreements signed at the time of the third Soviet-American meeting because it initiates a reduction not only in the quantitative but in the qualitative arms race.

The new Treaty provides for a complete suspension by the USSR and the USA beginning March 31, 1976 of any underground nuclear weapon tests having a yield exceeding 150 kilotons.

Besides this "Each Party shall limit the number of its nuclear weapon tests to a minimum."<sup>3</sup>

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<sup>1</sup>"At the Politbureau of the CPSU Central Committee, the Pre-USSR  
sidium of the Supreme Soviet, the USSR Council of Ministers."  
Concerning the results of the third Soviet-American summit meeting". Pravda, July 6, 1974.

<sup>2</sup>Ibid.

<sup>3</sup>Pravda, July 5, 1974, The Treaty between the Union of Soviet Socialist Republics and the United States of America on the limitation of nuclear weapon tests (Article I, para 1 and 2).

... The struggle of world progressive forces for the banning of nuclear weapons and for an end to its tests dates back to the very emergence of this weapon. It was on the crest of this struggle that the Pugwash movement of scientists originated

...The World Congress of Peace Forces demanded in its Stockholm Appeal in 1950 "Unconditional prohibition of atomic weapons as weapons of intimidation and mass annihilation."<sup>4</sup>

The results of the Congress indicated that the movement of nations against preparations for another war and against the application of nuclear weapons was on the uplift and was supported in many countries.

Approximately seven years later the Moscow Meeting of representatives of communist and workers' parties, from November 14 to 16, 1957, adopted a Peace Manifesto which said in part, "We appeal to all men of good-will throughout the world:

Get organized and struggle for :

1) Immediate discontinuation of atomic and hydrogen weapon tests.

2) Unconditional prohibition, at the earliest time, of the manufacture and application of this weapon."<sup>5</sup>

In January 1958, an address was sent to the United Nations Secretary General with a request to discontinue nuclear tests. The address was signed by 9,235 prominent scientists from 49 countries. There were 37 Nobel Prize Winners among the signatories.

On behalf of 88 million members the World Federation of

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<sup>4</sup>V.S.Yemelyanov. Atom and Peace. Atomizdat Publishers, 1967, p145.

<sup>5</sup>Pravda, November 23, 1957.

Trade Unions and the International Democratic Federation of Women representing 200 million women in 90 countries demanded the prohibition of nuclear explosions.

... Under the influence of a broad public movement the legislative bodies in a number of countries came out in favour of discontinuing the explosions of atomic and hydrogen bombs. On April 1 1954 the Japanese Parliament unanimously approved a resolution urging the United Nations to act without delay for the earliest prohibition of atomic weapons and discontinuing tests. The Bandung Conference of 29 Afro-Asian countries held on April 18-24, 1955, urged all powers concerned "pending complete prohibition of manufacture of atomic and thermonuclear weapons... to reach agreement on suspending experiments with such weapons."<sup>6</sup>

... The six years which followed were marked by an intensive discussion concerning the discontinuation of nuclear weapon tests

Relevant discussions were held at different levels between nuclear powers and within the United Nations framework as well as by broad sections of the public.

Suffice it to recall that the discontinuation of nuclear weapon tests was discussed practically at all Pugwash conferences beginning with the first held in Pugwash (Canada) and up to the eleventh, held in 1963 in Dubrovnik (Yugoslavia); the danger of further tests was pointed out and ways were outlined toward surmounting difficulties on the way to solving this problem.<sup>7</sup>

On May 10, 1957, the Supreme Soviet of the Union of Soviet Socialist Republics sent a message to the Congress of the United States of America and to the Parliament of Great Britain

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<sup>6</sup>V.Viktorov. "Ten Years of the Moscow Treaty". *Mezhdunarodnaya Zhizn*, 1973, No.8, p.41.

<sup>7</sup>J.Rotblat. *Pugwash. A History of the Conferences on Science and World Affairs*. Czechoslovak Academy of Sciences, 1967, pp.80-161.

drawing attention to the fact that "the Soviet people just as the people of the United States and Great Britain as well as millions of men and women in all other countries observe with growing anxiety that the armed race is entering a highly dangerous stage.

... "Mankind has entered a period when any war with the use of atomic and hydrogen weapons is fraught with the death of millions upon millions of people, devastation of entire countries, destruction of great and unique cultural values.

... "The world public opinion is profoundly and legitimately preoccupied with the danger involved in nuclear weapon tests." (underlined by me. V.E.).

... "The Supreme Soviet of the USSR once again presents for the consideration of the Parliaments of the USA and Great Britain the establishment of an interparliamentary committee of the USA, Great Britain and the USSR to exchange views on possible ways leading to the discontinuation of the tests of atomic and hydrogen weapons and to their prohibition."<sup>8</sup> In December 1957, the Supreme Soviet of the USSR expressing the firm will and the undivided desire of Soviet people for peace proposed that the USSR, Great Britain and the USA discontinue as of January 1, 1968 all atomic and hydrogen weapon tests.

The USA and Great Britain, however, did not respond to these proposals of the Soviet Union.

"Being guided by the desire to set a practical beginning to the universal discontinuation of atomic and hydrogen weapon tests and to make <sup>e</sup>threby the first step toward the ultimate

<sup>8</sup>Izvestia, May 11, 1957. The Address of the USSR Supreme Soviet to the Congress of the USA and the Parliament of Great Britain.

delivery of mankind from the danger of an exterminating atomic war. The Supreme Soviet of the Union of Soviet Socialist Republics decrees:

1. To discontinu<sup>e</sup> all types of tests of atomic and hydrogen weapons in the Soviet Union.

The Supreme Soviet of the USSR expects that the Parliaments of other states which have atomic and hydrogen weapons, will for their part do everything necessary to discontinue test explosions of these types of weapons in their countries.

2. To request the Council of Ministers of the USSR to take the necessary measures for the implementation of Article I of this decision and to urge the governments of other states possessing atomic and hydrogen weapons to take similar measures so as to ensure the discontinuation of atomic and hydrogen weapon tests everywhere and forever."<sup>9</sup>

At the same time the decision of the Supreme Soviet indicated that "in case other powers which possess atomic and hydrogen weapons continue testing these weapons, the government of the USSR, naturally, will be free to act regarding the testing of atomic and hydrogen weapons in the Soviet Union in line with the mentioned circumstances and being guided by the interests of security of the Soviet Union."<sup>10</sup> Wishing to start practical and universal discontinuation of nuclear tests, the Soviet Union unilaterally discontinued as of March 31, 1958, all atomic and hydrogen weapon tests and urged the USA and Great Britain to follow its example. The proposals of the Soviet Union on the termination of atomic and hydrogen weapon tests were presented in a memorandum of the Soviet Government on measures in the field of

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<sup>9</sup>Izvestia, April 1, 1958.

<sup>10</sup>Izvestia, April 1, 1958.



disarmament and on September 18, 1958, submitted for consideration by the 13th Session of the United Nations General Assembly.<sup>11</sup>

Unfortunately, the hopes of the Soviet Union that other nuclear countries (The USA and Great Britain) would also discontinue their tests and would conclude an appropriate agreement did not come true.

When the Soviet Union discontinued nuclear tests and urged other countries to follow its example the governments of the USA and Great Britain undertook the largest ever series of atomic and hydrogen weapon tests.

In view of this circumstance the Soviet Government could not allow these actions to damage the interests of security of the Soviet State. Therefore, the Soviet government as far back as August 30, 1958, stated that the actions of the USA and Great Britain freed<sup>d</sup> the Soviet Union from the obligation it had unilaterally assumed hoping for the good-will of the governments of the Western powers regarding the undelayed and universal discontinuation of nuclear weapon tests. TASS was authorized to state that the Soviet Union forced by the actions of the United States and Great Britain to resume nuclear weapon tests, would continue its consistent struggle for immediate and universal termination of atomic and hydrogen weapon tests for all time. The TASS statement on the resumption of nuclear weapon tests was published on October 3, 1958.<sup>12</sup> On October 4, 1958, the Soviet Union submitted to the 13th session of the United Nations General Assembly a draft resolution on the discontinuation of atomic and hydrogen weapon tests, in which all states engaged in atomic and hydrogen

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<sup>11</sup>Izvestia, September 21, 1958.

<sup>12</sup>Izvestia, October 3, 1958.

weapon tests were urged to discontinue such tests immediately and start negotiations with the aim of concluding an appropriate agreement.<sup>13</sup>

In November, 1960, the Moscow Meeting of representatives of communist and workers' parties carried an appeal to the peoples of the world which again included the call:

"Demand immediate prohibition of testing, manufacture and use of nuclear weapons, and other types of weapons of mass destruction."<sup>14</sup>

"May modern science and technology stop doing anything for the manufacture of instruments of death and destruction. May they work for the benefit of people, for the progress of mankind."<sup>15</sup> When in the autumn of 1961 the talks on nuclear tests were resumed in Geneva, the Soviet government decided that a new approach to the question of the discontinuation of these tests was necessary; an approach which excluded difficulties and obstacles that had blocked agreement in the past. Accordingly, the Soviet government proposed an agreement banning nuclear weapon tests in the atmosphere, underwater and in outer space, i.e. in those spheres where the implementation of control was not hindered by any serious technical difficulties. As to underground nuclear weapon tests the Soviet government suggested that states should assume obligations not to make such tests until a system of underground explosion control was agreed upon as a component of an international system of control over the implementation of general and complete disarmament.

An appropriate draft was elaborated by the Soviet Union and

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<sup>13</sup>Pravda, October 6, 1958.

<sup>14</sup>Pravda, December 11, 1960.

<sup>15</sup>Ibid.

the item--the obligation to refrain from any underground nuclear weapon tests was incorporated in this draft agreement (para 3).<sup>16</sup> It took two years of conferences and talks to formulate the final text of the Treaty on the prohibition of nuclear weapon tests in the atmosphere, in outer space and under the water. The Treaty was signed on August 5, 1963 by three nuclear powers: the USSR, Great Britain and the USA. The obligation of the states-signatories to the treaty "to refrain from any underground nuclear weapon tests" was not included in the final text, but Article I sub-paragraph "b" indicated that the parties to the treaty undertake to prohibit, prevent and not to make any nuclear weapon tests "in any other sphere if such tests cause radioactive fallout outside the territory of the state under whose jurisdiction or control such tests are made.

It is intended that the provisions of this sub-paragraph should not prejudice the conclusion of a treaty leading to the banning forever of all nuclear tests, including all underground tests the conclusion of which the participants, as they stated in the preamble to this Treaty, would seek.<sup>17</sup> More than ten years went by since the signing of this Treaty. The radioactive contamination of the planet became much smaller though two nuclear powers--France and the Chinese People's Republic--continued, all these years, to conduct tests of their nuclear weapons.

On June 13, however, the President of the French Republic stated that as of next year French nuclear tests would be conducted only underground in the bazalts of the Fangataufa atol. Only the Chinese People's Republic has failed to state its attitude to these tests and continues to contaminate the environment with radioactive

<sup>16</sup>Pravda, November 28, 1961.

<sup>17</sup>Pravda, July 26, 1963, Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under the Water. Article I, para I "b".

fallout.

During the decade, questions of the complete discontinuation of all tests of nuclear weapons including underground tests were taken up repeatedly.

One of the essential points of the Program of Peace adopted by the 24th Congress of the CPSU is "to seek universal discontinuation of nuclear weapon tests including underground ones". These questions have been repeatedly raised by L.I. Brezhnev, General Secretary of the Central Committee of the CPSU in his speeches. Thus on July 21 speaking at the anniversary session of the Polish Sejm L.I. Brezhnev said: "The USSR and the USA also agreed to considerably limit at an agreed-upon time the number of their underground nuclear weapon tests and to discontinue altogether the most powerful test explosions. We consider this agreement as a step towards an all-embracing and universal ban on nuclear weapon tests."<sup>18</sup> "The Soviet Union is prepared to conclude an agreement on a complete termination of all underground nuclear weapon tests".<sup>19</sup>

... G.A. Arbatov, Director of the Institute of U.S. Studies of the USSR Academy of Sciences quite correctly related the prohibition of nuclear tests to the limitation of the quantitative and primarily qualitative nuclear weapon race.<sup>20</sup> The danger of the qualitative arms race was noted at the Pugwash Symposium in Racine (USA) in June 1970.

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<sup>18</sup> Pravda, July 22, 1974.

<sup>19</sup> Pravda, July 23, 1974. A. Platonov "Toward Lessening the War Danger".

<sup>20</sup> Izvestia, July 12, 1974. G. Arbatov. "New frontiers of Soviet-American Relations".

The tremendous efforts made in the search for solutions of the disarmament problem may be rendered futile by the appearance of new types of weapons which cannot be covered by the current talks because it is hard to forecast when new scientific ideas may be used for the development of new means of warfare. The war in Vietnam has shown that laser technology was used to improve bombing accuracy, and US press reports indicate that considerable funds have been allocated to study a laser system to initiate a nuclear explosion in thermonuclear warheads.

Complete discontinuation of nuclear tests will hinder the improvement of nuclear weapons and will put an end to the development of their new types.

This explains the frantic struggle on the part of the opponents of disarmament against the discontinuation of tests. They have bent over backwards inventing arguments to justify their position!

One of them was the strict, all-embracing control with obligatory stationing of inspectors in the field.

"Before deciding on the termination of tests it was intended to discuss the ways of supervising the observance of this prohibition."<sup>21</sup>

The control system was proposed in an absolutely unacceptable form and this was noted by many western scientists, including scientists from USA. For instance, in 1956 the American journal "Bulletin of Atomic Scientists" wrote that it is well-known that nuclear weapon tests cannot be made secretly from the world. Their discontinuation, therefore, does not require verification by international inspection which has been

<sup>21</sup>V. Viktorov. "Mezhdunarodnaya Zhizn", No.8, 1973, p.42.

a controversial issue dividing East and West ever since talks on atomic energy control began within the framework of the United Nations in 1945.<sup>22</sup> The real reason was the unwillingness of the war-industrial complex to open up the road to disarmament. There were scientists who encouraged this attitude by painting alluring prospects of developing new means of warfare.

Many scientists linked their careers with the development of new weapons.

A new term--war-industrial-and-scientific complex appeared in recent years. The corrupting influence of the war-industrial complex on the scientific community was described by Professor Theodor Roszak of Stanford University in an article with a tale-telling heading: "Seduction of Scientists". "Some 10 - 12 years ago a prominent American scientist gave me the following account of the situation in his country." The years of the war and after saw the emergence of two large rivaling groups of scientists. One is operating in Los Alamos, the other in Livermore. The two groups have patrons who give them strong backing in the Pentagon and in Congress. The groups cooperate with their patrons through direct contacts and feedback. The patrons set the tasks while the groups offer ideas. The patrons seek financial support and the scientists concentrate their mental energy on implementing new ideas disastrous to mankind.

This process should be stopped before it is too late. The mental energy of men of science and material resources should be directed towards the development of civilization rather than towards its destruction.

... The question of the reconversion of research is linked

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<sup>22</sup>"Bulletin of Atomic Scientists," 1956, vol.XIII, No.6, p.186.

with the moral responsibility of scientists. This question has been repeatedly taken up in the framework of the Pugwash movement and many papers have been devoted to it. Of late, the question was raised by Robert Merton in "Economic and Social Consequences of Nuclear Energy."<sup>23</sup>

The question of the reconversion of scientific research is not confined to the moral responsibility of a scientist. It also concerns, in a major way, the choice of research objectives - what scientific problems should get public funds. To stop the qualitative arms race we must create a stimulus for the development of research in peaceful areas of science and technology, in areas of the greatest importance for the progressive development of civilization. This precisely should be the focus of all our efforts, all thoughts and all means of propaganda. At present general problems which hold world attention have been crystallized. Such problems include the supply of power to meet the growing needs; conservation of nature; rational use of the world ocean resources; economic progress in the developing countries. Most of these problems preoccupy the whole of mankind, all continents of our planet.

At present conditions are shaping favourably for a successful search for appropriate solutions. Firstly, a fine atmosphere of cooperation has been developed which facilitates constructive discussion. Last December the majority of delegations at the session of the United Nations General Assembly appraised positively the relaxation of international tension first of all in Europe and made an appeal that this process should be consolidated and extended all over the world, including Asia.

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<sup>23</sup>Economic and Social Consequences of Nuclear Energy. Edited by Lord Sherfield. Oxford University Press. p.69.

Secondly, an important stimulus was that the session approved the Soviet sponsored proposal "to reduce military budgets of the states --permanent members of the United Nations Security Council by 10 per cent and to use part of the saved funds to assist developing countries." This proposal opens up the way toward solving some of the scientific and technological problems mentioned above. Besides the possibility of giving additional assistance to the developing countries the reduction of the military budgets will make it possible for the countries which will cut their military budgets, to set aside additional funds to expand research on new techniques for more rational and more effective application of power resources, and the mastering of new power-generating processes like those of controlled fusion. The scientific community should come out in favour of this proposal. Large-scale research programs supported by adequate funds are bound to attract the scientific community and help utilize for peaceful purposes the scientific potential which is presently engaged in the area of war technology.

There is a possibility of developing a common program of research which would incorporate individual sections of national research programs. A coordinated plan of this type would help find, with the least of expenditure, and at an early date the best solution for the most important problems of our days, considerably slow down the qualitative arms race and in particular, facilitate complete discontinuation of nuclear weapon tests.



A MORATORIUM ON CERTAIN BIOLOGICAL RESEARCH

Biological scientists have recently become greatly concerned over the potential adverse consequences of research in certain fields of molecular biology. The Committee on Recombinant DNA Molecules of the National Academy of Sciences (USA) has called upon scientists to institute a voluntary worldwide moratorium on two types of research, which would last at least until the matter is thoroughly explored at a meeting of eminent scientists tentatively scheduled for February 1975. The report of this Committee, and first reactions to it were publicized in Nature (July 19 and 26, 1974) and Science (July 26, 1974). The relevant texts will be available at the present Pugwash meeting.

Briefly, the two types of research are:

1. The introduction of genetic determinants for antibiotic resistance or bacterial toxin formation into bacterial strains that do not presently carry such determinants.
2. Linkage of all or segments of DNA from oncogenic or other animal viruses to autonomically replicating DNA elements such as bacterial plasmids or other viral DNA's.

Much of the work involved has been, and would be, done with strains of the common organism of the intestinal tract E.coli. One of the principal dangers would be the escape of genetically manipulated E.coli strains, along the two lines mentioned above, and the spread of such strains widely in human populations, a feature that has already occurred in nature with antibiotic resistant strains of other enteric organisms (typhoid and other salmonella). Genetic manipulation of microbes was one of the serious dangers of continued research foreseen by those, including Pugwash at an early stage, concerned with the problem of biological warfare. For these and other reasons, Macfarlane Burnet called for a moratorium on certain areas of research in molecular biology several years ago, but it was not sympathetically received by the scientific community.

There are obvious difficulties, ethical and practical, about such a course of action. The "technically sweet nature" (as used by Oppenheimer with respect to the atomic bomb) of such work, and the even more difficult proposition as to whether any "humane" research should be barred, are powerful and controversial questions. This, plus the fact that the objections to the stated research are purely conjectural at this stage, and that a quantitative assessment of the dangers involved is impossible to achieve at our present level of knowledge, compounds the difficulties involved.

Nevertheless, the course of action for Pugwash is clear. We should endorse the temporary moratorium and the call for an assessment of the situation as soon as possible, by qualified scientists, followed by a full release to the public at large of all pertinent information and the recommended courses of action to be taken. Much care will be needed to avoid (1) fanning the existing flames of anti-science and anti-intellectualism in general by an elitist approach, and (2) impeding legitimate research for humane purposes.

24th Pugwash Conference on Science and World Affairs  
Baden, Austria, 28 August - 2 September 1974

J Lundin (Sweden)

XXIV-4I

REPORT ON THE CCD AND THE QUESTION OF CHEMICAL WEAPONS, 1974

Introduction

CCD has experienced some progress this year on the question of chemical weapons. This was due mainly to the Japanese draft convention on prohibition of development, production and stockpiling of chemical weapons presented at the spring session (CCD/420). The draft initiated a series of meetings of experts to discuss the technical implications of the Japanese draft.

During the meeting this summer between Brezhnev and Nixon it was agreed to take a joint initiative to treat at CCD the most dangerous, lethal chemical warfare agents.

These events are reported and commented upon in the following and a tentative conclusion is drawn.

The Japanese Draft Convention

It was expected that the Japanese delegation should provide a draft convention, after the favourable response to their working paper last year on the question of chemical weapons. The main points of the draft are the following.

A comprehensive ban on development, production and stockpiling of chemical weapons is proposed. A "general purpose" criterion would cover all chemical warfare agents without use for peaceful purposes (single purpose agents). A "quantity" criterion would cover all chemical warfare agents with use also for peaceful purpose (dual purpose agents) that they be not produced in unwarranted quantities. For a nearer discussion of the relations between different kinds of agents see the attached excerpt from a Swedish working paper in CCD (CCD/427, July 1974 Annex 1).

Verification of the treaty shall be placed through national and international verification organizations. Article IV allows for one of two alternatives of an Annex I to the convention to make the ban partial during a limited time. One alternative provides for temporary suspensions of chemical warfare agents from the ban. According to the other alternative all chemical warfare agents are suspended from the ban until agreement is reached to make them obligatorily prohibited meaning that they could never be suspended from a ban. The former alternative was considered more comprehensive but unattainable. The other would have the merit that the production etc of the obligatorily banned agents should be possible to verify and the proposals thus would be politically more acceptable.

#### The informal meeting of experts

The informal expert meetings were asked for by the Swedish delegation in order to discuss problems specifically arising from the Japanese draft proposal. 4 meetings were held in July 17, 18, 19 and 22, 1974. 21 experts from 13 countries participated. Several working papers were produced for the meeting (see Annex 2).

#### The "joint initiative" of USA and USSR

In the communique of July 3, 1974, from the meeting between Brezhnev and Nixon it was announced that the two powers intended to deal in CCD with the most dangerous, lethal chemical warfare agents. The representatives of USA and USSR stated in CCD that they intended to work for the "joint initiative".

#### Comments

The advantage of the Japanese draft is that it aims at being comprehensive at the end. It has been proposed (CCD/PV.652) that preferably also the Annex I should cover all chemical warfare agents by combining the two alternatives of suspensions from and obligatorily banned production etc of chemical warfare agents.

According to the opinion of experts it would be possible to consider binary chemical components covered by the proposed convention by applying the "general purpose" and the "quantity" criteria.

The experts seemed to agree that different types of toxicity limits might be applicable as one means of description of substances to be subject to a partial ban. Another means for that purpose would be to use general chemical formulae.

No further information on the joint US-USSR initiative has been given. Comments on the importance of that initiative are therefore difficult to make. From the formulations in the communique a very limited treaty covering only nerve gases might be expected.

Not much has been said about verification this year. One of the American working papers on verification (CCD/437) was positive in stating that a monitoring system following industrial production of chemicals important for the production of nerve gases could be useful if utilized together with other verification measures.

Soviet views on verification are, as was explicitly stressed, the same as before, i.e. a national verification system would be sufficient but could be complemented with certain international procedures like information exchanges, international training of national inspectors and regular expert conferences. Different views were expressed about the linkage between scope and verification measures. It seems reasonable to assume that a general understanding on the need and type of international verification must be reached before the scope can be settled. On the other hand it would be necessary to state the scope before any detailed discussion on verification can take place.

Much preparatory work seems possible to perform with regard to the possibilities to take advantage of work in other international undertakings as Codex Alimentarius and the UN Environmental Program. This was particularly clear in connection with the expert discussions on utilization of computerized scanning of scientific and technical literature.

Conclusion

The technical questions concerning a convention on prohibition of development, production and stockpiling of chemical warfare agents now seem to have been penetrated sufficiently well for CCD to start serious and informed negotiations as soon as political decisions are taken. Much applicatory work still has to be done, though.

References

CCD/420, 30 April 1974. Working Paper on the Draft Convention on the Prohibition of the Development, Production and Stockpiling of Chemical Weapons and on their Destruction by Japan.

CCD/427, 2 July 1974. Working Paper on Some observations on the Draft Convention on the Prohibition of the Development, Production and Stockpiling of Chemical Weapons and on their Destruction presented by the Delegation of Japan on 30 April 1974 (CCD/420) by Sweden.

Joint U.S. - Soviet Communique, Moscow July 3, 1974.

CCD/PV. 652, July 17, 1974. Statement by Mrs Inga Thorsson, Sweden.

CCD/437, 16 July 1974. Working Paper on Diversion of Commercial Chemicals for Weapons by USA.

Annex I

Excerpt from Swedish working paper CCD/427.

A Method for Categorization

Each known chemical compound can be assigned to one point in a bounded surface (CC), as illustrated in the figure below.

CC = Chemical  
Compounds

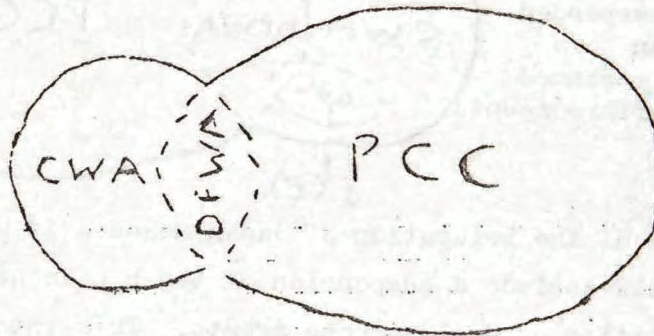


The concern of the present discussion is chemical warfare agents (CWA), represented in the figure below by a smaller bounded surface within the category of chemical compounds. Those chemical compounds which have peaceful uses are designated PCC. As some compounds or agents have both peaceful and warfare uses, the two areas PCC and CWA overlap to some extent. Thus, the figure shows the areas CWA and PCC as well as the overlap area DPWA, which represents the dual purpose agents.

CWA = Chemical Warfare  
Agents

DPWA = Dual Purpose  
Chemical Warfare  
Agents

PCC = Chemical Compounds  
for Peaceful Use



By this presentation it is possible to categorize the chemical compounds covered - or not covered - by a convention. In this way, it is possible to describe the scope more illustratively.

The surfaces are of course not proportional to reality, since the whole surface represents millions of chemical compounds, while the chemical warfare agents<sup>x/</sup> conceivably are only some few thousands compounds.

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<sup>x/</sup> Chemical warfare agents are here taken to be chemical substances, whether gaseous, liquid, or solid, which might be employed because of their direct toxic effects on man, animals and plants.

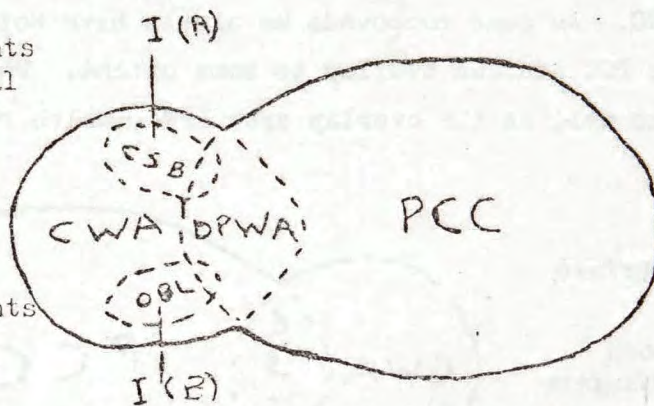
Interpretations of the Japanese draft convention

In the following we shall try to apply this method to the Japanese draft convention in the hope that this could possibly be of some assistance as to its proper understanding and further clarification. The figure below is intended to illustrate the present interpretation of the Swedish Delegation in regard to the provisions of scope in the draft convention. Article I (a): "Chemical agents of types that have no justification for ..... peaceful purposes"..... is interpreted to mean that the overall scope of the draft excludes the DPWA and corresponds to the area CWA, in the figure above.

In addition Article I (a) by its reference: "Chemical agents.... in quantities that have no justification .... for peaceful purposes" implies that unwarranted large quantities of DPWA are forbidden. (This sentence in Article I could also be said to cover unwarranted quantities of such CWA, which are retained for research and development of protective measures).

In the Swedish interpretation of Annex I (A) 1, the area marked CSB inside the CWA area represents chemical warfare agents temporarily suspended from the ban by the schedule to this Article.

CWA = Chemical Warfare Agents  
 DPWA = Dual Purpose Chemical Warfare Agents  
 PCC = Chemical Compounds for Peaceful Use  
 CSB = Compounds suspended from the ban  
 OBL = Obligatorily Banned Chemical Warfare Agents



The proposal of the Delegation of Japan means -- it would seem -- that the schedule to this Annex could include a suspension of the ban in Article I (a) also on unjustified quantities of dual purpose agents. This interpretation is illustrated in the figure above by that part of the area marked CSB which juts into the area DPWA.

The second sentence of Annex I (B) indicates that the schedule to that Annex lists obligatorily banned compounds, which would correspond to the area marked OBL in the figure above.



It seems to the Swedish Delegation that the first sentence of Annex I (B) 1 only reiterates Annex I (A) 1. One consequence of this interpretation would be that a convention using alternative Annex I (B) 1, must have two schedules. One schedule would list those chemical agents, which could never be excluded from the ban ("the obligatories"), the other schedule would list suspensions. However, the existence of a schedule listing suspensions also in Annex I (B) is not apparent in the draft convention.

One would also have to discuss to what categories components for binary chemical warfare agents belong, how yet undiscovered chemical warfare agents would be covered by the draft convention etc.

This working paper deals only with the chemical compounds covered by the convention, but the same method of analysis could also be applied to the activities and the equipment covered by the draft convention, according to Article I.

Annex 2

List of working papers presented in CCD for the meeting of chemical experts.

CCD/427, Sweden: Some observations on the draft convention on the prohibition of the development, production and stockpiling of chemical weapons and on their destruction presented by the delegation of Japan on 30 April, 1974 (CCD/420).

CCD/430, Japan: Working paper containing views of Japanese experts on the scope of prohibition and on the verification for organophosphorus compounds for the informal meetings with participation of experts of the CCD in 1974.

CCD/432, Finland: On methodology for chemical analysis and identification of CW-agents - progress of a Finnish research process.

CCD/433, Canada: The problem of defining compounds having military significance as irritating and incapacitating agents.

CCD/434, Canada: Destruction and disposal of Canadian stocks of World War II Mustard agents.

CCD/435, USA: Working paper on toxicity of chemical warfare agents.

CCD/436, USA: Working paper on chemical agent destruction.

CCD/437, USA: Working paper on diversion of commercial chemicals for weapons.

17th Pugwash Conference on Science and World AffairsRonneby, Sweden, 3-8 September 1967

M.D. Millionshchikov  
(U.S.S.R.)

ARMS CONTROL, PEACEKEEPING AND SECURITY

The topic for our Symposium is "Arms Control, Peacekeeping and Security". Why did the problem of international security become so urgent at present? What danger threatens the world? None of us will deny the indisputable truth - this danger lies in the threat of a world nuclear war. In the face of this threat we cannot under-estimate the danger caused by the so-called local wars as well. Local wars are a terrible and bloody reality in the life of mankind. These are wars that do not engulf the whole world but flare up only in a part of it, wars limited territorially.

To realize the essence of local wars let's turn to historical facts and international politics of the present epoch. It immediately becomes clear that the great majority of local wars break out as a result of the aggression by a big power against a small country, the wars waged by colonial powers against national liberation movement of peoples. We must always remember: every local war consists of two wars in reality; two wars diametrically opposed to each other in their characters and the attitude they deserve. One is an unjust aggressive war waged by a big power which pounced upon a little country; the other is a just defensive war of a country or a people who fight for its independence against the forces of aggression. We cannot have the same attitude to the two wars as there cannot be the same attitude towards the gangster and his victim,

Speaking forcibly against unleashing and waging local wars Soviet people give their support and side with peoples defending their independence and waging national liberation wars.

And fight against local wars we must. Experience shows that despite the fact that local conflicts in certain cases may not result in a world war, they may in other case cause it.

The question of local wars is often linked in the West with the question of the use of tactical nuclear weapons. This is a very dangerous link. The followers of this trend, try to make people accustomed to the thought, that if local wars do not necessary lead to a nuclear war, then the use of nuclear weapons of limited power will not result in the war with the use of strategic thermonuclear weapons. We must state unequivocally such a line of reasoning has no leg to stand on. Any war connected with the use of nuclear weapons is a nuclear war. It would be hardly possible to stop a rapid escalation of it into a thermo-nuclear conflict with the use of strategic missiles, because in the conditions of a nuclear war its development can hardly be checked.

I am speaking now about local wars due to a very definite reason: of late the voices of supporters of such wars began to sound much louder in the West, particularly in the USA. Some of them even speak about strategic nuclear weapons and notorious "balance of terror" being only a shield for the West under the cover of which it would be possible to change the status-quo with the help of local wars. This I'd like to say, is sort of Hitler logic. As you remember, Hitler and his followers, seizing one country after another in Europe, interpreted the patience of peace-loving states as a permission to go on with such a policy. But the last straw broke the camel's back - and we all know what happened with the Hitler Reich. It would be very useful for the adherents of local wars' policy to remember it and not to repeat this ignominious way to catastrophe.

I am of the opinion that today the Pugwash Movement of scientists must resolutely speak out against the danger of local wars. We cannot bear a situation when there are bloody and unjust local wars going on in the world while the Pugwash Movement looks calmly at them and speaks only about the dangers of a world thermonuclear war.

And meanwhile local wars go on in the world. The war by the USA against the Vietnamese people has been going on for many years. The world is shocked by the cynicism of the escalation of this aggressive war. Quite recently a wave of indignation shook the world in connection with the attacks by US Air Force against Hanoi. Many a time we expressed the attitude of Soviet scientists towards the criminal aggression by the USA in Vietnam and spoke about the necessity to immediately terminate it. I am of the opinion that many of our American colleagues realize the necessity of such action. But the US ruling circles do not heed the voices of their own scientists, like these circles stubbornly try to ignore the indignant demands of the peoples of the whole world.

Another local war was unleashed quite recently by the Israeli aggressors against the peoples of the Arab countries. The aggression carried out by Israel with the support of all too well known forces backing Tel-Aviv shook the whole world. The troops of Israeli invaders must be unconditionally withdrawn from the Arab territories seized by Israel during the war. The principle that the aggressor must not enjoy the fruits of a military success achieved thanks to an unexpected attack must be adhered to.

What is the result of the two local wars? It is a further increase in international tensions. In our age various parts of the world are closely interlinked with each other by thousand bonds - economic, political, military, ideological. That is why local wars sharply worsen the situation in the whole world.

"The world is indivisible" - these words said by the People's Commissar for Foreign Affairs of the U.S.S.R. M.M. Litvinov at the League of Nations before the Second World War and supported by the subsequent course of events are topical today as never before.

But if the acts of aggression in any faraway corner of our planet threaten to plunge the whole world into the fire of war, then the danger of a military conflict in Europe is particularly great. This does not

mean that Europe is better or worse than any other part of the globe, it results from the fact that such is the objective result of historical development, Europe represents such a complicated nerve-knot of world politics that events in Europe resound particularly painfully through the whole world. History is a branch of science where experiments are impossible. The place of experiment in history is taken by historical experience of mankind. And the experience of the XXth century inevitably shows that both World Wars started in Europe as purely local European conflicts.

That is why the problem of reliably ensuring security in the world is closely connected with ensuring security in Europe. European security in this sense is not a regional but a world problem.

What is required to ensure peace and security in Europe?

First and foremost it is vital that all states recognize the existing situation in Europe, the situation that developed as a result of the war and post-war development.

To achieve a military relaxation in Europe is possible through the disbandment of both existing military alliances: the North Atlantic Treaty Organisation and the Warsaw Defence Alliance. The states of the Warsaw Treaty have already announced their readiness to disband their bloc provided that NATO is disbanded at the same time. The fact that the period of validity of the North Atlantic Treaty expires in 1969, opens up considerable possibilities in this respect.

Barring every and all ways of access to nuclear weapons for the F. R. G. and non-proliferation of nuclear weapons are extremely important elements of security in Europe. Generally speaking we are in favour of stopping the proliferation of nuclear weapons, but I put a particular emphasis on West Germany because of reasons well known to you.

The setting up of atom-free zones in this continent would be an important step towards ensuring European security. In less than a month - on October 2 - ten years will have passed since the Polish Foreign Minister Adam Rapacki tabled at the Session of the U. N. General Assembly a resolution on setting up a nuclear-free zone in Central Europe. Since then there appeared many other proposals concerning setting up nuclear-free zones in European continent: on the Balkans, in the Mediterranean, in Northern Europe.

Nuclear-free zones could cover a sizeable part of Europe. Coupled with the Treaty on Non-proliferation of nuclear weapons the creation of nuclear-free zones in Europe would undoubtedly decrease the danger of a nuclear war in European continent.

An aggressive war is an international crime. This was stated absolutely clear in the historic sentence of the Nurnberg Tribunal, which had become a standard of international law. But the country which is the first to use nuclear weapons, also commits an international crime. This is clearly shown by the signatures affixed to the Stockholm Appeal in 1950 which declared a military criminal the Government first to use nuclear weapons. This principle could also be introduced into international law in connection with setting up nuclear free zones.

The liquidation of foreign military bases on European soil is of utmost importance for security in Europe. The sad experience of war in Vietnam graphically shows the danger of having US military bases stationed on a country's territory. We are well aware of the fact, that if there had been no US troops in South Vietnam, there would have been no US aggression against the Democratic Republic of Vietnam, no aggressive acts against Laos and Cambodia committed by US armed forces and the people of Vietnam would have settled its internal affairs without any outside interference. And last but not least there would have been no bloody war in Vietnam.

Some persons might object and say that the Vietnamese people would have settled their internal affairs not to Washington's liking. That is possible. But, firstly, why should all peoples act in accordance with the plans worked out by Washington politicians? Secondly, everybody seems to understand that the outcome of this protracted war, which caused innumerable sufferings to the Vietnamese as well as to the American peoples, and greatly undermined the prestige of the USA in the eyes of the world, will be in the final analysis decided in accordance with the wishes of the people of Vietnam and not the White House.

The problem of disarmament in Europe cannot be limited by nuclear questions. To ensure security in Europe it is necessary to cut down the size of armed forces situated in European countries - through the withdrawal of foreign troops into the territory of their countries as well as through cutting down the size of their national armies. In this respect I have in mind the necessity to reduce the armies of the two German states - the F. R. G. and the G. D. R. It is well known that the G. D. R. Government has already made such a proposal and it is now up to Bonn to decide.

It is necessary to undertake some other measures in Europe.

Under the existing circumstances it would be of extreme importance for European security if all states recognized the German Democratic Republic and her sovereign rights.

The present position of the West in this question<sup>is</sup> at variance with the existing facts. It is common knowledge that there exist in Europe two German states: the F. R. G. and the G. D. R. None of these states is subordinate to one another and none of them has any right to speak for the population of the other, to represent it. Why do the ruling circles of Bonn foist upon other peoples the fiction of the so-called "exclusive right of the F. R. G. to represent the whole Germany"? But still they support it and foist it upon other countries in order to be able to substantiate any act of aggression against the G. D. R. by moral, psychological and particularly legal considerations. That is one of the main reasons making the question of the recognition of existence of two sovereign and equal German states, of the recognition of the G. D. R. one of the most important prerequisites for ensuring European security.

West German influential circles have claims not only on the territory of the G. D. R. but on the lands of other socialist states.

One cannot imagine the emergence of stable security in European continent until all states including the F. R. G. recognize the stability of existing frontiers in Europe. The policy of non-recognition of these frontiers advocated by Bonn has only one meaning - it is an element of

legal and politico-moral preparation to an attempt to revise the existing frontiers by force.

Not only Eastern states of Europe but all European states without exception are interested in the stability of European frontiers. The revanchist claims in Europe threaten the security of all states and not only those of them which are named in the demands of expansionists.

True, the balance of forces in the present-day world and particularly in Europe is such that any attempt for a new "Drang Nach Osten" is hopeless. That will never happen again. The forces of German aggression will never again roll through the East European countries. But one must bear in mind that any attempt of revanchists to recarve the existing European frontiers will result in war. That means that all European countries without exception must be vitally interested in the situation in which such attempts will be impossible. We must join our forces and create such a situation in Europe when all states, including the F.R.G., unconditionally recognize the stability of existing frontiers in the European continent.

The recognition of these frontiers by all states including the F.R.G. will create important preconditions for relaxation of the situation in Europe and for the resolution of vital questions of European security. It might be said that all Western countries recognize "de-facto" these frontiers but not all of them are ready to declare it openly for fear of falling foul with the F.R.G. Time has come when they must put an end to this play of reservations. This odd play only interferes with our efforts to ensure European security. Without recognizing the stability of the existing frontiers the states of Europe will be unable to advance along the path of creating a system of security in our continent.

Thus, various aspects of European security are inseparably linked with the German problem. And when the German problem is considered, quite often the question of the re-unification of Germany arises.

What can we say in this respect? At present there exist two German states in Europe. The only way to their re-unification lies in the relaxation of tensions in relations between them, through complete normalization of their relations, through rapprochement between the G. D. R. and F. R. G., negotiations and disarmament.

All questions connected with the problem of the re-unification of Germany concern only the two German states and other countries must not interfere in it.

There is only one thing here which is of vital importance to all of us: the united Germany must never be a menace to the neighbour states, to peace in Europe. The monster of war must never emerge from the territory of Germany. This is of really vital importance to all Europeans.

In order not to allow the dire past to repeat itself, the forces of neo-Nazism and reaction must be forced to retreat. Public opinion in many countries is in favour of creating conditions in West Germany which will rule out the possibility of emergence of a new Hitlerism. The statement of this question is by no means an interference in the internal affairs of the F. R. G. The memory of tens of millions people killed as a result of Hitler barbarism and aggression gives us living every moral right,

even more, moral responsibility, to take a stand in defence of democratic forces in West Germany. But at the same time we have a most definite legal right to do it. Under the Potsdam Agreements the victorious powers have a right - and through this a responsibility - to see to it that Germany should develop in a democratic way. Nobody revoked this right - and nobody can do it for that matter - and nobody relieved the victorious powers of this responsibility as nobody permitted the F. R. G. not to fulfil the decisions of the Potsdam Agreements.

I named here certain principal measures indispensable for creating a reliable system of international security in Europe. These measures must be carried out if international relations in our continent are to be determined by the spirit of peaceful co-existence and co-operation of all European states, and not by the spirit of cold war and preparation for the clash of the two blocs. Co-operation in the economic sphere - without discrimination and exclusive economic blocs; co-operation in the field of science and technology - without unnecessary secrecy detrimental for the development of science; co-operation in culture - without attempts to use cultural exchange as a tool of cold war - that is what is necessary for Europe.

It would be wrong to interpret the principle of peaceful co-existence as a simple absence of war. Of course, peaceful co-existence is incompatible with "shooting" war. But it is incompatible with cold war as well. Peaceful co-existence means business co-operation and loyal, friendly, good-neighbourly relations between the states with differing social systems.

The world today furnishes us with a number of examples. New trends which are felt in Europe more and more clearly, testify to the fact, that the idea of co-existence and co-operation masters the minds of Europeans stronger and stronger. Europe feels itself more and more uncomfortable in the corset of cold war forced upon her from the other side of the ocean many years ago.

How can Europe get rid of this decayed corset, strengthen European security and develop co-operation in the framework of the whole Europe? Let all European states discuss these problems at a conference where all of them can get together.

We know that the question concerning the convocation of such a conference is being considered by the governments of European states and at present a large number of European countries think the convocation of this conference to be useful.

A great many of constructive proposals and ideas concerning European security have been put forward. Undoubtedly other proposals and new ideas can be offered for consideration.

If these new ideas and proposals are constructive and aim at setting up a reliable system of European security and a peaceful settlement of international problems in our continent, we will be only too glad to consider them. Scientists often get together at international congresses - and these congresses, as a rule, are fruitful. Let the politicians hold such an all-European congress, where they will discuss the problems of European security.



As far as we, participants of the Pugwash Movement are concerned our task is to assist in organizing such a conference, in being instrumental in solving this vitally important problem.

As representatives of public opinion, seeking to justify the confidence and respect of people in many countries we must fulfil our duty and in all our actions, help the peoples of the world to attain security and avert the apocalyptic threat of nuclear holocaust.

Of course, what I had to say in my paper does cover all fields of Pugwash activity. Very important aspects of our work will be dealt with in other papers and discussions at the Conference.

Sept 6

17th Pugwash Conference on Science and World Affairs

Ronneby, Sweden, 3-8 September, 1967

Harrison Brown  
(U.S.A.)

THE CRISIS IN ECONOMIC DEVELOPMENT

1. Introduction

When we look back over the ten years which have elapsed since the first Pugwash Conference and the 22 years which have passed since the catastrophes of Hiroshima and Nagasaki, it is incredible how little has happened for which humanity as a whole can feel proud. To be sure, civilization has not yet perished in a nuclear holocaust and although considerable credit for this achievement must clearly be given Lady Luck,<sup>x)</sup> a certain amount of self-congratulation for rational behaviour and self-restraint is probably in order. Thus far, in spite of some harrowing experiences, we have survived. Yet, when I note that my son, who was born in Oak Ridge just as the first macro quantities of fissionable material were emerging from reactors and diffusion plants, is now stationed with our Armed Forces in Viet Nam, fighting a tragic, incomprehensible war, I get the strong feeling that progress during the last 23 years has had some strong negative components.

In the years following World War II, it was widely thought that the combination of the new military technology, the approaching end of colonialism, the emergence of the new nations and the increasing needs of humanity for food and raw materials would create a growing interdependence among nations which would lead to a decrease of nationalism. The United Nations was looked upon by many as the organization which would bring order out of chaos, which would maintain the peace and lead the world toward both disarmament and rapid economic development. As we look back, most of us would agree that the world is probably somewhat better off than it would be had the United Nations not existed. Yet most of us would also admit that the United Nations has not been very effective - in large part because the great powers have not seen fit to endow the organization with the authority and the resources which would make it effective.

Caught in the grip of the cold war, the super-powers have played the game of nationalism, have encouraged other nations to play the same game and in the process have ignored the United Nations except when it has been particularly convenient for them to do otherwise. As a result, we have seen so-called "wars of liberation" and "people's revolutions" both encouraged and combatted. We have seen negotiations on controlling nuclear armaments proceed so slowly that agreements are either not reached at all or reached too late to be really useful. We have seen the spread of capabilities for manufacturing thermonuclear weapons from the super-powers to the U.K., to China and soon presumably to France. We

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x) In America as well as in much of the rest of the English-speaking world, Lady Luck is a mythical goddess who brings good fortune to selected gamblers.

have seen massive flows of conventional armaments from the United States, the U.S.S.R., the U.K. and France to the developing countries - a flow so large that over the years it apparently has exceeded the flow of non-military economic assistance. We have seen prolonged and bloody hostilities in Korea and Viet Nam, and military actions between India and China, between India and Pakistan, between Israel and the United Arab Republic during the course of which the military advantages of pre-emptive strikes have been amply demonstrated. More bombs have apparently fallen in Viet Nam than were dropped on Japan during World War II. The five belligerents in the Middle East War, all of them developing countries, together had more tanks than Germany employed in the invasion of France in 1940.

We must add to this list of depressing developments the additional fact that the economic improvement of the poor countries of the world is proceeding at a snail's pace. Hunger and misery are now more widespread than they were at the end of World War II. Today, the average person in a developing country has even less to eat than he had 10 years ago and the situation will almost certainly get worse before it gets better. Further, the economic and social separation between the poor countries and the rich ones is widening rapidly, with consequences which are difficult to foresee.

This problem of economic development, of providing the food and manufactured products needed to eliminate hunger and misery, is truly the great problem of our age. Yet we must admit that like the problem of disarmament, we have hardly come to grips with it. Over the years, the investment on the part of the richer countries in economic and technical assistance for the poorer ones has been small when compared with the need. We should add to this the sobering thought that whatever the sense of urgency the richer countries might have felt about this problem at one time, it is apparent that official concern is disappearing. In proportion to gross national product, transfers of capital from the richer to the poorer countries has been dropping. In 1966 the absolute level of transfers from 16 Western countries plus Japan and Australia to the poorer countries was down some 400 million dollars below the 1965 figure. Increasingly the major donor nations appear to be thinking of their own economic problems and curtailing their investments in the developing countries. These changing attitudes coupled with the slowness with which development is taking place undoubtedly contributes substantially to the political instabilities in many developing countries.

## 2. The Crisis of World Hunger

At the time of the first Pugwash Conference 10 years ago, about one half of the world's population was continuously on the verge of starvation, and another 25 percent was seriously undernourished. That situation has not changed appreciably in the last 10 years except for the fact that the total number of people in the world has increased by about 500 million persons, some 400 million of whom have been added to the ranks of the hungry.

Actually during the last 10 years the total food production in the developing countries has risen at about the same rate as that in the developed countries - some 30 percent in the decade. The discrepancy in food availability has arisen from the considerable differential in population growth rates: currently about 2.8 percent per year in the poorer countries and 1.1 percent per year in the richer ones. The net

result has been a substantial increase in the per capita availability of food in the richer countries and an actual decrease in the per capita availability of food in the poorer ones.

Why have the poorer countries not been able to increase their agricultural production more rapidly? We know that crop yields can be greatly increased by applying modern technology. The average rice yield per hectare in Japan is 3.5 times that in India and 4 times that in Nigeria. Such differences have led many persons to believe that simply by applying technology we could easily expect annual increase in yield of 2 percent and that with effort 4 percent might be achieved in a number of areas. Indeed, the development plans of virtually every developing country have set high targets for increases in agricultural productivity - some as high as 8 percent per year. Yet, in the last 10 years the increase in crop yield per hectare in the poorer countries have averaged less than 1 percent per year. By far, the greater part of the total increase of food production has come about as the result of increase of farm acreage. By contrast, the greater part of the increased production in richer countries has resulted from increased productivity.

Some time ago the President's Science Advisory Committee in the United States became interested in this critical problem of world food production and appointed a World Food Panel to investigate the situation. The Panel's findings have now been published and I recommend its report for serious study.

The Panel points out that one of the deficiencies in increasing agricultural productivity has been lack of adequate education and training, which have played such key roles in the rapid rise of productivity in the richer countries. Japan, for example, produces 7,000 college graduate agriculturalists per annum compared with only 1,100 per year in all of Latin America. In Japan there is one farm advisor for each 600 farms. Compare this with perhaps one advisor for 100,000 farms in Indonesia and one advisor per 10,000 farms in Colombia!

An essential aspect of applying technology is learning what technology to apply and how to apply it. We know that application of fertilizers can increase crop yields and we know how to build fertilizer plants. But we generally do not know how the fertilizers will interact with the plant being grown and with the soil. We do not know how much water will be required. We do not know what genetic variety of the desired plant is the best to use within the local ecological framework. Indeed, our knowledge of how to grow things efficiently in the tropics is lamentably sparse. Learning the answers to such questions requires research and development which in turn requires trained research workers and research facilities.

Equally important, the World Food Panel concludes that the problem of increasing food production in the poorer countries greatly transcends that of simply changing agricultural practices. Virtually all facets of the economies and cultures of the poorer countries are involved, ranging from food pricing policies to urbanization, to industrial growth to public health. The Panel emphasizes "if the world's supply of food is to grow substantially, there must be general economic development in the developing nations and not just a change in farming itself."

We must face the fact that the problem of eliminating hunger in the world is basically the problem of economic development itself. We cannot look for any quick and easy panacea which will provide us with large quantities of "instant food". Our hope is that enough of the world's material and human resources will be allocated to enable the poorer countries of the world to achieve and sustain a rate of economic development which is sufficiently rapid to enable the average person to see clearly that his economic lot will improve appreciably during the course of his lifetime. Increased food production will then be a corollary manifestation of this general economic growth.

### 3. The Problem of Economic Development

Ironically, during the past decade the overall economies of the poorer nations have grown almost as rapidly as those of the richer ones - 4,7 percent per annum compared with 5,1 percent per annum. But, as in the case of food production, the differential in population growth has given rise to a substantial difference in per capita growth rates. The economic well being of persons living in the richer countries has improved on the average 4 percent each year - and the rate is rising. By contrast, the lot of the average person in the poorer countries has improved by less than 2 percent per year - and the rate is falling. Even this small apparent per capita improvement in the developing countries is to a certain extent illusory for as we have seen per capita food production has dropped. The rise is apparently a reflection of the growth of the industrial sector within the cities which has brought economic benefits, often substantial, to a small proportion of the total population. In many countries however, the great mass of the people who are outside of or at best at the periphery of the money economy have become poorer, hungrier and more crowded with each passing year. Thus humanity appears to be dividing into two parts, the more or less permanently rich and the more or less permanently poor. The rich countries, making full use of technology, are in a positive feedback loop which, barring a world catastrophe, will ensure an exponential growth of standard of living for many generations to come. By contrast, many of the poorer countries appear to be either already in, or on the verge of entering, a positive feedback loop of quite a different sort, in which poorness intensifies poorness. The gap between the rich and the poor is now widening at the rate of over 2 percent per year.

What would it take to achieve a rate of economic development in the poorer countries which is sufficiently rapid to enable the average person to see clearly that his economic lot is improving appreciably during the course of his lifetime? In quantitative terms this would mean at least something like a doubling of per capita gross national income in about 25 years. Taking into account the fact that populations in many of the poorer countries are now doubling in about 25 years, the gross national income would have to increase at the rate of about 5,5 percent per year in order for the per capita income to double in 25 years. This is a substantially higher rate of growth than that which has been achieved by most developing nations on a sustained basis even with the levels of economic assistance currently available.

Could adequate rates of economic growth be achieved by lowering birth rates? If population growth rates in developing countries were dropped from 2.8 percent to the 1.1 percent characteristic of the richer countries, per capita incomes would increase 3.6 percent per year - nearly double the present rate. From many points of view, this would certainly be desirable. Among other factors, considerably less capital would

be required. Recent experiences suggest strongly, however, that such an approach is not feasible, that fertility cannot be controlled out of the context of general economic development. New techniques of contraception are undoubtedly extremely important, but by themselves it is unlikely that they will be very effective. The evidence is rather good that programs of population control, to be effective, must be accompanied by programs of public health, agriculture, education and industrialization.

The gross national product of all developing countries combined is now about \$300 billion. My economist friends tell me that approximately three units of capital must be invested to produce one unit of annual income. Using this rule of thumb together with the current level of economic assistance of \$10 billion, it appears that current domestic investments in developing countries are of the order of \$30 billion each year. If we were to reach the goal of doubling per capita national income in 25 years, either rates of saving in developing countries would have to be substantially increased (which is unrealistic in view of the fact that they are already rather high) or outside assistance would have to be increased from \$10 billion to \$20 billion annually. This appears to be both a large increase and a large sum, but we should recognize that it represents only about one percent of the combined gross national products of the rich nations.

Let us suppose that by some miracle the rich nations were to agree to invest one percent of their expanding gross national products in the developing nations. Would such a greatly expanded assistance substantially accelerate the rate of development? At the moment I doubt that it would. First, our ignorance concerning development is substantial. We need to increase our knowledge of the development process and this requires a great deal of research, empirical analysis and experimentation. Second, there simply are not enough persons in the poorer countries who possess the training and experience necessary to make the difficult decisions required for rapid development, to solve the large number of complex problems involved in the development process and to carry out the work of development itself. In short, although some additional assistance funds could be absorbed effectively today, the amounts which could be effectively absorbed appear to be severely limited by the availability of trained manpower capable of planning effectively, making decisions, solving problems (doing research) and administering. To a certain extent this deficiency can be alleviated by expanded use of trained persons from the developed countries. But this approach, also, is limited.

We are forced to the conclusion that appreciable increase in the rate of economic and social development in the poorer countries is simply not possible in the absence of expanded help from the developed countries. In the long run, capital assistance will have to be greatly expanded. But for the present the greatest need is for technical assistance aimed at rapid improvement of the scope and quality of educational systems and the evolution of strong local research, development, analytical and problem-solving competence.

#### 4. Time Scale for Development

The developed countries have already been in the assistance business for twenty years and although there has been progress, it has been extremely slow except in a very few countries, notably Taiwan and Israel, where exceptional circumstances have accelerated development. When we look at the needs of the poorer countries, and particularly when we recognize that for some time the primary rate-limiting factor is destined

to be the availability of trained people, it becomes clear that the path ahead is a very long one. The time scale for development must be the time scale for training people, which is of the order of decades rather than years.

Recently I participated in a small study of the technical manpower needs of a developing Latin American country. Our group concluded that during the next quarter-century the country cannot by any conceivable process meet her needs for highly-trained persons in science and engineering. We concluded further that given adequate assistance from the outside, the country might be able to fill her needs in another 35 to 40 years. Without assistance, a considerably longer time would be required. And I would like to stress that this particular country is by no means unique in this respect.

Clearly, if the world is to extricate itself from the present difficult situation, both capital and technical assistance from the rich countries to the poor will be necessary for many decades to come. I suggest that we should not think in terms of fewer than 50 years. More realistically, we should think in terms of another century.

I realize that these are in a sense unhappy thoughts. They are made all the more so by the fact that by not coming fully to grips with this problem at the close of World War II and by permitting fantastic energies to be wasted by the seemingly endless military confrontation of the great powers, we have already lost two precious decades in mankind's race against time.

##### 5. Some Suggested Criteria for Capital Assistance

Recognizing the magnitude of the crisis in economic development, it seems to me that the richer countries (those with above average per capita gross national products), both socialist and capitalist, should announce jointly their readiness to render capital assistance to the poorer countries (those with below average per capita gross national products) to the extent that the recipient countries can make effective use of the capital. In view of the long time-scale for development the expanded capital assistance program should be isolated from year-to-year political fluctuations. This means that it should be multilateral, hopefully operated through the United Nations, which has already done splendid work in this area, although of limited scope. All member states would be eligible regardless of their relationships with donor states. For example, were the People's Republic of China to return to the United Nations fold, she would be eligible to participate, subject only to agreed-upon restrictions applicable to all recipient nations.

Donor nations would contribute to the development fund in proportion to their abilities to pay. A simple formula would be for each donor nation to be assessed a fixed percentage of her gross national product. As the gross national products of the richer nations are now increasing at the rate of about five percent per year, this procedure would provide a built-in mechanism for increasing the capital funds available. It might well be desirable to place an upper limit on assessments for donor nations of perhaps one percent of their gross national products.

Capital assistance would be given in the form of grants rather than loans. Recipient nations would agree in return to join with the donor nations once their per capita gross national products become "above average".

It would be necessary, of course, to establish criteria for capital assistance grants. The criteria should take into account a variety of factors including:

1. The ability of the country to utilize the capital effectively from the point of view of administrative effectiveness, political stability and availability of trained manpower;
2. The extent to which the country is attempting to help herself -- i.e. What is the level of her savings? How much is she spending on military activities?

It might well be that the donor nations might wish to agree to provide as much capital assistance as a recipient nation can effectively absorb up to the limit of matching the savings of the recipient country less her expenditures on armaments. For example, were a country saving ten percent of her gross national product and spending two percent of her gross national product on armaments, she would be eligible to receive as much capital as she could effectively absorb up to a limit of eight percent of her gross national product. Such a formula would encourage domestic savings and would discourage the wasting of scarce resources on armaments. Indeed, it might even be worth considering placing adherence to a non-proliferation treaty as a price of participation.

It is reasonable to suppose that guidelines of this nature could ensure that the rate of economic development in the world would not be capital limited, and at the same time that adequate incentives would be provided for the proper management of resources.

#### 6. Some Suggested Criteria for Technical Assistance

The problem of capital assistance, although it looms large in the minds of most persons who think about these matters, is small when compared with the problem of technical assistance. The latter requires far less in monetary terms than does capital assistance, but the requirements for organization, trained people and personal dedication are much more severe.

The most obvious sort of technical assistance involves a direct transfer of technology. For example, a developing country needs a power plant. A team of experts from one or more donor countries can survey the situation, recommend the size, type and location of the new plant, supervise its design and construction and train the operators. This type of assistance can readily be arranged and even handled on a multilateral basis. Far more important and difficult, however, is the technical assistance involved in solving problems and in teaching people how to solve problems. Generally speaking it is difficult to transfer technology directly. It must be adapted to the local physical economic and cultural environment. This necessitates trained people from both donor and recipient nations working together on the solution of problems. It involves their learning together, teaching each other and jointly teaching the next generation.

This latter kind of technical assistance requires our establishing cadres of professional people in the developed countries who will spend a substantial fraction of their professional careers teaching and doing research in developing countries, helping to build schools and universities, research laboratories, government department and industries. I believe that for these people to work most effectively they should be attached to institutions in their home countries which themselves are dedicated to these



objectives and that the work should be undertaken basically on a bilateral institution-to-institution basis. For example, the Institute of Mathematics in Novosibirsk might work closely with the Department of Mathematics of the University of the Philippines, much as the Department of Physics at the University of Wisconsin works today with the Department of Physics at the University of São Paulo. Such institutional arrangements can be coordinated on a multilateral basis, for example by the United Nations, but basically the assistance should be bilateral.

Like capital assistance, technical assistance should be given to the extent that it can be absorbed. As with capital assistance it should be given in proportion to the ability to give. And here, all nations can be looked upon as donor countries. Perhaps all nations could agree that something like one percent of their trained engineers and scientists, teachers and professors could be made available to work, teach and learn where the needs are greatest. Funds to accomplish this would be made available jointly by the donor and recipient nations.

Most of us would agree that were the nations of the world to join together in such a program, the scientist would have an enormous role to play. Already we have had both experience and success working across national boundaries on problems of mutual concern. I believe that we should take the leadership first in bringing such a program into existence and second in helping carry it to its successful conclusion, at which time poverty and misery in the world will have been eliminated.

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INTERNATIONAL CO-OPERATION AND DEVELOPMENT

1. The problem of development for the "Tiers Monde" has undoubtedly been the main concern of both the advanced nations and the international organizations since the end of the last world war. For those of us who do not believe in a sudden blossom of mankind charitable feelings, the reasons are not hard to find. The Third World may decide, in many respects, the future of the great powers.

It is just a matter of time. It could do it explosively and uncontrolled. Or, perhaps, it can be channelled through pacific roads. It could do it in revolt against the type of civilization, the way of life, the socio-economic structures of the rich countries. Or, perhaps, the rich countries may do something to win them as allies.

Development is, therefore, as much a matter of concern for the big powers as it is for the developing nations. International cooperation for development does not spring up from charity; it is driven by necessity.

Needless to say, this assertion does not intend to deny the presence, or to minimize the value, of so many people involved in international cooperation who take their task from the bottom of their heart with the most idealistic personal views about it.

2. International cooperation programmes for development have been now in operation for quite a few years. They have been widely advertised. They have been the subject of major decisions adopted by the United Nations, by regional organizations and by individual countries. They arose much expectation and sometimes unlimited hopes in many areas of the Third World. They have produced much frustration, pessimism and despair in many other areas. It seems that it is high time to make an appraisal of the results and draw some conclusions. This paper does not pretend to do it. It only intends to advance some conclusions from a preliminary analysis of the situation. And to encourage further and deeper studies on the subject.

3. The first shock one receives when looking into the statistical material now available about the amount and distribution of aid for the developing countries, is the minor, secondary, sometimes insignificant role played by the United Nations Organization and its Specialized Agencies as it is reflected in the figures.

One world authority in this subject, Prof. V. Kovda, a prominent figure of the ECOSOC Scientific Advisory Committee, made an impressive report as a consultant to Unesco, at a meeting on Science Policy and Research Organization in Algiers, on September 1966 ('). His analysis is mainly restricted to the field of science and technology so that I am going to quote only some of the more general figures. During the first five years of the Development Decade (1960-1964) the whole family of U.N. Organizations, including the Special Fund and the UNDP Technical Assistance, spent approximately 1600 million dollars in developing countries. On the other hand, the bilateral assistance amounted in a single year (1961) to 9000 million dollars. This last figure includes both financial aid and technical assistance.

The disparity between the assistance provided through the U.N. family and the bilateral programmes (and sometimes "regional" organizations where one big country plays an overwhelming role) is continuously increasing and it is accentuated in some areas. Let us take some examples from Latin America.

The International Labour Organization budget for exchange and scholarship programmes amounts to one million dollars for the whole world, whereas the Organization of American States has a budget of five million dollars for exactly the same purposes but only for Latin America.

The total amount of financial aid for higher education in Latin America provided by U.S. agencies or regional organizations during the two years periods 1964-1965 was 110 million dollars. ("). The expenditures of UNESCO in the same area and for the same purposes was in 1965/66 only 4.500.000 dollars.

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- (') V. Kovda, "The search for an international science policy within the United Nations system of organizations" (Unesco, ROU/144, 1967)
- (") According to a statistical report compiled and distributed by O.A.S.

To focus the attention on a single country, let us consider the case of Chile ('). It is difficult to calculate the U.N. contribution in exact figures, because the main amount is provided by the Special Fund and the length of the projects are very variable (two to five years) with a very irregular rhythm of expenditure. With this proviso the U.N. contribution for the biennial budget period 1965-1966 may be calculated as follows:

Regular Programmes of the U.N. Spec. Agencies .....	252.700
U.N.D.P. Technical Assistance Programmes .....	1.040.000
U.N.D.P. Special Fund Projects (estimated) .....	<u>3.200.000</u>
Total ...	4.492.700

We may compare this amount with the bilateral assistance provided directly by the U.S. government through the Agency for International Development, either under the form of long term loans (40 years, including 10 years grace period) or of grants, for the same period 1965-1966. The figure goes up to 180 million dollars.

4. The conclusions we could draw from the figures quoted above are rather somber for the U.N.O. How could the U.N. hope to have any weight in shaping up a sound and influential programme in a given field, in a given region, if its contribution is just a second order fraction of the total investments?

But the figures do not tell, however, the whole story. Along with lack of funds for action there is a continuous deterioration of the U.N. prestige. The long red-tape processes required to go from the application to the actual implementation of any project is much too often ridiculized. Why would you bother to go through all that trouble if you could get ten times as much, with ten times less effort, in a much shorter time, from other sources? The fact is that the heavy bureaucratic machinery of the U.N. undoubtedly exists. Just looking at the figures given above for Chile, one realizes how insignificant is the role of the Regular Programmes of the Specialized Agencies, even within the amounts distributed by the U.N. family, in spite of the large budgets they need to keep their own bureaucracy. More serious than that, the Kovda's report referred to above gives some alarming description of the distribution of the U.N. funds, showing that the majority of the money has been spent on data collecting missions.

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(') The figures are taken from "Summary of technical assistance offered to Chile through bilateral, multilateral and international organizations and agencies", published by the United Nations Development Programme (UNDP/55/66).

However, nowhere one finds evidence of a real concern and of serious efforts from the part of the most influential U.N. members to change a situation which is accepted as an immovable event, as a law of nature which one could comment about and discuss but could not change. The conclusion - my conclusion, at least - is that the advanced countries just do not care about it. They are much more interested in pushing their own programmes of aid for the countries they select, at the moment they choose, in the fields they decide, with the people they trust, with the objectives they have in mind. In the U.N. they have to compromise; they have to accept that the help goes to countries they do not like to see been helped; they have to accept projects that may impulse development in a direction they don't like. And, in addition, the help becomes anonymous.

5. There is another characteristic of the international co-operation which needs to be mentioned in order to complete the picture. The aid provided by the rich countries is neither uniformly distributed throughout the world nor given at random. There are well defined zones of influence which divide large areas of the Third World among the U.S.A., the Soviet block and the Western European Countries. There are, of course, areas of competing programmes (India is, perhaps, the best example), but this fact (i.e. the very nature of the competition) reinforces the idea of the trend to get a partition of the Third World among the Great Powers. I am not going to dwell on this subject. Everybody knows about the efforts of the "two greatest" to aligne nations behind them. Everybody is aware of the efforts of the former European colonialist countries to recuperate through economic and even cultural links what they have lost - at least in appearance - on the political arena.

My analysis will be restricted to Latin America because it is the region to which I belong and therefore the one about which I could speak out of my own experience. Since Latin America - except for Cuba - is an unmistakable U.S. zone of influence, my criticism will refer to the U.S. Those who belong to other regions of the Third World would have other criticisms to make. Sometimes very similar; sometimes of a quite different nature.

6. It might be claimed that the fact that international co-operation takes the form of bilateral aid programmes is not by itself something to be criticized. Perhaps this is after all, the best way, the most efficient one, the one which could reach quicker the expected goals. It could be shown, however, that this is not the case.

Quite apart from my own nationality, I find it important to analyze the case of Latin America because it has been the region where a new and unique experiment in bilateral international cooperation has taken place for the last six years: the Alliance for Progress.

In an impressive speech before the Latin American diplomatic corps assembled in the White House, J.F. Kennedy launched the Alliance on March 13, 1961. These are his words ('):

"I have called on all people of the hemisphere to join in a new Alliance for Progress a vast co-operative effort, unparalleled in magnitude and nobility of purpose, to satisfy the basic needs of the American people for homes, work and land, health and schools".

"If the countries of Latin America are ready to do their part ... then I believe the United States, for its part, should help provide resources of a scope and magnitude sufficient to make this bold development plan a success".

What have been the results of this programme? No one could deny today in all fairness, that the Alliance has failed. No one of the targets have been reached. No serious impact has been made anywhere. Latin America is having today more problems than ever.

7. Why is it so? For some American commentators the reasons have to be found in something inherent to the Latin American people: they don't have the will to come out of the state of underdevelopment; they don't have discipline; they don't work hard enough. This explanation is both wrong and extremely irritating. It is a complete mixing up between the effects of a socio-economic structure and the causes of that structure.

For many of us, on the other hand, the failure of the Alliance for Progress is just the obvious and natural result of its self-contradictory foundation. The reasoning goes like this. Let us assume, for the sake of the argument, that the Alliance - and by "the Alliance" I mean the people writing the projects, approving the projects, providing the money and implementing the projects - are people idealistic in feelings and very practical in ideas; that they really work for the authentic development of Latin America; that they are eager to fight all causes of underdevelopment. How do they go about it? Very simply: they offer the help to the governments and to the business community of the country X or Y and make it clear that the programmes should include those structural reforms which are deemed to be necessary for "development". From here on, there are two possibilities:

- a) The country X (i.e. its government) rejects the programmes or accepts them only to misuse the money or to make the projects quite inoperative in practice. This happens in the majority of cases, simply because the majority of the Latin American governments represent those socio-economic forces which are responsible for the present structures and which will defend these structures to all costs. To offer them money for reforms has the same meaning as offering the tiger a dentist to smooth his teeth.

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(') A. Schlesinger, "A thousand days", London, Mayflower, 1965.

- b) The government of Country Y is genuinely interested in progress and makes a serious effort to implement those programmes which will lead to a change of structures. What follows is familiar to everybody: the powerful socio-economic forces within the country will immediately resort to the army, always ready to help them keeping the privileges, always prepared for action thanks to the good training provided by Pentagon advisers and thanks to the excellence equipment they have been given by some bilateral "aid" (!) programme.
8. The situation we have described - admittedly in an extremely oversimplified form - is so evident to many Latin Americans that they wonder whether it is at all possible that those who have conceived and impuled the Alliance were not aware of it. For those who doubt, some passages of official speeches made in the U.S. seem to give a strong support. I am not referring to the speeches of some members of the Senate when this body discusses the budget. They will cool-off the most optimists. I am referring to the most progressive sectors of the U.S. foreign help advocates.

In Schlesinger's book one finds the following quotation from J.F. Kennedy, on the anniversary of the first proposal of the Alliance for Progress, when he spoke again to the Latin American diplomats assembled in the White House:

"For only you can mobilize the resources, make the reforms, set the goals and provide the energies which will transform our external assistance into an effective contribution to the progress of our continent. Only you can create the economic confidence which will encourage the free flow of capital".

I think this statement may be taken as an implicit definition of development for the liberal capitalism of which the Kennedy's administration was the most progressive representative. To create conditions for development means simply "to create conditions to encourage the free flow of capital". And this is the crux of the matter because from this statement all other consequences have followed, except development. I shall mention only a few.

The free flow of capitals (i.e. U.S. capitals) to the Latin American countries require conditions which are defined by the American business community and which have been adopted by the U.S. governments as guides for their foreign policy. This business community will oppose any reform which directly or indirectly might be taken as involving any sort of danger for their investments, for their profits, for the freedom they need to take both capitals and profits in and out the country at any time. Any form of state planning and economic control, even those forms which are now common in the most advanced stages of capitalism, like the U.S. itself, is denounced as socialism; any real attempt to change feudal structures is denounced as subversion.

The effects of this attitude could be easily exemplified. A few years ago all U.S. aid to Peru was stopped because a new government (as close to socialism as the king Fayçal!) rejected oil contracts signed by a previous government under conditions which would damage for many years the economy of the country and which even gave up part of its sovereignty. Something similar happened in Argentine in 1964, when the more than moderate, right of center, government of Illia cancelled oil contracts that we consider an insult to an independent country. However, Stroessner of Paraguay, the only survival of the era of most backward dictators in Latin America - of the very type the Alliance denounced as responsible for the lack of development in the continent - is still considered to be a stable and reliable government which "encourage the free flow of capitals".

The fear that any deep reform of the present socio-economic status of the Latin American countries may bring about difficulties for the foreign investors makes them the best allies of the backward forces within our own countries. No wonder that more and more the Pentagon and the CIA seem to succeed in substituting the policy of the hard stick for the Kennedy's principles of the Alliance. No wonder that the fight against the progressive forces takes uniform characteristics throughout the continent.

These trends are bringing our countries many years back in history. It is interesting to notice, however, that familiar historical events are now repeated under new forms which would be amusing if they were not of tragic consequences.

Nowadays, no country may allow herself to invade another "friendly" country and interfere directly in her internal political problems. This is done in Latin America under the heading "Continental Defense".

Nowadays, no army of a civilized country is supposed to take over the government at any time or act as an internal repressive force. This is done in Latin America under the heading "Internal Front".

Nowadays, no one could admit that armies of various countries reach agreements among themselves over and above the governments and help each other in their self-assigned repressive function disregarding problems of jurisdiction. This is done in Latin America under the heading "Ideological Frontier".

I could go on with the list. But this may suffice. No need to elaborate any further on the consequences of these conditions for the "development".

9. Let us now turn our attention to the other side of the problem. Assume that the international cooperation, that all programmes of aid, are really aiming at "true" development and have found ways and means of avoiding all the obstacles which either sterilize the aid or divert it to unwanted channels. Is this international cooperation going to produce a significant impact which may lead to a substantial step forward in bridging the



gap between the "Third World" and the rich countries? The answer is no. The gap is becoming wider and wider and is not going to be bridged by this method. There are a number of misconceptions and of misleading ideas which lay behind the very use of terms like "underdevelopment", "developing countries", "aid for development", and so. They have been denounced and clarified by many economists and non-economists in the last years. In spite of this there is not yet an universal awareness of the fact that in discussing international cooperation for development under the form of aid programmes we are just accepting a wrong formulation of the problem.

In 1963, B.R. Sen, Director of F.A.O., in a famous speech made at a World Conference on Food, denounced that the countries of the Third World had lost, between 1955 and 1961, as a consequence of the terms of trade, 20.000 million dollars. Of this amount, 12.000 million were due to an increase in the prices of manufactured products and 8.000 million correspond to the deterioration of the prices of raw materials. In the same period, however, the profits obtained by the investments of five countries (Belgium, France, Netherlands, U.K., U.S.) in the developing (?) countries averaged 3.000 million dollars per year.

The problem was not new. A number of authors had already pointed out to it. However, Dr. Sen's announcement made a profound impact. In 1964, the Secretary General of the United Nations Conference on World Trade and Development made a dramatic appeal for a change in the pattern of international trade as the only solution to alleviate the situation of the Third World. And, as an Indian commentator indicated, "however, the general consensus in favour of the required changes has not been matched so far by concrete action".

Let us give some more figures about the problem. In a single year, from december 1956 to december 1957, the prices quoted at the London's Market dropped as follows (in pounds per ton) ('):

	1956	1957
Copper	274	181
Lead	118	74
Zinc	103	63
Wolfram	224	104

The result was that many developing countries found their source of hard currency reduced to one quarter or even one half in one year.

Cameroun exported 53.000 tons of cacao in 1959 and received 8.100 million francs. In 1960 the export was increased to 59.000 tons (10% more) and received 7.100 million francs (12% less).

---

(') J. Lacouture & J. Baumier, "Le poids du Tiers Monde", Paris, Arthaud, 1962

It has been calculated that the variation of the prices of the raw materials in the international market reduced the resources of hard currency for Latin America, in a single year, by an amount equal to ten times the aid received from both the U.S. and the International Organizations. To this we have to add the still larger increase of the prices of the finished products.

Perhaps the more eloquent way of showing the disparity in the trend of the prices in the international market could be found in the following table (1):

	1948	1960
Prices of primary products .....	100	91
Prices of manufactured products ..	100	116
The purchasing power of raw materials in manufactured good .....	100	78

After these figures, does anybody wonder why the gap between the rich countries and the so-called developing countries is continuously widening? Is it not natural that the world disequilibrium be so great that a recent book on the Third World (") could indicate that the amount of protein consumption by dogs in the United States is higher than that of half of the world human population and that the expenses in chewing gum by the American youth is more or less equivalent to the national product of Burundi?

And the situation is getting worse. In a quite recent statement to the press, during the preparation of the next U.N. Conference on World Trade and Development, to take place in New Delhi, the Secretary General, R. Prebisch, declared that the Development Decade is, in reality, the decade of frustration. I am tempted to call it the decade of indignation. And will give a figure, which I believe is very pertinent for a Pugwash Meeting, to support that name.

According to informations published by the French newspaper *Le Monde*, the cost of the bombs dropped over North Vietnam during a single month at the beginning of this year, averaged U.S. \$ 2.000 per minute, 24 hours a day. That is, almost 3 million dollars per day. During the first five years of the Development Decade, Unesco could only spend 20 million dollars for the application of science to development. Just the price of the bombs during one week.

10. It might be asked whether Pugwash could do anything in front of the rather dark panorama which has been described. I would dare to advocate action along three directions:

---

(1) J. Szita, "L'industrialisation dans les pays économiquement sous-développés". Paper submitted to the U.N. Conference on the Application of Science and Technology to the Developing Countries, Geneva, 1963.

(") C. Sulzberger, "Les états-Unis et le Tiers Monde", Paris, Plon.

- a) To promote technical studies of the problems of development, their real sources and their possible solutions, including its political implications.
- b) To promote technical studies of the bilateral and regional cooperation programmes under all their forms with explicit analysis of their political and economic links and limitations.
- c) To promote an international campaign to make the U.N.O. a much more effective instrument and the U.N. programmes of aid to developing countries the main source of international cooperation.

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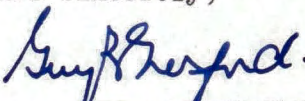
Dear Dr. Szilard,

I am sending you, under separate cover, a copy of the report on Protein, which I mentioned to you, prepared for the U.N. Advisory Committee on the Application of Science and Technology to Development. The Committee is undertaking a number of studies in what it regards as the most important fields for the application of science and technology for the benefit of developing countries. We hope to get action through the United Nations Economic and Social Council but the climate for aid is at the moment rather disappointing.

It was a very great pleasure indeed to meet you and I enjoyed our trip back from Ronneby immensely. I do hope you will let me know when you are passing through New York again.

With kindest regards.

Yours sincerely,

  
Guy B. ~~Cresford~~

Dr. Gertrud Weiss Szilard  
2380 Torrey Pines Road  
La Jolla, California 92038

INTERNATIONAL FUTURE RESEARCH  
INAUGURAL CONGRESS  
OSLO

12th—15th SEPTEMBER, 1967



Institut Für Zukunftsfragen  
Vienna

International Peace Research  
Institute-Oslo

MANKIND 2000

1st August 1967.

From: The Conference Secretary,  
Mankind 2000,  
c/o The International Peace Research Institute-Oslo,  
P.O. Box 5052, OSLO 3.

(Telephone: Oslo 69 74 60)

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.....,  
.....,  
.....

Dear .....

INTERNATIONAL FUTURE RESEARCH INAUGURAL CONGRESS  
Hotel Voksenasen, Voksenkollen, Oslo.  
12th-15th September 1967

A folder containing papers submitted toward the work of the above Conference has recently been posted to you by air mail for your consideration in advance of the Conference itself. Should you not receive these in the near future, please let me know to the above address.

I now send you further details in respect of this Conference, which supersede all previous information you may have received. Any further alterations will be announced at the time of the Conference.

On arrival at Fornebu Airport, participants are advised to take the bus in to the centre of Oslo. From there, taxis may be hired out to the Hotel Voksenasen, or alternatively, trams leave every 15 minutes from the National Theatre for Frognerstieren and if passengers alight at Voksenkollen the hotel is within two minutes walk.

The Conference will commence at 1200 on Tuesday 12th September and end at 1700 on Friday 15th September.

Overnight accommodation will be provided for you from 1200 on Tuesday 12th September until 1200 on Friday 15th September at the Hotel Voksenasen, Voksenkollen, Oslo (Telephone: Oslo 60 91 80), unless otherwise notified by me.

The cost of full board and lodging for the duration of the Conference will be borne by the Conference organisers, but this does not include the consumption of wine and spirits or other beverages separately ordered, which must be paid for individually.

All further correspondence with the Conference Secretary should be addressed to him c/o The International Peace Research Institute-Oslo, P.O. Box 5052, Oslo 3.

We look forward to meeting you and working together with you.

James Wellesley-Wesley  
(Conference Secretary)

INTERNATIONAL FUTURE RESEARCH INAUGURAL CONGRESS

"The Near Future of Mankind - Peace and Development, 1970-2000"

\* \* \* \* \*

Introducers and Discussants

September

Tuesday 12th - 'International Futures - The Challenge'

1230 . . . . . Opening of Conference by Mr. Helge Seip, Head of the Ministry of Public Works and Municipal Development.

1400-1445. . . . . Address by Dr. Johan Galtung.

1500-1545. . . . . "INTERNATIONAL FUTURES" - Professor I. Glagolev.

1945- . . . . . Film on Long-range Planning.

Wednesday 13th - 'Trends, Priorities and Goals for the Future'

0930-1230. . . . . "MATERIAL RESOURCES" -

Prof. Richard L. Meier - Introducer  
Prof. Dr. Fritz Baade )  
Dr. Erich Jantsch ) - Discussants

1430-1730. . . . . "MATERIAL DEVELOPMENT" -

Prof. Dennis Gabor - Introducer  
John McHale - Discussant

Thursday 14th - 'Trends, Priorities and Goals for the Future'

0930-1230. . . . . "HUMAN IMPLICATIONS" -

Frederick J. Hacker, M.D. - Introducer  
Dr. Bedrich Levciik, CSc.)  
Prof. Werner Hirsch ) - Discussants  
Dr. Richard Farson )

1430-1730. . . . . "GOALS" -

Prof. Dr. Fred. L. Polak - Introducer  
Hasan Ozbekhan - Discussant

1945- . . . . . Dr. Robert Jungk - "Where do we go from here?"

Friday 15th -

0930-1230. . . . . Definitive plans for the Future.

1430- . . . . . Meeting with Norwegian Youth/ TV/ Broadcasting and Press Conference.

\* \* \* \* \*

(Panels of Discussants to be completed).

*X*  
*in diesem Zusammenhang könnte ich den Billardkreis anregen!*  
*R.S.*

THE NEAR FUTURE OF MANKIND -  
Peace and Development, 1970-2000

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September  
1967

CHAIRMAN : Kenneth Lee

Tuesday 12th            'International Futures - The Challenge'

1200            Assemble at Hotel Voksenasen  
1230            Opening of Conference by Mr. Helge Seip,  
                  Head of the Ministry of Public Works and  
                  Municipal Development.  
1300 - 1400    Lunch  
1400 - 1445    Address by Dr. Johan Galtung  
1500 - 1545    'International Futures' - Professor I. Glagolev  
1545 - 1600    Break  
1600 - 1730    Open Discussion  
1730 - 1930    Break; Dinner (1830-1930)  
1945 - 2145    Continuation of Open Discussion on 'International Futures'  
                  and/or Film on Long-range Planning followed by Discussion

Wednesday 13th        'Trends, Priorities and Goals for the Future'

0930 - 1045    'Material Resources' - Introducer (20 minutes);  
                  Discussants with Introducer (55 minutes)  
1045 - 1100    Break  
1100 - 1230    Open Discussion  
1230 - 1430    Break; Lunch (1300-1400)  
1430 - 1545    'Material Development' - Introducer (20 minutes);  
                  Discussants with Introducer (55 minutes)  
1545 - 1600    Break  
1600 - 1730    Open Discussion  
1730 - 1930    Break; Dinner (1830-1930)  
2000 -            Reception

Thursday 14th         'Trends, Priorities and Goals for the Future'

0930 - 1045    'Human Implications' - Introducer (20 minutes);  
                  Discussants with Introducer (55 minutes)  
1045 - 1100    Break  
1100 - 1230    Open Discussion  
1230 - 1430    Break; Lunch (1300-1400)  
1430 - 1545    'Goals' - Introducer (20 minutes);  
                  Discussants with Introducer (55 minutes)  
1545 - 1600    Break  
1600 - 1730    Open Discussion  
1730 - 1930    Break; Dinner (1830-1930)  
1945 - 2145    "Where do we go from here?" - Dr. Robert Jungk;  
                  Open Discussion - Proposals for future action

Friday 15th

0930 - 1230    Definitive plans for the future; Formation of on-going  
                  Council, Executive Committee and Study Groups  
1230 - 1430    Break; Lunch (1300-1400)  
1430 - 1700    Meeting with Norwegian Youth; Television/Broadcasting  
                  and Press Conference???

\*\*\*\*\*



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17th Pugwash Conference on Science and World AffairsRonneby, Sweden, 3-8 September 1967Messages from Heads of StateFrom U Thant, Secretary-General of the United Nations

This is not the first opportunity I have had of greeting the participants of the Pugwash Conferences on Science and World Affairs, but this time I do it with special pleasure.

This XVIIth Conference is not only the largest of all the Pugwash Conferences held so far but is also a jubilee session which marks the 10th anniversary of the Pugwash Movement.

Ten years is a very short period in the history of an international movement. Nevertheless, the Pugwash Conferences have succeeded in establishing themselves as a very important international forum where outstanding scientists who, though holding various ideological, political and religious views, are gathered in the common goal to prevent thermo-nuclear war and to direct the successes of science and technology towards peaceful purposes. The opinions expressed and the resolutions adopted at your Conferences receive the careful attention they deserve at the United Nations as well as by national governments and it would be no exaggeration to say that they often influence decision-making processes.

It gives me great satisfaction to note that the work of the Pugwash Conferences in general follows the same aims as those pursued by the main bodies of the United Nations. The agenda of the present Conference is the best witness to this. It includes such important topics as, first, arms control, peacekeeping and security, secondly, new approaches in disarmament and thirdly, international co-operation and development. Each of these items is of paramount importance to the cause of maintaining peace and security, of the development of friendly relations among nations and of the achievement of international co-operation in solving international problems. I wish you all success and I hope that your deliberations of these problems will, as in previous occasions, contribute substantially to the efforts of the United Nations in seeking solutions to the many problems that face mankind today.

Let me in conclusion convey to you my best wishes for the success of your meeting.

From Guiseppe Saragat, President of Italy

On the occasion of the opening of the 17th Conference on Science and World Affairs, I wish to convey my cordial salute to the organizers and to all participants. I am certain that this meeting, attended by so many eminent scientists and scholars from all countries, who are united by a common undertaking for peace and for the welfare of all humanity, will provide a further most valuable contribution of ideas, of experience and of suggestions towards attaining the noble ideals, which are in the best tradition of the Pugwash Movement.

From Antonin Novotny, President of Czechoslovakia

I convey to you, participants of the XVIIth Pugwash Conference on Science and World Problems my cordial greetings.

In our country we consider the Pugwash Movement as one of the important manifestations of the awareness of the growing responsibility of scientists for the destinies of fruits of their work. I wish much success to your considerations aimed at eliminating the threat of nuclear war and establishing peaceful co-operation among all nations.

From Walter Ulbricht, Chairman of the Council of State of the G. D. R.

On the occasion of the 17th Pugwash Conference and the 10th anniversary of the Pugwash Movement of scientists, allow me to convey to you my very best wishes. The Council of State, the Government and the citizens of the German Democratic Republic have always attentively been following the activities and the results of your efforts to contribute towards the solution of urgent problems and to the securing of peace, and hold these efforts in high esteem. At present, there are problems, which, in the interest of peace and security, should be brought to a solution as soon as possible. It is especially called for to put an end to the U. S. aggression against the Vietnamese people and to eliminate the consequences of the Israeli aggression against the Arab peoples, to conclude an agreement on the non-proliferation of atomic weapons and to implement effective measures to guaranty European security. I am convinced that the responsible scientists united in the Pugwash Movement as in the past will not hesitate to put forward an important contribution towards the solution of the existing urgent problems. To this end, I wish the 17th Pugwash Conference full success.

From Mohammad Ayub Khan, President of Pakistan

On the occasion of the Pugwash Conference held in London in 1962, I had the privilege of sending a message of cordial good wishes for its success. Since then, unfortunately, the prospects of peace have dimmed and conflicts between nations have flared up and intensified in a manner none of us expected in 1962. The hopes built of achieving universal disarmament have so far remained unfulfilled. The fear of nuclear annihilation is still with us, as much as it was five years ago. And we are no nearer to agreeing to a juridicial settlement of international disputes. Those of us concerned with raising of living standards in developing parts of the world view with alarm and frustration the wasteful uses of the world resources in unnecessary defence expenditures. As you know the world as a whole is spending nearly 20 billion dollars a month on war or preparations for war.

This, I venture to hope, is only a temporary phase of affairs. One portent of hope is the type of meeting which you, the leading world scientists have organized and which holds promise of bringing the ideal of a world living in peace and harmony closer. Your meeting provides an inestimable opportunity for men of talent who are responsible for creating the modern technological world we live in, to reflect on the

problems of peace and security and to bend their efforts in achieving international collaboration for the welfare of mankind. It is also fitting that you have assembled to deliberate in a country with long traditions of peace and international humanitarian ideals. In this spirit I salute your efforts and send your meeting my warmest greetings.

From Willy Brandt, Foreign Minister of the F. G. R.

To the participants in the 17th Pugwash Conference I extend my sincere greetings together with my best wishes for the success of the Conference. In an age of immense technological progress, the scientist is being confronted increasingly in his professional work with questions of political consequence. The politician is, on his part, seeking in increasing measure the co-operation and advice of the scientist. This development is reflected in the increased demands made by society on the scientist's political sense of responsibility. The world expects him to adopt an attitude that will help to clarify our present-day controversies which abound in scientific and technological problems. May the 17th Pugwash Conference manage to contribute to the international detente and to a solution of the problems in Europe and throughout the world in keeping with the wishes of all nations. The German people are prepared to do all in their power to help achieve that end.

From Adam Rapacki, Minister of Foreign Affairs of Poland

The fact that your Conference was held in Poland last year is the best proof of the support we give to the Pugwash Movement. I send to the 17th Pugwash Conference my wishes for fruitful debates, and I express the conviction that the combined efforts of people of science from the whole world who are joined in your Movement will make a noble contribution to the defence and reinforcement of peace. Peace is the common objective of the governments and peoples who struggle for a better future for mankind.

! Sept 3 T  
XVII - 02

17th Pugwash Conference on Science and World Affairs  
Ronneby, Sweden, 3-8 September 1967

Opening Address by Mr. Tage Erlander, the Prime Minister of Sweden.

Mr. Chairman, Mr. Secretary General, Ladies and Gentlemen.

It gives me great satisfaction to bid you all welcome to the 17th Pugwash Conference on Science and World Affairs.

In 1955 eleven famous scientists signed the so-called Russell-Einstein Manifesto, which called for a conference of scientists to discuss means of achieving international understanding. Two years later the Pugwash Movement was founded.

The Manifesto contains a wording, which may be called a credo of peace: "We appeal as human beings: remember your humanity, and forget the rest. If you can do so, the way lies open to a new Paradise; if you cannot, there lies before you the risk of universal death".

It is a paradox that although nearly everybody wants peace and everybody talks of freedom the Secretary-General of the UN newly said: "I just don't now see the light at all. If the present trend continues I'm afraid the third world war is inevitable."

U Thant has many reasons for his pessimism.

Some months ago a cruel and bitter war was fought in the Middle East. Tensions of long duration, mutual distrust and intensive propaganda gave rise to the war. Though the war formally is over, the tensions, the insecurity and the antagonism remain.

In Vietnam, the war continues to inflict suffering and misery on an already sorely tried country. The problems of Vietnam cannot be solved by bombing raids, but only through stabilisation of the domestic situation and national independence.

In South Africa and Rhodesia racial fanaticism is striking its roots ever deeper. A white minority suppresses the majority's righteous claims for justice, freedom and equality - because the majority is non-white.

The pattern of conflict supports the theory that the conflicts of today are conflicts between rich and poor countries. Perhaps one may say between strong whites and poor non-whites. What was supposed to be the decade of international solidarity has become the decade of growing international inequality.

Perhaps U Thant is right when he says: "Moral development has not kept pace with the scientific and material development of many nations".

I think the Secretary General points to a central problem. The rate of change has increased so much that - and I am now speaking as a politician - our imagination cannot keep up.

The rapid development of science and technology challenges all the scientists.

The widened and widening gap between the increased knowledge of every domain and what the public at large know, is a disquieting element. For the scientist it may create a risk of isolation within the confine of his own speciality. For people in general it may cause a feeling of alienation and insecurity.

The special role played by science in modern society makes it your duty to help mankind to avert the dangers which have arisen from the progress of science and technology and to assist in the creation of a secure world.

From what I have said it must be clear that I associate myself with your conviction that scientists have a particular responsibility to prevent the dangers and promote the possibilities of the future. The road towards possible success has to be built in cooperation between the scientist and the politician. This kind of co-operation has been successful in Sweden. Due to our neutral policy it has been possible for us to contribute to relaxations of international tensions. To us neutrality has not meant isolation but international activity. Our non-partisan stand in relation to conflicts in general and in relation to the two superpower in particular has made it possible for us to take an active part in the constructive multilateral cooperation to solve economic and social problems of the world. Former foreign minister Undén developed a philosophy of neutrality as a step towards international realization of collective security instead of a "primitive" system of alliance and balance of power.

To us security through the UN is the prime objective. We have strongly supported all efforts to achieve general and complete disarmament and at the same time we have supported establishment of UN peace forces.

The overwhelming majority in Sweden supports this policy and the government is firmly determined to continue the neutral policy.

Three years ago, in connection with Sweden's anniversary of 150 years of unbroken peace, I proposed that we make manifest our gratitude through the establishment and financing of an international institute for research on problems of peace and conflict. This proposal was subsequently adopted by the Swedish Parliament and the institute is now in being. The Government and Parliament of this country is committed to give the institute substantial support. We did not want, however, to influence the work of the institute. It has, therefore, been given an international governing board, one member of which is your Secretary General, professor Rotblat. In its work the institute is advised by a wider international representation and this advisory council contains representatives of East and West, and of North and South. The international board thought this arrangement to be appropriate in the starting up of a new institute, both to introduce it to the international scientific community and to have its programme discussed by you.

It is my hope that you will base your work on the assumption of co-operation between scientists and politicians. Once again I wish you welcome to Sweden and this conference.



Sept 5 T

17th Pugwash Conference on Science and World Affairs,  
Ronneby, Sweden, 3-8 September 1967

A. Myrdal  
(Sweden)

NEW ROADS TO DISARMAMENT

I. Introduction.

The paper to be presented - in my personal capacity - at the Pugwash Conference is based on a critical attitude towards attempts to draw up disarmament plans in a political vacuum. **Even individual** disarmament measures should be examined with regard to their specific political feasibility. The paper will endeavour to establish as definite a linkage as possible between specific political changes on the international scene and specific disarmament measures.

In order to present this reasoning in a coherent fashion, the process of development towards a world of peace and general disarmament is conceived of as following four different "paths". They are and must be pursued parallelly, although they must also be expected to mature within different time-dimensions. It should be understood that these "roads" are thus not to be conceptualized as a sequence of stages, of which one has to be - successfully - completed before the next one is entered upon. The pattern is rather one of developing processes which are incipient already at the present time and presumed to be actively pursued so as to continue to gather momentum. But it is also assumed that as some will mature earlier than others, they should thus also create an atmosphere, more propitious for further change along the other lines. The main idea, underlying this somewhat artificially construed framework (artificial in so far as it gives the semblance of a necessary time-order) is that specific political changes are more organically linked with specific disarmament measures than is usually realized. Or, to spell it out as an important prerequisite for efforts in the disarmament field, the proposition should be turned around: specific disarmament measures are more systematically dependent on specific political changes than is generally admitted.

II. A sequence of possible disarmament measures and relevant political trends.

1) Disarmament measures which could most appropriately be expected in the immediate future would consist in freezing the status quo in regard to the nuclear arms race and, both as a cause and as an effect, obtaining a modicum of détente in the political relation between the two existing super-powers, and between them and the rest of the world.

2) A second and wider objective must be the solution or at least pacification of regional conflicts and a reduction of the numbers, frequency and scope of so-called local wars. For this process to succeed it is essential that a correspondence be established between such disarmament measures which can serve as effective brakes on the military build-ups in various parts of the world and the related political measures, consisting in withdrawal of great-power interventions around the globe.

3) In a third and more remote circle of objectives should be reckoned a considerably heightened international integration in the economic and cultural spheres, leading to a much more equitable distribution of resources of all kinds and a much more active participation by all peoples in the decisions of world affairs. This major change entails disarmament measures which assure considerable savings - in money, men and before all technical and scientific resources - and, as political measures, a combatting or at least controlling of all tendencies towards power monopolies, economic, political or cultural.

placed/ .

4) In the most distant future must be plans to establish both General and Complete Disarmament and a world order where progress, liberty and peace would be firmly secured, although also that world would be faced with the eternally ongoing flux of change. In order to achieve this we can from this far distance only distinguish the need that the United Nations will have to have been built up to such an efficient organ that we could safely transfer to it the functions of protecting and perfecting the world society. Then the present historical epoch of great power blocs, of mass destruction weapons, of economic monopolies, of political and cultural hegemony must belong to the "bygones that are for ever bygones".

### III. Halting the nuclear arms race and establishing basis of confidence.

The connection between political change and disarmament measures is least specific in the nearest future; the world is in a state of turmoil, where policies must be switched and even improvised in so many places, while on the other side practically all disarmament measures are as yet untried. In this short range perspective progress along the road to disarmament has seemed rather to be dependent on whether some event does occur which leads to a lessening of tensions between the world powers. Our greatest disarmament success so far, namely the partial ban on nuclear weapon testing, obtained by the Moscow Treaty in 1963, was in some general way related to the fact that tensions became relaxed after the Cuba adventure. It seems difficult to establish any inherent affinity between the two advances made. Probably the test-ban was just happened to be the one disarmament decision best prepared. Otherwise the Cuba experience should have led to an interest in non-proliferation of nuclear weapons to additional countries, particularly in the sense of non-deployment on new territories. A more definite link can be visualized to exist between the present fairly hopeful endeavours to reach an agreement against additional countries getting control of nuclear weapons and the recent Israel-Arab war.

Characteristic of all measures at present actively discussed within the disarmament negotiations are that they would result in a "freezing" or containment; in this sense measures tailored for the initial period rather represent "non-armament" than any effective disarmament.

"Non-proliferation", i.e. the freezing of the number of nuclear powers, is obviously directly connected with political interests of today to reduce the numbers of possible initiators of nuclear war. This issue is of particular relevance in relation to geopolitical situations where two nations are paired-off in seemingly permanent positions of mutual military threat and where at least one of them has the technological capability to produce nuclear weapons or the political aspiration to acquire them from a nuclear weapon power. (That treaty on non-proliferation is, however, not the most efficient one - or perhaps even politically the most easily attainable one - I have contended in many previous contexts. The same result would be obtained by the following ones which belong in the same category of measures and which have simultaneously been placed on the agenda.)

"Cut-off", i.e. a freezing of the quantity of nuclear weapons through a prohibition on further production of fissionable material for weapons purpose, is related to the same goal of containing the nuclear club to its present membership of five nations, but also to the goal of beginning to halt the ever-increasing superiority of the super-powers.

"Test-ban", i.e. the freezing of the quality of nuclear weapons through a complete ban on all testing of such weapons serves exactly the same purposes as the "cut-off": it would in practice effectively stop additional nations from achieving operational nuclear capabilities, and at the same time submit the super-powers to some restrictions as corresponding obligations. As there is no shortage in the quantity of nuclear weapons already produced, which on the contrary already represent "overkill" capacity, the stopping of testing, i.e. of development of these weapons through experimentation, would be more effective in hampering the arms race, thus also most conducive to improvements in the political atmosphere in the world.

Finally, a freezing of the development and deployment of strategic delivery systems, both offensive and defensive, would have similarly important effects in bolstering the world's trust in its own future. But this measure - currently represented by bilateral discussions to curtail the development and deployment of anti-ballistic missile defense systems (ABM) - shows most clearly the correlation with political realities: the weighing of the issue, at least as reported from USA, seems to hinge on the fine point whether the détente with the USSR is so reliable that it would permit scrapping the projects or whether they should be reduced to the simpler and cheaper systems, motivated by what is perceived as a threat from China.

IV. Insulation of regional political conflicts against foreign interventions and arms build-up.

A wider range of disarmament measures can only be conceived against a background where great powers renunciate any special "police" responsibilities on an international scale, a renunciation which in turn is related to the prospect of greater calm on the international scene, partly engendered by the halting of the nuclear arms race indicated in the previous section. To suggest international legislation about prohibitory measures, such as those exemplified in the following, without a corresponding relinquishment of great power tendencies towards interventions would seem futile. But if a climate of gradual independence for various regions of the world is created, the following disarmament measures become so much more appropriate:

The first would probably have to be the de-politization of "military aid". How constructive alternative solutions of a kind to the manifold political problems should be shaped, both at the national and at the regional level, must be left for their peoples to decide. (That there must be some substitution by positive contributions from abroad only needs mentioning: a strengthening of UN peace-keeping forces and a generous inflow of assistance, not by foreign politicians, but by scientists, technicians, research workers etcetera, under independent national or regional or UN management, only not directed by outside governments.) Here we are only concerned with intervening activities initiated from the outside; they must follow a declining scale if progress is to be secured for the development process as here sketched.

An embargo on arms deliveries should, by the way, be a rather strict parallel to the "non-proliferation" of nuclear weapons. As another move in this category should be considered the elimination of foreign military bases. To suggest such a withdrawal generally in our present state of affairs seems to me less realistic if this one be a solitary measure. A rule against foreign bases has its appropriate place in a systematic demounting of foreign military postures around the globe. This, of course, should not debar any powers from taking unilateral, ad-hoc decisions at any time in the direction of evacuation of military strongholds.

The one disarmament measure in this second category which can be undertaken most rapidly and with maximum independence is, of course, that of zonal denuclearization, or even de-militarization. Latin-America has already pioneered in this field. Still, that case also demonstrates how considerable complications are introduced by great power politics; it may suffice to mention the place names Cuba, Panama, Puerto Rico - and the Falkland Islands. For establishing a denuclearized zone in Europe it is even more obvious that vested great power interests are of enormous and probably decisive importance. This illustrates the sagacity of placing such measures with regional disarmament effects in a stage subsequent to the one of a more primary relaxation of tensions and diminution of that great power antagonism which in turn has called forth so much competition.

V. Widening international interdependence and beginning of effective disarmament.

Under this heading should be pin-pointed - although the process obviously has to be a gradual one - that considerable advances towards economic integration and political cooperation can only be made on a basis a) of increasing independence established by diminishing dominance of great power interests, militarily and politically as well as economically, and b) an enormous increase in resources for scientific advance and training of human resources, made possible through considerable savings on military budgets.

There might, and should, be established a listing of exactly what kinds of savings would be made possible by each specific disarmament measure, with concomitant plans for the transfer of those resources to productive uses, largely in favour of the underprivileged parts of the world. (Examples are given in the paper.)

If the world should ever have hopes of entering upon this kind of new, creative phase, there must not only have been pursued a dynamic process leading to gradually more considerable disarmament, as indicated above. Also, barriers must have been built against overriding power concentrations, which automatically seem to follow in the wake of modern technological developments in the large scale range - if special inhibitory mechanisms are not introduced. A couple of examples are given in the paper. One is related to the age-old tradition in international law of "freedom of the seas", which not only has to be defended on a non-discriminatory basis (excluding any self-established "right" to disturb traffic through nuclear experiments or military manoeuvres) but also extended to international and joint ownership of deep sea resources. Similarly, the technical possibilities to develop the telecommunication satellites to such a point that the most isolated village in the most distant continent can be reached by one and the same powerful transmitter, places us before the choice of utilizing this advance either for establishing a system of equitable interdependence between nations and peoples, or for a system of as yet unimaginable cultural hegemony by the technologically, industrially and economically strongest nations.

VI. A Future World Order of Security.

Only successful fulfillment of the many very laborious and perhaps superhumanly difficult tasks outlined so far would make it possible to blueprint an international order for peace, progress and security. It is simply impossible to visualize now any adequate construction that would substitute for the present one where conflict, competition and violence, yes, brutality rules.

In this context I only want to illustrate the interrelationship between political change and disarmament measures at a pivotal point. It has been taken for granted in all disarmament plans that in a final stage national armies should be abolished and a United Nations force organized to safeguard the world against brush-fires of violence. The two existant formal plans for General and Complete Disarmament, one proffered by USA and the other by USSR, have advocated quite different structures for this system of a future UN world police force. The US has advanced the view that the UN should organize standing forces of its own, while the USSR has been of the opinion that the UN should

only have the right to call on contingents from various national militia groups. It would, of course, not be difficult to draw up a practical compromise: a unified UN command with some permanent stand-by forces plus the possibility to draft reserves from militia in various member nations. But the crucial idea to grasp is that there is no use, or even any possibility to plan any such supreme UN force if one's perspective of the future is dominated by the thinking in terms of blocs or alliances.

The organizational basis both for the military and the civilian international order of the future must be conceived in the terms of a "democracy of nations". That is, nations whose independence is strengthened and made much more equitable pari passu with their ever firmer interlocking in international co-operation. There can be no world order, no world peace, and no UN police force to ensure that peace as long as we cannot free our thinking from the image of great power blocs, great power hegemony - as long as all our plans aim at splitting the world instead of at joining it together.

The fact that as yet we lack a vision of the long-term solutions, which is at the same time realistic and creative, is exactly the reason why we now have to concentrate our attention on the modest beginnings with which I started my outline.

CONTINUING COMMITTEE  
OF THE  
PUGWASH CONFERENCES ON SCIENCE AND WORLD AFFAIRS

XVII - Adm. 1 a

*Secretary-General: Professor J. ROTBLAT*

*Chairman: The Earl Russell*

*Telegraphic Address: Pugwash, London*

*Members:*

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LONDON, N.W.2.  
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Prof. V. Sarabhai.  
Assistant Secretary-General: Dr. Patricia J. Lindop

3rd August 1967

Dear Mrs. Szilard,

17th Pugwash Conference on Science and World Affairs

Ronneby, Sweden, 3-8 September 1967

I was very glad to hear that you hope to attend the Ronneby Conference. Here is some more information about it.

1. Programme.

I enclose the programme together with a list of the topics for the Working Groups. As you will see, we envisage three Symposia to be held at plenary sessions on the mornings of the second, third and fourth day of the Conference. The subjects of these Symposia correspond to the topics of the working groups as follows: Symposium I - Working Groups 1, 2 and 7; Symposium II - Working Group 3; Symposium III - Working Groups 4 and 5. The topic of Working Group 6 will be discussed at the plenary sessions on the first day, in conjunction with the Reports from the Continuing Committee, National Groups and Study Groups.

At the plenary sessions each Symposium will be introduced by three invited speakers. We hope to circulate the keynote papers in advance of the Conference. It will be assumed that these papers will have been read by all participants, so that only brief summaries will be given at the sessions. These summaries will be followed by a general discussion.

2. Working Groups.

Each participant will be allocated to one of the working groups. These will meet in the afternoons, except for the morning of the fifth day of the Conference. The afternoon of that day is left free, to give the conveners time to summarize the work of each working group, for presentation at the plenary sessions on the last day.

The items listed under each heading are given only as examples; they do not preclude other topics to be discussed if they come under the same headings. Each of the working groups may divide into two or more sub-groups, either discussing the same topics or taking up specific items.

Please indicate on the enclosed questionnaire to which working group you would like to be allocated, giving a first and second choice.

### 3. Papers.

Participants are invited to submit papers to the Conference on any of the topics of the working groups. Papers should be sent in as soon as possible, so that they can be precirculated to all participants.

### 4. Organization.

The administrative aspects are looked after by the Swedish Organizing Committee. If you have any queries about travel, accommodation, accompanying wives, etc., please write to:

Dr. R. Björnerstedt,  
Swedish Pugwash Committee,  
Sveavägen 166, Fack, Stockholm 23,  
Sweden.

Dr. Björnerstedt will send you information about these matters within the next few days.

With best regards,

Yours sincerely,



PUGWASH CONTINUING COMMITTEE17th Pugwash Conference, Ronneby, Sweden, Sept. 3-8, 1967"Scientists and World Affairs"ProgrammeSeptember 3rd

all day Plenary Sessions.

1. Opening Ceremony.
2. Report by the Continuing Committee on activities since the London Conference.
3. Reports from National Groups.
4. Reports from Study Groups.
5. Discussion on  
"The Responsibilities of Scientists".

September 4th

a.m. Plenary Session. Symposium I

"Arms Control, Peacekeeping and Security"

p. m. Meetings of Working Groups.

September 5th

a. m. Plenary Session. Symposium II

"New Approaches in Disarmament"

p. m. Meetings of Working Groups.

September 6th

a. m. Plenary Session. Symposium III

"International Co-operation and Development"

p. m. Meetings of Working Groups.

September 7th

a. m. Meetings of Working Groups.

p. m. Free.

September 8thall day Plenary Sessions. "The Future of Pugwash"

1. Summaries of work of Working Groups.
2. Reports of standing committees on future activities.
3. Discussion and adoption of Conference Statement.
4. Election of new Continuing Committee.

17th Pugwash Conference, Ronneby, Sweden, Sept. 3-8, 1967

"Scientists and World Affairs"

TOPICS FOR WORKING GROUPS

1. Arms Control

- (a) role of nuclear umbrella or minimum deterrent;
- (b) role, levels and traffic in conventional arms;
- (c) liquidation of foreign military bases;
- (d) nuclear-free zones;
- (e) halting the arms race and preventing proliferation of nuclear weapons (comprehensive test ban, A. B. M. 's, nuclear guarantees).

2. Peacekeeping and Security

- (a) role of the U. N. and other international bodies;
- (b) basis of conflicts and their resolution;
- (c) non-use of force in settling international disputes;
- (d) enforcement of international treaties;
- (e) European security and the problem of Germany.

3. New Approaches in Disarmament

- (a) methods of eliminating the development and use of biological and chemical weapons;
- (b) problems of the oceans and space;
- (c) control of peaceful uses of atomic energy;
- (d) dealing with future discoveries and development of weapons of mass destruction;
- (e) new ideas about comprehensive disarmament.

4. International Programmes in Science

- (a) co-operation in space and satellite research;
- (b) International Biological Programme;
- (c) International Science Foundation;
- (d) problems of free circulation of scientists;
- (e) scientific information storage and retrieval.

5. Technology and Development

- (a) resource development and utilization;
- (b) role and planning of universities in developing countries;
- (c) training and utilization of indigenous talent;
- (d) the "brain-drain" problem;
- (e) acceptance of technological innovation and change in the developing world;
- (f) organization of technical assistance programmes.

6. The Special Responsibilities of Scientists

- (a) role of scientists in advising governments and international organizations;
- (b) role of scientists in influencing public opinion;
- (c) the ethical problems created by applications of modern science;
- (d) scientists' responsibility in public education on meaning and implications of science.

7. **Current conflicts and their resolution, e. g. Vietnam.**

**Procedures for resolution of developing conflicts.**

17th Pugwash Conference on Science and World AffairsRonneby, Sweden, 3-8 September, 1967

## SOCIAL EVENTS PROGRAMME

Conference participants, accompanying family members, observers, and press representatives are kindly invited to take part in the social events that have been arranged.

Sunday, September 3	6.30 p m	Buses leave the hotel for Karlskrona - county capital and governor's residential town, where the County Council has arranged a dinner. Special invitation cards have been issued.
Thursday, September 7	2.00 p m	Conference excursion Departure by bus from the hotel between 2 and 3 p m. for the harbour. Short boat transfer to Karö - small island outside Ronneby. At Karö refreshments will be served and a special entertainment programme has been arranged.  Return to the hotel between 5 and 6 p m.
"	"	7.30 p m Banquet, given at the hotel by the Swedish Pugwash group.

17th Pugwash Conference on Science and World AffairsRonneby, Sweden, 3-8 September 1967MEMBERS OF THE CONFERENCE

Aboltin, Prof. V.Y.	(U.S.S.R.)
Adamczewski, Prof. I.	(Poland)
Adams, Mrs. Ruth	(U.S.A.)
Adler, D.J.	(Denmark)
Afheltdt, H.	(F.G.R)
Agarbiceanu, Prof. I.	(Rumania)
Agblemagnon, Dr. N.	(Togo)
Ahnlund, Katarina	(Sweden)
Aklilu Lemma, Dr.	(Ethiopia)
Alcock, Dr. N.Z.	(Canada)
Alfven, Prof.H.	(Sweden)
Amaldi, Prof. E.	(Italy)
Arangio-Ruiz, Prof. G.	(Italy)
Artsimovitch, Acad. L.A.	(U.S.S.R.)
Aseffa Tekle, Dr.	(Ethiopia)
Baptist, Dr. N.G.	(Ceylon)
Barnaby, Dr. C.F.	(U.K.)
Bassir, Prof, O.	(Nigeria)
Bauer, Dr. E.	(France)
Bergmann, Prof. P.G.	(U.S.A.)
Berner, O.	(Sweden - Observer)
Birnbaum, Dr. K.E.	(Sweden)
Björnerstedt, Dr. R.	(Sweden - Conference Administrator)
Bognar, Prof. R.	(Hungary)
Boserup, A.	(Denmark)
Boyd, W.	(Canada)
Bratanov, Prof. K.	(Bulgaria)
Brown, Prof. H.S.	(U.S.A.)
Bruk, M.I.	(U.S.S.R. - Interpreter)
Bukowski, Prof. J.	(Poland)
Bunche, Dr. R.J.	(U.N. - Observer)
Burkhardt, Prof. G.	(U.N.E.S.C.O. - Observer)
Calder, N.	(U.K. - Press Officer)
Calogero, Prof. F.	(Italy)
Catala de Alemany, Prof. J.	(Spain)

Chagula, Dr. W.K.	(Tanzania)
Chain, Prof. E.B.	(U.K.)
Chiowanich, Dr. Panee	(Thailand)
Cockcroft, Sir John	(U.K.)
Cohen, Prof. J.	(U.K.)
Cyvin, Dr. S.	(Norway)
Davidon, Prof. W.C.	(U.S.A.)
Davies, Dr. M.	(U.K.)
Delbrück, Dr. J.	(F.G.R.)
Desai, Prof. M.J.	(India)
Dillon, Dr. W.S.	(U.S.A.)
Ditchburn, Prof. R.W.	(U.K.)
Djerassi, Dr. C.	(U.S.A.)
Dobosz, Irena	(Poland - Interpreter)
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Eek, Prof. H.	(Sweden)
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Elton, Prof. L.R.B.	(U.K.)
Emelyanov, Prof. V.	(U.S.S.R.)
Engelhardt, Acad. V.A.	(U.S.S.R.)
Engström, Prof. A.	(Sweden - Chairman, Organizing Committee)
Esenov, Acad. S.E.	(U.S.S.R.)
Evang, Dr. K.	(Norway)
Fehrm, M.	(Sweden)
Feld, Prof. B.T.	(U.S.A.)
Feldman, Prof. M.	(Israel)
Filkorn, Prof. V.	(Czechoslovakia)
Fisher, Prof. R.	(U.S.A.)
Forlati, Dr. Laura	(Italy)
Frank, Dr. J.D.	(U.S.A.)
Friedrich-Freska, Prof. H.	(F.G.R.)
Galtung, Prof. J.	(Norway)
Garcia, Dr. R.V.	(Argentina)
Garwin, Dr. R.L.	(U.S.A.)
Ghazanfar, Dr. S.A.S.	(Afghanistan)

Glass, Prof. B.T.	(U.S.A.)
Goldschmidt-Clermont, Dr. Y.	(Switzerland)
Göransson, B.	(Sweden - Staff)
Gresford, G.	(U.N. - Observer)
Gryzlov, Prof. A.A.	(U.S.S.R.)
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Gunnarsson, Prof. O.	(Iceland)
Gutteridge, W.F.	(U.K.)
Hajdu, Dr. V.	(Czechoslovakia)
Hanga, Prof. V.	(Rumania)
Hedén, Dr. C.G.	(Sweden)
Hellgren, Ingergerd	(Sweden - Staff)
Herriott, Prof, R.M.	(U.S.A.)
Hess, Prof. P.	(G.D.R.)
Hill, Dr. D.L.	(U.S.A.)
Hodgkin, Prof. Dorothy	(U.K.)
Hodgson, Dr. P.E.	(U.K.)
Holton, Prof. G.	(U.S.A.)
Imshenetsky, Acad. A.A.	(U.S.S.R.)
Inglis, Dr.D.R.	(U.S.A.)
Jones, Prof. G.O.	(U.K.)
Jungk, Dr. R.	(Austria)
Kalkstein, Dr. M.	(U.S.A.)
Kapitza, Acad. P.L.	(U.S.S.R.)
Kaplan, Dr. M.	( W.H.O. - Observer)
Kargin, Acad. V.A.	(U.S.S.R.)
Kashkai, Acad. M.A.	(U.S.S.R.)
Katz, A.H.	(U.S.A.)
Kende, Dr. I.	(Hungary)
Kepes, Dr. A.	(France)
Khabarin, N.V.	(U.S.S.R. - Interpreter)
Kliefoth, Prof, W.	(F.G.R.)
Knapp, Dr. V.	(Yugoslavia)
Kolesnyk, Dr. A.	(G.D.R.)
Kos, Dr. E.	(Yugoslavia)
Kozesnik, Acad. J.	(Czechoslavakia)
Kröger, Prof. H.	(G.D.R.)
Kwee, Dr. S.L.	(Netherlands)
Lakany, Dr. M.	(U.A.R.)
Landheer, Prof. B.	(Netherlands)

Laponche, B.	(France)
Lardner, G.E.A.	(Sierra Leone)
Lattes, Prof. C.M.C.	(Brazil)
Leake, Prof. C.D.	(U.S.A.)
Leclercq, Prof. R.	(Belgium)
Libichova, Susan	(Czechoslovakia - Interpreter)
Lider, J.	(Poland)
Liska, Dr. L.	(Czechoslovakia)
Long, Prof. F.A.	(U.S.A.)
Lopes, Prof. J.L.	(Brazil)
Lösche, Prof. A.	(G.D.R.)
Maaløe, Prof. O.	(Denmark)
Magat, Prof. M.	(France)
Malecki, Prof. I.	(Poland)
Malek, Acad. I.	(Czechoslovakia)
Markovic, Dr. M.	(Yugoslavia)
Marshak, Prof. R.	(U.S.A.)
Martin, Prof. A.	(U.K.)
Mates, Prof. L.	(Yugoslavia)
Matulis, Acad. Y.Y.	(U.S.S.R.)
Mayer, Prof. J.	(U.S.A.)
Medvedev, Acad. S.S.	(U.S.S.R.)
Menon, Prof. M.G.K.	(India)
Menzel, Prof. E.	(F.G.R.)
Meyer, Prof. K.P.	(Switzerland)
Meyrowitz, Dr. H.	(France)
Millionshchikov, Acad. M.D.	(U.S.S.R.)
Miyaki, Prof. Y.	(Japan)
Moch, J.	(France)
Mogeiko, I.V.	(U.S.S.R. - Interpreter)
Morgenthau, Prof. H.J.	(U.S.A.)
Muller, Prof. S.	(U.S.A.)
Munger, Prof. E.S.	(U.S.A.)
Myrdal, Mrs. Alva	(Sweden - Observer)
Nadjakov, Prof. G.	(Bulgaria)
Naggar, Dr. K.E.	(Sudan)
Neild, R.	(U.K.)
Nemec, T.	(Czechoslovakia)
Nesterenko, A.E.	(U.N. - Observer)



Nilsson, Ingrid	(Sweden - Staff)
Nilsson, S.	(Sweden)
O'Ceallaigh, Dr. C.	(Ireland)
Ogawa, Prof. I.	(Japan)
Oldham, Dr. C.H.G.	(Canada)
Pal, Prof. L.	(Hungary)
Palevsky, Dr. H.	(U.S.A.)
Parsons, Prof. T.	(U.S.A.)
Paulsson, Dr. Inger	(Sweden - Observer)
Peierls, Prof. R.E.	(U.K.)
Perrin, Prof. F.	(France)
Phelps, Dr. J.B.	(U.S.A.)
Platanov, Dr. U.P.	(U.S.S.R.)
Plaude, Acad. K.K.	(U.S.S.R.)
Pochitalin, I.G.	(U.S.S.R.)
Powell, Prof. C.F.	(U.K.)
Pozo-Olano, Prof. J.	(Peru)
Prawitz, J.	(Sweden - Press Officer)
Quirino-Lanhounmey, Dr. J.	(Dahomey)
Rabi, Prof. I.I.	(U.S.A.)
Rabinowitch, Prof. E.	(U.S.A.)
Rabinowitch, Dr. V.	(U.S.A.)
Rahmqvist, Gunilla	(Sweden - Staff)
Raiser, Prof. L.	(F.G.R.)
Rathgeber, Dr. H.D.	(Australia)
Rathjens, Dr. G.	(U.S.A.)
Reczei, Prof. L.	(Hungary)
Raven, Prof. T.	(Lebanon)
Revelle, Prof. R.	(U.S.A.)
Revesz, Dr. L.	(Sweden)
Rich, Prof. A.	(U.S.A.)
Ritchie, T.E.	(F.A.O. - Observer)
Rollefson, Prof. F.	(U.S.A.)
Rosebury, Dr. T.	(U.S.A.)
Rotblat, Prof. J.	(U.K. - Secretary-General)
Roth, Dr. E.	(France)
Rubinstein, Prof, M.	(U.S.S.R.)
Ruina, Prof. J.	(U.S.A.)
Salam, Prof. A.	(Pakistan)

Sandosham, Prof. A.A.	(Malaysia)
Saukkonen, Prof. J.J.	(Finland)
Scoville, H.	(U.S.A. - Observer)
Seitz, Prof. F.	(U.S.A.)
Seligman, Dr. H.	(I.A.E.A. - Observer)
Shelepin, Dr. M.P.	(U.S.S.R.)
Skolnikoff, Dr. E.	(U.S.A.)
Smith, Prof. P.B.	(Netherlands)
Snejdarek, Prof. A.	(Czechoslovakia)
Sohn, Prof. L.B.	(U.S.A.)
Sokolov, Prof. I.A.	(U.S.S.R.)
Sparring, Prof. A.	(Sweden)
Stein, Prof. G.	(Israel)
Sutherland, Sir Gordon	(U.K.)
Swartz, W.	(U.S.A. - Observer)
Szilard, Mrs. Gertrud	(U.S.A.)
Tammelin, Dr. L.E.	(Sweden)
Tiselius, Prof. A.	(Sweden)
Torto, Prof. F.G.T.	(Ghana)
Toyoda, Prof.T.	(Japan)
Tupolev, Acad. A.N.	(U.S.S.R.)
Vatistas., Dr. S.	(Greece)
Vavpetic, Acad. L.	(Yugoslavia)
Vinogradov, Acad.A.P.	(U.S.S.R.)
Voslensky, Prof. M.S.	(U.S.S.R.)
Voss, J.	(U.S.A.)
Warford, Ann	(U.K. - Staff)
Wasawo, Prof. D.P.S.	(Kenya)
Weinberg, Dr. A.M.	(U.S.A.)
Wergeland, Prof. H.	(Norway)
Whipple, Prof. R.O.	(Ethiopia)
Wilhjelm, Dr. J.N.K.	(Denmark)
Wünsche, Prof. H.	(G.D.R.)
Yamada, Prof. E.	(Japan)
Zaheer, Dr. S.H.	(India)

17th Pugwash Conference on Science and World Affairs

Ronneby, Sweden, 3-8 September 1967

FINAL REPORT OF WORKING GROUP 4

"International Programmes in Science"

*Naalpe*

A number of International Scientific Projects are in operation and others have been proposed and recommended by previous Pugwash Conferences. We discussed the progress made during the last two years and concentrated on the most apparent reasons for the success of some and the failure of other projects. Our report should therefore be read as a sequel to that of Working Group 2 of the 14th Pugwash Conference (Venice, April 1965).

It proved useful to discuss the International Programmes in relation to Regional efforts since successful regional organizations exist, whereas international co-operation at a high scientific level and with adequate financial support has been very difficult to establish even in cases where problems of great importance for mankind can be solved only by world-wide co-operation. We discussed two features which distinguish the successful regional organization: (1) the relative homogeneity of the region which permits governments to agree on long term planning and on adequate and sustained financial support; and (2) the fact that the organizations in question essentially are operated by the scientists themselves, the administration superstructure having been reduced to a minimum.

We were encouraged by a report on the establishment and current activities of the International Centre for Theoretical Physics in Trieste. This centre is operated with the same efficiency and flexibility as the most successful Regional organizations and it therefore enjoys the full support and co-operation of the world community of theoretical physicists. In particular it is recognized that the centre in a direct manner stimulates research and advanced education in physics in the developing countries.

Our discussion centered on the problems that must be solved if already established and future International Programmes in Sciences are to achieve the same efficiency and positive relationship to the developing world. We recommend some initial steps towards solving these problems.

## I: World Science Centre(s) and International Scientific Foundation

We considered the proposals made at the 7th Pugwash Conference at Stowe, and again at this Conference, to establish a World Science Centre, as a means of tackling scientific problems which demand a world wide attack, and also as a means of promoting international understanding through the large scale, world wide, collaboration of scientists. The centre was envisaged as having a number of component parts engaged in activities such as life sciences (including a World Health Research Centre), scientific information (World Centre for Storage and Retrieval of Scientific Information), and high energy physics.

We considered also the proposal, made at the 14th Pugwash Conference in Venice for the establishment, probably under the sponsorship of UNESCO, of an International Scientific Foundation. The object of the foundation was to promote scientific and technological research in countries where no adequate support is available, by assisting worthwhile projects and individual scientists of promise.

We noted that so far no progress has been made in the setting up of the proposed foundation and centre(s). It was felt that this might be due to a number of factors, including possible inherent defects in the concepts on which the programmes are based, and the inability to command support on the tremendous scale required outside the framework of the United Nations Organization.

Realizing that the difficulties in the way of the establishment of the centre(s) might include complex components which are not immediately obvious, and desirous of avoiding the creation of new organizations for purposes which might be served by the specialized agencies of the United Nations, we recommend that a special conference of Pugwash should be convened to study the problem in depth. This study should include the scientific and technological aspects, as well as the organizational status and the relationship to existing international scientific organizations. The group that would undertake the study should have effective representation of relevant fields and interests.

We recommend further that special attention be paid to the study of possible modifications of the structure and mode of operation of the existing U. N. organizations, in the light of two decades of experience, in such a way that they might serve as a framework within which international scientific programmes such as we have been considering could function efficiently and attain an excellence equal to that of the International Centre for Theoretical Physics at Trieste.

## II: International Biological Programme (I. B. P.)

We considered the progress made and the problems that have emerged during the first two years of the I. B. P.

The I. B. P., having as its main aim the assembly of data on the possibilities offered by our planet for the nutrition of living organisms, including

the human population, poses at the same time a challenge and an important opportunity for international scientific co-operation. Further, it promises to contribute significantly towards solving the problems of food and nutrition that menace the rapidly expanding population of the world.

We feel concerned, therefore, that whereas satisfactory progress has been achieved in many developed countries, the programme has been virtually at a standstill in many of the less developed countries, due in large measure to a shortage of funds. This is alarming in view of the fact that some of these countries stand to benefit most from the successful implementation of the programme:

We recommend:

(i) that the members of the Pugwash Movement urge their governments to give a sufficiently high priority to the I. B. P.

(ii) that the United Nations, the United Nations specialized agencies and the United Nations Development Programme increase their support to developing countries to enable them to participate effectively in the I. B. P.

(iii) that the I. B. P. committees in the developed countries should establish relations with, and give financial and other assistance to, I. B. P. groups in the developed countries.

(iv) that the members of the Pugwash Movement should urge the governments of the developed nations to render financial assistance to the developing countries, preferably through the appropriate U. N. organization, to enable them to plan and execute projects within the programme. Such assistance should carry a guarantee that it will continue over the remaining five years of the programme, and should embrace not only experimental studies and the collection of data, but also their analyses and publication.

(v) that the I. B. P. committees, especially in developing countries, should urge their governments to take all possible steps to harmonize existing and future research projects with the projects that may be incorporated into the I. B. P. in the respective countries.

The group wishes to emphasize that by studying the food resources of the world the I. B. P. only addresses itself to one important complex of socio-economic problems, including those raised by the very uneven population increase throughout the world. We suggest that the Pugwash Continuing Committee consider calling special conferences of experts to study in detail such socio-economic problems as can be clearly identified.

### III: Co-operation in Space and Astronomical Research

We have received a report which indicates that the progress reported at the 13th Pugwash Conference at Karlovy Vary, in international co-operation in space research, has been carried further. There have been several instances of co-operative effort in the launching of satellites for obtaining scientific information. Co-operation through international meetings of associations such as COSPAR, aerospace organizations, space medical groups etc. have continued.

Progress has also been made in the development of global communications through the use of satellites, opening up prospects for international co-operation, and for cultural exchange and education.

We learnt about developments which have taken place, as a result of a United Nations resolution, in the planning, as a joint effort of I. C. S. U. and W. M. O., for a global atmospheric research programme (G. A. R. P.). This programme aimed at increasing the understanding of the general circulation of the atmosphere and extending the range of numerical weather predictions.

We recommend that the meteorological programme should be developed through several autonomous centres, one of which, at least, should be located in the Southern Hemisphere. We recognize that this programme has a truly international character, and we believe that it may have an important impact, particularly in developing countries. Apart from the operational uses that may evolve after the global experiments of 1973 and 1976, the centres would provide valuable opportunities for postering, in these countries, research in the atmospheric sciences and the training of high level meteorologists, as well as of electronics and computing specialists and various types of maintenance and service personnel.

#### IV: Free International Exchange of Scientists

The group endorsed a previous Pugwash recommendation (Karlov Vary, September 1964) that all efforts must be made to facilitate the participation of scientists in international conferences, and to increase greatly the opportunities for scientists to work temporarily in research institutes in other countries. The traditional method of individual invitations from scientist to scientist is very effective in promoting exchange visits and we feel that this informal method should be adopted as widely as possible. It was noted that difficulties in obtaining entry permits had often been overcome by direct consultations between representatives of National Academies, or equivalent scientific bodies, and the foreign offices of their countries. These efforts should be increased, and means should be found to remove all restrictions regarding exit permits in individual countries. It was also noted that the Committee for the free Exchange of Scientists set up in 1963 by I. C. S. U. had been able in several cases to ensure, in advance, that visa would be issued to participants in international congresses; the existence of this committee should be made widely known.

Information was received about the International Scientists House recently built in Bulgaria. This house now serves as a centre for scientific meetings of many kinds. We recommend that UNESCO considers compiling information about centres of this kind throughout the world, with a view to facilitate the planning of regional and world-wide conferences in countries not widely known to possess adequate facilities for large meetings. We further suggest that the International Scientists House in Bulgaria and similar centres in other countries might be useful sites for national and international Pugwash activities.

*\* Int. Council of Scientific Unions*

The group noted that large scale, unilateral migration of scientists is undesirable and undermines the balanced developments of science and technology throughout the world. This phenomenon which is often referred to as Brain-Drain should be counter-acted by all humanly acceptable means. However, we agreed that it is inappropriate and misleading to talk about brain-drain in connection with the temporary movement of younger scientists, or the permanent movement of a few senior scientists, to regional or international centres created to serve purposes that could not be served equally well by individual universities or national research centres.

Sept 8

FINAL REPORT OF WORKING GROUP 6

"The Special Responsibilities of Scientists"

ETHICAL PROBLEMS

The Group first took as its starting point the general ethical responsibilities of scientists. The Einstein-Russell Manifesto was recalled. It was stressed that scientists as a group had a special obligation to humanity over and above that of other human beings, in view of the spread of weapons of mass destruction and the large social problems created by the advance of science and technology. Scientists also had a special responsibility because of their expert knowledge, and the respect accorded them by society.

This responsibility is too often obscured, however, by the fact that scientists are generally asked how to perform specific tasks, not what tasks should be done.

It was recognized that scientists are generally motivated by two, often conflicting, sets of values: one determined by their own culture and times, and the other determined by their allegiance to the international scientific community. However, in practice, the social and economic conditions in their respective countries are in large measure the reference points for the scientists of a country.

Due to the increasing number of scientists in the world and the necessity for team work, scientists should accept a collective responsibility for what they do. Scientists generally should be more "socially accountable", that is, accountable for the social consequences of their acts. This can be achieved not only by pointing out the various choices available at any given time, but also by attempting to anticipate the complex long range social effects of scientific discoveries and their application.

To carry out these tasks, it was believed that closer communication between politicians and scientists needed to be developed. Attention was drawn, however, to a possible danger as scientists become more active politically. While on the one hand, as noted above, they are too often merely used, and are thus nothing more than mercenaries; on the other hand, they might, conceivably in the future, because of their expert knowledge, become too powerful in determining how science is to be used, and thus become a technical elite, divorced from society and unmindful of the consequences of their actions. Scientists, therefore, should seek results arising not only from the narrow goals of their scientific fields but also aimed at the ultimate goals of society.

Scientists, the Group believed, had a special responsibility towards the developing nations, and particularly towards scientists living in developing countries. It was stressed that the closest collaboration between foreign scientific adhesions and the domestic scientific community was essential.



Finally, some members of the Group believed that many of the ethical problems raised by science and technology had answers lying at least as much in the social sciences and humanities area as in the physical and life sciences. In consequence of this it was urged that physical and biological scientists and their counterparts in the social sciences and humanities should work much more closely towards unifying and realizing their social aims.

The young scientists of today often are displaying a commendable concern for performing socially useful tasks. Moreover, as a result of being scientifically up to date, they often tend to see problems in a different light which means that they could exert greater influence among the decision makers, if given an opportunity to do so.

#### ROLE OF SCIENTISTS IN ADVISING GOVERNMENTS

All governments receive scientific advice through somewhat narrow and restricted channels. Moreover, scientific advisors to governments if they are to have maximum value must fulfil critical roles and not merely be channels of specialized knowledge, for criticism involving the correction of error is a characteristic scientific attitude. The Group shared a common concern, however, that scientific advice to government was often far from being critical and independent in its viewpoint. It was noted, for example, that often government scientific advisors were selected more on the lines of their ability to conform to government policy than on the basis of their scientific competence. The ability to keep sealed lips and not communicate with the scientific community and the public, even when necessary official secrecy was not involved, was also a criterion for selection. As a result, the scientific community frequently learned of decisions concerning their fields of activities only after they had been made.

There is a tendency to take decisions on scientific projects based on the advice of a single individual. Moreover, often he was functioning in an area outside of his professional competence. It was the belief of the Group that a proper critical role could be played more easily by scientific groups outside the direct employ of the government, such as the various national scientific bodies.

Political appointees at even the highest level such as Ministers of Science are not immune from political pressure prejudicial to objective scientific evaluation.

Some believed that scientists, as individuals, should often speak out more freely in criticism of their governments, while others though agreeing in principle, believed that the assistance of scientific bodies outside the country was essential. It was noted that government action was sometimes taken on the strength of outside scientific criticism, even though it was identical to that expressed by individual scientists within the country.

Further use could be made of informal contact between scientific bodies and decision makers, to establish personal relationships, excellent examples being a number of clubs comprising scientists and members of parliament. In this way, opposition parties as well as the party in power had a chance to become more briefed.

## ROLE OF SCIENTISTS IN INFLUENCING PUBLIC OPINION

The scientist will be effective with the public in large measure as he is able to project the image of a mature human being rather than some sort of ascetic or automated man out of contact with the realities of the world around him. Far too often the popular conception of science is as some inexorable process, rather than that of a process subject to trial and error by experience, a process common in every day life. This image should be corrected.

Scientists have an obligation to publish their results for the sake of their colleagues and not keep them hidden from view. Moreover, the Group believed, the scientist should publicize his results more in the popular press; he could make much more use than he does of radio and TV. It was observed that media people in general had skills useful for and a basic interest in explaining science if it could be put in essentially human terms and painted in bold clear colours. A more youthful image would also help in the popularization of science.

Since not all scientists have an equally sharp sense of social responsibility, the "involved" scientist must do more to make his colleagues aware of the broader social issues. The Pugwash message might, for example, be presented in a paper to otherwise technical international scientific meetings.

Editorials and short news items in scholarly journals was another way of awakening an interest in a broader segment of the scientific community.

## SCIENTISTS' ROLE IN EDUCATION

It was recognized that education could effect big changes in attitude over long periods of time.

Broad programmes of curricula change and text book reform are in process in several countries, for today's student must be prepared for tomorrow's world.

But beyond mere updating, two urgent needs for changes in style were stressed.

First, many science courses, instead of displaying the fascination of discovery and stimulating intellectual curiosity, are teaching science as a dull set of facts and so leaving a distaste for the subject in the minds of young students.

Second, a great opportunity for eliminating barriers between nations and increasing mutual understanding is generally being missed.

As Professor Rabi has said (The Physics Teacher, May 1967): "Science is an adventure of the whole human race . . . . . To be a part of it is to understand, to understand oneself, to begin to feel that there is a capacity within man far beyond what he felt he had. . . . . Science should be taught in the humanistic way. . . . . It should be taught with a certain historical understanding, with a certain philosophical understanding, with a social understanding, a human understanding".

Text books and curricula which begin with an outline of the history and philosophy of science impart to the student, unconsciously, a feeling for the one world to which he belongs, and begin the process of creating attitudes suited to a world citizen, for few subjects are potentially so unifying as science.

The social responsibilities of young scientists could be awakened and strengthened by a course in the history of science, with special attention to the moral dilemmas experienced by well known scientists in the past.

In addition to curricula changes and new textbooks, retraining science teachers is an urgent matter. Some countries are well along the way. It was recommended that UNESCO be a clearing house for such activities, for it was noted that international co-operation in this field was a two way street; all countries in any reciprocal exchange were almost certain to gain.

#### FUTURE ACTIVITIES OF PUGWASH

The Group emphasized that the responsibility of the scientist is still one of the central problems of Pugwash activity. This point of view has been expressed repeatedly in previous Pugwash meetings but especially at the 13th Conference at Karlovy Vary. The Group refers Pugwash participants to these previous statements, and in this section will deal only with specific recommendations for the future.

The Group believes that not enough attention has been paid to a number of previous recommendations, there being no systematic follow-up procedure by Pugwash participants.

Several participants noted that Pugwash scientists often spoke with an insufficient knowledge of the facts. Speakers were seldom challenged with the well known queries of: "can you prove it?" or "what is your evidence?". It was, of course, also recognized that such a situation was almost inevitable when scientists were speaking on subjects far away from their chosen disciplines, and when, indeed, so little research comparatively, in the field of peace and international conflict had in fact been carried out.

The following specific recommendations are made to the Continuing Committee:

(1) A study group charged with formulating ethical guidelines for scientists. This group can be set up with the co-operation of such international bodies as UNESCO, ICSU, etc.; which can aid not only the work of the group, but also world-wide dissemination of its results. The study group should organize a working conference on the topic in order to review the vast literature on the ethical responsibilities of scientists and to prepare a report. (See Appendix).

(2) An increase in the number of links with scientific and engineering societies so that they may serve as vehicles for the Pugwash ideals.

(3) In recognition of the importance of popularizing the ideals of Pugwash, the creation of a Pugwash science writers association. This association should include Pugwash scientists, writers, and radio and TV producers. One of the first tasks of this body might be a special Pugwash meeting.

(4) An analysis of the consequences of Pugwash activities in the political sphere in order to assess their effectiveness.

(5) A reaffirmation in the near future of earlier pleas, in another world-wide declaration.

(6) A recognition that the problem of war is sufficiently intractable to require more than a declaration and that the effect on man and his biological, economic, psychological and sociological nature needs to be studied in depth. Various national and international scientific bodies should be asked to encourage this type of research.

(7) Consideration of the draft of a statement on the situation of scientists in Greece. This statement has been transmitted to the Continuing Committee for their action.

(8) Following a discussion of document XVII - 54 on a Hippocratic Oath for Scientists - account should be taken of it in the work of the Continuing Committee.

(9) A conference of experienced scientists and educators to work on the design and preparation of actual teaching materials and methods (monographs, films, etc) on some topics (such as physics) including adaptation of existing curricula. One possibility may be that the conference could be organized through an appropriate international body.

#### APPENDIX

The Working Group recommends the establishment of a study group charged with formulating such ethical guidelines for scientists and with devising such safeguards for their activities as can supplement the initiatives taken outside the Pugwash Movement. More specifically the ICSU membershipcard project and the ICRD proposals to UNESCO for the establishment of an international charter for research institutes and of an International Foundation for the Protection of Scientific Manpower should be considered. The Working Group is of the opinion that those projects have much in common, but also they have a common denominator with some pure Pugwash ideas like the establishment of an "open laboratories club". This was considered by the BW Study Group as one of many approaches to the reduction of the dangers incurred by novel weapons. If the Continuing Committee would decide that the resources available do not permit the establishment of a Pugwash study group it is suggested that UNESCO is asked to co-ordinate the study of the complex set of questions mentioned. With regard to the problem of scientific ethics, a special conference on the topic will be required for a review of the vast literature on the ethical responsibilities of scientists.

STATEMENT ON THE SITUATION OF SCIENTISTS IN GREECE

Members of the international scientific community assembled at the Pugwash Conference express their concern at recent developments in Greece, which have led to widespread harassment and intimidation of leading intellectuals there. In particular we view with great alarm the imposition by the present military government in Greece of an oath of allegiance on all civil employees, including scientists and university faculties. Such a request runs counter to the critical, explorative and independent attitude which constitutes the very basis of scientific pursuit.

Until these injustices are corrected, we propose that the following steps be taken by the international scientific community:

1. Not to hold any international conference in Greece.
2. To advocate that no foreign scholar accept a visiting, temporary or permanent appointment at any university or laboratory in Greece, opening declaring the reason for this refusal.
3. To extend moral support and encouragement to those of our Greek colleagues who remain in Greece in their efforts to continue scientific and scholarly activities in trying circumstances; and at the same time to assist those who leave in finding suitable opportunities for continuing their work elsewhere.

# Nuclear Threat to World Mounting, Scientists Warn

CAMBRIDGE, Mass., July 22 (NYT).—A group of leading American and Canadian disarmament experts warned yesterday that the threat of world nuclear destruction had now taken on frightening new dimensions.

The warning was made in a statement by the U.S. and Canadian Pugwash groups, which are unofficial but influential organizations of leading scientists and other experts concerned about the threat of weapon technology.

The statement, written a week ago in Pugwash, Nova Scotia, where the Pugwash Conferences on Science and World Affairs began 17 years ago, was released

here yesterday by Prof. Bernard Feld, a physicist at the Massachusetts Institute of Technology, who heads the London-based Pugwash movement.

## Scientific Conscience

The yearly conferences, which regularly attract representatives from 30 or so countries, represent a kind of collective scientific conscience arguing against the use and further development of the fearsome weapons many of the members helped create.

During the last few years—taking hope from the limited test-ban agreement, the nonproliferation treaty and the Strategic Arms Limitation Talks—the group has turned its attention toward such other urgent problems as the energy shortage, population growth and environmental damage.

“But we keep coming back to arms control with a certain amount of urgency and frustration,” said Prof. Feld, who himself was part of the group at Los Alamos, N.M., that constructed the atomic bombs dropped on Japan in 1945. “We all felt simultaneously that something had gone wrong—everything seemed to be unraveling.”

## Rude Awakening

Recent events, the statement said, had come as a “rude awakening.” It cited the recent detonation of a nuclear bomb by India, the American offer of nuclear power plants to Egypt and Israel and the failure of President Nixon’s recent Moscow summit meeting to halt the proliferation of missiles and other advanced weapons. It said American experts estimate that as many as 24 nations could possess atomic weapons within 10 years.

The armaments question is likely to loom large at the 24th Pugwash Conference, scheduled to start on Aug. 28 in Baden, Austria.

## Ecology Agency Set Up in Berlin

BONN, July 22 (Reuters).—West German President Walter Scheel today signed a law setting up a federal environmental protection office in West Berlin, despite East German threats against the move.

A Justice Ministry spokesman here said the law would come into force Thursday.

On Saturday, East Germany said it would take countermeasures as soon as the bill becomes law. Employees of the new office would be barred from using the transit routes to and from West Berlin and would not be allowed to have their personal property and documents transported across East German territory to the city, an East German statement said.

It accused West Germany of violating the 1971 four-power agreement on Berlin by deciding to establish a federal institution in the western half of the city which has a special status.

removal or continuance in office.

In another argument, the minority counsel attacked the pro-impeachment case presented by majority counsel John Doar as

● **Republican counsel to impeachment panel is replaced. Page 3.**

based not on evidence but rather on inferences.

Mr. Doar had argued that the President's refusal to comply with the committee subpoenas for additional tapes of presidential conversations undermined the ability of the House of Representatives to conduct its constitutional inquiry and threatened "the integrity of the impeachment process."

He had told the committee, "For (Continued on Page 3, Col. 1)



WP.

**Sam Garrison**

**Charge of Lying**

**1 of 3 Ehrlichman Con**

WASHINGTON, July 22 (UPI). —U. S. District Judge Gerhard Gesell today threw out the conviction of John Ehrlichman on one of the perjury counts against him.

Judge Gesell, in a brief order and accompanying memorandum, said that the statute under which Mr. Ehrlichman was charged and convicted—a federal law against lying to the FBI—"was not properly invoked in this case."

In another court ruling today, one of the two perjury counts against California's Lt. Gov. Ed Reinecke was dismissed by U. S. District Judge Barrington Parker.

But Judge Parker denied a defense motion to grant a judgment of acquittal on a second count as the defense began its case.

Ehrlichman was convicted 10 days ago on two counts of perjury—lying to the FBI and lying to a grand jury—and a count of

violating the civil rights of Daniel Ellsberg's former psychiatrist, Dr. Lewis Fielding. The charge grew out of the break-in at Dr. Fielding's office in 1971.

The jury found Ehrlichman not guilty of a fourth perjury count.

The perjury count which Judge Gesell threw out carried a maximum penalty of five years in prison and a fine of \$10,000.

Judge Gesell denied Ehrlichman's posttrial motions for acquittal or a new trial on the other counts on which he was convicted.

Judge Gesell also denied motions of Gordon Liddy, convicted Watergate burglar who also was found guilty of conspiracy in the Ellsberg case, for a directed motion of acquittal.

Sentencing is scheduled July 31.

In his order today, Judge Gesell compared the circumstances of an FBI interview with sworn grand jury or court testimony where a verbatim record is taken.

DER BUNDESKANZLER

gibt sich die Ehre,

zur Teilnahme an dem am Montag, dem 2. September 1974,  
in der Zeit von 19.00 bis 21.00 Uhr

aus Anlaß der

XXIV. PUGWASH-KONFERENZ IN BADEN BEI WIEN 1974

in den Repräsentationsräumen des Bundeskanzleramtes stattfindenden

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# INTERNATIONAL Herald Tribune

Austria	10 S.	Lebanon	21.00
Belgium	18 B.Fr.	Luxembourg	18 L.Fr.
Denmark	3 D.Kr.	Morocco	2 Dir.
Eire	11 P.	Netherlands	1.25 Flor.
Finland	2 F.M.	Nigeria	4/3
France	2 F.	Norway	2.75 N.Kr.
Germany	1.20 D.M.	Portugal	10 Esc.
Great Britain	10 P.	Spain	25 Ptas.
Greece	15 Drs.	Sweden	2.25 S.Kr.
India	Rs. 4.50	Switzerland	1.50 S.Fr.
Iran	50 Rials	Turkey	2.75
Italy	250 Lire	U.S. Military (Eur.)	80.35
Israel	1.2 1.70	Yugoslavia	7.50 D.

**Today's Weather Forecast — Paris:**  
Cloudy. Temp. 24-14 (75-57). Tomorrow cloudy.  
Yesterday's temp. 24-16 (75-61). **LONDON:**  
Sunny. Temp. 21-15 (70-59). Tomorrow cooler.  
Yesterday's temp. 24-13 (75-55). **CHANNEL:**  
Rough. **ROME:** Overcast. Temp. 28-14 (82-57).  
**NEW YORK:** Sunny. Temp. 29-21 (85-70).  
Yesterday's temp. 29-18 (84-64).

No. 28,465

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PARIS, TUESDAY, JULY 23, 1974

Published with The New York Times and The Washington Post

Established 1887

## Fragile Truce Is in Effect; 3-Nation Cyprus Talks Set

### Air Strikes Are Reported After Accord

From Wire Dispatches

**NICOSIA, July 22.**—A fragile truce went into effect this afternoon after a day of heavy fighting as both Turks and Greeks made last-minute efforts to improve their military positions on the island.

In London, Foreign Secretary James Callaghan announced that Britain, Turkey and Greece would begin talks about the Cyprus situation in Geneva later this week. The three countries are the guarantors of Cyprus independence, according to the 1960 Zurich pact ending the island's status as a British crown colony. Officials here said they thought that the talks might begin Wednesday.

In Washington, Archbishop Makarios called the cease-fire significant but only a "first step toward the return of normalcy." Archbishop Makarios, who was ousted as President of Cyprus a week ago in a coup led by Greek officers, made the statement on his arrival in Washington for a meeting with Secretary of State Henry Kissinger.

Mr. Kissinger and Archbishop Makarios later described their meeting as a "useful and constructive exchange of views." They agreed to meet again next Monday in Washington.

**Council Adjourns Debate**  
At the United Nations, the Security Council adjourned its Cyprus debate today without immediately setting a date for its next meeting.

About an hour before the 1400 GMT cease-fire went into effect, the Turks launched a major air attack on the resort city of Famagusta on the southern coast, hitting a number of public buildings and at least eight high-rise beach hotels, inflicting heavy damage and causing many casualties.

Witnesses said that at least 50 persons were killed, 20 of them foreign tourists. The witnesses said that two of the Turkish attacks were aimed at Greek Cypriot National Guard camps at both ends of the wide beach.

But they said that the third attack struck right in the middle of the waterfront hotel complex without any apparent military targets in sight. After the truce went into effect, some artillery exchanges could be heard at the British military base on the southern coast. There were also reports that the Turks had bombed the Nicosia airport after the truce went into effect.

A total communications blackout throughout this island made it impossible to determine whether there were any other violations. It is clear that the degree of compliance will depend on Athens and Ankara and how effectively they can restrain their Cypriot nationals. Turkish and Greek forces were engaged in fighting for the Nicosia airport early today and other heavy fighting was reported in the Kyrenia area, in the north, and around Larnaca on the coast.

He had told the committee, "For (Continued on Page 2, Col. 7)



Crowd in front of British Embassy in Athens yesterday. They later stormed building, smashing doors and windows.

### Regime Denies Reports

## Troop Movements Trigger Athens Coup Rumors

**ATHENS, July 22 (UPI).**—The Greek government today announced acceptance of a cease-fire on Cyprus amid denials of a government crisis and protests by Greek Cypriot students who stoned the British Embassy.

Greek authorities were more than two hours late in announcing the cease-fire and confined themselves to a four-line statement which omitted the conditions for calling a halt to the fighting.

U.S. Under Secretary of State Joseph Sisco, whose diplomatic

shuttling between Athens and Ankara brought about the cease-fire, left for Washington, the present phase of his role completed.

The government denied rumors of a coup. Reported tank movements in Athens had fueled speculation that troops were heading north to face the Army III Corps moving down from Salonika to overthrow the government.

Other rumors had former Premier Constantine Caramanlis, who lives in Paris, landing in Salonika. The rumors led Athens

storekeepers to close early for their midday siesta.

By evening, most of the rumors about a coup had subsided. The only indication of any abnormal situation in the country was the announcement of a blackout tonight in Salonika.

In Athens the military said selected areas also would be blacked out and outside lighting was to be kept to a minimum.

Athens was calm, with the greatest anxiety being expressed by the 1,500 Greek Cypriot stu-

dents who were listening around the clock to newscasts.

Their elected leader, law student Andreas Constantinou of Nicosia, said, "We were all disappointed that the fighting stopped because we had the Turks on the run and could have settled this business once and for all."

**March on U.K. Embassy**

About 200 Greek Cypriot students marched on the British Embassy. Twenty policemen stood by without intervening as they threw stones at windows and dented the roofs of parked cars by standing on them.

Carrying Greek flags, they chanted, "Betrayal," "Get Britain Out" and "Down with Britain," and called for the union of Cyprus with Greece. Elsewhere in Athens, reaction to the cease-fire was mixed. Although most people expressed relief that the bloodshed would stop, many were not very enthusiastic.

Tourists, many of them stranded in Greece until flights are resumed, were subdued. The downtown area with its bazouki bars and restaurants was dim as owners cut lighting.

Many of the tourists who tried to drive to the Yugoslav border found themselves stranded by the roadside or at best found a room in a motel—unable to reach their destination for lack of gasoline.

Most garages displayed "out of gas" signs following a government plea to citizens to save fuel and electricity.

Lines formed at stores despite repeated government assurances that there were no shortages and that hoarding was unnecessary. However, many Greeks seemed unconvinced as news broadcasts gave only the barest details of the cease-fire and failed to give a full picture of the situation in Cyprus.

**Martial Music of TV**

For the third day, television viewers had to be content with martial music, brief newscasts and photographs illustrating Greek military victories through the ages.

There were no signs of an end to the mobilization. The absence of the nation's young men from the cities because of the call-up was a continued reminder that the nation remained on a war footing.

As a young woman tourist who has been in Athens for a month, remarked, "All of a sudden the waiters seem to have gotten 20 years older."

### Burma Says Embassies Involved in Smuggling

**RANGOON, July 22 (AP).**—Burmese customs officials said today that they had asked the Foreign Ministry for permission to examine routinely any diplomatic cargo following seizures of smuggled goods addressed to diplomatic missions.

The goods were brought in on ships sailing from Japan by way of Hong Kong and Singapore, and were worth more than \$600,000, the officials said.



Archbishop Makarios and Secretary of State Kissinger in Washington yesterday.

### \$500 Million Obtained in Iran Credits

## U.K. Budget to Stimulate Economy

By Terry Robards

**LONDON, July 22 (NYT).**—The government announced a series of measures today to prop up the sagging British economy, curtail inflation and bolster public confidence in the business outlook. In a long-awaited interim budget message, Denis Healey, Chancellor of the Exchequer, said economic stimulus was needed now to head off a serious recession in the months ahead.

At the same time the chancellor disclosed that Britain had arranged with Iran for a line of credit of \$500 million (\$12 billion) to help compensate for the British trade deficit. This would be in addition to a \$1-billion loan from commercial banks arranged four months ago.

In a 16-minute speech in the House of Commons, Mr. Healey sought to allay some of the fears that have led to a sharp decline in the stock market, a weakening of the pound and general public disillusionment over the state of the economy.

**Labor's Critics**  
Critics and political opponents of the Labor administration of Prime Minister Harold Wilson immediately charged that Mr. Healey's so-called "mini-budget" had been inspired solely by the desire to curry favor with the voters before a national election.

Mr. Wilson's administration lacks the parliamentary majority it needs to pass major legislation and is committed to calling another election as soon as it feels it can win that majority. Knowledgeable sources predict the election will be held in October or November, before Britain enters another potentially, difficult winter.

Some economists have expressed fears that any economic stimulus at the present time would tend to accentuate inflation, rather than reduce it, by encouraging more spending and adding to the strain on Britain's resources. But Mr. Healey has repeatedly made a known his feeling that over-stimulation would be preferable to under-stimulation.

He was interrupted repeatedly today by heckling and jeering from the Tory benches in the House, especially when he was discussing government measures that the Tories interpreted as being politically motivated.

The tax measures and other concessions will cost about \$700 million a year, but Mr. Healey said the government's borrowing requirement, representing its actual deficit, would be increased by only about \$340 million.

The most dramatic measure announced by the government was a reduction in the value added tax that is charged on most goods and many services. The tax will be cut from 10 per cent to 8 per cent next Monday.

**Price Reduction**  
As a result, the public should benefit from price reductions starting next week. The move was expected to receive enthusiastic public support at a time when the retail price index has risen by more than 16 per cent in a year.

Mr. Healey also said a further \$50 million in food subsidies, mainly for household flour, would be made available from the \$500 million committed for subsidies in the government's first budget March 26. Subsidies already exist on bread, butter and milk.

Home owners will be given relief from local real-estate tax increases to the extent that the

increases exceeded 20 per cent this year. This measure, plus the cuts in the value added tax and the subsidies, should reduce retail prices by more than 15 per cent in the next three months, the chancellor said.

Moreover, he added, some of the automatic "threshold" wage increases that are set off when the retail price index rises by a certain amount will be avoided, thereby easing the cost pressures on businesses and ultimately re-

ducing the index by an additional 1 per cent for an overall drop of 2.5 per cent. In addition to these measures, the government plans to increase its subsidies for workers employed outside Britain's major industrial centers from £1.50 a week for each male employee to £3. The doubling of the so-called regional employment premium is aimed at encouraging employment in parts of Britain where unemployment is greatest.

### Whether in Nation's Interest

## House Panel Asked to Weigh The Effects of Impeachment

By Fred Farris

**WASHINGTON, July 22 (IHT).**—The House Judiciary Committee, beginning a climactic week, today heard Republican counsel Sam Garrison argue that it should consider whether the nation's best interest would be served if President Nixon were impeached.

The panel is to decide in a few days whether to recommend the President's impeachment for Watergate-related offenses and

today heard the spokesman for Mr. Nixon's Republican supporters argue the minority case.

In a legal brief and oral argument presented to a closed session, Mr. Garrison said it is "not only proper but necessary for Congress, having concluded that an officer has engaged in conduct for which he could properly be impeached, then to step back and assess the situation more generally, to determine whether the best interests of the country would be served by his removal or continuance in office."

In another argument, the minority counsel attacked the pro-impeachment case presented by majority counsel John Doar as

• **Republican counsel to impeachment panel is replaced. Page 3.**

based not on evidence but rather on inferences.

Mr. Doar had argued that the President's refusal to comply with the committee subpoenas for additional tapes of presidential conversations undermined the ability of the House of Representatives to conduct its constitutional inquiry and threatened "the integrity of the impeachment process."

He had told the committee, "For (Continued on Page 3, Col. 1)



Sam Garrison

### Charge of Lying to FBI Dismissed

## 1 of 3 Ehrlichman Conviction Counts Dropped

**WASHINGTON, July 22 (UPI).**—U.S. District Judge Gerhard Gesell today threw out the conviction of John Ehrlichman on one of the perjury counts against him.

Judge Gesell in a brief order and accompanying memorandum, said that the statute under which Mr. Ehrlichman was charged and convicted—a federal law against lying to the FBI—"was not properly invoked in this case."

In another court ruling today, one of the two perjury counts against California's Lt. Gov. Ed Reinecke was dismissed by U.S. District Judge Barrington Parker.

But Judge Parker denied a defense motion to grant a judgment of acquittal on a second count as the defense began its case.

Ehrlichman was convicted 10 days ago on two counts of perjury—lying to the FBI and lying to a grand jury—and a count of

violating the civil rights of Daniel Ellsberg's former psychiatrist, Dr. Lewis Fielding. The charge grew out of the break-in at Dr. Fielding's office in 1971.

The jury found Ehrlichman not guilty of a fourth perjury count.

The perjury count which Judge Gesell threw out carried a maximum penalty of five years in prison and a fine of \$10,000.

Judge Gesell denied Ehrlichman's posttrial motions for acquittal or a new trial on the other counts on which he was convicted.

Judge Gesell also denied motions of Gordon Liddy, convicted Watergate burglar who also was found guilty of conspiracy in the Ellsberg case, for a directed motion of acquittal.

Sentencing is scheduled July 31. In his order today, Judge Gesell compared the circumstances of an FBI interview with sworn grand jury or court testimony where a verbatim record is taken.

An FBI agent talks to a person informally and makes a report of the interview based on his memory and the notes he took, Judge Gesell said.

"In short, the FBI interview may occur—as it did here—under extremely informal circumstances which do not sufficiently alert the person interviewed to the danger that false statements may lead to a felony conviction," he said.

Apart from that, the judge said, it was unfair that the penalties for lying to the FBI and the grand jury should be equally harsh.

In the Reinecke ruling, the count dismissed at the request of defense attorney James Cox argued that Mr. Reinecke testified falsely to the Senate Judiciary Committee two years ago. He was accused of lying in saying that he had no way of knowing whether former U.S. Attorney General John Mitchell knew of a



Bulent Ecevit

### Cites Enforcement Difficulty

## Turkish Premier Sees Danger That Fighting Will Resume

By William J. Coughlin

**ANKARA, July 22.**—Premier Bulent Ecevit said today there is great danger that fighting will continue on Cyprus despite the cease-fire. He added that Turkish troops will fire back if fired upon.

He told a crowded press conference that Turkish forces, reinforced during the night by additional troops, tanks and artillery, had seized all of the port town of Kyrenia and all of Kyrenia Province by the time the cease-fire went into effect.

Mr. Ecevit said that a "void of political authority on Cyprus" will make it extremely difficult to enforce a cease-fire by the Greek Cypriots.

He said that Turkish forces had won all of their objectives in three days of fighting and said that Kyrenia now would remain Turkish, providing a permanent outlet to the sea for the Turkish community on Cyprus.

"The Turkish military presence on the island is irreversibly established," the premier said.

Mr. Ecevit said that "no one will be able to touch Turks in Cyprus, Turkish rights in Cyprus." He also referred to the "economic freedom" that Cypriot Turks had won through the corridor outlet his troops now occupy from the Turkish enclave of Nicosia to the sea and the landing area at Kyrenia on the northern coast.

His remarks left little doubt that, while Turkey supported the idea of an independent Cyprus, it was to be a Cyprus with an enlarged Turkish sector and a stronger Turkish presence.

Mr. Ecevit said that Turkey

### Uganda Claims 'Spies' From Tanzania Seized

**KAMPALA, July 22 (AP).**—The Ugandan government today reported the arrest of more Tanzanian "spies." The government radio said that a Tanzanian was shot by Ugandan soldiers and was in serious condition.

Reliable sources said that about 4,000 Ugandan troops were in position along the 100-mile border with Tanzania. No fighting was reported.

relied upon the United Nations to establish real peace on the island. "What may be called genocide is taking place on Cyprus," he said.

There was speculation here that Turkish forces had fallen short of their military aims in Cyprus, putting too few troops ashore in the early stages and underestimating the strength of Greek resistance.

Asked about the failure to capture Nicosia Airport, where Greek transport aircraft were reported landing last night, Mr. Ecevit said that the airport was not one of the initial objectives of the Turkish landings.

He said that Turkish troops had to await tanks and artillery before pushing across the mountains toward the airport. Earlier, Turkish military communiqués had reported the landing of paratroopers near the airport and fierce fighting there.

Regarding reports that Kyrenia still was in Greek-Cypriot hands, Mr. Ecevit said that Turkish troops had taken the entire port and he lauded the "great success" of the Turkish Army.

He said there had been friendly appeals from the United States for a cease-fire but denied reports that Washington had threatened to withdraw military and economic aid if Ankara did not agree.

He described his telephone talk with U.S. Secretary of State Henry Kissinger as very friendly and said there were no threats. "We have a common interest in the area," Mr. Ecevit said.

American diplomatic sources in Ankara were extremely pessimistic about how well the cease-fire would hold up.

Turkish Radio continued to report the massacre of Turkish Cypriots on the island and even Turkish reporters pressed the Premier during his news conference about the failure of the Turkish military to prevent such killings.

"We have considered it our duty to respond to the United Nations call for a cease-fire in Cyprus," Ecevit said. "The cease-fire is effective as of now."

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70% From Asia

## Study Group Asks U.S. to Cut Inflow of Foreign Doctors

By Victor Cohn

WASHINGTON, July 22 (WP).—A program to cut drastically the number of graduates of foreign medical schools now entering American medicine has been urged by an Association of American Medical Colleges task force.

Such graduates are becoming "a category of second-class physicians" and "products of unaccredited educational systems" who

threaten the quality of American care, the task force charged.

Graduates of foreign schools, it pointed out, now compose nearly a fifth of all the nation's 356,000 doctors, and their ranks are swelling.

A third of all interns and residents in American hospitals and almost half of all doctors being licensed are such graduates.

Mostly Asians

They are mainly foreign born—70 per cent currently are from Asia, mostly the Philippines. But about 3 per cent of graduates of foreign schools now taking American screening examinations are U.S. citizens who were unable to get into crowded U.S. schools.

Between 56 per cent and 67 per cent of the foreign graduates, including those foreign and American-born, have been failing a standard U.S. screening examination in the last few years, the report said.

The U.S.-born, it added, suffer an equally poor if not greater failure rate than the foreign-born.

The task force view was that the flood of foreign medical graduates must be reduced "in the interest of the quality of medical education and care" in the United States.

List of Recommendations

The task force recommended that:

## Franco Seen Progressing Favorably

MADRID, July 22 (Reuters).—Doctors treating the Spanish chief of state Francisco Franco, 81, reported today that he was progressing favorably.

The doctors said in a bulletin that Gen. Franco was now eating normally and that his body functions were returning to normal.

The report was issued less than 16 hours after the seven doctors held an urgent meeting with specialists last night to decide whether to operate on the general, who was hospitalized nearly two weeks ago with a circulatory ailment.

They decided not to operate. Well informed sources said that their hurried consultation was caused by fears that a blood clot in Gen. Franco's leg might move up to the heart or brain.

The doctors' bulletin did not say that they had considered surgery nor did it give any details of how they were tackling the thrombophlebitis—inflammation of the walls of the veins and blood clotting.

### Oral Feeding

The wording of today's bulletin implied that Gen. Franco previously had been receiving food other than by mouth when it reported that "oral feeding has normalized."

Friday, Gen. Franco suffered a relapse and vomited blood. At that time, he handed over power temporarily to his designated successor as chief of state, Prince Juan Carlos de Borbon, 36.

According to unofficial medical sources, the doctors are now faced with a delicate choice. They have to thin down Gen. Franco's blood to minimize the risk of blood clots forming and blocking vital organs, while preventing any new internal bleeding.

The exact choice of medication and stimulative exercises has not been made public, but the doctors clearly were not envisaging a very rapid recovery, the sources said.

## Gang War Seen Among Belfast Protestant Units

BELFAST, July 22 (UPI).—A Protestant man shot outside an Ulster Defense Association club early today may have been the victim of a gang war between rival Protestant groups, detectives said.

The man was seriously wounded by gunmen, firing from ambush, as he stepped from the building. He was the fourth UDA man ambushed since the group on Saturday denounced the extremist Protestant Ulster Volunteer Force.

In other violence today, a bomb blast injured three persons in the northern Belfast suburb of Ligoniel. The bomb exploded outside a Roman Catholic family's home, security spokesmen said. Army troops fired at a gunman seen in the area shortly after the blast.

In Ballymena, 30 miles north of Belfast, a gunman in a cruising sedan sprayed a passing police car with machine-gun fire on a rural road, wounding two officers in the car, police said.

## Foreign Worker Chief Quits French Cabinet

PARIS, July 22 (Reuters).—André Postel-Vinay, French secretary of state for immigrant workers, today became the first minister to resign from the cabinet of Prime Minister Jacques Chirac.

Mr. Postel-Vinay, 63, disagreed with the recent government decision to suspend immigration of foreign workers into France and thought he was being granted insufficient funds to run his post, informed sources said.

President Valéry Giscard d'Estaing appointed as his successor Paul Dijoud, 36, who was secretary of state in charge of the civil service in the last cabinet headed by Pierre Messmer.

### Giscard Talk on TV

PARIS, July 22 (Reuters).—President Valéry Giscard d'Estaing's first press conference Thursday will be televised live, it was announced today.



Soviet Communist party leader Leonid Brezhnev gestures as he talks to Polish party leader Edward Gierek (right) and Defense Minister Wojciech Jaruzelski during a military parade in Warsaw to celebrate 30th anniversary of Communism.

### Several Hundred in Vienna

## Jews Stranded by Soviet Bar on Re-Entry

By John Morrison

VIENNA, July 22 (Reuters).—Hopes of returning to the Soviet Union seem to be fading for several hundred Jews who have been stranded in Vienna for as much as three years after leaving Israel.

Now Vienna city welfare authorities are pressing the Austrian government to clarify the refugees' status and allow them to settle here permanently.

Retracing the route by which they traveled to Israel, they have

straggled back to Vienna seeking permission from the Soviet Consulate to return home.

### Blind Alley

Faced with a firm refusal, the emigrants find themselves in a bureaucratic blind alley from which there seems to be no escape.

While Jews still in the Soviet Union are campaigning to leave by resorting to hunger strikes, protest telegrams and sit-in demonstrations, the Vienna group has tried the same tactics in

order to return, but to little effect.

Now even Soviet interest in them or the purpose of anti-Israel propaganda seems to have faded.

For nearly 100 of the refugees, life here means a crumbling tenement in the Malzgasse, a shabby Vienna back street.

Anxious not to jeopardize any faint hopes of going back to the Soviet Union, they prefer not to say what they feel about the Kremlin's refusal to let them return.

"We just made a mistake and now we want to go home. We're not politicians," they say.

Their bitterness is mostly directed at Israel. Some feel betrayed and say they are victims of Zionists, who tricked them into emigrating to a land of capitalist exploitation.

Others take a more measured view and say they could not settle in Israel because of the climate, or for personal reasons.

Since August, 1971, when the first would-be returnees reached Vienna, only about 30 or 40 have been allowed back, out of several hundred who applied.

This year, according to a well-placed source, only one application has been granted. Soviet policy is thought to have hardened late last year, when newspaper articles in Moscow spelled out clearly that those who chose to emigrate and give up their Soviet citizenship could have no hope of returning.

Most observers think a change of heart by Moscow is unlikely. If the Kremlin were to guarantee emigrants the right to change their minds and return, the result would be a surge in applications to leave by Soviet Jews who are now hesitant about making a definitive decision.

The Jews say that 90 per cent of the Soviet immigrants in Israel would secretly like to go home, but Israeli officials dispute this and point out that of the 90,000 from all walks of life who have gone to Israel from the Soviet Union, the proportion of those who have wanted to return is small.

Austrian officials now admit that they no longer have an accurate record of how many Jews are in Vienna. Since the Austrian Consulate in Israel stopped issuing visas to the returnees about a year ago, many have taken advantage of lax border controls to come here illegally.

The Jews themselves say that their numbers have grown to more than 1,000. Vienna welfare authorities, who have most contact with the group, put the figure at between 300 and 400, including about 30 or 40 children.

They are allowed to seek work, although most have no documents at all now that their six-month Israeli travel documents have expired.

The Austrian government considers them to be Israeli citizens and allows them to stay here only while they wait for an answer from the Soviet Consulate to their visa applications.

But the policy is tolerant. Austrian officials say that while slim hopes remain of solving the problem with the Kremlin, the outlook is unpromising. Chancellor Bruno Kreisky raised the matter with Premier Alexei Kosygin last year, apparently without result.

Some of the returnees may eventually accept life here and about 30 have gone a second time to Israel. But for the majority who want to go back, especially those with families in the Soviet Union, the future looks bleaker than ever.

## Makonnen Quits, Imru Appointed Ethiopia Leader

ADDIS ABABA, Ethiopia, July 22 (AP).—Emperor Haile Selassie appointed Michael Imru today as Ethiopia's Premier, replacing Endalkatchew Makonnen, the official Ethiopian news agency announced. No reason was given for Mr. Makonnen's resignation.

Mr. Imru, 44, is believed to be in Geneva with his family after leaving Addis Ababa almost two months ago.

He has been minister in charge of social and economic affairs since February when Mr. Makonnen's government, which came to power in February during army and civilian unrest that forced the resignation of Premier Akilu Hapte Wold's cabinet.

Before that, Mr. Imru, who was educated in England, was head of the Ethiopian Mission to the UN office at Geneva.

## 6 Hunger Strikers Ailing in Mexico

MEXICO CITY, July 22 (AP).—Six Americans were hospitalized as more than 100 foreigners continued a hunger strike at two jails to protest their treatment by Mexican authorities and their own governments, prison officials said yesterday.

Nine other Americans, including five women, were unable to get out of bed because they were so weak, some of their fellow prisoners said.

The inmates charge that they were tortured by the Mexicans and neglected by representatives of their own countries.

Most of the prisoners, mainly young middle-class youths, admit transporting drugs, which they said they were trying to import into the United States from South America.

## Dutch Aide Predicts End of Pirate Radios

THE HAGUE, July 22 (Reuters).—Three pirate radio stations broadcasting from vessels anchored off the Netherlands—Radio Veronica, Radio North Sea International and Radio Mi Amigo—will disappear in the next few months, according to Culture and Recreation Minister Henry van Doorn.

The government refused Friday to grant a broadcasting license to the Veronica broadcasting organization. Mr. van Doorn said that measures were now being prepared to end the illegal broadcasts.

## Leftist Convention Is Opened in Dublin

DUBLIN, July 22 (Reuters).—A convention of more than 100 young leftists from 15 nations opened here today with Irish republicans attacking British military and economic policy in Ireland.

The gathering, described as anti-imperialist and revolutionary, was organized by Sinn Fein, the legal political arm of the banned Irish Republican Army. The Irish government expressed disapproval, but no moves were made to ban the convention. Many girls were among the students and trade unionists at the convention.

## Refugees Talk of Rape, Looting and Killing

LONDON, July 22 (Reuters).—Exhausted travelers airlifted from Cyprus arrived in Britain today with allegations of looting, rape and indiscriminate killing on the island.

Two VC-10 aircraft brought 260 persons to the Royal Air Force Base at Fairford, in the west of England, as part of the RAF's evacuation of tourists caught up in the weekend invasion of Cyprus by Turkey.

It was reported in Cyprus today that about 350 Americans, who had taken refuge at the British base in Dhekelia, were airlifted by U.S. Navy helicopters to the Inchon, a Sixth Fleet aircraft carrier lying offshore.

In Stockholm, the Foreign Ministry said that Swedish troops of the UN contingent on Cyprus had started evacuating about 820 Scandinavian tourists from Famagusta to the British base at Dhekelia.

### Various Nationalities

Although most of the 260 persons evacuated to England were British, some of them were Austrians, Canadians, Frenchmen and Germans who had been vacationing on the Mediterranean island.

Several leveled looting and brutality charges against Cyprus's Greek-officered National Guard, which staged last week's coup in which Archbishop Makarios was overthrown as President.

A newlywed Turkish Cypriot couple, Mehmet and Ayshe Besim, who live in London and were honeymooning in Limassol, said that they had seen the bodies of women and children in the streets and alleged that members of the National Guard had plundered all the houses in the Turkish quarter. Some of the houses had been set on fire, they said.

Mr. Besim, 36, a civil servant, said: "Greek Cypriot guards were shooting indiscriminately. They didn't seem to care who they hit."

Another evacuee, Kesban Derwish, 15, sobbed as she described the killing of her uncle and the wounding of his family by mortar fire which hit a house where the National Guard was holding them captive.

Through an interpreter, the girl said that she saw a woman raped by National Guard soldiers in the house yesterday and then shot in the head. The girl said that local Turkish Cypriots eventually rescued her from the house.

A British serviceman's wife, who declined to be identified, accused National Guard members of looting the homes of British military families as they left for safety.

Their arrival was preceded by dawn air strikes by Turkish jet fighter-bombers and by a new wave of paratroops dropped on the outskirts of the city, he said.

In Washington, State Department spokesman Robert McCloskey announcing the cease-fire agreement yesterday, said: "This agreement is the result of a U.S. proposal that was put to the Greek and Turkish governments today following a series of contacts and communications."

He said that Secretary Kissinger notified Britain and France of the accord after "the governments of Greece and Turkey accepted the proposal this evening."

The agreement signaled a change in Mr. Kissinger's brand of personal diplomacy. The secretary did his negotiating by telephone this time, sending assistant secretary Joseph Sisco to

here yesterday by Prof. Bernard Feld, a physicist at the Massachusetts Institute of Technology, who heads the London-based Pugwash movement.

The yearly conferences, which regularly attract representatives from 30 or so countries, represent a kind of collective scientific conscience arguing against the use and further development of the fearsome weapons many of the members helped create.

During the last few years—taking hope from the limited test-ban agreement, the nonproliferation treaty and the Strategic Arms Limitation Talks—the group has turned its attention toward such other urgent problems as the energy shortage, population growth and environmental damage.

"But we keep coming back to arms control with a certain amount of urgency and frustration," said Prof. Feld, who himself was part of the group at Los Alamos, N.M., that constructed the atomic bombs dropped on Japan in 1945. "We all felt simultaneously that something had gone wrong—everything seemed to be unraveling."

Rude Awakening

Recent events, the statement said, had come as a "rude awakening." It cited the recent detonation of a nuclear bomb by India, the American offer of nuclear power plants to Egypt and Israel and the failure of President Nixon's recent Moscow summit meeting to halt the proliferation of missiles and other advanced weapons. It said American experts estimate that as many as 24 nations could possess atomic weapons within 10 years.

The armaments question is likely to loom large at the 24th Pugwash Conference, scheduled to start on Aug. 28 in Baden, Austria.

Ecology Agency Set Up in Berlin

BONN, July 22 (Reuters).—West German President Walter Scheel today signed a law setting up a federal environmental protection office in West Berlin, despite East German threats against the move.

A Justice Ministry spokesman here said the law would come into force Thursday.

On Saturday, East Germany said it would take countermeasures as soon as the bill becomes law. Employees of the new office would be barred from using the transit routes to and from West Berlin and would not be allowed to have their personal property and documents transported across East German territory to the city, an East German statement said.

It accused West Germany of violating the 1971 four-power agreement on Berlin by deciding to establish a federal institution in the western half of the city, which has a special status.

## Fragile Truce Takes Effect In Cyprus, 3-Party Talks Set

(Continued from Page 1)

southern coast, according to witnesses.

British officials said that about 4,000 Turkish Cypriots had taken refuge at a British military base in Akrotiri, on the southernmost tip of the island.

Turkish Reinforcements

According to United Nations sources, Greece last night flew in troop reinforcements and materiel to Cyprus and they managed to land at Nicosia airport. This morning the Turks also brought in fresh troops and armor.

Greek Cypriot anti-aircraft batteries today shot down five more Turkish planes raiding Cyprus, Nicosia radio said. This brought the total that the Greek Cypriots claim to have shot down since the Turkish invasion started Saturday to 19.

A Ministry of Agriculture statement broadcast by Nicosia radio reported a "huge" fire in the Paphos forests caused by Turkish bombing yesterday. The fire "is threatening to destroy all the Paphos forest," the statement said.

The Ministry of Commerce announced during the broadcast that any merchant who increases the prices of goods will be "punished severely."

Spreading False News

A military communiqué broadcast by Nicosia radio warned citizens against spreading "false news about the military situation."

The communiqué said that anyone violating this order would be regarded as traitor and collaborator with the Turks and punished severely.

An Australian newsman, Bryan Boswell, reported that truckloads of heavily armed Turkish troops were pouring into the Turkish quarter of Nicosia, relieving the Turkish Cypriot militiamen who have defended the area since the fighting started three days ago.

Their arrival was preceded by dawn air strikes by Turkish jet fighter-bombers and by a new wave of paratroops dropped on the outskirts of the city, he said.

In Washington, State Department spokesman Robert McCloskey announcing the cease-fire agreement yesterday, said: "This agreement is the result of a U.S. proposal that was put to the Greek and Turkish governments today following a series of contacts and communications."

He said that Secretary Kissinger notified Britain and France of the accord after "the governments of Greece and Turkey accepted the proposal this evening."

The agreement signaled a change in Mr. Kissinger's brand of personal diplomacy. The secretary did his negotiating by telephone this time, sending assistant secretary Joseph Sisco to

here yesterday by Prof. Bernard Feld, a physicist at the Massachusetts Institute of Technology, who heads the London-based Pugwash movement.

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## Greeks, Turks Rush Briefly On Same Road

BELGRADE, July 22 (AP).—Yugoslavian roads were jammed yesterday with cars of Greek and Turkish workers driving home to join their respective armies.

Yugoslav television showed films of the rush on crossing points at the Yugoslav-Austrian border where Greeks and Turks enter this country en route home from the West. The television said that they were returning in response to mobilization calls.

The Greeks and the Turks drive on the same north-south road to the Serbian city of Nis, south of here, where the road branches—east for Bulgaria and Turkey, and south to Greece.

So far no incidents have been reported.

## Kissinger Hailed By French for Cease-Fire Role

PARIS, July 22 (IHT).—French Foreign Minister Jean Sauvagnargues said today that U.S. Secretary of State Henry Kissinger played the key role in arranging the Cyprus cease-fire.

Mr. Sauvagnargues told a news conference that Mr. Kissinger has kept him fully informed about his diplomatic moves, thus allowing for a full coordination of efforts by Washington and the nine-nation European Economic Community.

Mr. Sauvagnargues said, "It is clear the United States played a leading part in the cease-fire because of its weight. But the U.S. authorities have fully consulted with the Nine and the convergent effort worked well."

He said the close American-European consultations on Cyprus were in sharp contrast with the lack of such consultations during the Middle East crisis.

But in London there was some displeasure in the government about the style and the timing of the U.S. announcement of the cease-fire early this morning. Officials here felt also that not enough credit had been given to Britain for what they said was a genuine joint effort by the two countries.

## 3 U.S. Oil Firms Sign Prospecting Pacts With Egypt

CAIRO, July 22 (Reuters).—Egypt signed oil-prospecting accords yesterday with the American companies of Mobil, Amoco and Union. Egypt retained rights to more than 80 per cent of any oil or natural gas found.

Mobil signed an eight-year agreement to invest \$215 million in off-shore prospecting operations at Hurgada, south of the Suez Gulf on the Red Sea.

It was second agreement between Mobil and the Egyptian General Petroleum Corp. The first, signed last November, provided for off-shore prospecting northeast of the Nile Delta.

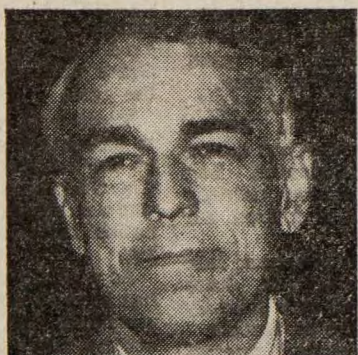
Amoco signed an agreement to prospect south of Ras Ghareb in the Suez Gulf.

Amoco has signed four prospecting agreements with the Egyptian corporation during the last 10 years. During its operations there, Amoco discovered the giant oilfield of Morgan and others in Abouid Gharadik and Razzak.

## Lopez Rodo to Vienna

MADRID, July 22 (AP).—The Spanish government has appointed Laureano Lopez Rodo, former foreign affairs minister, ambassador to Austria.

## I flew home Pan Am.



Merrill R. Russell, Royal Oak, Michigan

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## U.S. Is Rushing A-Test Plans Before Ban Goes Into Effect

By Thomas O'Toole

WASHINGTON, July 22 (WP).—The United States is about to accelerate its underground testing of nuclear weapons in a rush to develop three new warheads before the threshold test ban treaty with the Soviet Union goes into effect in 20 months.

The precise number of tests to be held until then is still undecided, but there could be as many as 30 tests, related to the development of a larger warhead for the Minuteman-3 missile, the submarine-launched Trident missile and a bomb for the supersonic B-1 bomber being built for the Air Force.

So tight is the testing schedule for these new warheads that the Atomic Energy Commission is not absolutely certain it can complete all the tests by the time the threshold test ban takes effect March 31, 1976.

### 'Move Very Rapidly'

"Twenty months is a short period, with a very tight engineering schedule," a source close to the AEC said last week. "It means we have to move very rapidly, and to say that what we normally do in 36 months we're going to do in 20 months with no sweat . . . I don't know."

The threshold test ban treaty will prohibit all tests by the United States and Soviet Union of devices over 150 kilotons, meaning that at least one and possibly all three new warheads must be tested before the threshold takes effect.

Certainly the improved warhead for the Minuteman-3 will have to be tested before the new limits take hold. This warhead, it is understood, is to have an explosive force of 400 kilotons, more than double its current destructive strength. The larger warhead

is being developed specifically to equalize the destructive strengths of U.S. and Soviet warheads.

A question mark hangs over the warheads to be developed for the Trident and the B-1. One report has it that the Trident warhead will be less than 100 kilotons, making it no bigger than the submarine-launched Poseidon missile it is designed to succeed.

But another report has it that the Trident warhead will be at least 200 kilotons, for the same reason Minuteman is being enlarged: to match the growing size of the Soviet missile warheads.

The upcoming tests will be costly, although the AEC is not prepared to say how costly. Its budget request for weapons testing this fiscal year is \$152 million, and it is understood it will be asking for a supplemental budget of at least \$89 million to carry out the new tests.

## A Transcontinent Founders in Dep

NEW YORK, July 22 (U) grandmother, in New York City, wooed her on a bus tour a month ago in Kalamazoo, Mich., today—alone.

Lena Clark, 68, arrived in New York to find George Brown, a widower, a month after an afternoon sight.

"He said I was the right one. At the time, however, she didn't know."

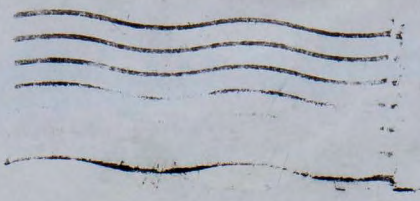
But later she had second thoughts and to accept the offer of matrimony.

Unfortunately, however, she needed help from city police, Mrs. Clark, Mr. Brown, and decided to go home for money.

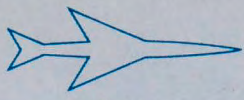
Her first husband died 20 years ago, and band, whom she also met during a

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Additional message area

Bolle Kugel es nicht immer bei -  
Anspruchlos gelst. -  
Mein Job geht mit  
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zeigen was ich zu Hause für  
Arbeit unternehmen kann, gelst  
jetzt mich nur 2 mal in der  
Woche für 2 Stunden sein.  
alles geht von us aus dem Fall

Liebe Trude:

Danke für den Brief vom 20<sup>ten</sup> mit dem O.V.H. Artikel. Er hat mühselig den Dr = im Titel ausgelesen. Mir scheint, dass ein paar richtige Gedanken überliefert sind und die Feindseligkeit gegen die Sowjets im Ansehen der <sup>Franken</sup> ~~Marxismus~~ und Sozialismus im allgemeinen zu sehr hervorkommen. Die Zeit (AR

DÖNROFF) und der Spiegel lassen ihre Leser in diesem Gebiet sicher nicht in Stich. —

Meine Fortschritte kommen jetzt langsam und wenn das ferne Wetter meine kritischen Hand und selbsterfüllende <sup>oder</sup> ~~oder~~ lässt, gefällt mir gar nicht, dass es mit dem aufsteigen vom



# Chinas «Drei-Welten-Theorie»

Otto von Habsburg

In einer Zeit, in der die Weltpolitik das öffentliche Leben ebenso entscheidend beeinflusst wie die Wirtschaft, besteht in Europa ein erstaunlich geringes Verständnis für das *chinesische Problem*. Das ist um so unverzeihlicher, als China einer der bedeutendsten Faktoren der heutigen Weltentwicklung ist. Wer die Dinge realistisch sieht, weiss genau, dass wir noch immer tief im kalten Krieg stecken würden, wenn es keinen Mao Tsetung gegeben hätte. *Russland* ist ja nur deshalb gezwungen, sich mit dem Westen zu arrangieren, weil es im Fernen Osten schwer bedrängt ist.

## Wird China vergessen?

Trotzdem sprechen und handeln die meisten europäischen Politiker, als ob China überhaupt nicht existieren würde. Mit wenigen Ausnahmen dürfte z. B. in *Deutschland* kaum jemand wissen, wo Peking wirklich liegt. Zumindest ist bezeichnend, dass in den Aeusserungen der BRD-Verantwortlichen – mit Ausnahme des Oppositionellen Franz Josef Strauss und des Aussenministers Genscher – sich fast niemand Gedanken über die Bedeutung Chinas für das deutsche Schicksal macht.

Das *England* Wilsons wiederum betrachtet Maos Reich bloss als lästigen Konkurrenten, weil Tschou En-lai den Führer der britischen Opposition, Edward Heath, wie ein Staatsoberhaupt empfangen hat. Von den kleineren Ländern sei hier gar nicht die Rede. Nur *Frankreich* scheint diesbezüglich bereits seit den Tagen General de Gaulles aufgeschlossener zu sein. Paris und – über Paris – Bukarest haben erkannt, was alles mit Hilfe Chinas gegenüber der Sowjetunion erreicht werden kann.

Die Männer der *Wirtschaft* sprechen fast nur vom kommenden grossen China-Markt. Dass dieser Markt weitgehend eine Fata Morgana ist, an die wohl viele Kapitalisten glauben, die sich aber bei näherem Zusehen in nichts auflöst, haben noch allzu wenige erkannt.

China hat in seinen Beziehungen mit dem Ausland schlechte Erfahrungen gemacht. Zu Beginn der Volksrepublik gab es eine intime Zusammenarbeit mit Russland – einschliesslich sowjetischer Wirtschaftshilfe. Als der Krenl zu Ende der fünfziger Jahre die potentielle Gefahr aus dem Osten erkannte und das Regime Mao Tsetungs mit einem einzigen Schlag vernichten wollte, kam es zum plötzlichen Abbruch der wirtschaftlichen Beziehungen. Damals wäre Chinas Regierung beinahe gestürzt. Das haben die Machthaber in Peking nicht vergessen.

Daher rührte Chinas Entschluss, die Summe des Aussenhandels niemals wesentlich über 3% des Bruttosozial-

produktes hinauswachsen zu lassen und höchstens 25% seines Gesamtvolumens mit *einem* Partner zu tätigen. Das gilt weitgehend auch heute noch. Der an sich interessante chinesische Markt ist daher auf alle Fälle noch für längere Zeit beschränkt. Er wird nur im Verhältnis zum Bruttosozialprodukt anwachsen. China ist daher für Europa wohl ein interessanter, aber *kein ausschlaggebender Wirtschaftspartner*.

Anders in der *Politik*: Hier eröffnen sich grosse Chancen, wenn man bereit ist, diese voll und pragmatisch zu nutzen. Es wird in der europäischen Presse immer wieder die Vermutung geäussert, bei einem allfälligen Wechsel an der Spitze der chinesischen Regierung werde auch eine Wandlung der Pekinger Politik erfolgen. Solche Kommentare stammen fast alle aus der *sowjetischen* Propagandaküche. Moskau will die westlichen Zweifel an der Realität der chinesisch-russischen Feindschaft fördern. Natürlich gibt es im russisch-chinesischen Verhältnis Zeiten der Krise und Zeiten relativer Entspannung. Die Geschichte zeigt aber, dass, langfristig gesehen, China auf jene Gebiete nie verzichten wird, die einst dem «Reich der Mitte» gehörten und in denen heute eine bedeutende asiatische Bevölkerung lebt, die nur auf die Befreiung vom Joch der europäischen Russen wartet. Dass dabei die demographische Entwicklung Sibiriens dem Herausforderer China in die Hände spielt, zeigen die Ergebnisse der russischen Volkszählungen: Das weisse Element ist rückläufig, während gleichzeitig sein Einfluss in der Führerschicht bis zu jenem Punkt zugenommen hat, da etwa 90% der entscheidenden Positionen in Sibirien von Europäern besetzt sind. Das allein ist ein untrügliches Zeichen, wie es wirklich um die innere Situation im russischen Kolonialreich steht.

## Russischer Präventivschlag?

Natürlich ist anzunehmen, dass die derzeitigen Gesprächspartner in China, besonders Mao Tsetung und Tschou En-lai, die bereits im Greisenalter stehen, nicht mehr lange die Zügel in Händen haben werden. Die Machtstruktur Chinas erleichtert aber die Lösung der Nachfolgefrage. Die aufstrebenden Persönlichkeiten, wie z. B. Teng Hsiao-ping und die beiden Vizepräsidenten Ye Chien-ying und Wang Hung-wen, sind Garanten der *politischen Kontinuität*. Man ist daher berechtigt anzunehmen, dass in absehbarer Zeit keine grundlegende Wandlung eintreten wird. Damit aber ist heute *jede prinzipielle Stellungnahme Pekings für Europa von Bedeutung*.

Für China sind zwei Dinge unangenehm: an der bevorstehenden *Weltkon-*

*ferenz der kommunistischen Parteien in Moskau* sollen die Chinesen aus der «Gemeinschaft sozialistischer Völker» ausgeschlossen werden; und im Fernen Osten lauert die Gefahr eines sowjetischen kriegerischen Präventivschlags. An der Weltkonferenz der kommunistischen Parteien dürfte insbesondere deren allfällige *Auswirkungen* auf die Entwicklungsländer von Bedeutung sein. Hier aber tat China jüngst einen Schachzug, der seine Wirkung nicht verfehlen wird.

## Maos Schachzug

Bisher galt allgemein die Moskauer Theorie vom Bestehen eines «sozialistischen Lagers der Völker». Seit Beginn dieses Jahres haben Tschou En-lai bzw. Teng Hsiao-ping diesem Konzept die Idee der «Drei Welten» gegenübergestellt: Danach gibt es eine imperialistische Welt der Supermächte – das heisst Amerika und Russland –, daneben besteht die *entwickelte Welt*; und die *Entwicklungswelt* schliesslich umfasst die übrigen Völker. China selbst sagt nicht klar, zu welcher Gruppe es gehört. Es lehnt allerdings die Rolle einer Supermacht ab. Nach der inneren Propaganda zu schliessen, dürfte es sich heute an der Grenze zwischen der entwickelten und der Entwicklungswelt ansiedeln. Bezeichnend ist auch, dass China sich nicht als «Führungsnation» einer Gruppe von Völkern ausgibt.

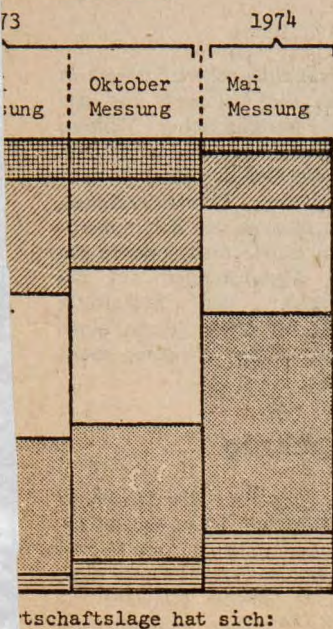
Die Bedeutung der neuen chinesischen Welteinteilung ist gross! China verlässt den Begriff des «sozialistischen Lagers» und stellt ihm eine nichtideologische, d. h. *wirtschaftliche Welteinteilung* gegenüber. Damit nimmt es einem allfälligen «Ausschluss aus dem sozialistischen Lager» den Stachel. Gleichzeitig begründet China damit eine *Politik der freien Hand* – im Gegensatz zum Universalitätsanspruch des Marxismus. Durch die «Drei-Welten-Theorie» sagt sich China auch vom *Gedanken der Weltrevolution* los. Ob das von Dauer ist, bleibe dahingestellt. Auf alle Fälle gilt dies für die nächste Phase der politischen Entwicklung.

Ein allfälliger sowjetischer Präventivschlag ist nicht auszuschliessen, erscheint aber immer unwahrscheinlicher. Die nukleare Entwicklung Chinas ist heute bereits weit genug gediehen, den Preis für die Sowjetunion als zu hoch erscheinen zu lassen.

Alle genannten Ueberlegungen führen für den *freien Westen* zum Ergebnis: Es wäre ein grosser Fehler, die Bedeutung Chinas zu unterschätzen! Für Europa bleibt die *Sowjetunion* die einzig wirkliche Gefahr; ihr gegenüber aber spielt China eine entscheidende Rolle, die auch uns zugute kommen kann, wenn wir sie zu nützen wissen!

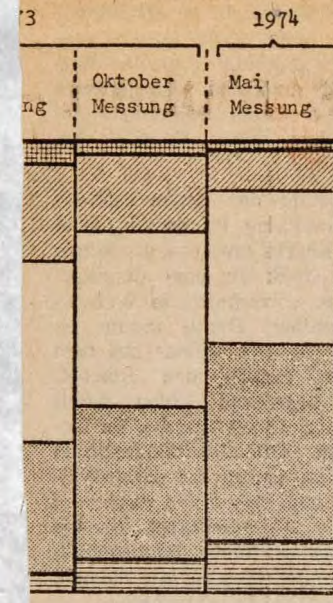
Veränderungen. 19% erwarten sogar eine weitere Verbesserung der eigenen finanziellen Lage. Immerhin hat allerdings die Gruppe der Pessimisten mit einem Anteil von 25% im Vergleich zur letzten Messung im Vorjahr (16%) doch weiter zugenommen.

Die allgemeine Wirtschaftslage in 12 Monaten



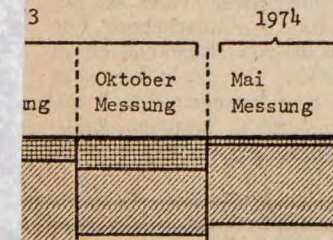
Wirtschaftslage hat sich:  
 etwas verschlechtert  
 sehr verschlechtert

Die weitere Entwicklung der allgemeinen Wirtschaftslage in den kommenden 12 Monaten



Wirtschaftslage wird sich:  
 etwas verschlechtern  
 sehr verschlechtern

Die weitere Entwicklung der Wirtschaftslage der Konsumenten



## Wohin führt totale Mitbestimmung?

Die Befürworter der Mitbestimmung lieben es, die überholte polare Stellung von Arbeitgebern und Arbeitnehmern ins Scheinwerferlicht zu stellen. Arbeiter sind nun aber ausnahmslos alle - in jedem Betrieb! Viele der geistigen Spitzenarbeiter waren in ihren Anfängen auch harte manuelle Arbeiter. Auf deren weissen Kragen sind die krawattenlosen Mitarbeiter in der Regel auch nicht neidisch - wohl viel eher die weiskragigen Aussenseiter, welche sich in einkömmlicher theoretisierender Wohltätigkeit gefallen. Seit der Oelkrise beginnt aber die Einsicht zuzunehmen, dass das Geldverdienen allerseits nicht mehr ungetrübt sicher ist. Das zu diskutierende Problem umfasst nicht nur

1. eine verbesserungsmögliche Mitbestimmung am Arbeitsplatz, die von keiner Seite beanstandet wird,
2. eine mitbestimmende Anteilnahme am Geschäftsgewinn, der natürlich auch die Anteilnahme am Verlust miteinzubeziehen hätte, wie dies für die Aktionäre auch der Fall ist - sondern auch
3. die sehr umstrittene Anteilnahme an der Verwaltung, das heisst an der obersten Leitung, also an Wareneinkauf, Produktion, Forschung, Verkauf, Finanzen und Verkehr mit Aemtern und Konkurrenten.

Dieser dritte Punkt würde unweigerlich zu einer bisher nicht diskutierten Situation führen, die weder für die Arbeiter noch die Firmeninhaber noch die Allgemeinheit unberücksichtigt bleiben darf. Gemeint ist die unweigerliche Kulmination auf einen Punkt hin, der den ganzen Produktionsbetrieb als Einheit empfindet, die sich unter Umständen in grossen Widerspruch zu den Inter-

sen der Allgemeinheit begeben kann. Was dann?

Die Entwicklung würde sich unweigerlich nach zwei Richtungen hin bewegen. Einerseits hätte eine gleichberechtigte Produktionsgemeinschaft aus normalen egozentrischen Existenzgründern kein Interesse an einer eventuellen Schliessung oder einem Standortwechsel. Andererseits wäre sie gegen jede Neuentwicklung auf ihrem Sektor, welche den Betrieb arbeitstechnisch rationalisieren oder funktionsmässig umorganisieren würde - auch wenn diese Neuerung für die Allgemeinheit von Nutzen wäre. Der Nutzen der mitbestimmenden Arbeiterschaft würde solchen Ueberlegungen vorangestellt. Es würden also monopolistische Tendenzen in den Vordergrund gestellt.

Diese Ueberlegungen sind wohl das überzeugendste Argument gegen eine erweiterte Förderung der Mitbestimmung. Ein solches Land würde zwangsläufig durch seine Erstarrung wettbewerbsunfähig gegenüber anderen Staaten - selbst gegenüber kommunistischen. Dort steht dieser autonomen Verwaltungsart immerhin die absolute Diktatur der obersten Regierungsbehörde vor, welche zwangsläufig das Interesse der ganzen Allgemeinheit zu vertreten hat.

Das ganze Bemühen um Mitbestimmung würde sich also letztlich zutiefst gegen jedes menschliche Interesse an individueller Entwicklungsfreiheit kehren und im Formalismus, in der Zwangswirtschaft die heutigen Arbeitnehmer wie Arbeitgeber ersticken. Das Malaise des überfüllten Hühnerstalles menschlichen Daseins wäre vollkommen - wie dasjenige heutiger industrieller Hühnerstallinsassen.

O. A. M., Zürich

## «Point-of-Sale-Systeme»

Ihren Artikel unter dem Titel «Point-of-Sales-Systeme - Datenerfassung am Verkaufspunkt» - (FuW Nr. 51/74) haben wir verständlicherweise mit sehr viel Interesse gelesen. Wir müssen ausserdem sagen, dass es Ihnen gelungen ist, eine sehr gute Uebersicht über die Entwicklung dieses Marktes zu geben. Dennoch vielleicht ein paar kleine Ergänzungen, die für Ihre Leser interessant sein könnten:

Es ist immer ein Problem, von Marktanteilen zu sprechen. Verständlich natürlich, dass gerade das fast jeden interessiert. Wie kritisch es jedoch ist, mag folgendes Beispiel zeigen: Herr P. Zaugg (Singer) sagt in dem Interview, dass sich die «anderen Unternehmen in die verbleibenden knapp 50% des Weltmarktes teilen»... Herr H. Diethelm (NCR) zieht die Schweiz zu einer Darstellung der Marktverhältnisse heran: «Unser POS-Anteil in der Schweiz dürfte rund 60% betragen...»

Worauf basieren diese Zahlen denn nun? Echte Installationen? Echte Aufträge mit Unterschrift und Installationsplan? Oder «Hoffentlich-Aufträge»? Leider wird gerade auf diesem Sektor viel «Werbung» betrieben. Denn Optionen werden immer wieder als Aufträge ausgegeben. (Wir kennen alle das berühmte Problem Concorde, wo von vielen Optionen nur noch wenige Aufträge überlieferten). Willkürlichkeit bei

Marktanteile über den Haufen werfen.

Gerade die Schweiz wird aber nicht das Land der Grossaufträge werden. Dafür gibt es nur verhältnismässig wenige Unternehmen als potentielle Kunden. Typisch für die Schweiz sind die mittleren Betriebe. Und das sind viele kleine Aufträge. In diesem Bereich wäre es deshalb vielleicht sinnvoller, die Anzahl der Kunden als Massstab zu nehmen. Sweda bietet - gerade im Blick auf die Schweiz - dem kleineren und mittleren Unternehmen eine Gesamtlösung an: also auch die Auswertung der Daten, die er mit dem Kassenterminal-System erfasst. Dies, weil die Unternehmen dieser Größenordnung selten in der Lage sind, sich eine eigene EDV-Anlage zu leisten.

Im heutigen Markt muss ein Anbieter im Fall von Grosskunden immer öfter in europäischen Massstäben denken. Auch der Handel wird zu einem «internationalen» Geschäft. Jelmoli z. B. hat Partner in Deutschland und Belgien, die «Maus-Gruppe» besitzt direkte Anteile in Frankreich. Diese internationalen Verbindungen führen auch dazu, dass Aufträge zum Teil zentraler vergeben und koordiniert werden. Binnenmärkte sind in diesem Fall keine reinen Binnenmärkte mehr.

Auch am Service kann man ein Unternehmen messen. Sweda ist eines der Unternehmen, die das weitverzweigte Serviceangebot bieten

24th Pugwash Conference (Baden near Vienna)

Information for Participants

The Conference will begin at 9.30 a. m. on Wednesday, 28th August, 1974, and will end in the evening of Monday, September 2nd. At the end of the closing session in Baden there will be an important address by the Federal Chancellor of the Republic of Austria, Dr. Bruno Kreisky. This will be followed by a reception given by the Federal Government in the Chancellor's office in Vienna.

Participants will be accommodated either in the Park Hotel or in the Hotel Gutenbrunn, Baden. Both hotels are close to the Congress Centre. Participants are guests of the Austrian Pugwash Committee in respect to accommodation and meals from the evening, August 27th to the morning, September 3rd. Accompanying persons pay 410 Austrian Schilling (about 20 dollars) per day for accommodation and meals, the whole amount to be due on arrival.

Weather will probably be warm, and mostly fine, but it may rain. In any case, a light raincoat and a light pullover should be brought. No formal dress required.

Please fill in the enclosed questionnaire. It is essential for the organizers to be informed in good time before the meeting (even now, if possible) of the exact time of your arrival if you come by air or train. It is quite complicated, especially for people not speaking the language, to get from Vienna airport (Schwechat) or from the Vienna railway stations to Baden. Participants arriving on August 27th or 28th will be taken by shuttle bus from the airport to Baden. On the 28th there may be longer waiting times at the airport. An Information Desk of the organizers will be found at the airport during these two days.

Please fill out the enclosed questionnaire and send it to Pugwash headquarters in London, who will send a copy to Vienna. Thereafter, all correspondence in connection with travel plans and other travel or accommodation problems or special needs of participants should be directed to the Austrian Committee in Vienna, which will be in constant contact with the Travel Agency ("Mondial", Baden), responsible for arrangements. The Travel Agency will inform you in good time in which of the two hotels you will be placed.

It will greatly help the Austrian Committee if you would, even if not accompanied, be willing to share a room with a colleague, as the hotels have placed a limit on the number of single rooms available. If you prefer a particular room partner, perhaps from your country, please check with him (or her) and let us have the name.

During one of the afternoons you and any accompanying person are invited to an outing to the beautiful Austrian countryside on the Danube. Moreover, on September 1st, participants and accompanying persons wishing to attend an Opera performance (at their own expense) will be taken to Vienna by bus. Traditionally, the season is opened on September 1st, but the programme is not yet known. Tickets will probably cost between 150 and 500 Austrian Schilling each.

P. T. O.

The mailing address of the Austrian Pugwash Committee is:

Professor E. Broda,  
Währingerstrasse 42  
A-1090 Vienna  
Austria.

The telephone number is 343616. This telephone is overloaded and often does not work, we are sorry to say. In case of emergency, the private telephone number of Professor Broda is 6522074 (usually there only 22 - 7 o'clock, i. e., 10 p. m. to 7 a. m.).

The Conference address will be

Pugwash-Konferenz  
Kongresshaus  
Kaiser-Franz-Ring  
A-2500 Baden  
Austria.

If you are coming from Western Europe, or from elsewhere with an intermediate stop in Western Europe, we especially draw your attention to the IT Flight Arrangement plan. The details are given on the following page.

Be welcome in Baden !

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To Pugwash Participants, 1974.

The International Institute of Applied Systems Analysis (IIASA) in Laxenburg, a few kilometres from Vienna, has kindly offered to show their place, and explain their work, to Pugwash participants and associated members. Such visits are envisaged for Tuesday, 27th August, 3.p.m., and for Tuesday, September 3rd, 10 a.m., starting from Baden. In case you are interested, please tell me as soon as possible, and inform me of the time preferred, and of the number of persons coming.

Prof. E. Broda  
Waehringer Strasse 42  
A-1090 Vienna

Pugwash Conference 1974  
PROGRAM FOR ASSOCIATE MEMBERS

- Tuesday, Aug. 27      Arrival day
- Wednesday, Aug. 28      Morning: Opening Session, to which associate members as well as participants are invited.
- 2 p.m.      Half-day excursion to the Burgenland, the Easternmost province of Austria. Departure from Congress House to Eisenstadt, the capital. Visit to Haydn mausoleum and to the mighty quarry of St. Margarethen, home of modern sculptors. Further to Rust and Mörbisch, quaint places on the large Lake Neusiedl. Light meal at Mörbisch. Return to Baden for dinner.
- Thursday, Aug. 29      Full-day excursion to Vienna.
- 9 a.m.      From Congress House to the palace Belvedere.
- 10 a.m.      Arrival at Heldenplatz in the Imperial palace, visit to the (sacred and secular) Imperial Treasury. Walk through the historical city with short visit to St. Stephen's Cathedral. Bus waiting at Heldenplatz.
- 1 p.m.      From Heldenplatz to Schönbrunn. Lunch at "Tirolergarten". Thereafter, visit to the palace of Schönbrunn and the Wagenburg (collection of Imperial carriages). Alternatively, the zoo of Schönbrunn may be visited (especially for children).
- 5 p.m.      Return to Baden.
- Friday, Aug. 30      12.00 p.m.      Afternoon excursion to Wachau with participants (see General Program).
- Saturday, Aug. 31      Half-day excursion to Vienna Woods.
- 9 a.m.      Departure from Congress House, visit to medieval abbey of Heiligenkreuz, SOS Kinderdorf (village for homeless children), return via Gumpodskirchen (fine scenery) to Baden. Arrival about 1.30 p.m.
- Afternoon free
- Sunday, Sept. 1st      Half-day excursion to Vienna.
- 9.30      Departure from Congress House, visit to Museum of Fine Arts (Breughels, etc.). Return to Baden appr. 12.30 p.m.
- In the evening visit to a performance (probably Rosenkavalier by Richard Strauss) in the Vienna State Opera, at private expense, together with participants. Have you booked? See General Program.
- Monday, Sept. 2      Half-day excursion to Vienna.
- 9 a.m.      Departure from Congress House to Vienna, visit to Augarten Porcelain Manufacture. Departure by bus from Augarten to Heldenplatz. The bus waits, shopping in the city possible.
- 12.30      Departure from Heldenplatz to Baden.
- In the evening, Reception given by the Federal Chancellor of the Republic of Austria, Dr. Bruno Kreisky, in his office. See General Program.
- Tuesday, Sept. 3      Departure day.

Please turn over.

For the Sunday morning performance (September 1st) of the Spanish Riding School at 11 a.m. a restricted number of tickets at a price of about 100 Austrian Schilling are hoped to be available. Please let us know if you are interested. As the Riding School is near Heldenplatz, the journey to Vienna is possible with the other excursionists.

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In order to facilitate the organisation, please mark one of the two copies of the program whether associate members in your company, and how many, intend to take part. Please mark each day separately, and return the marked copy as soon as possible, in any case before August 15th to

Prof.E.Broda  
Währinger Strasse 42  
A-1090 Vienna  
Austria

The 24th Pugwash Conference  
Disarmament, Energy Problems and International Collaboration  
Baden, Austria, 28 August - 2 September 1974

List of Topics for Working Groups

1. Current Problems of Arms Control and Disarmament
  - a) Review of Current Status of the Arms Race
  - b) Status and Progress in SALT
  - c) Progress in the CCD
    - Comprehensive Test Ban
    - Chemical Warfare Ban
    - Budget Limitations
  - d) Review of New and Old Proposals for Strategic Arms Reductions
  - e) Unilateral Actions and Restraints
  - f) Obstacles to Comprehensive Disarmament
  
2. European Security and Force Reductions
  - a) Status of the ESC and MFR Conferences
  - b) Nuclear Arms Control and Disarmament in Europe
  - c) Regional Arms Control Problem
    - Central Europe
    - Northern Europe
    - Mediterranean Area
    - Nuclear Arms-free Zone in the Balkans
  
3. Peace and Security in the Middle East and Persian Gulf Area
  - a) Resolution of the Arab-Israeli Conflict
  - b) The Arms Race in the Area, including the Military Involvement of the Great Powers
  - c) Oil Supplies as a Factor in Possible Conflicts
  - d) Future Possibilities for Collaboration between all States in the Area, especially in the Realm of Development
  
4. Security and Arms Problems in Other Areas
  - a) Impacts of the Arms Trade
  - b) The Problem of Southern Africa
  - c) Arms Control and Security Problems
    - NPT
    - Nuclear-free Zones
    - No-first-use Agreements
    - Peacekeeping and the UN
    - Novel Approaches and Ideas
  
5. Different Approaches to International Co-operation in Science and Technology
  - Lessons from, e.g., the International Institute for Applied Systems Analysis (Austria); International Centre for Theoretical Physics (Trieste); International Centre for Insect Physiology and Ecology (Nairobi); WHO Fertility Programme; European Molecular Biology Organization
  
6. The Energy Problem
  - a) Report from the Symposium on the World Energy Institute
  - b) International Consequences of National Energy Demands
  - c) Energy Use and Well-being



Univ. Prof.  
Dr. Engelbert BRODA  
Institut f. Physikalische Chemie  
der Universität  
Wien IX, Währingerstraße 42  
ÖSTERREICH (AUSTRIA)

TWENTY-FOURTH PUGWASH CONFERENCE  
ON SCIENCE AND WORLD AFFAIRS

BADEN NEAR VIENNA, 28 AUGUST - 2 SEPTEMBER 1974

Please return this completed form as soon as possible to ~~Professor B. T. Feld,~~  
~~9 Gt. Russell Mansions, 60 Gt. Russell St., London WC1B 3BE, who will send a copy~~  
~~to Vienna.~~

Name ..... Gertrud. Weiss. Szilard., M.D. ....

Address ..... 8038 El Paseo Grande .....

La Jolla, California 92037, U.S.A.  
.....  
.....

Accompanied by .....

Date and time of arrival ... August. 27. ....

Means of travel (air, rail, road) ..... don't know yet .....

If known, please give details of flight number and airline, etc. ....  
.....

Date and time of departure from Baden .... September 3. ....  
.....

Special requests and/or requirements ... If there is no elevator, please .....  
reserve room not higher up than one flight of stairs. Room with  
..... private shower would be much appreciated. ....

If not accompanied, are you willing to share a room with a colleague ?

Yes

No

If yes, with whom .....

IT Flight Arrangement booking interest:

Yes

No

for return

If yes, for how many persons, including yourself

1

Number of Opera tickets wanted, if any

1

single ticket for each per-  
formance scheduled.

If yes, cheaper

intermediate  
preferred

or better

seats.

- 1) Brada: Belzmann - Schrödinger - Penzance - F. Mendel  
Thinning
- 2) Bürgerinitiative: 3) L. Kaufmann 4. Vinspöckler 5. Feld
- 3) Kurt Finkler
- 6) Alfron: pop. 2 + 30 ps, Techn. 10 ps, A.S.P. 10 x  
Report on Atom Energy  
10,000 hours in Europe  
Langes of Plutonium (prod of death, wealth + power)  
(Pet Gulek)

E Finkler - Nu. Wodak

Feld

Verstecktes Experiment  
 3 net members cont. comm. (Rechts int)  
 ex-comm of cont. comm.  
 Symp. + Workshops: Transfer of energy (in  
 some day ↑. Kerntechnik!)

99 outside Austria, 15 observers, 7 Aust. Af.,  
 8 Austrians, 5 guests

---

111 part. 30 countries

28<sup>th</sup> p.m.

Kessler Russian oriented research - 10 million \$ budget  
Applied Systems Analysis 1966 - Reference Bureau -  
 apply methods to industrialization Academies + the Planck  
 Gesellschaft, 12 founding members 3.5 Bill. \$  
 70 man years / yrs. Global Modelling Handbook of  
 Sys. Analysis. - UNIDO - Network of Analysis  
 groups

24th Pugwash Conference, Baden 1974

Information Sheet No.1

Please always carry your meal tickets with you so that you are not in difficulty in case of unexpected changes of plans.

In the Restaurant Stadtkrug, where meals are generally taken, drinks are not included, and have to be paid after each meal to the waiter.

Everybody needs one meal ticket for the lunch in Melk (Wachau outing, Friday). Associates, who take part in the full-day excursion to Vienna on Thursday, August 29th, also need one meal ticket.

In your folder you find an invitation to the reception given by the Governor of Lower Austria in Dürnstein (Friday) and to the reception given by the Federal Chancellor in Vienna (Monday, September 2nd). We hardly doubt that everybody will accept. There is no need to reply in either case, although you are requested to do so on the invitation cards. Don't reply!

Opera tickets, as far as ordered, can be collected (for cash!) at the registration desk on Thursday, 29th. There may be some additional tickets left.

3,500,000      50,000  

---

70

EMBO Galpo

(2)

Meeting in Italy

constant meeting → spearhead, basic +  
vision - apply to higher cells

various EJM → higher cells, structures, organs  
also physical + energetics to handle data  
of higher complexity

Special EMBO project = governments

2 years until enough verifications have  
come in

Heidelberg near Kern Physik

60-70 \$, only 6-7 permanent





*Parkhotel*

**BADEN / WIEN**

A-2500 BADEN, KAISER-FRANZ-RING 5

## EMBO

Meeting in Italy determined necessity for  
European association.

Like CERN EMBO?

Voluntary giving money

Fellowships

Courses all over Europe

CENTRAL LABORATORY

Nothing about LHC's not so far -  
only Europe

Meeting in Konstanz to plan Lab.  
KONSTANZ

He discusses the kind of lab they  
are proposing

wanted two years for ratification by  
governments

HEIDELBERG

KENYA



You must talk to him  
personally later.

EMBO

W E I M I E N



UNIVERSITÄT

PROVISIONAL LIST OF PARTICIPANTS

(In some cases, arrival still uncertain.)

Name	Country or Organisation	Name	Country or Organisation
ADAMS Ruth	United States	DICULESCU Ilie	Romania
AFHELDT Horst	G F R	DJERASSI Carl	United States
AHMED Ishfaq	Pakistan	DOBROSIELSKI M.	Poland
ALFVEN Hannes	Sweden		
		EATON Cyrus S.	United States
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		HUNTER Robert E.	United States



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KESSLER Alexander	W H O	PARTHASARATHI Ashok	India
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MOCH Jules	France	STEIN Gabriel	Israel
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MUNGER Edwin S.	United States		

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SZILARD Gertrud	United States		
THEE Marek	Norway		
THOMAS Konrad	G F R		
TOLHOEK H.A.	Netherlands		
TORTO F.G.	Ghana		
TOYODA Toshiyuki	Japan		
TRUKHANOVSKY V.G.	Soviet Union		
TSIPIS Kosta	S I F R I		
VINOGRADOV A.P.	Soviet Union		
WEINZIERL Peter	Austria		
WEISSKOPF V.F.	United States		
de WILDE Jan	Netherlands		
WILSON	I C I P E		
van der WOUDE A.	Netherlands		
YORK Herbert	United States		
YOUNG Easter (Staff)	United Kingdom		
YUROSHEVSKI (Interpreter)	Soviet Union		
ZHURKIN	Soviet Union		

24th Pugwash Conference on Science and World Affairs, Baden, Austria,  
28 August to 2 September, 1974

W. F. GUTTERIDGE (U.K.)

XXIV-13

The Arms Trade: Is a Code of Conduct for  
Arms Sales desirable or feasible?

From time to time proposals for the register under U.N. auspices of the sales of arms above a certain level of sophistication have been made, with the obvious expectation that such an arrangement would lead to greater publicity and, therefore, to restraint. Such endeavours have been resisted even more by potential purchasers than vendors and it has been clear that barring the possibility of regional agreements about the quantity and quality of armaments little will be achieved in this specific direction. Objectively the need, judged in strictly conventional military terms, of the great majority of countries for other than basic weapons for internal security can readily be brought in question on the grounds that they would in any event be unable to defend themselves against determined aggression and must rely on treaties and international agreements to protect their territory and interests. The clause in the Organization of African Unity (O.A.U.) Charter precluding the resolution of frontier disputes, however, absurd the ex-imperial boundaries, by force has apparently been generally honoured. Nevertheless, even in the poorest areas of Africa there are cases of the acquisition of more or less advanced weaponry to the detriment perhaps of stability in the area and certainly of the local economy. It is this kind of situation which has led some to wonder whether a code of conduct similar to that recently drafted on the transfer of technology might not be considered for military equipment. In particular, the appropriateness or adequacy of the weaponry to the needs

of the recipient might be considered as a criterion to be applied by the supplier. The question is whether such judgments could be made about arms as opposed to civil technology.

Today not only events like the French bomb tests in the Pacific and the Indian nuclear explosion constitute a threat by military technology to less developed countries. Their welfare is endangered, their status undermined and their economies disturbed, even more than in the more developed countries, by the build up of armaments both general and local. The global situation is well known: in the decade 1961-70, according to U.N. figures, at least \$2000 billion were spent for military purposes and one tenth of this on research and development. Six countries out of 120 were responsible for four-fifths of the total expenditure. During the time when the arms race was thought to be slowing down the complexity and number of mass destruction weapons was greatly increased. Nuclear capability spread to France and China and the number of supersonic military aircraft in the world actually doubled. Expenditure on medical research amounted to only sixteen per cent of that for military R & D and total military expenditure exceeded that on all forms of education and public health combined.

The less developed countries were until recently responsible for only six per cent of all military expenditure but they already claimed thirty-seven per cent of the world's military manpower. The significant facts are that though relatively small in total their military budgets constitute a larger proportion of G.N.P. than in the more developed countries and that those budgets as well as their use of manpower for military purposes were growing

in 1973 at a rate well above that of the rest of the world. Nor in the circumstances of a low level of development are proportions important when technically trained manpower are in short supply and small sums of money invested can make an important difference to the standard of living.

In defence of increased military expenditure it is argued that armed forces are being built up from nothing and that in any case the need for them is created by the turbulence resulting from great power tensions. There can nevertheless be little doubt that military expenditure, or sometimes even the gift of advanced equipment, inhibits economic growth by reducing funds available for investment in major development projects. The freedom from the incubus of any real military-industrial power complex in countries without the capacity to manufacture weapons is offset by the financial strain of importing them when most of the defence budget contributes to the balance of payments deficit. The cost of maintenance of advanced equipment is high in cash and in terms of educated manpower. A distorted economy is accompanied by a destabilized political system with an enlarged military establishment and the implicit threat of an army coup.

Such local problems are particularly frustrating when it is appreciated that in global terms a five per cent shift of current expenditure from arms to development would make official U.N. aid targets immediately attainable. A shift of the order of ten per cent could increase investment in the less developed world by one third, provided that the diversion in fact took place and was not absorbed in large industrial countries by e.g. leisure industries. Such a diversion would involve a deliberate decision of the kind which democratic governments can only make under pressure from informed public opinion.

On the other hand, major governments have a degree of control today which their predecessors had not got in the 1920's and 1930's when the arms trade at all levels was in the hands of private dealers. Sales of major weapon systems are today matters of national concern and decisions to make them are less frequently made on economic than on political grounds, while ethical considerations are rarely in the last resort taken into account. The sale of sophisticated equipment is seen as a method (misguided in every respect?) of conducting foreign relations: the U.S.A. is responsible for forty per cent, France for twenty-five per cent and Russia and Britain for about thirteen per cent each of the total. In the 1920's arms dealing was condemned as an odious form of profiteering, today it is often treated as a laudable export achievement and by a process of perverted thinking as a contribution to so-called stability and the preservation of peace. The result in some parts of the world, e.g. the Persian Gulf, is a menacing assemblage of weaponry which may include nuclear elements before very long.

The difficulties over a code of practice relating to this field of trade are fundamental: such a code would involve by implication an apportionment of responsibility between suppliers and purchasers and an attempt at moral judgments in a field - the potential waging of war - where ethics scarcely apply. For these reasons, the more general mobilization of critical public opinion must probably remain the main resort. There is some evidence of restraint exercised by international and domestic pressures on arms sales to South Africa, though there are critical exceptions on the part of countries who use the argument that they might as well pursue profitably a trade in which there will always be someone willing to act unilaterally. Policies on arms sales generally by Sweden and Switzerland have been influenced by

public attitudes, and the supply of arms to the contestants in the Nigerian Civil War was to some extent affected. In developed countries which are manufacturers of weapons on a large and advanced scale Pugwash sympathisers and others should continually press for public justification of particular deals because the counter arguments often at present go by default. They should expose the futility of seeking political influence through arms sales, highlighting cases where such schemes have patently failed. Similarly in developing countries the justification for the expansion of the armed forces on the basis of foreign military assistance should be sought, including the publication in detail of realistic defence estimates before rather than after the expenditure has taken place. The promotion of relationships between neighbouring states based on some form of self denying ordinance and or regional arms control agreements might thus be facilitated.

The destructive arguments are numerous: selective arms limitation it is said only consolidates the position of those who are already powerful and political influence is easily obtainable by participation in the arms trade. The logic of this is the ultimate proliferation of nuclear weapons by their sale and by the uncontrolled development of nuclear reactors. Procedural devices such as registers and codes may be useful in some circumstances but are no substitute for the continuous explicit use of constructive arguments about human welfare in which arms are shown as negative expenditure and the diversion of resources to positive 'good' goals is promoted. The waste of effort and resources involved in ever increasing stock piles should be emphasized. If the threat of global nuclear war appears to have been averted, the general problem of the arms trade will inevitably seem less urgent while the potential, especially for regional destruction and misery, grows.

24th Pugwash Conference on Science and World Affairs  
 Baden, Austria, 28 August - 2 September 1974

List of Papers

			<u>Relevant to Working Group</u>
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2.	E.Broda (Austria)	Remarks About Nuclear and Solar Energy.	6
3.	W.F.von Bredow (F.G.R.)	International Tensions and Dis- armament:New Tasks for Military Sociology and Peace Research.	2
4.	F.Kohler (Austria)	Some Limiting Factors in Energy Production.	6
5.	V.Knapp (Yugoslavia)	Nuclear Energy and Developing Countries.	6
6.	K.Korhonen (Finland)	Regional Arms Control in Europe: A Nordic Nuclear-Free Zone?	2
7.	W.Epstein (Canada)	A New Approach to Comprehensive Disarmament.	I
8.	W.Epstein (Canada)	A World Disarmament Conference.	I
9.	M.Thee (Norway)	Disarmament Through Unilateral Initiatives.	I
10.	P.L.Ølgaard (Denmark)	The Safety of Nuclear Power.	I
II.	J.Barzelatto (Chile)	North-South Cooperation in Science and Technology:A Latin-American Viewpoint.	5
I2.	P.Budini (ICTP)	The International Centre for Theoretical Physics.	5
13.	W.F.Gutteridge (U.K.)	Arms Trade:Is a Code of Conduct for Arms Trade Desirable or Feasible?	4
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Message from the Director General of the IAEA, Dr. Sigvard Eklund,  
to the 24th Pugwash Conference in Baden, Austria, 28 August 1974

When the third Pugwash met in Kitzbuehel and Vienna in September 1958 its Agenda included items on the cessation of the arms race, the danger of atomic weapons, the responsibilities of scientists in peace and conflict situations and international scientific co-operation. It is interesting and a little saddening to see how many of these same problems are reflected in your Agenda 16 years later. Until recently one could record encouraging progress and some great steps forward. The cold war had faded away almost completely: there had been the Moscow Test Ban Treaty, the agreements negotiated by the CCD at Geneva and especially the Non-Proliferation Treaty, the Salt talks and the European Security talks. For 10 years the membership of the nuclear explosive club had remained steady at the five permanent members of the Security Council.

One might have hoped that in May next year the Review Conference on the operation of the Non-Proliferation Treaty would have been able to confirm that no new countries had joined the nuclear explosive club, that there was widespread adherence to the NPT including most of the major industrial powers; that there were good prospects of an early total test ban treaty inhibiting further "vertical" proliferation by the nuclear weapon states and that substantial progress was being made in limiting the development of inter-continental missile systems.

The first seven months of this year have seen most of these hopes fade or vanish.

It is timely, therefore, that Pugwash should once again give its full attention to those problems that played such an important

part in its own creation. Indeed I feel that Pugwash can never afford to allow these problems to move from the central point on its Agenda and that the world needs to be reminded at every possible occasion that the cardinal problem of nuclear energy is neither the risks of accident in a nuclear power plant nor the technical difficulties of isolating high level wastes but that it is the piling up of ever more sophisticated nuclear weapons and delivery systems in the nuclear weapon states, the spread of the nuclear arms race to other countries and particularly to the developing countries which can least afford it, and the problems of national physical control over the growing inventories of fissile material.

This meeting could, therefore, be one of the most important that Pugwash has ever held and I wish you every success in your discussions. May I also say how much pleasure it gives me to know that many old friends are back in our midst here and to assure you of the IAEA's willingness to help you to the extent that it can in material that will serve as the basis for your discussions.