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**Chairman:** Mr. Ismail FAHMY  
(United Arab Republic).

**AGENDA ITEMS 29, 30 AND 31**

**Question of general and complete disarmament  
(continued):**

- (a) Report of the Conference of the Eighteen-Nation Committee on Disarmament (A/6951-DC/229; A/C.1/L.411, L.412);
- (b) Report of the Secretary-General on the effects of the possible use of nuclear weapons and on the security and economic implications for States of the acquisition and further development of these weapons (A/6858 and Corr.1, A/C.1/L.413)

**Urgent need for suspension of nuclear and thermonuclear tests: report of the Conference of the Eighteen-Nation Committee on Disarmament (continued) (A/6951-DC/229)**

**Elimination of foreign military bases in the countries of Asia, Africa and Latin America: report of the Conference of the Eighteen-Nation Committee on Disarmament (continued) (A/6951-DC/229)**

1. The CHAIRMAN: Before calling on the first speaker, I should like to inform the members of the Committee that up till now I have fifty-nine speakers inscribed for the general debate. In the light of this number, I hope that representatives will speak in the order in which they are inscribed on the list, because we do not have time to postpone any statements.

2. Mr. PARDO (Malta): Mr. Chairman, last year the representative of Hungary submitted for consideration by the General Assembly a draft resolution, concerning chemical and bacteriological weapons.<sup>1</sup>

3. In presenting this draft resolution the representative of Hungary stated:

"While striving for the final abolition of arms, including nuclear arms, it would be a mistake to forget to fight against the use of such other weapons of mass destruction as asphyxiating, poisonous and other gases and against bacteriological and biological methods of warfare which are being, or could be, used . . .

"That is why the Hungarian delegation is of the opinion that the question of weapons of mass destruction, apart from that of nuclear weapons, should be given more attention than has been the case in recent decades."<sup>2</sup>

4. Nearly all delegations, including my delegation, which intervened in the debate on the Hungarian draft resolution last year concurred in this view. Opinions, however, differed on the substance of the Hungarian proposals. Several delegations, including my delegation, were distressed by the polemical presentation of the draft resolution and by its lack of constructive proposals for dealing seriously with a very grave problem which must be of vital concern to all countries, particularly to those that do not possess an advanced technology.

5. The Hungarian proposals, in fact, in their revised form<sup>3</sup> were limited to (a) demanding "strict and absolute compliance by all States with the principles and norms established by the Geneva Protocol of 17 June 1925 which prohibits the use of chemical and bacteriological weapons"; (b) inviting all States to accede to the 1925 Geneva Protocol; and (c) deploring the use of chemical and bacteriological weapons for the purpose of destroying human beings and the means for their existence.

6. From these proposals it can be assumed only that the delegation of Hungary, and those delegations that co-sponsored the revised draft last year, believe that the Geneva Protocol does in fact prohibit chemical and bacteriological weapons and that compliance with its "principles and norms" would be an effective restraint on the use of chemical and bacteriological weapons. Unfortunately reality is quite different.

<sup>1</sup> See *Official Records of the General Assembly, Twenty-first Session, Annexes*, agenda item 27, document A/6529, para. 5.

<sup>2</sup> This statement was made at the 1451st meeting of the First Committee, the official record of which is published in summary form.

<sup>3</sup> See *Official Records of the General Assembly, Twenty-first Session, Annexes*, agenda item 27, document A/6529, para. 13.

7. The 1925 Geneva Protocol confirms the prohibition of “the use in war”—I repeat, in war—“of asphyxiating, poisonous or other gases and of all analogous liquids, materials or devices” and extends this prohibition to “bacteriological methods of warfare”.<sup>4</sup> I shall try to demonstrate that reference to the Geneva Protocol in contemporary circumstances can have little more than a symbolic significance.

8. In the first place, the Geneva Protocol refers only to asphyxiating, poisonous and other gases and to analogous—that is asphyxiating and poisonous—liquids, materials and devices. As far as contemporary chemical warfare is concerned, this prohibition is scarcely more than marginally relevant. Toxic chemical agents, which may be used in modern warfare, are not necessarily either gases or liquids. Furthermore the most dangerous are neither asphyxiating nor poisonous. In the second place, the Geneva Protocol forbids only bacteriological methods of warfare, but this covers only relatively few, and not the most dangerous, of the micro-organic agents that may be used in modern biological warfare.

9. Finally, the prohibition in the Geneva Protocol extends only to the use in war of certain gases, analogous liquids—whatever those may be held to be—and bacteria. Their use for hostile purposes in peace time is not prohibited. That is a fatal omission in contemporary conditions. I do not refer so much to the fact that nowadays wars are seldom declared, but rather to the fact that some of the most dangerous chemical and biological weapons in the arsenals of States are eminently suited for use in circumstances in which no overt conflict exists. In a situation in which nuclear warfare offers unacceptable risks and overt warfare of any kind creates strong unfavourable international reactions, the supreme advantage of certain modern chemical and biological weapons is that they can be used to constrain the will and change the political goals and priorities of States without either the international community or the attacked party being aware of the fact. Thus, some modern chemical and especially biological weapons may represent, particularly for technologically less advanced countries which do not possess modern detection and protection capability, a danger equal to if not greater than that of nuclear weapons.

10. The 1925 Geneva Protocol is thus in contemporary circumstances largely irrelevant and totally inadequate. It is also excessively vague. While it is certain that the use in war of many modern chemical and biological weapons is not covered by the Geneva Protocol, it is not clear, also, which weapons precisely are covered. There is a wide grey area, owing to the very nature of the weapons with which we are dealing, on the extent of which there may be sincere disagreement. The representative of Australia called attention to this fact last year when objecting to the use of the words “chemical and bacteriological” in the Hungarian draft resolution. He said:

“What are chemical weapons? I suppose that at one extreme you could say that gunpowder is a chemical weapon. At the other extreme, of course, we have various forms of gas, which each of us agrees should be stopped . . .

“It is not enough to say that we all know what ‘chemical weapons’ mean. I am afraid that, if we say that, what it will turn out to be in practice is that each set of military forces will interpret it to mean that what it wants to use is permissible, and what the other man wants to use is not permissible.”<sup>5</sup>

11. The point is well taken. It is indeed surprising that there has been no attempt at the international level to reach an agreed definition of the weapons that excite our unanimous condemnation. It is evident that an adequate and internationally recognized definition of chemical and biological weapons is necessary if the world-wide restraints on their use are to be maintained. In order to make it quite clear that we recognize this need, we have informed the Secretariat that we wish to amend our draft resolution by the insertion of the words “definition and” in the second line of operative paragraph 1. Thus the Eighteen-Nation Committee on Disarmament would be invited to:

“... consider as a matter of urgency the problems relating to the definition and use of chemical, biological and radiological weapons”.

12. It may be useful also to state now that, in the present statement and in the draft resolution contained in document A/C.1/L.411, the term “chemical weapons” is used to signify toxic chemical agents used for hostile purposes which produce their effects directly as a result of their chemical properties rather than as a result of blast, heat or other physical effects of a chemical reaction; while the term “biological weapons” is used to signify all micro-organisms including viruses, or their toxic products internationally used for hostile purposes”. I am aware of the fact that these definitions are not entirely satisfactory, but I trust that they will outline sufficiently in your minds the general scope of the terms “chemical weapons” and “biological weapons” employed in our draft resolution, and thus facilitate its discussion.

13. I have referred to the dangerous nature of some chemical and biological weapons and to the possibility of their covert use in peace time. Is this a fact? I am glad to say that we are not alone in recognizing the danger of chemical and biological weapons. As long ago as 1954, Mr. Jules Moch of France, addressing the thirteenth meeting of the Disarmament Sub-Committee, stated:

“... some forms of bacteriological warfare now already devised are infinitely more dangerous . . . than the atomic bomb”.

And the Soviet representative agreed. He said:

“Mr. Moch states that bacteriological weapons at their present stage of development are more destructive and more terrible than the hydrogen bomb . . . I grant this to be the case”.

That was fourteen years ago. Not only has nothing been done since, but nothing has even been studied on this subject within the framework of the United Nations.

14. I do not intend to overburden you with an endless list of quotations from military experts and scientists. I shall

<sup>5</sup> This statement was made at the 1461st meeting of the First Committee, the official record of which is published in summary form.

<sup>4</sup> League of Nations, *Treaty Series*, vol. XCIV, 1929, No. 2138.

not repeat the conclusions on this matter of the 1965 Pugwash Conference<sup>6</sup> which were quoted by the representative of Cyprus last year. However, I cannot refrain from bringing to your attention a paragraph in a petition to President Johnson dated 14 February 1967 and signed by seventeen United States Nobel Prize laureates in chemistry, biochemistry and physics, no less than 127 members of the United States Academy of Sciences and some 5,000 other United States scientists. The paragraph is as follows:

“Chemical and biological weapons have the potential of inflicting, especially on civilians, enormous devastation and death which may be unpredictable in scope and intensity; they could become far cheaper and easier to produce than nuclear weapons, thereby placing great mass destructive power within the reach of nations not now possessing it; they lend themselves to use by leadership that may be desperate, irresponsible or unscrupulous.”

I do not know of a single responsible expert, whether military or civilian, who would disagree with that sober, indeed understated, assessment of the potential of some of the present chemical and biological weapons.

15. It is incontrovertible that some of those weapons are extremely dangerous. However, it is contended in some quarters outside the United Nations that they are more humane than conventional or nuclear weapons: they do not destroy property, such as houses or factories; they are useful in controlling civil disturbances without loss of life or permanent injury; lethal chemical weapons can kill almost instantaneously, while biological weapons do no more than reinforce the action of nature. There is considerable truth in those arguments. It must be admitted that the revulsion of public opinion against the use of chemicals and biological weapons is in part irrational and due, perhaps, to vague memories of the terrible injuries inflicted by mustard gas during the First World War and to the unwise and excessive secrecy in which Governments have chosen to shroud this subject, thus giving credit to the most fantastic notions as to the nature, characteristics and potential of those weapons. Substantially, however, the revulsion of public opinion and that expressed by so many delegations here in the United Nations against the use of chemical and biological weapons are well founded.

16. There is something revolting in witnessing so many sciences that have contributed and can still contribute so much to our civilization and to the welfare of mankind being harnessed for purposes that are a perversion of their noble aims. Chemistry is being used not to find compounds that will contribute to the common welfare but to find those that inflict death or injury. Medicine is not used to heal but to bring disease. Meteorology is not used to forecast the approach of storms but to plot air currents which will bring strange animal, plant or human diseases to unsuspecting countries. We can only watch those things, carefully planned in the sacred cause of security and the protection of national interests, with the same horror which we would experience at discovering that our family doctor was in fact planning our murder.

17. It has been affirmed that chemical and biological weapons, apart from certain well-publicized instances, have

not been used since the end of the First World War. It would be more accurate to say that we do not know whether such weapons have been used. We do not know because the very nature of some of those weapons and some of the means that can be used for their employment is such that detection is virtually impossible.

18. While very many delegations have condemned the use of chemical and biological weapons, no delegation, to the best of my knowledge, has referred in the United Nations to their nature and capabilities. That is most unfortunate, since it is now incumbent upon me to prove the statement which I have just made, together with the carefully factual nature of the preambular paragraphs of the draft resolution submitted by my delegation. If I can do that I am sure that the urgency of the United Nations' taking the action suggested in operative paragraphs 1 and 3 of our draft resolution will not be contested. I shall therefore rapidly outline, with due regard to brevity and to the fact that we are not an expert group, some of the characteristics of chemical and biological weapons, sketch some of their effects and draw certain unavoidable conclusions.

19. Any country possessing chemical factories has some potential for chemical warfare. Biological warfare is within the reach of any country which can produce vaccines. “Chemical and biological weapons” is a term which covers a vast number of individual weapons, each with its individual characteristics, uses, limitations and hazards. Effects may be fleeting or long-lasting. They may range from mild discomfort to agonizing death. Used under optimum conditions they could cause world-wide disaster and incalculable impairment of man's environment. I have used the word “incalculable” advisedly and in its strict etymological sense. Chemical and biological weapons may be used for legitimate or criminal purposes; they may be used against individuals, against groups or for the mass extermination of entire populations. They may be used to eradicate individual animals or plants, or certain species of animals or plants, or all species, from a small or from a vast area.

20. Some of them are most suited for use in war; others lend themselves to covert use in peace time. The use of some can easily be detected; others are virtually impossible to detect. They can be used against plants, animals or human beings. They can be gaseous, liquid or solid. They can be disseminated as gases, liquids or solids, or as aerosols, by conventional military means—shells, missiles and so on—by water, through the atmosphere, or, in the case of biological weapons, by utilizing natural vectors.

21. In short, the term “chemical and biological weapons” covers a bewilderingly broad and varied spectrum from which it is possible to select the weapon most suited to the attainment of a specific goal.

22. Chemical and biological weapons are comparatively cheap to produce. Any State with sufficient industrial and scientific infrastructure can acquire significant chemical and biological warfare capability with an annual expenditure of a few tens of millions of dollars. Annual expenditures by even the largest countries, despite substantial increases in the last few years, still appear to be below \$200 million.

23. While significant chemical and biological warfare capability is easy to acquire, the capability to utilize

<sup>6</sup> Fourteenth Pugwash Conference on Science and World Affairs, held at Venice in April 1965.

effectively selected chemical and biological weapons undetected requires a highly sophisticated technology, the possession of which is restricted to a handful of countries.

24. An essential element in the effective use of chemical and biological weapons is surprise—surprise not only with regard to the area attacked but also with regard to the specific agent employed—thus making timely detection and protection very difficult, if not impossible.

25. While chemical and biological weapons share certain general similarities, they are also dissimilar in nature and capability, in many ways. I shall therefore now deal separately, first with chemical and then with biological weapons.

26. Chemical weapons may be used against plants, animals or human beings. They may be variously classified. I shall adopt here an empirical classification, first distinguishing between weapons that may be used against plants and those that may be used against man, and then classifying anti-personnel chemical warfare agents into seven rather arbitrary and overlapping categories to form a spectrum from the most mild to the most lethal, as follows: irritants, psychochemicals, skin necrotizers, vesicants, lung irritants, oxidizing enzyme inhibitors and anticholinesterases.

27. Chemical weapons used against plants are usually called herbicides. They include substances such as 2,4D, 2,4,5T and cacodylic acid. Herbicides can be used as defoliants against plants or as agents for crop destruction. The duration of action lasts from weeks to months, depending on the type of agent used, atmospheric and environmental conditions and the species of plant attacked. Although cacodylic acid—or, to give it its scientific name, dimethylarsenic—is poisonous, many other herbicides have relatively low toxicity for man and animals.

28. Irritants are quite generally known as anti-personnel chemical agents. They include tear and nausea gases, stemetators and lacrimators. They have long been used in nearly all countries to quell civil disturbances. Their effects include eye irritation, cough, nausea and vomiting. Duration of action varies, according to the type of irritant used, from seconds to a couple of hours.

29. Psychochemicals are agents that cause abnormal behaviour. They include psilocybin, probably BZ and also certain well-known hallucinogens such as mescaline and LSD-25. The latter is a tasteless, odourless, colourless compound, effective in extremely small doses, approximately 1/6 millionth of an ounce, when inhaled or taken orally. The effects of LSD-25 on any particular person are impossible to predict and may take the form of a wide range of psychopathologic reactions and psychoses. Duration of action varies from hours to days followed usually by spontaneous recovery. An experiment with troops exposed to a psychochemical agent demonstrated that, although not able to follow simple commands or perform normal tasks with acceptable accuracy, the men were not conscious of their abnormal condition. Only an outsider not exposed and coming upon them would recognize their behaviour as eccentric. It has been suggested that psychochemicals could be effectively used to disorganize high-level political and military leadership; such use, however, might be counter-

operative if detected, and would probably be hazardous, since its effects are not predictable.

30. Skin necrotizers, such as phosgene oxime, are incapacitating agents that cause necrotic skin. They are of comparatively minor importance in the general framework of chemical weapons.

31. Vesicants include a variety of agents among which is the infamous and terrible mustard gas used during the First World War. The shocking effects of this gas produced a deep revulsion in world opinion against the use in warfare of all types of gases and this in turn was probably an important factor in shaping the events leading to the Geneva Protocol of 1925. Mustard gas in its gaseous, liquid or solid phase, is still considered an effective agent against inadequately prepared or protected troops or population.

32. Lung irritants include gases used in the First World War such as chlorine and phosgene, which, although easy and cheap to manufacture, are now considered obsolete owing to their comparatively low toxicity, limited effectiveness, in relation to concentration, ease of detection and delay in producing pathological effects. Oxidizing enzyme inhibitors, an example of which is hydrocyanic acid, are rapidly acting poisons that have been found useful in individual or mass executions.

33. The first anticholinesterases or nerve agents were developed, stockpiled but never used, by the Germans during the Second World War. The German names for the volatile agents of this type were Tabun, Sarin and Soman; their scientific names are as long as modern life is complex, for instance, tabun is properly called dimethylamido-ethoxylphosphoryl cyanide. Nerve agents, whether of the volatile or less volatile type, have been exhaustively studied and further developed and diversified in several countries since the end of the Second World War. Nerve agents, whether as liquids or as vapours, are considered to possess, if lethal effects are desired, many of the qualities required of good chemical warfare agents by contemporary technological and humanitarian imperatives. From a technical point of view they are very efficient since they act rapidly, are odourless, colourless and thus give no warning; if appropriate concentrations and suitable methods of dissemination are chosen, very high casualties can be inflicted in minutes on target personnel, thus relieving such personnel of the necessity of donning masks and protective clothing; they are equally effective inhaled or absorbed through the unbroken skin; a tiny droplet, less than one milligram of a less volatile nerve agent on the unbroken skin, will cause death if not instantly removed. Finally, some types of nerve agents do not evaporate readily; thus droplets scattered on the ground, on foliage, in buildings, on food and equipment remain a serious hazard to human beings for a long time. From a humanitarian point of view their advantage is said to be that the process of absorption is painless, symptoms are neither dramatic nor particularly distressing and death can occur in as little as a few seconds. A further humanitarian point has been argued. It has apparently been established that in the rare cases when an affected person does not die, he will recover completely within a few days with no apparent after-effects.

34. Nerve agents do not necessarily represent the ultimate in chemical weapons development. The search for excel-

lence is one of the most admirable qualities in man. This quality has been applied—successfully, the Committee will be happy to know—to the search for compounds altogether superior to nerve agents and which, it is claimed, when fully developed, will give the lucky possessor a weapon with greater toxicity than anticholinesterases, with the ability to penetrate protective masks and clothing, and even, so it is said, capable of defeating all contemporary warning and detection methods. Thus it is possible that, within a few years, the feared nerve gases of the present may become as obsolete as phosgene.

35. I have outlined briefly and in general terms the major types of known chemical weapons. It will be noted that the prohibitions of the Geneva Protocol of 1925 apply only to certain of these types: generally speaking, although not exclusively, to the most outdated and least insidious, such as irritants, lung irritants, skin necrotizers and vesicants. It is arguable whether oxidizing enzyme inhibitors are covered. On the other hand, it is highly doubtful that the newer types of anti-personnel chemical agents can be covered by the language of the Geneva Protocol. Psychochemicals and anticholinesterases are neither asphyxiating, nor poisonous, nor necessarily gases. This is evident in the case of psychochemicals. As for so-called nerve agents, they operate by inhibiting the action of an enzyme, called cholinesterase, and thus permitting the release and uncontrolled increase of acetylcholine; this produces fibrillation in the involuntary muscles controlling the internal organs of the body; since the respiratory and other muscles cannot operate in co-ordinated fashion, their failure results in death.

36. I should add that the meaning of the Geneva Protocol cannot be stretched to include herbicides, that have low toxicity to man and animals, although their use can have seriously damaging effects on food supplies; nor are insecticides covered. Some insecticides belong to the same class as nerve agents, have comparable toxicities and are extremely hazardous, as numerous accidental deaths to their users in many countries have demonstrated.

37. I shall now deal briefly with biological weapons. The general aim of biological warfare is to invert the achievements of medicine, veterinary science and agriculture in order deliberately to cause plant, animal or human epidemics capable of producing, through mortality, morbidity or economic and social disruption, major strategic effects in peace or war.

38. Public health tries to control or prevent disease; biological warfare is the intentional dissemination of disease; it aims to hurt, to cripple, to kill. Even when the immediate targets are animals or plants, the final one is always people.

39. It is difficult clearly to distinguish biological warfare from chemical warfare. Many toxic chemical agents, such as toxins—which are the poisonous proteins produced by certain micro-organisms—are sometimes considered biological agents by the military. I shall follow this lead and empirically distinguish two groups of biological agents: first, micro-organisms, comprising five classes: bacteria, viruses, rickettsiae, fungi and protozoa; and secondly, toxins.

40. It is impossible for me to deal in a general statement such as the present one with the nature and characteristics of each of the classes of biological agents which I have just enumerated. I shall limit myself to making the fundamental distinction between true biological agents and toxic chemical agents. The former have the property of reproducing and multiplying, while the effects of the latter, however powerful they may be, remain limited. Thus biological warfare is more suited than chemical warfare for massive and indiscriminate attack on large numbers of people dispersed over large areas or on the means for their subsistence. The basic ability of biological agents to multiply means that they can be produced in quantity in the laboratory: micro-organisms can be cultivated on nutrient materials that are both abundant and cheap. Many proliferate fast so that, in a day or so, a few seed microbes can develop into concentrations in fluid of the order of a billion or more per millilitre. By removing part of the fluid, microbes can be further concentrated to attain concentrations of  $10^{12}$  bacteria per millilitre. Mass production methods are used. Suspensions, for instance, of *Brucella* containing 10 trillion organisms per litre have been made at the rate of half a litre every few hours in the laboratory. The product has then been further concentrated into paste containing as many as 25 trillion *Brucella* bacteria per ounce.

41. Growing viruses is somewhat more complicated, but the difficulties of working with large volumes are compensated for by the higher attainable concentrations since viruses are smaller than bacteria.

42. Not all micro-organisms are suitable as effective biologic warfare agents. The most important criterion for selection is effectiveness in very small quantities. This in turn largely depends upon the agent's infectivity, virulence and stability. Despite these requirements, more good potential agents have been identified than can be conveniently developed by even the largest Powers.

43. As I have indicated, biological agents have been developed and many are at this very moment in cold storage awaiting their employment, ready to be used effectively against man by causing incapacitating or fatal diseases, or against man's means of subsistence—plants and domestic animals. An appropriate biological agent can be selected to cause almost any desired effect against plants, animals or man. Having selected the agent believed to be the most suited for the achievement of the specific result desired, appropriate means of dissemination must be considered. Possible means of dissemination are numerous: shells, missiles, clouds, aerosols carried by air currents or other means, spraying, water supply or natural vectors, such as insects, birds or animals—but not all these means are suitable to all biological agents.

44. Selection of a means of dissemination inadapted to the agent will usually result in failure of the attack; on the other hand, combination of a suitably effective agent, appropriate means of delivery and optimum conditions could produce truly incalculable effects. As was stated at the fifth Pugwash Conference:<sup>7</sup> "The possible con-

<sup>7</sup> Fifth Pugwash Conference on Science and World Affairs, held at Pugwash, Nova Scotia, 25-30 August 1959.

sequences of large scale biological warfare range unpredictably from something close to zero—a fiasco—to something close to infinity.”

45. As an illustration, let us assume that it has been decided to conduct a biological warfare assault against a human population using as means of dissemination an aeroplane. What could be the consequences? We shall assume that the aeroplane has a pay load of ten tons. We know that we can obtain concentrations of bacteria of at least  $10^{12}$  per millilitre. From a simple calculation we can deduce that the aeroplane is capable of carrying about  $10^{19}$  bacteria. If this figure is divided by an assumed infecting dose of 100 bacteria per person and assuming that only one bacterium in every thousand remains potent at the moment of delivery, we are left with  $10^{14}$  infecting doses, or more than 10,000 times as many as are required to infect the whole human population of the earth. Even making greater allowance for limiting factors, such as a lesser concentration of the liquid and greater losses on delivery, it would still be possible to infect every person in the world with one aeroplane. This is quite an improvement by modern science over natural epidemics of the past such as the post First World War influenza epidemic or the black death that shattered medieval social structures in Europe. Of course an aeroplane has certain limitations as a method of delivery. It has, for instance, been calculated in technical military journals that one aeroplane could not blanket more than 6,000 square kilometres with a cloud at a concentration such as to guarantee that every person in the area would inhale 1.5 to 1,500 times the infecting dose. This, it appears, is not sufficient to satisfy modern technical requirements since it would only be comparable in terms of human casualties to the short term effects of a 20 megaton fusion bomb. Therefore military experts now think rather more in terms of seeding winds prevailing over the area which it is desired to attack. This method would permit easy, effective and undetected assault of a continent. Such an assault could be undertaken in peacetime without violating international law regarding national air space and with negligible chances of detection.

46. Capability of the order of magnitude which I have mentioned is confirmed by authoritative British, French, Russian and United States technical opinion. I shall cite only one quotation from a substantial field of technical literature. The authoritative author of the article entitled “Soviet speed production of germ warfare weapons” in the *Army, Navy and Air Force Register* of some years ago, after describing field trials of certain germ dissemination methods in the Soviet Union, stated: “These tests . . . proved that coverage up to several thousand square miles could be achieved with the population being wholly unaware that the attack had occurred.” Since publication of this article, of course, the position has improved, or, if you wish, has deteriorated.

47. Major strategic effects in terms of changing political goals and economic and social priorities of the attacked country can thus confidentially be expected from attacks such as those I have described. In technical journals it has also been suggested that a biological warfare assault could be useful in cases when it is desirable quickly to change antagonistic political attitudes of a State, and it has been argued that, in certain well-defined circumstances, even

nuclear war could be averted by a well-timed massive biological warfare attack.

48. Of course, the use of biological weapons presents certain hazards. It is not unknown for even well-protected laboratory workers who normally take extraordinary precautions to contract strange diseases. It seems that in the last few years, in three countries, at least twelve research workers have died and several hundred more have been incapacitated for a greater or lesser period of time as a result of contracting one or another disease in the course of their duties.

49. An elementary precaution is, therefore, to select for use biological agents against the effects of which the population of the attacking country has been reasonably immunized in order to avoid unforeseen major accidents, and at the same time select for use agents against which the population of the attacked area is not immunized, in order to enhance the efficacy of the attack. In order to avoid indelicate suspicions, it has also been recommended that, as far as possible, a micro-organism should be selected which causes a disease that is endemic or at least known to occur in the area which is to be attacked.

50. There are many other factors that must be taken into account when planning a large-scale biological warfare attack, and I need not go into them now. It may, however, be of some interest to mention that major ethnic groups would appear to be, in varying degrees, more or less susceptible to certain diseases and that proper conclusions have been drawn from this fact as far as biological warfare is concerned.

51. Tables exist showing the main diseases considered suitable for biological warfare against man, ensuring also methods for the dissemination of the diseases and possible effects. The tables I have consulted do not agree in all particulars, but it is not necessary for me to go into certain details at the present time. It may, however, be useful to mention some of the diseases included in one such table. Among well-known bacterial diseases, mention is made of anthrax, brucellosis, cholera, diphtheria, plague, tularemia, typhoid fever. Among lesser known bacterial diseases melioidosis is worthy of note. This is a rare, highly lethal disease caused by the *pseudomonas pseudomallei*, which has been rescued from unmerited obscurity by gallant, contemporary biological warriors.

52. Rickettsial diseases mentioned include epidemic typhus, murine typhus and Q fever. Among fungal diseases suitable for use there are coccidioidomycosis, histoplasmosis and nocardiosis. Viral diseases mentioned are very numerous. The better known include dengue, several forms of encephalitis, smallpox and yellow fever. Among toxins, the clostridium botulinum toxin causing botulism is apparently highly regarded. Many of the causative agents of these diseases are being mass manufactured in various countries at this very moment. As for the etiology, symptoms, diagnosis, prognosis and treatment of the diseases which I have mentioned, I will refer you to the *Merck Manual*, an indispensable book for the home library.

53. I have suggested that biological warfare is more suited to mass and indiscriminate attacks on population than

chemical warfare. It is also far more suited to attacks on domestic animals. Indeed, a large-scale attack on domestic animals with chemical weapons is scarcely conceivable; it would easily be detected; it would be inconvenient and wasteful of time and money. But domestic animals are highly susceptible to disease and a well prepared and delivered biological attack can decimate an animal species without the victim being able in most cases to detect the intentional nature of the epizootic.

54. I shall not go into details as to methods of delivery. A pale example of the type of emergency that could be caused by biological warfare against domestic animals is the foot and mouth epidemic now raging in parts of Europe: nearly 274,000 cattle have been slaughtered in England, according to the *London Times* of 9 December. Hundreds of thousands of cattle have been infected in the Soviet Union. The European Economic Commission has established a \$4 million emergency fund to create buffer zones in eastern Europe. Ireland has banned field sports. I said a "pale example" because the O-1 and A-22 strains of virus responsible for the present emergency are known; vaccines have been developed. But if a massive attack with a new virulent strain of virus were launched, the effects could be truly shattering and could substantially eliminate a domestic species from a vast area before vaccines could be developed. Among potentially good anti-animal biological agents mentioned in the technical literature are the causative agents of rinderpest, foot and mouth disease, anthrax, glanders, brucellosis, Rift Valley fever, hog cholera, fowl plague and others.

55. Biological agents are also often more suited than chemical agents for attack against plants when strategic rather than tactical effects are desired. Chemical anti-crop agents are not self-propagating and must make contact with each plant which it is desired to affect. Thus, coverage of large areas is time consuming and requires substantial quantities of material. Furthermore, chemical agents, as I have already mentioned, have largely the same damaging effects on all plants with which they come in contact. Biological crop agents, on the other hand, are selective and, since they are living, reproducing organisms, very small quantities are quite capable of starting a disastrous epiphytotic. Fungi, such as cereal rusts and rice blast, are considered important potential biological agents. Spores can rapidly be spread great distances by wind, rain, insects, animals or man.

56. Stem rust of wheat is an example of cereal rusts. This is caused by a fungus: each rust lesion may contain up to 400,000 spores; new generations of spores are produced every ten to fourteen days. There is no known economic chemical treatment of affected wheat and the main control resides in developing resistant wheat varieties. Natural mutations, however, occur among fungi capable of attacking previously resistant varieties of wheat. This happened, for instance, in the United States in 1953 and in 1954, causing the loss of nearly 10 million tons of wheat. Against rice blast also, the growing of resistant varieties is the only economic means of protection, and strains of rice blast fungus can be developed against which no known existing variety of rice is resistant.

57. I shall not mention the possibilities of potato blight, responsible for the great Irish potato famine of 1845, or

other excellent potential fungal agents. I am also sure that the Committee will readily perceive the vast potential of new cereal rust or rice blast mutants developed intentionally as anti-crop agents and inoculated in fields on the windward edge of wheat or rice-growing areas. This potential is sufficiently frightening to have me dispense with giving details of bacterial and viral diseases of plants, which may also be used in biological warfare—or of the splendid prospectives in the content of this type of warfare.

58. The raising of crops in all countries is a constant battle against the weather, insects, weeds and diseases. Anti-crop biological warfare, as useful in peace as it is in war, does no more than reinforce the natural role of diseases and is, therefore, virtually undetectable, barring gross blunders.

59. I apologize for my superficial treatment of a vast and very complex subject, many aspects of which, including the very important aspect of detection and protection, I have not even mentioned. I trust, however, that I have been able to clarify a little the general outline of perhaps the most serious and most neglected area of arms control which exists. It is a problem which for a country like mine is more serious even than the question of the control of nuclear weapons. Nuclear weapons, we hope, will never be used; we rely on mutual deterrence and the self-interest of the nuclear Powers; if, unhappily, nuclear weapons were used, no measures that we can take would make very much difference. But chemical, and particularly biological, weapons are highly flexible; they can be used in many ways to achieve a variety of goals. They can be used in war certainly, but they can also be used in peace without fear of detection but with devastating effects against a technologically less advanced country. Those weapons exist; they are being mass manufactured now; they are stored; they are carefully selected for use at any time against any place, against any people.

60. I submit that the meagre facts which we have presented point to certain unavoidable conclusions.

61. The first is the carefully factual wording of the preambular paragraphs of our draft resolution.

62. The second is the vital need for publicity.

63. Chemical and biological weapons have been shrouded in official secrecy for too long. Their nature, potential effects and the frightening hazards involved in their possible use are not well known. Technologically less advanced countries, in particular, are helpless as things are at present, even to detect the possible use of many of the more dangerous and insidious chemical and biological weapons in existence; hence the Governments of those countries have no hope of protecting their population. We have sought to meet this vital need for publicity in operative paragraph 3 of our draft resolution. We seek to do no more than what was done last year in respect of nuclear weapons.

64. The third conclusion, which I trust no one will dispute, is that the 1925 Geneva Protocol is hopelessly out of date and should be either radically revised or a new international agreement negotiated. I do not deny that the Geneva Protocol may be useful as a point of reference for the beating of propaganda drums, but it scarcely serves

many other practical purposes. The principles it contains are vague and their interpretation is strongly controverted. It contains no rational norms in the context of modern technology; thus widely used irritants such as tear gases are banned, although relatively benign in their effects, while the lethal nerve agents are not banned; bacteriological methods of warfare are forbidden, but not viral or fungal. In effect, there exists no effective international legal restraint on the use in war or in peace of the more modern chemical or biological weapons. This is an intolerable situation. We believe that, as a matter of urgency, the existing situation in the world with regard to chemical and biological weapons should be studied with the aim of forging either a radically revised or a new international instrument which will establish an agreed standard of conduct for States in this area. We are only too well aware of the many issues and difficult problems which must be solved in this connexion. We cannot, unfortunately, expect immediate positive results. But we demand that the problem be studied systematically starting from basic definitions. This is all we ask and this is all that is requested in operative paragraph 1 of the draft resolution sponsored by my delegation. The grave problem of chemical and biological weapons, which threatens all of us at any time, has, I am sure you will agree, been too long neglected.

65. It has been unofficially suggested to us that even preliminary consideration by the Eighteen-Nation Committee on Disarmament at the present time of the problem of chemical and biological weapons would delay negotiations for a non-proliferation treaty. My delegation does not share those fears. The representatives who participate in the work of the Eighteen-Nation Committee meet at most twice a week, often less. Sometimes no meetings occur for long periods. Taking into full account the need of representatives for study, for meditation, for consultation and informal negotiation, it is difficult to imagine that they do not have some time available to initiate preliminary consideration of a problem as serious for many countries, and perhaps more serious, than the proliferation of nuclear weapons.

66. Some delegations may have doubts with regard to operative paragraph 2 in document A/C.1/L.411. I should like to make clear that my delegation is not wedded to this paragraph which was included in the draft resolution only because we thought it might facilitate the work of the Disarmament Committee. We believed that some representatives on this body who may have great knowledge of the problems and ramifications of the problems of nuclear proliferation may not be equally familiar with the special problems presented by chemical and biological weapons. We thought that, if this were the case, a sub-committee might be useful. In any case, our draft resolution allows the members of the Disarmament Committee themselves to decide whether establishment of a sub-committee would facilitate the consideration of the question of the definition and use of chemical and biological weapons. However, as I have just stated, we would have no objection to seeing operative paragraph 2 deleted if such were the wish of some delegations.

67. The CHAIRMAN: Before I call on the next speaker, I wish to say that the members of the Committee may have noticed that there is a new draft resolution [A/C.1/L.414],

sponsored by Brazil, Burma, Ethiopia, India, Mexico, Nigeria, Sweden and the United Arab Republic under the item entitled "Urgent need for suspension of nuclear and thermonuclear tests".

68. Pakistan is now co-sponsoring the draft resolution contained in document A/C.1/L.413.

69. Mr. FISHER (United States of America): I listened with great interest to the careful and studied remarks of the representative of Malta and would like to have the opportunity of studying them. Far from being superficial, they seem to me to be thoughtful and to have been presented in great depth. I should like to comment on them at a later period.

70. What I should like to present today to this Committee is the view of the United States on the question of general and complete disarmament. These views represent an altogether different approach to the subject from those that we have heard from several previous speakers, and notably those incorporated in the statement of the First Deputy Foreign Minister of the Soviet Union, whom we had the privilege of hearing yesterday [1546th meeting].

71. Before elaborating on the differences in these views, I should like to take this opportunity to comment on certain allegations which have been made that the Federal Republic of Germany is the main obstacle to the acceptance by the Western Alliance of the disarmament proposals presented by the Soviet Union and its allies, and that that Government, that of the Federal Republic of Germany, is furthermore opposed to all disarmament measures.

72. Nothing could be further from the truth. The Federal Republic of Germany is the first European nation which, through solemn treaty obligation, has renounced the manufacture of nuclear weapons. It is the only nation of a major alliance that has committed all of its forces to the military command of that alliance and which, as a result, has no military forces under its own independent military command. It is a nation which is actively seeking to build bridges between Eastern and Western Europe, and being rebuffed in its effort by those very nations in the Eastern bloc which impugn its motives.

73. Contrary to the allegations that have been made, the difficulty is not with the Federal Republic of Germany and its Western allies—for we act together in these matters. As I hope to make clear in my remarks, the difficulty lies in the faulty nature of the disarmament proposals put forward by the Soviet Union.

74. False allegations made in this body will serve no useful purpose; they will only make more difficult the achievement of a lasting European security arrangement based on mutual accord. The United States delegation believes it is its duty to speak on behalf of its ally, which has itself no representation in this body.

75. Turning now to the principal subject, the difference between the approach of the United States to the question of general and complete disarmament and that of the Soviet Union can be ascertained by comparing the United States outline of basic provisions of a treaty on general and

complete disarmament in a peaceful world,<sup>8</sup> with the Soviet draft treaty on general and complete disarmament under strict international control.<sup>9</sup> Both of these documents provide for a gradual process of general and complete disarmament to take place in three stages.

76. The United States programme for general and complete disarmament provides for a freezing of levels of armed forces and armaments at an agreed time, and then, progressively, over three stages, for the reduction of national military establishments to levels required for the maintenance of internal order and for supporting a United Nations peace force. In the United States proposal, provisions are made for the creation, during the process of disarmament, of adequate machinery for verification to ensure that the terms of the agreement are being carried out, as well as for the strengthening of peace-keeping forces to maintain peace and security for all.

77. The Soviet proposal, on the other hand, emphasizes the almost total reductions of selected categories of armaments at the very outset of the disarmament process. It seeks drastic reduction of nuclear-weapon carriers at the very beginning of the disarmament process—in the first stage—before it provides for the establishment of adequate machinery for verification. That proposal not only fails, in the first stage of the disarmament process, to inspire the confidence and trust upon which subsequent phases can and must be built, but would also materially alter the military balance in favour of the Soviet Union.

78. I might point out also that at no time has the Soviet Government ever indicated how, by what progressive steps, those reductions would take place. And this presents us with a difficulty which, I fear, is not new to us. The Soviet proposals dealing with general and complete disarmament do not really deal with the steps that can actually be taken now to halt the arms race and begin the process of disarmament. They appear to require agreement on how to proceed almost to the end of the road to general and complete disarmament before we can take any action.

79. This difference in approach—the United States believing we should take the steps we can take now to get us moving down the road to general and complete disarmament—and our Soviet colleagues apparently believing that we should not do so until we have agreement as to how to proceed to the end of the road, or almost to the end of the road—has been reflected in the attitudes of our disarmament negotiators both at the Conference of the Eighteen-Nation Committee on Disarmament and elsewhere.

80. For example, the United States has proposed a cut-off of the production of fissionable materials for weapons purposes. This proposal was rejected as not involving disarmament. The United States indicated that it was prepared to transfer 60,000 kilogrammes of weapon-grade U-235 to peaceful uses if the USSR would agree to transfer 40,000 kilogrammes for that same purpose. This proposal was rejected as not involving the destruction of a single nuclear weapon. The United States indicated that it would

obtain the material through the demonstrated destruction of nuclear weapons. This proposal was ignored.

81. The United States has made similar proposals for workable measures dealing with the reduction of the delivery systems for nuclear weapons. In January of 1964, the United States proposed<sup>10</sup> that we explore a verified freeze on the number and characteristics of strategic nuclear offensive and defensive vehicles, an agreement which would open the path to reductions in all types of arms. This proposal was characterized by our Soviet friends as one involving inspection without disarmament. As recently as September of this year, Secretary McNamara reiterated the willingness of the United States to enter into an agreement not only to limit, but then to reduce both offensive and defensive strategic nuclear forces. In connexion with a possible agreement levelling off or reducing strategic offensive and defensive systems, our Assistant Secretary of Defence, Mr. Paul Warnke, pointed out that, although agreements involving substantial reductions would require international inspection, “a number of possibilities for parallel action, and even for formal agreement, would permit our reliance on unilateral means of verification”. These statements would appear to take care of the point of “inspection without disarmament”. These statements have, unfortunately, gone unanswered.

82. Here too, it seems, we have been continuously faced with an approach which requires agreement on how to proceed almost to the end of the road to general and complete disarmament before any first steps can be taken. This is quite contrary to the philosophy which motivates our efforts to obtain a non-proliferation treaty which recognizes the need for step-by-step progress even in the absence of agreement on the final elimination of nuclear weapons. I might point out that, in this connexion, it is fortunate that the position of our Soviet friends on immediately practical partial measures to reduce and eliminate nuclear weapons has not been reflected in our efforts to prevent the spread of nuclear weapons to new countries and new environments. If it had been, we would not today have the limited test-ban Treaty signed in Moscow in 1963, or the outer-space Treaty incorporated in resolution 2222 (XXI); we would not today be on the threshold of a non-proliferation treaty.

83. It is in this context that I should like to refer to the report of the Secretary-General on the effects of the possible use of nuclear weapons and on the security and economic implications for States of the acquisition and further development of these weapons [A/6858 and Corr.1]. It goes without saying that my delegation commends the Secretary-General for his efforts in the preparation of a most useful and timely document. My delegation also commends the expert consultants who were able, through co-operation and mutual understanding, to agree on a unanimous report dealing with many sensitive and controversial issues. This report contains many conclusions which will be helpful to us in our consideration of the non-proliferation of nuclear weapons.

84. For example, it clearly dissipates the illusion that a non-proliferation treaty is something which primarily bene-

<sup>8</sup> *Official Records of the Disarmament Commission, Supplement for January to December 1965*, document DC/214/Add.1, sect. III.

<sup>9</sup> *Ibid.*, document DC/213/Add.1.

<sup>10</sup> *Ibid.*, *Supplement for January to December 1964*, document DC/209, annex 1, sect. B.

fits the nuclear Powers at the expense of the non-nuclear Powers. It makes it quite clear that new nuclear Powers would endanger themselves—or the remaining non-nuclear Powers—far more than they would endanger the existing nuclear weapon Powers.

85. It points up the unavoidable economic costs involved, which are a curse to any nuclear weapon State, and notes that no nuclear weapons programme could be undertaken unless the States so doing reallocate “a major part of their technical resources from constructive activities” [*A/6858 and Corr.1, para. 75*].

86. It also indicates that time is running out for mankind if it is to control and eventually abolish the threat or risk of nuclear war. The frightening fact, as the report indicates, that the widespread installation of nuclear power stations will, by 1980, yield plutonium sufficient for the construction of thousands of nuclear weapons each year must be recognized as an imperative for immediate action. The prospect of the widespread distribution of even primitive nuclear devices, with a consequent probability that present exacting procedures for command and control of these weapons could not be maintained under such conditions, presents a threat many times greater than that which exists today.

87. But this report also deals with the subject on which the United States and our friends in the Union of Soviet Socialist Republics have differed in their approach to general and complete disarmament. It deals, insofar as nuclear weapons are concerned, with the issue of what we can agree to now that will put us in motion on the road to general and complete disarmament. I think it is a fair characterization of that report to say that it rejects the Soviet approach that we must have agreement on how to proceed to the end of the road, or very nearly to the end of the road, before we can agree to any steps on how to start down that road.

88. As I pointed out in my earlier remarks, the Secretary-General's report does conclude that the elimination of all stockpiles of nuclear weapons and the banning of their use should be by way of general and complete disarmament. But it also recommends consideration of a range of immediate initial measures of arms limitations—measures which could lead to the reduction of the level of nuclear armament and the lessening of tension in the world and “the eventual elimination of nuclear armaments” [*ibid., para. 93*].

89. In its concluding paragraphs, this report points out that the problem of reversing the trend of a rapidly worsening world situation calls for a basic reappraisal of all the interrelated factors. It mentions a variety of measures of arms limitation which could immediately be considered and which, taken together, could help to inhibit the further multiplication of nuclear weapons or the further elaboration of nuclear arsenals, and so help ensure national and world security.

90. Among the measures that it mentions are: an agreement to prevent the spread of nuclear weapons; an agreement on the reduction of nuclear arsenals; a comprehensive test-ban treaty; measures safeguarding the security of non-nuclear States, and nuclear free zones.

91. The report recommends consideration of these measures of arms limitations in full recognition of the fact that they cannot of themselves eliminate the threat of nuclear conflict. It recommends that they be taken, however, not as ends in themselves but as measures which would facilitate further steps and could lead to the reduction of the level of nuclear arsenals and the lessening of tensions in the world and the eventual elimination of nuclear arsenals.

92. This report lends no support to a position that we should not now take one or a combination of the various immediate measures until we have come to an agreement on the eventual elimination of nuclear arsenals or their reduction to extremely low levels.

93. In considering the approaches of the various countries to the problem of general and complete disarmament, this Committee should have in mind that, for almost four years, the United States has had on the table workable measures, first to prevent increases in, and later to reduce, the material used to make nuclear weapons, the weapons themselves, and the means of their delivery. It is the Soviet Union which has rejected these measures. It has done so on the ground that we must first agree to their proposal for the drastic reduction of nuclear weapons carriers in the first stage of disarmament—before adequate machinery has been established for verification. In the absence of agreement on this point, they have been unwilling to agree to these workable measures which I have outlined to prevent the stockpiles of nuclear weapons and delivery systems from growing ever and ever larger.

94. Because of this position, the nuclear arsenals have grown ever and ever larger. They have grown so on both sides. The United States does not believe that this course of conduct, which has been forced upon us by the attitude of our colleagues of the Soviet Union, is a wise one. The Secretary-General's report speaks out concerning the dangers of such a course far more eloquently than could I. I shall conclude these remarks by quoting it. It says:

“And the longer the world waits, the more nuclear arsenals grow, the greater and more difficult becomes the eventual task” [*ibid., para. 94*].

95. Mrs. MYRDAL (Sweden): I will not conceal that it is with a sense of considerable frustration that I am taking the floor to develop some ideas on the important matter before the Committee—the “urgent need for suspension of nuclear and thermonuclear tests”. The feeling of frustration stems from the fact that whatever we keep saying or doing in this or other organs of the United Nations, urging the nuclear-weapon Powers to stop further testing of nuclear weapons, seems to have no effect whatsoever. We are no closer to an international treaty banning all nuclear weapons tests than we were last year, when this item was discussed here in the First Committee.

96. I need not specifically recall the important and urgent appeal which was made almost unanimously by the General Assembly when passing, on 5 December of last year, resolution 2163 (XXI) to the effect that all States which have not done so should adhere to the partial test-ban Treaty and that all nuclear weapon States should suspend nuclear tests in all environments. The Assembly in that same resolution further expressed the hope that States

would contribute to an effective international exchange of seismic data and it requested the Eighteen-Nation Committee on Disarmament to elaborate, without any further delay, a treaty banning underground nuclear-weapon tests.

97. Not one of those important appeals has met in reality with any positive reaction on the part of the States most concerned—that is, the ones possessing nuclear weapons—during the year which is now coming to an end. On the contrary, the situation seems even bleaker than it appeared to be a year ago. Tests have not ceased. According to figures available to my delegation, the nuclear explosions in the world numbered at least thirty-six in the year 1964, forty in 1965 and sixty in 1966. During the present year, announced or recorded tests have numbered at least forty-four. Of those, the great majority were underground tests carried out by the nuclear weapon States which have adhered to the Moscow Treaty prohibiting tests in the atmosphere, in outer space or under water. It is clear even from the preamble to that Treaty that the exemption of underground nuclear explosions was intended to be temporary. Nevertheless, that exemption has been used by the nuclear-weapon Powers as permission for—yes, a legitimization of—such tests.

98. Also, the yields of explosions in the atmosphere carried out by countries not parties to the Moscow Treaty are increasing and some of these have reached the megaton range, resulting in widespread radio-active contamination of the atmosphere.

99. On the question of the establishment of an organized, effective, international exchange of seismic data—the so-called “detection club” idea—there has been little progress. Delegations may recall that a technical conference on the subject, assembling experts from eight countries, took place in Stockholm in May 1966. A further conference was planned to take place during this year. It would have included also experts from the main nuclear-weapon States. So far, however, it has not been deemed possible to hold that conference owing to lack of information from all those main Powers as to their willingness to take part in such a meeting.

100. As far as the Eighteen-Nation Committee on Disarmament is concerned, its long session this year has been concerned mainly with the issue of non-proliferation. It was recognized by all the members of the Disarmament Committee that the subject of non-proliferation had priority. What my delegation, and others with it, did not accept, however, was that the Committee should practically by-pass the other important items that had been entrusted to it by the General Assembly. On several occasions, my delegation stressed the fact that the question of an agreement prohibiting underground tests could well be treated simultaneously with the non-proliferation issue. Preliminary negotiations might well have proceeded in parallel even if one treaty was to be made ready for signature prior to the other.

101. We have always considered, and continue to maintain, that a non-proliferation treaty, important as it is in itself, cannot stand alone. It has to be—and I use a familiar phrase—coupled with or followed by other international disarmament agreements covering the nuclear weapon field.

It has been generally recognized that two such measures are of great urgency, politically speaking, and particularly ripe for decision technically—namely, a comprehensive test-ban treaty and an agreement to cut off production of fissile material for weapon purposes.

102. During this year's session of the Disarmament Committee my delegation has devoted considerable attention to the question of how to push the matter of a comprehensive test-ban treaty forward. The records of the proceedings in the Disarmament Committee are available, of course, to all my fellow representatives here. For convenience I might, with your permission, Mr. Chairman, re-state briefly some of the ideas we presented in the Disarmament Committee this summer. I shall not enter into details, as these are available in the records of the 309th, 315th and 323rd meetings of that Committee as well as in the memorandum submitted by Sweden on 19 July 1967.<sup>11</sup>

103. The main problem in reaching agreement on a treaty banning underground nuclear tests is proclaimed to lie in the issue of control; or, more precisely, in a lack of agreement among the nuclear-weapon Powers as to the verification system needed for monitoring such a treaty. On one side, the thesis is being upheld that on-site inspections are necessary to ensure that no violations occur, while the other side claims that national means of detection and verification are satisfactory and that no on-site inspections should be prescribed. The non-aligned and non-nuclear-weapon States which are members of the Disarmament Committee have not taken sides on this issue. Instead, they have tried continuously to bridge the difference of views as to the specific needs for verification. A new attempt in this direction was made by my delegation in Geneva this summer.

104. We drew the attention of the other delegations, and especially those of the nuclear-weapon Powers, to recent developments as regards improved possibilities for verification of an underground test-ban treaty. We pointed to the development of increasingly sensitive teleseismic instruments and to the establishment of large arrays of such instruments, which significantly increases the effectiveness of each individual instrument. We drew attention also to the possibilities which international co-operation for the exchange of seismic data would give of further increasing the usefulness of national seismic stations. Such co-operation was strongly endorsed, as everyone may recall, by the General Assembly in last year's resolution 2169 (XXI) on the test-ban issue. We also pointed to the impressive scientific research which is being undertaken in several countries and which is, of course, particularly well known to the major Powers themselves, in order to improve the methods of interpreting data obtained from seismic stations, and, in particular, to the elaboration of several effective methods of identifying underground explosions and separating them from earthquakes.

105. In my country, we have undertaken some independent research using those new identification methods. We think that the results have been very encouraging. In short, we used statistical methods of evaluation of data to

<sup>11</sup> *Ibid.*, Supplement for 1967 and 1968 document DC/230 and Add.1, annex IV, sect. 5.

form a basis for the application of decision theory to the problem of verification of an underground test-ban treaty.

106. As a result of our investigations, we found that those identification methods would permit a control system with a sufficient degree of reliability to deter parties to a treaty from committing violations. One could foresee such a system, allowing for some on-site inspections at a very low rate. However, it seems to us that one could contemplate also a system without such obligatory inspections, but then one would have to accept the risk of having unwarranted, but in reality very infrequent, political action on some events which would prove subsequently to be not violations but natural earthquakes with similar characteristics.

107. In view of those findings and conclusions, the Swedish delegation requested in the Eighteen-Nation Committee on Disarmament that the question of verification, and particularly of inspections, should be re-examined in a new light, taking into account recent scientific and technical developments. We were convinced, and are still convinced, that it should now be possible to reduce the divergences of position as to the feasibility of a control system, if the case were rested on our ideas of deterrence against violations, rather than on establishing certainty after each and every event. The situation is ripe for such a renewed and thorough discussion. The experts in our various countries now have more knowledge than has been brought to bear on this issue. The political sufficiency of the seismological verification potential at hand should be judged afresh.

108. I consequently maintained in the Eighteen-Nation Committee on Disarmament, and I maintain again here, that the control issue can no longer be used as a convenient reason for holding up an agreement prohibiting underground nuclear tests.

109. The system we have in mind should have, in order to be able to function in a satisfactory way, as an independent part, organized, voluntary co-operation for the exchange of such seismic data as are deemed necessary for the monitoring of a treaty. The "detection club" should therefore be organized without further delay and its potentiality put to use as soon as possible.

110. In the outline regarding the control of a comprehensive test-ban treaty<sup>12</sup> which our delegation presented to the Eighteen-Nation Committee on Disarmament, the idea of "verification by challenge" played an important role. That expression implies a system whereby a party suspected of testing under ground, in violation of a treaty, would find it to be in its own interest to provide all available reassuring information. In the usual case that would certainly suffice, but for some unusual cases the possibility would, of course, be open to extend an invitation for inspection, such inspection to be carried out in the manner prescribed by the inviting party. Under that system a suspicious party could also make proposals, if it found the information available to be inadequate, as to other suitable methods of clarification. Again, such suggestions might mention inspection on another party's territory. If such proposals should not be accepted, the demanding party would have to

determine, in the light of all available evidence and also of that negative reaction, what conclusions should be drawn and what course of action should be taken.

111. We have become convinced that a reliable international data exchange, coupled with the utilization of the refined methods of analysing the data now at hand, and, in addition, the verification by challenge procedure, would form a useful control system for a comprehensive test-ban treaty which would not encroach on any nation's sovereign integrity.

112. I must mention that some of the scientific and technical methods, and particularly the extent to which we applied those methods, as well as some of our conclusions, were challenged by some delegations in the Eighteen-Nation Committee on Disarmament. That is only natural. We do not claim to have established the absolute truth. In fact we welcomed having such a dialogue within the Committee, a dialogue which was, unfortunately, only too brief and too one-sided.

113. I want to make, therefore, here and now, a new plea for a serious discussion and negotiation on the test-ban issue. The elements of a treaty exist. It should not be difficult, if the political will is present on all sides, to piece them together into a treaty text.

114. When consideration of such a treaty begins, even in preliminary draft form, it will become obvious that it would also be of direct help for solving another issue of some importance in present disarmament discussions, namely, the question of nuclear explosions for peaceful uses.

115. It is being proposed, and discussed, that the manufacture or acquisition of all nuclear explosive devices, including those intended for peaceful purposes, should be prohibited in the non-proliferation treaty. Non-nuclear-weapon countries would be furnished with such devices for peaceful purposes, once their application became feasible, by the nuclear-weapon countries through some non-discriminatory international procedure laid down in a special agreement.

116. My delegation suggested, at the 302nd meeting of the Eighteen-Nation Committee that, in reality, a comprehensive test-ban treaty was the right place to prohibit all nuclear explosions, by all nations, also covering them in their entirety within its system of control. Simultaneously, fully equitable access to the use of nuclear explosive devices by nuclear- and non-nuclear-weapon countries alike should be ensured by a separate agreement providing for a licensing arrangement to be carried out through an international body. The right of decision to allow any explosion for peaceful purposes by any State should thus be granted to an international organ. That would assure the equitable use of such explosions, which might become very important economically. Perhaps the International Atomic Energy Agency (IAEA) in Vienna should be given that charge. The stocks of explosives would have to remain in the custody of the nuclear-weapon Powers, but the final permission to allow any employment of them would be made international in character.

117. The news which has reached us recently that a spectacular step forward has been taken by the so-called

<sup>12</sup> *Ibid.*

"Project Gasbuggy" in New Mexico ought to call for congratulations on this new technological achievement. Considering, however, the world-wide implications of such new uses of nuclear explosives, particularly as they are being discussed within the Eighteen-Nation Committee on Disarmament, I am afraid that expressions of congratulations must be somewhat tempered by caution as long as such undertakings remain exclusively unilateral, instead of being internationally regulated.

118. As I had the honour to state yesterday in this Committee, the premonitions are sombre. The new turn upwards of the spiral of the nuclear arms race may well lead to further postponement of any real negotiations on a comprehensive test ban. The nuclear-weapons Powers seem to find it advantageous that to test the new nuclear devices they can utilize the freedom of action still left open for underground testing. It has been argued that even the Moscow Partial Test Ban Treaty is in danger, because of the supposed need to conduct life-like tests of missiles, anti-missiles and warheads in the atmosphere.

119. The world is consequently placed before new risks in the armaments field. But this should not inhibit us, who are interested in and working for international disarmament, from continuing our efforts to press for agreements. The nuclear-weapons field is the most urgent one in this respect. The comprehensive test ban seems to us to be, besides the non-proliferation treaty, the most urgent and most attainable of the possible measures for nuclear self-discipline on the part of nations.

120. Before concluding this intervention, I should like to introduce formally, on behalf of Brazil, Burma, Ethiopia, India, Mexico, Nigeria, Sweden and the United Arab Republic, the draft resolution on the urgent need for suspension of nuclear and thermonuclear tests, contained in document A/C.1/L.414. This draft resolution is mainly a reaffirmation of last year's resolution 2163 (XXI), with stronger emphasis, however, on the urgency of the elaboration of a treaty banning all nuclear and thermonuclear tests.

121. Mr. AIKEN (Ireland): In view of the great need for a treaty to prevent the further spread of nuclear weapons, it is understandable that the Committee of Eighteen concentrated its attention almost entirely on this urgent question. My delegation notes with satisfaction that the Committee proposes to submit a full report on that vital question as soon as possible. I feel, therefore, that we are not in a position at this session to go into any great detail on the items under discussion; nevertheless, I should like to make the following comments.

122. Notable progress was made this year by the entry into force of the outer space Treaty contained in resolution 2222 (XXI), and the signature of the Treaty for the Prohibition of Nuclear Weapons in Latin America [A/C.1/946]. As the Secretary-General stressed in the introduction to his annual report for June 1966-June 1967, these two treaties, when in force, will mark significant steps towards preventing the spread of nuclear weapons and will help to contain the problem.

123. It is gratifying that, in August, the Soviet Union and the United States jointly tabled a draft non-proliferation

treaty,<sup>13</sup> although agreement has not yet been reached on the inspection clause. Let us hope they will agree on this clause without further delay and table the treaty for signature by all States on the analogy of the Moscow test-ban Treaty.

124. I should like to pay tribute to the Secretary-General for the excellent report he produced [A/6858 and Corr.1] in response to the General Assembly's request for a study on the effects of the possible use of nuclear weapons and on the security and economic implications for States of the acquisition and further development of those weapons. That report, which I hope will be read carefully in both nuclear and non-nuclear States, makes it clear that a nuclear war could destroy the whole human race and that no part of the world could hope to remain immune from its effects. It also makes clear, in paragraph 84, that, instead of adding to their security, non-nuclear States, by attempting to enter into the nuclear arms race, could increase their insecurity and bring about the impoverishment of their peoples.

125. Great weight must be given to this report in view of the fact that it was drafted and unanimously adopted by a group of scientists from Poland, Mexico, the Soviet Union, Sweden, France, Canada, Japan, Nigeria, the United States, Norway, India and the United Kingdom, who worked under the able chairmanship of Mr. Vellodi, Deputy to the Under-Secretary of the United Nations Department of Political and Security Council Affairs.

126. While mankind has made amazing advances in science and technology, political wisdom lags far behind. The Secretary-General's report and the recent excellent report entitled *Stopping the Spread of Nuclear Weapons*, published in November 1967 by the United Nations Association of the United States of America, have both adduced powerful and convincing arguments in favour of the conclusion of an effective world-wide non-proliferation treaty as the most important and urgent political priority for the survival of mankind in the nuclear age.

127. Time is indeed running out. The pace of scientific advance is accelerating. More and more countries can acquire supplies of nuclear material, as a by-product of the rapidly increasing number of nuclear reactors, which could be diverted to weapons production in the absence of adequate control arrangements.

128. The recent offer by President Johnson to open to international inspection all United States civilian and governmental nuclear facilities, except those with a direct national security significance, is greatly to be welcomed. I hope it will be followed before long by an agreement among nuclear Powers to open all their facilities for training in the peaceful use of nuclear energy to all non-nuclear States which will have signed the treaty against the spread of nuclear weapons.

129. The treaty to restrict nuclear weapons to the present nuclear Powers is not, of course, an end in itself. It must be followed by the nuclear Powers helping non-nuclear States to take full advantage of nuclear energy for economic development and by giving combined guarantees to protect

<sup>13</sup> *Ibid.*, sects. 6 and 8.

non-nuclear States from attack by a nuclear Power; and one of the means by which nuclear States could help the development of nuclear energy for peaceful purposes was very brilliantly outlined by Mrs. Myrdal just now. Such a programme would provide greater security for the nuclear States themselves than increasing their nuclear arsenals and developing their missile and anti-ballistic missile systems. Resources, which could be better used for the welfare of national populations and mankind as a whole, are being tragically wasted. Agreement must therefore be sought to put an end to this deadly game of leapfrog.

130. A further urgent step to prevent the further spread of nuclear weapons would be the halting of all nuclear tests in all environments. The Secretary-General and the groups of experts I have referred to all agree that a comprehensive test-ban treaty ratified by all States would help to stop the spread of these weapons.

131. The establishment of nuclear-free zones in other parts of the globe following the precedent of the Treaty for the Prohibition of Nuclear Weapons in Latin America would also be a powerful brake on the spread of nuclear weapons.

132. If succeeding generations are to be saved from the waste of the arms race and the scourge of war, both nuclear and non-nuclear States must be determined to build a stable world system of collective security upon which all States could rely for their defence. This can only be done by improving and strengthening the capacity of the United Nations as an effective instrument for maintaining international peace and security, and by developing its role in peace-keeping and the peaceful settlement of disputes.

133. I wish to conclude my commending the United Nations Secretariat on the publication last May of the handbook *The United Nations and Disarmament 1945-1965*.<sup>14</sup> I hope this handbook will be widely read by all who are anxious about the problems of stopping the arms race—non-nuclear as well as nuclear.

134. Mr. CSATORDAY (Hungary): The Committee has practically less than a week to discuss the interim report of the Eighteen-Nation Committee on Disarmament [A/6951-DC/229]. The subject of our discussion is a manifold and complex problem covering all essential aspects of disarmament. While recognizing as a positive indication that the Committee on Disarmament has made considerable progress in the matter of non-proliferation and that negotiations are still under way at this stage of the general debate, I wish to deal with the question of general and complete disarmament. This is all the more necessary because the Committee on Disarmament has not had enough time to take up the merits of the problem during the past year.

135. In comparison to last year, as has been brought out during the general debate in the General Assembly, international tension has not decreased nor have its underlying factors ceased to exist. The cause of general and complete disarmament, however, can effectively be promoted only in an atmosphere free of tensions. In international political life it would be possible to create smooth co-operation in

settling common problems, not only in the field of outer space activities but also in earthly matters of direct interest to the everyday life of mankind. The economic resources released as a result of disarmament amounting to \$150,000 million to \$200,000 million a year could be used for far-reaching constructive purposes. A reduction in the number of offensive weapons would be a powerful economic factor not only by itself, but because in the absence of offensive weapons and offensive policy there would be no need to spend further billions on the development of various defensive systems.

136. In addition to the general positive effect of cuts in the armed forces, it would be an indirect benefit that the highly qualified technical and leading staffs of the armed forces could be directed to performing administrative, technical and economic functions. Those persons would have the opportunity of exchanging their unproductive activities for socially useful pursuits, and this would end the role of the military-industrial complex which, in certain States, unfortunately, carries unduly great weight and overwhelming influence.

137. The realities of the 1960s, however, show up differently. The arms race goes on in respect of conventional and nuclear weapons alike. In the midst of the arms race, the whole of mankind has to endure the constant tension of being in fear of the advent of a third world war, and that is a real danger indeed. The war waged by the United States of America in the region of South-East Asia is a horrible event, not only because it demands more and more victims from the civilian population, but also because it involves the danger of the large-scale use of weapons of mass destruction.

138. Every effort to seek ways and means of prohibiting particular types of armaments with a view to the main objective of general and complete disarmament is useful and serves the good of all mankind. Even if their prohibition is at present unfeasible, we have to welcome any measure tending to limit their use. Such a step is the adoption by the General Assembly of a resolution on the conclusion of a convention for the prohibition of the use of nuclear weapons. A similarly useful measure is the effort for the conclusion of an agreement on the non-proliferation of such weapons. My delegation has many times pointed to the necessity of concluding that agreement. We think the necessity of preventing the further spread of nuclear weapons was once again brought to our mind by a statement made by Gerhard Schröder, Defence Minister of the Federal Republic of Germany, on 5 December 1967. Herr Schröder declared that the West German armed forces integrated in NATO had for the time being to preserve their nuclear striking power.

139. My delegation wishes now to issue the warning, as it has done many times before: do not yield to the nuclear greed of the West German revanchist circles.

140. It should be noted that the foreign policy of the German Democratic Republic shows an entirely different picture from the nuclear aspirations of the Bonn Government. In its memorandum of 7 August 1967, the Government of the German Democratic Republic stated:

“... the proposals of the Government of the German Democratic Republic for the conclusion of an agreement

<sup>14</sup> United Nations publication, Sales No.: 67.1.9.

on the renunciation by both German States of the use of force in their relations with one another and agreement on the renunciation by both German States of any form of possession, control or joint control of nuclear weapons and on the halving of the arms expenditure of the two German States meet an urgent requirement of European security."

141. The conclusion of the non-proliferation treaty is a key question of our age. Its preparation needs much circumspection. We hope that the Committee on Disarmament in Geneva will soon finish drafting the treaty so that we may take a new step to thwart the possibility of a thermonuclear conflict.

142. The Committee on Disarmament has had no time to discuss in detail other disarmament problems. For this reason the Hungarian delegation will try to promote the Committee's work by raising a few related and burning questions and indicating also the way for their possible solution.

143. In working for general and complete disarmament, we have set for ourselves as one of the immediate aims the achievement of the prohibition, or at least the limitation, of the use of weapons of mass destruction, which stand as an imminent danger for all mankind. What should be considered weapons of mass destruction? What types of weapons belong to that category? First, nuclear weapons, the most terrible of all weapons of mass destruction. The Secretary-General has prepared a comprehensive and extremely realistic report on the effects of their possible use [A/6858 and Corr.1].

*Mr. Tchernouchchenko (Byelorussian Soviet Socialist Republic), Vice-Chairman, took the Chair.*

144. May I take the opportunity to express to the Secretary-General and the experts who have been of help to him, the appreciation of the Hungarian delegation. We support, without any reservation, the proposal we have before us [A/C.1/L.413] for further consideration of that report.

145. Nuclear weapons also include radiological weapons, because radiological warfare is nothing other than the conduct of war with secondary radio-active weapons. Nuclear explosion produces radio-active contamination, and the same happens also in the case of the application of radiological weapons. According to a definition given by the United States Army Regulations, the following is stated: "Radiological warfare: The employment of agents or weapons to produce residual radioactive contamination . . .". Other types of radiological weapons are in the research stage and come under quantum mechanics and nuclear physics; therefore, they also belong to the category of nuclear weapons.

146. The second type of mass destruction weapons are the chemical weapons. Every conventional explosive, from gunpowder to napalm, is the product of chemical reaction, as we have been reminded by the representative of Malta. In our present terminology, however, by chemical warfare we understand the tactics and techniques of the use of toxic chemical agents against men, animals and plants.

147. During the past few decades the various types of gases have undergone a tremendous development. We distinguish the types of choking, blister, tear, blood, vomiting and nerve gases. The known kinds of nerve gases are tabun, sarin and soman. They are incapacitating, paralysing and sterilizing, both to men and other living creatures, creating mental nervous disorders with lasting and detrimental effects.

148. The most effective of them, adopted by the United States, is sarin. It is a liquid poison that can be converted into an odourless and colourless fog. Major General William M. Creasy, former Chief Chemical Officer of the United States Army, said in the House of Representatives: "seventy-five tons of mustard gas would do the work of 1 ton of nerve gas" in casualty effect. That was stated during the hearing before the Committee on Science and Astronautics of the United States House of Representatives, on 16 and 22 June 1959.

149. Chemical weapons imply not only poisonous and other gases but all analogous liquids and materials or devices, as indicated by the provisions of the 1925 Geneva Protocol. Chemical weapons affect people by causing them direct physiological lesion or by changing their conditions of existence. Thus, for example, there are chemical anti-crop compounds: plant growth inhibitors, herbicides, defoliants.

150. The third type of weapons of mass destruction are the bacteriological weapons, which can be divided into four categories: first, micro-organisms: bacteria, viruses, rickettsiae, fungi, protozoa; second, toxins: microbial, animal, plant; third, vectors of disease: arthropods—insects and acarids—birds and animals; fourth, pests: of animals and plants.

151. It is these three types of weapons—nuclear, chemical and bacteriological—which are usually included in the category of the weapons of mass destruction.

152. In addition, our age has come to know other means of mass destruction too. The first example of this is the "carpet-raids" on certain cities during the Second World War, on Hamburg and Dresden, which exterminated masses of people, and the atomic bombs, of course, which were dropped on Hiroshima and Nagasaki and were more spectacular, but of a different kind.

153. We might mention today the example of the United States warfare in Viet-Nam, where a higher tonnage of bombs have been dropped on the territory of the Democratic Republic of Viet-Nam than during the whole Second World War on all of Germany. In Viet-Nam today, there are only two cities which are only partly destroyed. All other cities have been completely erased from the surface of the earth. We have just seen a shocking document and evidence of this, in a film by the British film maker, cameraman and *régis seur*, Mr. Felix Green. In this film we have seen vast areas in the Democratic Republic of Viet-Nam completely deserted and destroyed by these savage bombings.

154. The second example is the cluster bomb unit, or in abbreviation in the United States, the CBU: a type of conventional bomb which is used to injure or kill, through

fragmentation effect, mainly civilians staying in exposed areas.

155. About 40 to 50 per cent of all bombs dropped by the United States Air Force in Viet-Nam are of the CBU variety. For those who do not know it, I shall give a description of it briefly. The bomb holds aluminium bomblets each containing 308 steel pellets and a detonator. Upon explosion, the bomb scatters the bomblets which in turn explode on contact. Four such bombs spew about one million steel balls in an area over one mile by 250 yards. This weapon is mainly used against the civilian population, and it is most effective against civilians who are not adequately protected against this kind of attack; massive use of them can disrupt the whole social life of a country.

156. For this reason, the CBU bombs can be included in the category of weapons of mass destruction, especially in view of the fact that the United States Air Force gave the American war factories an order for 48 million such bombs to be delivered from April 1968. This represents dark prospects indeed for the masses of the population in South East Asia.

157. In measuring the effect of mass destruction, the actual circumstances must also be taken into consideration. In the Democratic Republic of Viet-Nam, for example, 217 hospitals were destroyed as a result of the United States assault bombings. Besides, defence against the effects of the CBU bombs is very limited. Because of erratic trajectories within the body, one pellet can cause multiple intestinal wounds and is difficult to trace. From top to toe X-rays are often necessary to locate the pellets, and sophisticated surgery is required to remove them. With many hospitals bombed out of operation in North Viet-Nam, only two hospitals are left, after the savage bombings. This puts the CBU-type bomb among the tools of genocide.

158. The most important characteristic of weapons of mass destruction is that they do not distinguish between the military and civilian populations. That is why the international law of war is in every respect against the use of such weapons. The Charter of the United Nations has outlawed war itself as a means for the solution of disputes. Any use of weapons in attack and aggression is thus a crime, and from this it plainly follows that the use of weapons of mass destruction constitutes the crime of genocide, as has been defined in the Nuremberg Statutes, and consequently is strongly condemned by all nations.

159. Reckoning with the realities of our age on the chances of war, however, we have to rely upon the norms of international law, the Hague Conventions for the Pacific Settlement of International Disputes, of 1899 and 1907, the Treaty of Versailles of 1919, the Geneva Protocol of 1925 and other agreements which have laid down the fundamental principle that belligerent parties cannot use, without restriction, any means of warfare, especially those afflicting the civilian population just as heavily as combat units.

160. A very important task of the Members of the United Nations is to enforce the Charter provisions, and if that does not prove to be successful, to ensure the observance of international conventions concerning the conduct of war.

161. The Hungarian delegation has carefully studied the draft resolution submitted by the delegation of Malta on the matter of general and complete disarmament [*A/C.1/L.411*]. That proposal, unfortunately, narrows down the problem against the danger of the use of weapons of mass destruction as we have outlined it. The first preambular paragraph of the draft mentions chemical, biological and radiological weapons, without explaining what should be meant by these terms. However, I recognize that the very learned representative of Malta has explained this problem this afternoon with much circumspection. We certainly shall not fail to study his statement very carefully. Nevertheless, the Hungarian delegation wishes to make a few observations regarding the draft resolution.

162. Reference to radiological weapons in the draft resolution is a new and foreign element if we take into consideration the Geneva Protocol. It is illogical, because experiments with these weapons are a matter of nuclear physics and quantum mechanics, so they belong to an entirely different group of weaponry. It is particularly disturbing, however, that the draft regards the use of only some varieties of chemical, biological and radiological weapons as dangerous to mankind. Why only a few such weapons? Which of them is dangerous and which is not? By making exceptions, it makes it possible for some persons to interpret to their liking which chemical weapon is dangerous to mankind and which is not. This approach does not promote the cause of the fight against the use of weapons of mass destruction, but it is rather a step backward from the point already reached by the Geneva Protocol. This provision does not extend the area of the field of prohibited weaponry, but, on the contrary, reduces it.

163. What should be meant by updating the Geneva Protocol? The types of chemical, biological and radiological weapons are proliferating. Their manufacture is covered up by a conspiracy of silence. Experiments are conducted in secret on an ever-larger scale. Developing countries cannot afford to use their resources for the purpose of such research. I say that it is fortunate that they are not using their resources for such purposes. Moreover, they may occasionally fall victim to such experiments, especially those peoples who are fighting for their independence, for the self-determination of their country, the peoples of former or actual colonial territories.

164. Thus, these weapons are directed mainly against Asian and African peoples. What is needed in this situation is not to update the Geneva Protocol, which prohibits categorically the use of different weapons of mass destruction, but to give a strong effect to its prohibitive clauses.

165. The preamble of the Maltese draft resolution gets around the real facts. It speaks of "weapons which have been or are being developed" but makes no mention of the destructive effect of such weapons which have already been put to use and says not a word about the practical experience available to all.

166. The draft resolution speaks of biological weapons, but, as the representative of Malta has himself explained, biological weapons include means to affect the development, growth, multiplication or existence of living organ-

isms in a detrimental way; to change their environment, destroy their means of existence, change their life cycle. To the kinds of weapons that influence the biological processes belong equally nuclear weapons, chemical weapons, bacteriological weapons and even conventional weapons, depending on the circumstances.

167. Furthermore, the draft resolution proposes that the Secretary-General's report should examine the probable effects of the use of chemical, biological and radiological weapons. To all intents and purposes, that might refer only to radiological weapons which have not yet been used or are not yet in existence, since the effects of the use of chemical and bacteriological weapons are, unfortunately, already widely known. Let us take the example of the chemical anti-crop compounds used in Viet-Nam between 1961 and 1967. In 1961, in the so-called operation "Ranch Hand", two transport planes made altogether sixty spray sorties against the vegetation of Viet-Nameese soil. By the end of 1967, this kind of chemical warfare had reached enormous proportions. The Defense Supply Agency gave orders for the delivery of chemical agents for defoliation and crop destruction to the sum of \$57,690,000. This meant the use of about six to seven million gallons of chemical substances.

168. What are these chemicals? They are very well known. One of them is called 2,4-D, another 2,4,5-T. Again, another such agent is cacodylic acid, which is most poisonous to human beings since it contains 54.29 per cent of arsenic. Seventy grammes of it kills a man of average weight. According to Professor Arthur Galtson of Yale University, a professor of biology, smaller doses of it—and here I quote from his article—

"... could result in nausea, diarrhoea, headache, muscular pains, weak pulse and coma. In view of the persistence of this material and the cumulative nature of arsenic toxicity, its wide use certainly may pose dangers for the civilian population of Viet-Nam. It may be accumulated by plants which would be eaten by man."<sup>15</sup>

169. Biologists have demonstrated, for example, that the chemical agents used in Viet-Nam upset the ecological balance of areas exposed to chemical raids. The rhythm of crop rotation becomes upset; the chemicals, washed into the streams, decimate or even kill off the entire fish population. By breaking the biological chain in plant life, they have a tremendous effect upon human existence in the areas concerned. We have been witnessing in Viet-Nam a strange phenomenon: well-planted areas, under heavy cultivation, have been transformed by these chemicals into deserts; while scientists and other people elsewhere are trying to fight the desert and recover such areas little by little for purposes of cultivation, the opposite is going on in South-East Asia. In a part of the world where, because of the lack of an adequate food supply, hunger is constant, through the creation of new desert areas in those parts of Viet-Nam, an adequate food supply is being denied to the population for generations to come.

170. These facts were demonstrated by experts long ago. In the matter of chemical warfare and crop destruction,

5,000 American scientists gave their opinion—a much larger number of experts than the United Nations could ever have enlisted for the preparation of a report by the Secretary-General. A similar expert opinion has been given in the name of 2,000 Japanese biochemists. Thus, as far as the assistance of experts is concerned, it is no longer needed; their opinion has already been given and is available to anyone.

171. The Maltese draft proposes a revision or a replacement of the Geneva Protocol. The Hungarian delegation fails to see in what sense such a revision would mean progress in respect of the Geneva Protocol. The draft resolution submitted by the delegation of Malta advances no concrete argument to prove the timeliness of any revision. We think that revision of the Geneva Protocol is entirely unwarranted.

172. In its possession of the Geneva Protocol, the international community has an excellent legal means which exists without any special committee or any report of the Secretary-General. It would be wrong, both politically and psychologically, to discard this legal means or to create, by its revision, loopholes for those who want to avoid signing that instrument.

173. The draft invites us to vote the establishment of a sub-committee and the preparation of a report by the Secretary-General. This would mean only more red-tape, would imply further expenses and would increase the burden on the Secretariat, instead of bringing nearer the substantial solution—observance of the already-existing Geneva Protocol.

174. Even over the expanse of forty-two years, the Geneva Protocol unmistakably refers to all kinds of chemical and biological weapons by condemning "... the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices".<sup>16</sup> It is beyond dispute that this wording accurately covers not only any one of the existing chemical and bacteriological weapons, but also those that are now being developed.

175. The types of weapons indicated in the Geneva Protocol have been developed to a tremendous extent; a large number of varieties have been added to the chemical-bacteriological arsenal. Specialization and new methods of scientific research have developed new varieties of more effective chemical and bacteriological weapons. All this only underlines the timeliness of the Geneva Protocol. But it seems to be difficult to ensure world-wide application of that highly important instrument. The assistance of the community of the United Nations is required to achieve this aim. Lately an additional group of States have acceded to the Geneva Protocol, thus recognizing its importance, partly in response to the appeal contained in General Assembly resolution 2162 (XXI), and setting a good example to those States that have not acceded to it so far. The States that have recently deposited their instruments of accession are Cyprus, Sierra Leone, Maldives Islands, Niger, Ghana, Tunisia, Madagascar and—here I mention a significant accession—the Vatican.

<sup>15</sup> *Scientist and Citizen*, vol. 9, No. 7, August-September 1967, p. 125.

<sup>16</sup> League of Nations, *Treaty Series*, vol. XCIV, 1929, No. 2138.

176. The Hungarian delegation has not for a moment doubted that the Maltese draft resolution was dictated by good intentions. Nevertheless, that draft seeks to raise doubts about the Geneva Protocol and proposes a time-consuming procedure of revision—the establishment of a sub-committee and the preparation of a report by the Secretary-General—while at the same time providing for no prohibition and not even referring to compliance with the accepted norms of international law. This formulation of the Maltese draft is of help to those that have not yet signed the Geneva Protocol and that have no intention of signing it in the future either. Its mistaken starting-point justifies those that wish to disregard the Geneva Protocol.

177. It must be recognized that the Maltese draft introduces a new element, that of radiological weapons, which go unmentioned in the Geneva Protocol. We believe it is feasible to refer this matter to the Disarmament Committee, even though the use of radiological weapons does not seem realistic for the time being.

178. Even in a difficult period like this, we have to find a road that can be travelled in making effective progress towards the realization of general and complete disarmament. The present session of the General Assembly has already taken a realistic step in this regard by its adoption of the resolution on the prohibition of the use of nuclear weapons. During the short time available to us we can take a further effective measure if, by reaffirming resolution 2162 (XXI), we declare the use of chemical and bacteriological weapons to be a crime against humanity and mobilize all Members of the United Nations to accede to the Geneva Protocol.

179. The representative of Malta said, in his earlier statement, that polemics might have prevented more effective and wide-scale accession to the Geneva Protocol, but the Hungarian delegation will not fail to give expression to its concern about world affairs, even if it is not to the liking of one or several delegations in the Organization that these examples, facts and concrete events be mentioned.

180. We are not chemists, physicists, physicians or military experts here in the Committee to deal with very minute details of this problem, although we are grateful that the representative of Malta has supplied us with many interesting examples. In the view of the Hungarian delegation, our duty in this Committee is to make political decisions to promote the cause of peace among nations, to prevent destruction and war, and to reduce the dangers confronting all mankind. If this is considered polemics, we take the responsibility for it. In this activity, we regret to find some who are opposed to these ideas and objectives. We realize that not all the Members of our Organization are like-minded, and such divergent views necessarily will appear in our debates. However, that is no reason to reject a proposal aiming at the protection of the peaceful development of nations, without outside military pressure exercised or threatened by the most abominable means of weapons of mass destruction, including chemical and bacteriological weapons.

181. I should like to emphasize that the Hungarian delegation is not beating the drum, but is making responsible statements when it advances the ideas contained in our

draft resolution [A/C.1/L.412] and when it invites all States to accede to the Geneva Protocol of 1925. The Hungarian draft resolution is very clear in its intention to try to save mankind from the horrors of these mass destruction weapons. The wording is resolute. It does not waver and it does not try to comfort those who are responsible for applying chemical and bacteriological weapons for destruction, not only in experiments, but in daily practice.

182. The Hungarian draft resolution and the Geneva Protocol are of a very general character, covering all weapons falling in the category of chemical and bacteriological weapons, not just some of them. All kinds of weapons, no matter how slight their effect is planned, might become lethal and be used with the intention of destroying human beings in smaller or larger groups or, for that matter, a whole people of a whole country. The Hungarian draft resolution's suggestion of accession to the Geneva Protocol is based on a sound understanding of international law that prohibits war as a means of settling disputes and condemns the use of weapons of mass destruction as a means of genocide, a crime against humanity. Thus, the Hungarian draft resolution deals with a very timely problem placed before us by the international situation, notably by the aggressive war waged by the United States against the people of Viet-Nam.

183. These weapons endanger, first of all, the peoples of Africa and Asia who are fighting for their independence. Those people are the first subjects of such experiments. The other side of the picture is that they have not got the means to retaliate in kind, and that makes the use of those weapons most immoral, most inhuman and most horribly criminal.

184. The Hungarian draft resolution contains an appeal in general to all States, without any exception, to accede to the Geneva Protocol for the benefit of all mankind. Accession to the Geneva Protocol is the duty of all States. Hungary is fulfilling its international obligations by presenting this draft resolution, and invites all Members to act in the only justified and legal way by implementing the Geneva Protocol.

185. In the view of the Hungarian delegation, in interpreting the provisions of the Geneva Protocol it is equally the duty of the countries which are parties to the Geneva Protocol to launch a similar appeal to all the other States which have not done so to accede to the Geneva Protocol. If some representatives, like the representative of Malta, claim that the Geneva Protocol has no effective legal restraint and that is an intolerable situation, I fully agree with them, but I would add that the limits of the Geneva Protocol are given by the number of States which accede to it. Had all the States Members of this Organization, and all States outside the Organization, acceded to the Geneva Protocol, we would have had an effective legal restraint and the Protocol would have been more than sufficient to prevent the use of chemical and bacteriological weapons.

186. The Hungarian delegation recommends the Committee to adopt the draft resolution contained in document A/C.1/L.412.

187. Mr. GREKOV (Byelorussian Soviet Socialist Republic) (*translated from Russian*): The problem of the elimina-

tion of foreign military bases is of the utmost importance for the peace and security of peoples.

188. Last year, the General Assembly adopted resolution 2165 (XXI) on the elimination of foreign military bases in the countries of Asia, Africa and Latin America, in which it noted that this question was of paramount importance and therefore necessitated serious discussion because of its implications for international peace and security. At the same time, the General Assembly proposed that the Eighteen-Nation Disarmament Committee present a report on the results of its consideration of this important item. However, for well-known and understandable reasons, the Committee was unable to deal with this matter. This in no way means that the question of the elimination of foreign military bases has become less urgent. The peoples of Asia, Africa and Latin America are vitally interested in the elimination of foreign military bases. They know from their own experience the result of the presence of foreign troops on their soil. The existence of foreign military bases and other military strongpoints on foreign soil are a constant and dangerous breeding-ground of international tension, an instrument of the policy of aggression, neo-colonialism and the suppression of national liberation movements.

189. Military bases are used for interference in the internal and external affairs of the young independent States and are a serious danger to their independence, leading directly to the occupation of various countries. The practice of constructing military bases has always been the result of pressure and of dictation on the part of imperialist States, which try to justify their building of bases by the false pretext that they must ensure their security.

190. However, military bases do not serve the cause of the security of States. On the contrary, they are used to fan military conflicts, to unleash wars of aggression and for flagrant interference in the internal affairs of young States. Military bases are a weapon of aggression and not defence. The purpose of building and extending networks of military bases is conquest.

191. Military bases are strongpoints of the colonialists in their struggle against freedom-loving people. In its aggressive war against the Korean people the United States relied on its bases in South Korea, Japan and other countries. British military bases served to support the intervention against the Egyptian people in 1956. The united actions of the colonialists against the people of the Congo were carried out from the Belgian military base in Kamina and the British military base on Ascension Island. The military bases of the United States in Latin America served as strongpoints for the intervention of the United States in the Dominican Republic. Everyone is aware of the criminal role played by American military bases in Thailand, Taiwan, Okinawa and the Philippines in the shameful war of the United States against the Viet-Nameese people, in the acts of aggression against the Democratic Republic of Viet-Nam and in ceaseless acts of provocation against Laos and Cambodia.

192. In connexion with the escalation of the United States aggressive war against the Viet-Nameese people, military construction in South Viet-Nam and other countries of South-East Asia has assumed enormous proportions. In

1966 alone the Pentagon spent over \$1,400 million on the construction and modernization of its military bases in Asia. The modernization and construction of United States military bases in South Viet-Nam, for which the sum of \$800 million was allocated in 1966, goes on at a feverish pace. Stating hypocritically that the United States does not need foreign territories, the Pentagon has transformed South Viet-Nam into a testing ground for its military doctrines, tactics and war technology.

193. Developing its criminal aggression against the Viet-Nameese people, the United States is trying to involve ever more deeply in its adventure Asian countries on whose territories American military bases have been set up. In its criminal adventure in South-East Asia, the United States is assigning an important role to Thailand. In Thailand there are now 35,000 American soldiers and seven bases built on its territory are used for the barbarous raids against Viet-Nam. The United States bases in Thailand are not only strongpoints in the war against Viet-Nam but also an instrument for the political and economic enslavement of Thailand itself.

194. In violation of a whole series of recommendations of the General Assembly on the elimination of military bases in Trust Territories and the prohibition of the building of new military bases, the United States has transformed the United Nations Trust Territories of the Marshall, Caroline and Mariana Islands into military outposts. Their Trust Territories in the Pacific have become a strongpoint for carrying out aggressive designs against the national liberation movements in South-East Asia.

195. In the past, the colonial Powers strengthened their power over enslaved peoples by building strongholds, or, as they are now called—military bases. Today, neo-colonialism in Africa and other areas continues to use those bases for interference in internal affairs, for the struggle against national liberation movements and as an instrument of pressure against young independent States. The peoples of the world are well aware of the true reasons for the setting up of military bases by the Western countries. "Foreign military bases in Africa are time bombs for use against the freedom and independence of young African countries," wrote the weekly magazine *Ditanda* of the Congo (Brazzaville) in February 1967. "As long as those accursed bases exist on the soil of African countries, not one African country will be fully secure."

196. In Latin America, as in Africa, American bases are used for aggression and intervention against the peoples of that continent and for the organization of conspiracies and revolutions to deprive the peoples of Latin America of their independence. The most typical example of the use of these bases against the freedom and independence of the Latin American peoples is the constant policy of provocation and subversion carried out by the United States against Cuba from the American military base in Guantanamo.

197. Britain and other American allies in military blocs follow this American policy. Great Britain spends over £300 million every year to maintain and reinforce its bases east of Suez. British and United States bases are used to suppress the national liberation movements of peoples in the Near and Middle East and in Asia. The presence of

military bases on independent and dependent territories and their use by colonial countries against the peoples of those territories are a source of danger to international peace and security.

198. As was noted by the Byelorussian delegation last year, the existence of military bases on foreign territory is contrary to the letter and the spirit of the United Nations Charter and the most important decisions of the General Assembly of the United Nations concerning the elimination of colonialism, the inadmissibility of intervention in the internal affairs of States and the protection of their independence and sovereignty.

199. Because of its position of principle concerning the inadmissibility of interference in the internal affairs of States, my delegation is firmly in favour of the speediest and complete liquidation of foreign military bases on the territories of other States. Their elimination would promote more propitious conditions for the achievement of general and complete disarmament and would do away with one of the sources of tension and conflict threatening world peace.

200. We consider that the United Nations and the Eighteen-Nation Committee on Disarmament must not weaken their efforts to eliminate military bases on foreign soil, in the interest of general and complete disarmament. We want to see a situation in which there will not be a single military base left in the world. That is the goal set by

the socialist countries and all the peace-loving countries on earth.

201. The CHAIRMAN (*translated from Russian*): It is late and we are about to adjourn, but I should like first to inform the Committee of the fact that draft resolution A/C.1/L.413 concerning the Report of the Secretary-General on the Effects of the Possible Use of Nuclear Weapons and on the Security and Economic Implications for States of the Acquisition and Further Development of these Weapons is now also sponsored by the delegation of Denmark, so that there are now eleven sponsors of that draft resolution—Canada, Denmark, India, Japan, Mexico, Nigeria, Norway, Pakistan, Poland, Sweden and the United Arab Republic.

202. I wish also to inform the Committee that we shall have two meetings tomorrow.

203. Since we have a very long list of speakers and many delegations have expressed their desire to take part in the debate, I would ask you, in the name of the officers of the Committee and the Chairman, to do your utmost to co-operate in ensuring that we start the work of our Committee on time.

204. The next meeting will be tomorrow at 10.30 a.m.

*The meeting rose at 6.10 p.m.*