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CONFERENCE FOR THE REDUCTION AND LIMITATION OF ARMAMENTS

CHEMICAL, INCENDIARY AND BACTERIAL WEAPONS  
Special Committee

SECOND SESSION

(November 17th to December 13th, 1932.)

*President:* M. PILOTTI.

REPLY TO THE QUESTIONNAIRE SUBMITTED BY THE BUREAU  
TO THE SPECIAL COMMITTEE

*Rapporteur:* M. RUTGERS.

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## INTRODUCTION.

In the course of the twenty-sixth meeting, held on November 11th, the Bureau of the Conference drew up the questionnaire hereunder (document Conf.D./Bureau 30(1)), with regard to certain problems relating to chemical, incendiary and bacterial warfare, and submitted the questionnaire to the Special Committee on Chemical, Bacterial and Incendiary Weapons previously called special Committee on Chemical and Bacterial Weapons.

### QUESTIONNAIRE SUBMITTED TO THE SPECIAL COMMITTEE.

#### A. PROHIBITION OF THE PREPARATION OF CHEMICAL, INCENDIARY AND BACTERIAL WARFARE.

##### I. Defensive Material.

1. Is it necessary, in order to guard against the effects of chemical arms, to employ devices for individual protection (masks, protective clothing, etc.) ?

Is it practicable to entrust the preparation of these devices or some of them to an international body or can it be submitted merely to the technical supervision of an international body ? If so under what conditions ?

2. Is the preparation of measures of collective protection (underground shelters, etc.) essential for defence against chemical warfare ? Is it practicable to regulate this preparation by means of an international convention ? Can it be made subject to the technical supervision of an international body ?

3. Does the testing of protective material necessitate the use of poisonous substances ?

If so, what measures should be taken to prevent this giving rise to abuses ?

Should it be made compulsory to declare the quantities of poisonous substances produced with a view to testing protective material ? Should these quantities be restricted ? Should the results of the tests be made public ?

4. Can the preparation of the treatment of victims of chemical warfare give rise to abuse ? (Omit the remainder of 4.)

##### II. Offensive Material.

1. How can the preparation of bacterial warfare be prevented ?

2. Is it practicable to prohibit the manufacture, import, export and possession of implements and substances exclusively suitable for use in chemical and incendiary warfare ?

(a) Are there such implements and substances ?

(b) What are they ?

(c) Are they of genuine importance ? If the above-mentioned prohibition can be pronounced, would this constitute an effective obstacle to the preparation of chemical warfare ?

3. Is it practicable to prohibit the manufacture, importation, exportation or possession of implements and substances capable both of pacific and military utilisation ?

If not, can the armed forces be forbidden to possess certain stocks of these substances or implements, or can States be obliged to declare those stocks ?

4. Can the training of armed forces in the use of chemical weapons be prohibited ? What would be the practical effect of this prohibition ?

5. Can the Committee suggest other practical forms of prohibiting the preparation of chemical, bacterial and incendiary warfare ?

#### APPENDIX.

Special Case of Lachrymatory Substances.

Should lachrymatory substances be included in the category of substances exclusively suitable for use in chemical warfare ?

If so, can they be treated separately ? Can such treatment give rise to abuse ?

Can the limitation of the quantities that may be produced, imported or kept in possession be of practical value ?

Is it possible to regulate the treatment of lachrymatory substances otherwise than by limiting the quantities that can be manufactured, imported or exported ?

#### B. SUPERVISION OF THE PROHIBITION TO MAKE PREPARATIONS FOR CHEMICAL, INCENDIARY AND BACTERIAL WARFARE.

1. (a) Can the prohibition of such preparations be supervised by consulting commercial statistics of the movements of chemical industries in all countries ?

(b) Can this supervision be exercised by entrusting to national or international bodies the inspection of chemical factories and by having the following data published :

The nature of the products manufactured therein ;

The existing stocks of manufactured products ;

The output capacity of the factories ?

Is it sufficient to do this for certain factories ?

(c) Is such supervision of practical value ?

2. From what facts will it be possible to deduce that the prohibition to make preparations has been violated ?

*First system* : Supervision based on the existence of regulations concerning production.

- (a) Limitation of the chemical output capacity of States, or, at any rate, of a certain number of States, so that the chemical warfare potential of certain States should not be too unequal (quotas, industrial agreements, etc.).
- (b) Limitation of the quantities of chemical products in stock.

Practical value of this system ?

*Second system* : The freedom of manufactures, imports and stocks is, in principle, complete, but the intention of using these substances for chemical warfare is alone prohibited.

From what facts can this intention be deduced :

- (a) From the character of Government intervention in the management of production ;
- (b) From abnormally large outputs ;
- (c) From abnormal stocks ;
- (d) From other facts ?

Practical value of this system ?

- 3. Can the Committee suggest other practical forms of supervision ?

### C. CASE OF A BREACH OF THE PROHIBITION TO USE CHEMICAL, INCENDIARY AND BACTERIAL WEAPONS AGAINST AN OPPONENT.

#### DETERMINATION OF SUCH A BREACH.

How should the determination of a breach be technically organised ?

Who should determine such a breach ? Should specialised experts be compulsorily attached to the authority responsible for determining the breach ?

Should these experts be designated in advance ?

Should two expert investigations be provided for—viz., by the experts of the country attacked and by international experts appointed in advance ?

How should the determination of the breach be organised so that it should take place as rapidly as possible ?

#### PENALTIES.

Has the Technical Committee any suggestions to make as regards the penalties to be applied to a State committing a breach of the Convention ?

\* \* \*

The special Committee met on November 17th and December 13th to reply to this questionnaire. As in the first session, M. Pilotti (Italy) was Chairman, and Professor Rutgers (Netherlands) Rapporteur.

The ten following States were represented on the Committee : United Kingdom, Denmark, France, Italy, Japan, Netherlands, Poland, Spain, Switzerland and United States of America. <sup>1</sup>

The Committee, which included qualified experts on all subjects submitted to it, appointed Rapporteurs for the different groups of questions as follows : <sup>2</sup>

In the course of the discussion, the several Rapporteurs, in view of the complexity of the various questions, obtained the collaboration of other experts in drawing up their special reports, with the result that the greater part of the work was done in Sub-Committees.

The Committee was at pains to give explicit answers to the various questions submitted to it, with certain observations on the answers given. The report ends with general conclusions ; but it is not possible that these should reproduce all the ideas and nuances contained in the report.

<sup>1</sup> The States were represented as follows :

<i>Chairman</i> : M. PILOTTI (Italy).			
<i>Rapporteur</i> : Professor RUTGERS (Netherlands).			
<i>United Kingdom</i> :	Brigadier A. C. TEMPERLEY. Mr. Davidson PRATT. Major B. H. ROBERTSON. Commander G. D. BELBEN. Squadron-Leader L. G. S. PAYNE.	<i>Italy</i> :	Professor DI NOLA. Lieut.-Colonel PELLEGRINI. Major RAPICAVOLI.
<i>Denmark</i> :	M. BORBERG.	<i>Japan</i> :	M. ENOMOTO. Lieut.-Colonel SOGAWA.
<i>Spain</i> :	General J. G. BENITEZ.	<i>Netherlands</i> :	Colonel VAN VOORST TOT VOORST.
<i>United States of America</i> :	Lieut.-Colonel A. V. STRONG.	<i>Poland</i> :	General BURHARDT-BUKACKI. Commandant SYPNIEWSKI. Captain A. PONCET DE SANDON.
<i>France</i> :	Professor André MAYER. M. René CASSIN. Captain VAUTRIN.	<i>Switzerland</i> :	Colonel FIERZ. Professor SILBERSCHMIDT.

<sup>2</sup> Defensive material : Colonel FIERZ.

Medical and bacteriological questions : Professor DI NOLA.

Chemical questions : Professor MAYER.

Military questions : General BENITEZ.

Lachrymatory gases : Mr. Davidson PRATT.

Establishing the facts, and penalties : M. CASSIN (assisted temporarily by M. Ito and Sir William MALKIN).



## Head I.

### PROHIBITION AND SUPERVISION OF THE PROHIBITION OF CHEMICAL, INCENDIARY AND BACTERIAL WEAPONS.

#### PART I. — PROHIBITION OF THE PREPARATION OF CHEMICAL WARFARE.<sup>1</sup>

##### Chapter I. — Defensive Material.

1. *Is it necessary, in order to guard against the effects of chemical weapons, to employ devices for individual protection (masks, protective clothing, etc.) ?*

*Is it practicable to entrust the preparation of these devices or some of them to an international body, or can it be submitted merely to the technical supervision of an international body ? If so, under what conditions ?*

(a) From the technical point of view, it is impossible to guard against the effects of chemical weapons without recourse to devices for individual protection (e.g., respiratory apparatus, masks, protective clothing, gloves, unguents, etc.).

The possession of devices for individual protection by the victims of a chemical attack would be likely to reduce considerably the military advantages obtained by a party violating the prohibition, as the efficacy of the attack would thus be limited.

On the other hand, it might in certain cases be to the advantage of an armed force to be equipped with protective devices when delivering a chemical attack ; masks would be needed whenever the personnel is brought into direct contact with poisonous preparations through the nature of the attack itself (e.g., gas clouds and infection of ground). Such, however, is not always the case. To make an attack by means of shells or air-bombs, protective devices are unnecessary. Thus the fact of prohibiting the equipment of armed forces with protective devices would not place any serious barrier in the way of chemical warfare.

Nor should it be forgotten that protective devices against poisonous preparations are used in time of peace in a great number of industries. In certain countries, the manufacture of such devices has been highly developed. If, therefore, the armed forces thought it necessary to utilise such devices, they would always be in a position to procure them, even though such apparatus did not form part of their normal equipment, as such appliances are manufactured in great quantities for legitimate purposes.

(b) It would be difficult, if not impossible, to entrust the preparation or manufacture of such devices for individual protection to an international body, and it is not certain that it would be desirable. It is important that each country should be able itself to manufacture such protective devices as it may require. Even if the preparation and manufacture, or even the technical testing of such appliances were to be entrusted to an international body, that would not relieve the various countries of the necessity of conducting experiments with protective devices on their own account. It would always be necessary to adapt such devices to the special conditions of each country. Thus the centralisation of preparations and manufacture would very slightly reduce the extent and scale of the experiments which it would be necessary to conduct.

2. *Is the preparation of measures of collective protection (underground shelters, etc.) essential for defence against chemical warfare ? Is it practicable to regulate this preparation by means of an international convention ? Can it be technically supervised by an international body ?*

The preparation of measures of collective protection, which are not confined to the construction of underground shelters but comprise a whole series of measures (look-out units, alarms, organisation of rescue and disinfection services, constitution of stocks of disinfectants, etc.), is indispensable for defence against chemical warfare. It is impossible to regulate this on an international plane on account of the diversity of the circumstances which determine the defensive measures to be taken.

All measures of collective protection have a clearly defensive character and it would not appear appropriate to subject them to international control.

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<sup>1</sup> The Special Committee has deemed it preferable to reply separately to the questions relating to the preparation and use of chemical, bacteriological and incendiary weapons. These three classes of "weapons" are not comparable technically and it would appear more appropriate to have separate provisions for each.

3. *Does the testing of protective material necessitate the use of poisonous substances ?*

*If so, what measures should be taken to prevent this giving rise to abuses ?*

*Should it be made compulsory to declare the quantities of poisonous substances produced with a view to testing protective material ? Should these quantities be restricted ? Should the results of the tests be made public ?*

(a) The use of poisonous substances is necessary in testing individual devices ; it is also required both for testing shelters and apparatus for collective protection and for experiments on methods of disinfecting—e.g., clothing, material and, above all, ground.

In general, moreover, the tests cannot be confined to mere laboratory experiments. Tests in the fields are indispensable as a means of forming an accurate idea of the dangers against which protection is to be provided and also of the efficacy of the means of protection when applied in the conditions likely to arise in practice.

For the purpose of testing the efficacy of an individual protective device, the quantities of poisonous substances employed are insignificant. Larger quantities are necessary for tests in the field ; but, even then, the quantities of poisonous substances required are in all cases extremely small in comparison with those which would be required for a chemical attack and those which are in current use in the chemical industry.

(b) Although it is difficult to foresee the quantities of such substances which would be indispensable for experimental purposes, it would be possible to limit (by weight) the quantities of poisonous substances which might be placed at the disposal of the armed forces for the purpose of protective experiments. It should, however, be pointed out that, if the object of such measures was to restrict this class of experiment in any given country, success would by no means be assured. The restrictive provisions would apply only to protective experiments undertaken by organisations under State control. They would not affect those which might be conducted spontaneously by private industrial undertakings, and these would frequently be the more important. Furthermore, nothing would prevent Governments from entrusting their protective experiments to private organisations. Nevertheless, we shall see below that, if Governments were to exercise supervision over all products useless for other purposes than those of chemical warfare, this might be expected to restrict experiments on such substances conducted by private industrial undertakings.

(c) It might be possible to consider requesting Governments which promote experiments on protective devices to publish the results. For the reason just stated, the publication of such information would only give an incomplete idea of investigations concerning protection against poisonous substances. Such researches are in large measure conducted by private firms and are kept secret.

4. *Can the preparation of the treatment of victims of chemical warfare give rise to abuses ?*

The treatment to be given to victims of chemical warfare requires a complicated organisation—the formation, instruction and training of a staff of doctors, male and female nurses, and stretcher-bearers ; the organisation of first-aid stations, means of transport and specialised hospitals. Such measures as these could never give rise to malpractices and could not reasonably be prohibited.

On the other hand, the experimental study of the treatment of casualties caused by toxic substances may require laboratory research. Such researches resemble those conducted on poisonings resulting from the manipulation of chemicals in industrial undertakings. It is extremely desirable that they should be continued. Very small quantities of the chemicals which can be used in warfare will be necessary for this laboratory research. The malpractices to which such research might give rise would be even less serious than those which might result from investigations regarding methods of protection against toxic substances. Like research work on protective devices, these researches on the treatment of victims of chemical warfare should not be prohibited.

SUGGESTIONS OF THE SPECIAL COMMITTEE REGARDING PROTECTION OF CIVILIANS.

A. It is technically possible to subject certain protective devices—for example, devices for individual protection, or at least specimens of such devices—to technical testing by an international body. Such tests might lead to the introduction of standard devices for the protection of civilians.

In this connection, it should not be forgotten that the individual protection which should be afforded to civilians depends in part upon the methods adopted for the organisation of their collective protection. Such organisation naturally differs according to circumstances and local or national conditions.

B. The Special Committee considers that it would be useful to set up an international information service for the collection of material with regard to protection against chemical weapons. This body, which could be called upon when need arose to carry out researches and to assist in the work of providing for the protection of civilians, would enable all countries, and, in particular, those whose technical organisations are inadequate, to keep abreast of methods of preparing for the defence of civilians. This would impair the prospects of success of possible transgressors and lessen the temptation to have recourse to chemical weapons.



The more extensive the information which countries would be willing to supply to the above-mentioned service, particularly in regard to the results of experiments with protective devices, the more valuable would be its assistance.

The service might be attached to the Permanent Disarmament Commission.

## Chapter II. — Offensive Material.

2.<sup>1</sup> *Is it practicable to prohibit the manufacture, importation and possession of implements and substances exclusively suitable for chemical warfare?*

- (a) *Are there such implements and substances?*
- (b) *What are they?*

We will examine in turn the case of projectiles, means of projection and poisonous substances.

(1) *Projectiles.* — In the first place, it should be noted that by far the greater part of the projectiles charged with poisonous substances in the last war were projectiles of ordinary types.

It is, however, true that certain types of projectiles (hand-grenades, shells, trench-mortar bombs) have been invented for the purpose of containing poisonous substances. Such projectiles usually differ only very slightly from ordinary projectiles. They may be charged either with explosives or with poisonous substances; in particular (and it is this which makes it difficult to characterise them), they are quite suitable for being charged with smoke-producing substances, the use of which is allowed.

(2) *Means of Projection.* — As far as we are aware, there are no means of projection exclusively suitable for chemical warfare. There are ordinary guns firing poisonous shells, and ordinary aeroplanes capable of transporting receptacles charged with poisonous substances.

Mortars intended for this purpose may be used for throwing smoke-bombs. Apparatus intended for producing clouds of poisonous substances are either ordinary commercial bottles or cylinders or apparatus indetical with that generally used for creating artificial smoke-clouds or even therapeutic clouds—for instance, when combating diseases of trees. Implements used for spraying ground with poisonous substances are the same as those which may be used in peace time for spraying of a totally different character.

(3) *Substances.* — There are substances which, as far as we are aware, have only been used for chemical warfare, such as dichlorethyl sulphide (mustard gas) and certain arsines.

It would be very difficult to give a complete list of these substances. Moreover, any such list, however complete it might be at the time it was drawn up, would very soon require to be amended, either because new poisonous substances had been discovered by ordinary chemical research not undertaken with a view to chemical warfare, or because the pacific use of poisonous substances mentioned in the list had been discovered or had become practicable.

- (c) *Are they of genuine importance? If the above-mentioned prohibition can be pronounced, would this constitute an effective obstacle to the preparation of chemical warfare?*

The substances which have hitherto been exclusively suitable for carrying on chemical warfare were of considerable importance during the war. Some of them ranked among the most effective known chemical weapons. This is the case with mustard gas, not so much on account of its poisonous qualities as because it rendered a great number of men temporarily unfit for service.

A prohibition on the manufacture, importation, exportation or possession of substances exclusively suitable for chemical warfare might be proposed. There should, however, be no total prohibition, because a certain quantity of such substances would always have to be prepared with a view to studies on the question of protection.

If such a prohibition were observed in peace time, it would give a relative degree of security, inasmuch as the use of such toxic substances for aggression might be delayed through the quantities available at the moment of the outbreak of war being very small, while the period necessary for reaching the maximum productive capacity of the States would be prolonged. The prohibition would not, however, constitute a very great obstacle to preparations for chemical warfare. The substances under discussion can, in fact, be very easily and rapidly produced by manufacturers with the help of raw materials and intermediary compounds widely disseminated in commerce and easily obtainable (thiodiglycol; sulphur chloride and ethylene in the case, for instance, of mustard gas).

In general, the more highly the chemical industry of a country is developed and the better it is organised, the easier it would be to convert intermediary products into compounds exclusively suitable for carrying on chemical warfare. The more highly the chemical industry is developed, the less would production in war time be delayed by a prohibition of the manufacture of the compounds exclusively suitable for chemical warfare.

<sup>1</sup> For Reply to question 1, see page 14, Part IV.

3. *Is it practicable to prohibit the manufacture, importation, exportation or possession of implements and substances capable both of pacific and military utilisation ?*

It is not practicable to prohibit the manufacture, importation, exportation or possession of implements or substances capable both of pacific and military utilisation.

No doubt the armed forces may be prohibited from holding certain stocks of these implements or substances ; but, apart from the fact that stocks are always necessary for the preparation of protection, the prohibition of the possession by the armed forces of certain quantities of those substances which have a dual purpose would be, in practice, ineffective. Indeed; in countries possessing a chemical industry, there would be nothing to prevent the armed forces from requisitioning the stocks of these substances existing in the industrial establishments whenever they wished to commit an aggression.

Attention must again be drawn to the fact that, in a country possessing an important chemical industry, it will always be possible to use chemical weapons ; and chemical warfare can always be rapidly organised, even though no special preparation has been made in peace time. Methods for using poisonous substances can be rapidly adapted ; whenever these substances exist, chemical warfare is easy. Indeed, recourse may be had to shells prepared for charging with explosives or smoke, to bombs ready for charging with smoke, to commercial gas-cylinders, glass, earthenware or metal bottles, ordinary cannon, aeroplanes fitted with apparatus for sky-writing and spraying implements ; the material necessary for chemical warfare is thus ready to hand. *In the case of an industrial country, such warfare can be improvised,* and the speed with which this can be done depends exclusively on the industrial strength of the country.

4. *Can the training of armed forces in the use of chemical weapons be prohibited ? What would be the practical effect of this prohibition ?*

The training of armed forces in the use of chemical weapons can be prohibited, but the practical effect of this prohibition would be very small.

Poisonous shells are the same as explosive shells ; smoke apparatus is the same, whether the fumes are poisonous or not ; compressed-gas cylinders are the same whether they are filled with poisonous or inoffensive gases, such as oxygen used by the health service or hydrogen used by airmen ; the throwing of gas bombs from the air does not differ from the throwing of other projectiles by the same means and, in particular, the throwing of illuminating bombs, which even commercial aviation cannot dispense with ; the spraying of ground can be carried on by men who are not specialists. For all these reasons the troops will be trained for chemical warfare in the normal course of their training.

There still remains the possibility of prohibiting specialised units for chemical warfare as a part of the armed forces. Such troops, which are not required for carrying on chemical warfare, may be necessary for organising protection.

Moreover, as regards the training of troops, training for defence against chemical warfare must not be subject to any prohibition for the reasons already mentioned.

5. *Can the Committee suggest other practical forms of prohibiting the preparation of chemical warfare ?*

The Committee regrets that it cannot suggest any other practical means of prohibiting preparations for chemical warfare.

### **Chapter III. — Police Material : Lachrymatory Substances.**

As stated in the report (document Conf.D.120), the question of lachrymatory substances cannot be treated separately as far as the prohibition of the use of poisonous substances in war time is concerned. But it arises separately in peace time for the following reason. Some States use lachrymatory implements in police operations. They maintain with some justice that, while weapons usually given to the police may cause irreparable damage (death or serious injuries), the use of lachrymatory substances can merely cause inconvenience or temporary pain and nevertheless be equally effective in restoring order. If it is admitted that States can arm their forces as they desire in the exercise of their police functions, it is nevertheless true that such a practice might give rise to abuse, such as actual preparation for chemical warfare. For this reason the Committee is examining the question of lachrymatory substances separately.

The word "lachrymatory" does not correspond to the chemical composition of the substance, but expresses a physiological property. There are, indeed, many kinds of lachrymatory substances of varied chemical composition. Some are particularly poisonous



(chloropicrin, acrolein, etc.), while others have no toxic effects in the conditions under which they have hitherto been used for police operations or experiments in protection. They are used with the particular object of producing a lachrymatory effect. Such substances are benzyl chloride and bromide, chloracetophenone, etc. It might be possible to draw up a list of "non-poisonous lachrymatory substances", but the Committee does not think it advisable to do so, because it cannot state, from the strictly scientific point of view, that compounds designated as non-poisonous might not have dangerous effects under certain conditions of use.

*Should lachrymatory substances be included in the category of substances exclusively suitable for use in chemical warfare?*

Lachrymatory compounds in general are not exclusively suitable for use in chemical warfare, but, as a rule, are industrial products in common use.

There are no special implements for using lachrymatory substances; in particular, the grenades used in police operations are the same as smoke-producing grenades.

This reply governs the reply to the two following questions:

*If so, can they be treated separately? Can such treatment give rise to abuse?*

*Can the limitation of the quantities that may be produced, imported or kept in possession be of practical value?*

Since these substances are not exclusively suitable for chemical warfare, the reply must be in the negative.

*Is it possible to regulate the treatment of lachrymatory substances otherwise than by limiting the quantities that can be manufactured, imported or exported?*

Although the limitation of the quantities manufactured cannot in itself lead to any result, some means must be sought for taking action in regard to the use of lachrymatory substances for police operations. The use of lachrymatory substances for such operations might, indeed, give rise to abuse if, for instance, a State prepared a number of implements charged with lachrymatory substances out of proportion to the real needs of the police.

In order to avoid abuse, the following method may be suggested. A State wishing to use lachrymatory substances should be compelled to inform the Permanent Disarmament Commission. It should state the substances used, the implements which it proposed to employ and their number. The Commission would examine the question whether there was any disproportion between the arms notified and police requirements. To maintain the superiority of the police force over malefactors, it may be better for the information given to remain confidential.

The Committee has learnt that, in some countries, industrial firms manufacture or sell implements or devices charged with lachrymatory substances for the protection of private property. It thinks that in this case the State should remain responsible for its nationals. If private individuals wished to prepare, sell, purchase or possess implements or devices charged with lachrymatory substances it would be desirable that they should declare such intention and not be allowed to carry on this industry and trade or to possess such implements or devices without being subject to regulations laid down by the State.

#### Chapter IV. — Summary and Conclusions.

1. To sum up, the Special Committee is of opinion that:

(a) The prohibition of preparations for chemical warfare must not hinder chemical and pharmacological research lest such prohibition should prevent the growth of human knowledge and the prospects of overcoming the forces of nature and of combating the scourge of disease.

(b) The prohibition must not apply to research work, the preparation, manufacture, importation or exportation of apparatus for giving protection against poisonous substances, the preparation of measures of collective protection, the training of troops and of the population in protective measures against poisonous substances, and therapeutical research in regard to casualties due to poisonous substances, lest such prohibition should give a transgressor a decisive superiority and to increase the temptation to use the chemical arm.

(c) The prohibition must not apply to the manufacture, importation, exportation and possession of implements and substances suitable for legitimate use and capable of employment in chemical warfare, lest such prohibition should place insuperable obstacles in the way of chemical industry and hence of the progress of humanity.

2. The prohibition might apply to the preparation, importation, exportation and possession of substances exclusively suitable for chemical warfare. But this prohibition would be only of limited value. These substances can be easily obtained *by converting ordinary substances*; their manufacture can be improvised by any State possessing a chemical industry, and, the more powerful this industry is, the more quickly can this be done.

3. On the other hand, the Special Committee suggested some measures which it thinks might serve to increase the protection of the civil population and diminish the prospects of success of a possible transgressor State and the temptation for the latter to employ chemical weapons.<sup>1</sup>

## PART II. — SUPERVISION OF THE PROHIBITION OF CHEMICAL WARFARE.

### Chapter I. — Supervision by a Knowledge of Production.

#### SECTION I. — KNOWLEDGE BY MEANS OF STATISTICS.

1. *Can the prohibition of such preparations be supervised by consulting commercial statistics of the movements of chemical industries in all countries?*

The Special Committee does not regard this as an effective means of supervision. A mere consultation of the commercial statistics of the chemical industries in all countries would leave essential elements out of account.

To supervise the prohibition to make preparations for chemical warfare, it would not be sufficient to ascertain the quantity of products manufactured and imported or exported, but information would also have to be obtained with regard to their transformations and final use. Existing stocks would also have to be known, and another important item to be ascertained would be the output capacity of factories.

Commercial statistics, however, contain only very inadequate information, or no information at all, on these points. In addition, they are often published with some delay.

#### SECTION II. — SUPERVISION BY THE INSPECTION OF FACTORIES.

*Can the supervision be exercised by entrusting to national or international bodies the inspection of chemical factories and by having the following data published: the nature of the products manufactured therein, the existing stocks of manufactured products, the output capacity of the factories?*

*Is it sufficient to do this for certain factories? Is such supervision of practical value?*

Supervision such as that referred to here is not inconceivable in theory, but it is objectionable in practice for the reasons set out hereafter.

Some countries have organised for fiscal reasons the supervision of a certain number of chemical products, such as sodium chloride, alcohol, acetic acid, stearic acid, etc. This fiscal supervision makes it possible to watch, not only the manufacture of these products, but also their transport to the place of transformation. It is true that it does not always make it possible to ascertain exactly their final destination. Nevertheless, it may be said that the system works well and gives a rough idea of what happens to the products subject to duty, but such a supervision is not easy. It necessitates the existence of an official body of inspectors permanently present in the factories or authorised to enter them at any moment. Furthermore, the number of products thus supervised, even in countries where the fiscal system is most developed, is comparatively small.

Should it be desired to obtain an idea of the nature and quantity of products utilisable for chemical warfare, of the existing stocks, and of the output capacity of factories, the system of which we have just spoken would have to be generalised. It would be necessary to organise a national supervision over the majority of chemical products; for the possible transformations of these products are such that practically the whole chemical industry would have to be supervised in nearly all its operations, to obey the international regulation.

Naturally, such supervision would completely destroy secrecy in commercial affairs; in many cases, it would lead to the divulcation of manufacturing secrets, to the detriment of the national industry.

If it were desired to entrust supervision to an international body instead of to a national body, the difficulties would be considerable. The chemical factories of the whole world would

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<sup>1</sup> The Netherlands delegation stated that, in its opinion, the following further conclusions should be drawn from the foregoing replies:

(1) Whereas the discussions have shown:

That, on the one hand, the construction of apparatus for the individual protection of the civilian population cannot be kept secret and that, moreover, it is desirable to create standard apparatus;

That, on the other hand, the apparatus for individual protection used in certain industries (and the construction of which cannot therefore be kept secret) are designed to protect the user from the same dangers as military apparatus for individual protection and in principle are of the same type;

The Netherlands delegation is of opinion that, as in the military sphere as a whole, the fullest possible publicity is essential, not only in regard to apparatus for the individual protection of the civilian population, but also in regard to military apparatus.

(2) Furthermore, the Disarmament Commission might collect all possible information on chemical industries under Government control. As regards the private chemical industry, it should see what could be done to supplement that industry's present statistics, in order to follow its degree of development from the point of view of the prohibition of chemical warfare.



have to be inspected by foreign inspectors. Assuming this to be possible, could there be any certainty of effectively preventing all preparations for chemical warfare in this way? It is doubtful. The measures of supervision might be evaded either by the preparation of products similar to those that were really aimed at, or by the formation of stocks of semi-finished products, or by the masking of the real capacity of the factories by the accumulation of spare parts for the plant.

It is therefore reasonable to suppose that, as the proposed system would necessitate an extremely cumbersome organisation, which would be difficult to set on foot and to operate and would be a source of numerous disputes and suspicions, it would not achieve its object.

In any case, nothing that might have been done in peace time could prevent the rapid conversion of chemical industries into war industries as soon as hostilities broke out. Any supervision would therefore have served only to delay the appearance of chemical warfare, and not to prevent it altogether.

## Chapter II. — Supervision by regulating Production.

2. *From what facts will it be possible to deduce that the prohibition to make preparations has been violated?*

FIRST SYSTEM : SUPERVISION BASED ON THE EXISTENCE OF REGULATIONS CONCERNING PRODUCTION.

- (a) *Limitation of the chemical output capacity of States or at any rate of a certain number of States so that the chemical warfare potential of certain States should not be too unequal (quotas, industrial agreements, etc.).*
- (b) *Limitation of the quantities of chemical products in stock. Practical value of this system?*

(a) It should first of all be observed that the industrial power of States as regards chemicals is not the outcome of chance. Originally, the great chemical industries developed near the sources of raw materials, and particularly near mineral deposits—for example, the chlorine and bromine industry near the sea or rocksalt mines, and the dyestuffs near where tar was to be found; *i.e.*, near coal-mines. The inequality of the distribution of deposits among States creates between them an inequality of strength in this respect which is due to nature and not to the will of man.

To endeavour to redress this inequality by limiting the output capacity of countries rich in raw material or possessing other favourable conditions (power in various forms—*e.g.*, hydroelectric stations, labour, etc.) is a difficult undertaking, and it is doubtful whether it is economically desirable.

Furthermore, the big chemical industries are key industries. The majority of chemical products are not finally consumed as such. They are used in other industries which could not subsist without them. That is why certain States, although at a disadvantage from the point of view of raw materials, have developed chemical industries in their own territory, owing to the desire to ensure to some extent their economic independence. The war showed that this form of industrialisation was necessary to safeguard political independence. We therefore think that States would hesitate to give up industries which, even if not very remunerative, are of really vital importance to them. Such are the profound difficulties which at present stand in the way of a redistribution of the chemical industries in the world or the limitation of the chemical output capacity of States.

The industrial agreements concluded up to the present cannot be of much assistance. These agreements relate chiefly to sales abroad; they consist in delimitations of geographical zones reserved to the exports of such and such a member; they relate sometimes to the maximum tonnage that may be offered for sale. They hardly ever touch upon the regulation of domestic markets. In any case, they do not directly limit stocks or output capacity.

It is true that they may, indirectly and in the long run, influence the development of the chemical industry in a country. By limiting that industry's market, they deter it from equipping factories or accumulating stocks which would not be remunerative. But this automatic regulation of output as the result of private agreement does not necessarily apply to products used for chemical warfare.

(b) It is, of course, possible to consider a limitation of the stocks that may be accumulated by States.

This limitation would be possible in the case of substances *exclusively suitable* for chemical warfare. As regards other products, the determination of limits will always be difficult. The necessity of meeting unforeseen demands (changes in dyestuffs dependent on fashion; need for certain fertilisers owing to atmospheric conditions; demand for certain insecticides on the appearance of parasites; provision for seasonal requirements); or, again, the accumulation of substances with a view to placing a new product on the market; or, lastly, the obligation to keep substances which have become useless owing to a technical improvement but for which it is hoped to find a new use—all these are factors that may justify the existence of stocks.

Even at the present time, manufacturers who have the greatest interest in not allowing stocks to accumulate make serious mistakes in estimating the required volume of production. It will therefore be necessary to fix such wide limits for stocks that regulation will probably be inoperative for the purpose aimed at—namely, the prevention of preparations for chemical warfare.



### Chapter III. — Supervision by determining the Character of Production.

SECOND SYSTEM: THE FREEDOM OF MANUFACTURES, IMPORTS AND STOCKS IS, IN PRINCIPLE, COMPLETE, BUT THE INTENTION OF USING THESE SUBSTANCES FOR CHEMICAL WARFARE IS ALONE PROHIBITED.

*From what facts can this intention be deduced ?*

- (a) *From the character of Government intervention in the management of production ?*
- (b) *From abnormally large outputs ?*
- (c) *From abnormal stocks ?*
- (d) *From other facts ?*

*Practical value of this system ?*

It must be recognised that it will always be difficult to discover the intentions of a State wishing to direct its chemical industry towards warlike purposes.

The fact of Government intervention in the management of the chemical industry is not sufficient to prove bellicose intentions. It may encourage this industry in order to make use of the products of its soil, or to induce industry to manufacture products which are useful to the country (chemical fertilisers for an agricultural country, dyestuffs for a country with a big textile industry, arsenic compounds for countries having to fight against tropical diseases, etc.) In doing so, it no doubt increases its war potential—for example, its capacity to produce explosives if it manufactures nitrogenous fertilisers, or to produce poisonous substances if it makes arsenical products ; but how can it be proved that this is its real purpose ?

If the fact of a Government's intervention constitutes no indication of its intentions, can the character of this intervention do so ? It can only do so in a single case—namely, when a Government has substances prepared for its own account which are believed to be exclusively suitable for chemical warfare. Then, no doubt, it could be called upon to prove the legitimacy of its action. It would be more difficult if it confined itself to ordering the preparation, not of the toxic substances themselves, but simply of half-finished products in current use which are of a similar nature. How can it be proved that poisonous substances which are in current industrial use, even if produced in large quantities or stocked in abnormal quantities, are produced with a warlike intention ? It will at most be possible, taking this fact in conjunction with others, to quote it as an indication of preparation for war. Taken by itself, it would not constitute a proof of such preparation.

If we examine the whole series of measures which can be taken to prohibit the preparation of chemical warfare, and to supervise the observance of this prohibition, we cannot but be struck by the extreme difficulty of the problem. In the case of a small number of products, no doubt those which have hitherto been used for chemical warfare only, their manufacture might perhaps be prohibited or supervised. But the value of this supervision would be very limited, since the substances could easily be obtained from other substances in current use. Furthermore, most of the substances suitable for use in chemical warfare are ordinary industrial products, and for the moment nothing can be done about these.

We must therefore have the courage to acknowledge that, if, leaving on one side the question of its moral value, we only consider the purely technical value of the prohibition to prepare chemical warfare, we must conclude that this prohibition is not of much practical effect.

### Chapter IV. — Suggestions regarding Supervision.

#### 3. *Can the Committee suggest other practical forms of supervision ?*

*First suggestion.* — We have seen that one difficulty constantly arises when we come to consider the prohibition and prevention of preparation for chemical warfare.

This preparation may be carried out by private enterprises.

In these circumstances, the State to which the private enterprise belongs might regard itself as discharged from all responsibility. In order to obviate this possibility, it is desirable that no manufacture of or trade in poisonous substances *exclusively* suitable for the conduct of chemical warfare—such as, for instance, dichlorethyl sulphide ( $\text{S}(\text{C}_2\text{H}_5\text{Cl})_2$ ) (commonly called mustard gas), for which no legitimate use is at the moment known, should be permissible without Government authorisation.

Regulations of this kind bearing on various dangerous products already exist in many countries.

*Second suggestion.* — It has been suggested in several quarters that an obstacle might be placed in the way of chemical warfare if penal legislation were introduced in each country providing for the punishment of the authors of the preparation of a prohibited form of warfare—for example, chemists or bacteriologists convicted of preparing chemical or bacteriological weapons. This proposal is interconnected with the question of supervision in general, which is not within this Special Committee's province.

*Third suggestion* (which did not meet with the unanimous approval of the Drafting Committee). — Without going so far as this, several members of the Committee thought that a kind of stigma involving the prohibition to practice their profession might be attached to those engaging in work aimed at the preparation of chemical or bacteriological warfare. As regards chemistry in particular, a "society of chemists" might be constituted in each country on the model of the medical associations or law societies which already exist in certain countries. All chemists should compulsorily belong to this society. Among the professional rules would be the prohibition to prepare for war by means of poisonous substances, and those failing to observe this rule would be expelled from the society, the reason for the expulsion being made public.

The Special Committee noted that this was a suggestion on which it was very difficult to form an opinion, and that it raised a number of moral, political and administrative questions which did not come within the Committee's province and were, moreover, interconnected with the general question of supervision.

#### RECOMMENDATION.

The Special Committee recommends that the Committee for the Regulation of the Trade in, and Private and State Manufacture of, Arms and Implements of War should bear the work of the Special Committee in mind when dealing with the question of preparation for chemical warfare.

### PART III. — PROHIBITION OF PREPARATION FOR INCENDIARY WARFARE.

1. *Is it practicable to prohibit the manufacture, importation, exportation and possession of implements and substances exclusively suitable for use in incendiary warfare?*

(a) *Are there such implements and substances?*

(b) *What are they?*

The case of incendiary implements and that of incendiary substances must be examined separately.

#### I. IMPLEMENTS.

(1) *Implements directed against persons.* — These are known as flame-projectors. They have not only a military use, but also another, though somewhat limited, use in destroying locusts.

The structure of these implements is such that they are very similar to apparatus used for legitimate purposes. For example, certain fire-extinguishers can, with slight modifications, be used as flame-projectors. In the same way, smoke-producing apparatus may be turned into flame-projectors.

(2) *Implements directed against material.* — There are *specifically incendiary* shells and bombs. Such are the projectiles which utilise aluminothermy.

There are also smoke-producing shells which, in certain conditions, can produce direct incendiary effects.

#### II. SUBSTANCES.

There are no substances exclusively used for incendiary warfare. Incendiary substances consist of current industrial products.

(c) *Are they of genuine importance?*

*If the above-mentioned prohibition can be pronounced, would this constitute an effective obstacle to the preparation of chemical warfare?*

It is possible and practicable to prohibit the manufacture, possession, importation or exportation of incendiary projectiles. As is stated in document Conf. D.120, this prohibition should not apply to "projectiles specially constructed to give light or to be luminous and generally to pyrotechnics not intended to cause fires, or to projectiles of all kinds capable of producing incendiary effects accidentally, or to projectiles designed specifically for defence against aircraft, provided that they are used exclusively for that purpose".

This prohibition would constitute an effective obstacle to the preparation of incendiary warfare; but it would not prevent belligerents, once hostilities had begun, from rapidly resorting to this type of warfare, for the implements in question are easy to construct and the substances can rapidly be manufactured.

2. *Is it practicable to prohibit the manufacture, importation, exportation or possession of implements and substances capable both of pacific and military utilisation?*

It is not practicable to prohibit the manufacture, possession, importation or exportation of incendiary substances, since these substances can be used for numerous purposes.

It is possible to prohibit the manufacture of flame-projectors; but, in practice, it is impossible to define such apparatus.

3. *Can the training of armed forces in the use of incendiary weapons be prohibited? What would be the practical effect of this prohibition?*

The training of armed forces in the use of incendiary weapons can be prohibited. But training in bomb-throwing is the same, whether the bombs are incendiary or not, and there is therefore no special training for the latter purpose. Training in the handling of flame-projectors is hardly necessary, for they are very simple implements. Hence the proposed prohibition would have very little practical effect.

4. *Can the Committee suggest other practical forms of prohibiting the preparation of incendiary warfare?*

The Committee regrets that it is unable to suggest other practical means of ensuring the prohibition of preparations for incendiary warfare. In its opinion, the only practical measure which can be taken in this sphere is the prohibition to manufacture, possess, import or export incendiary projectiles as defined above, with the exception stipulated in the document already mentioned (document Conf.D.120).

Needless to say, all measures for collective protection against fire are indispensable, and cannot be prohibited.

#### PART IV. — PROHIBITION OF PREPARATION FOR BACTERIAL WARFARE.

*How can preparations for bacteriological warfare be prevented?*

In practice, it is not possible to prevent preparations for bacteriological warfare. The Committee considers that this reply calls for the following explanations:

1. The problem of bacteriological warfare is entirely different from that of chemical warfare. Chemical warfare is known to us from actual experience; bacteriological warfare, on the other hand, is a hypothesis. Nor are there any results of laboratory experiments on which knowledge can be based. The behaviour of pathogenic microbes intentionally transported from the laboratory to natural media is practically unknown to us. It must nevertheless be admitted that such warfare is possible. Furthermore, we can only imagine what it would represent and how it could be prepared, and deduce from such suppositions possible methods of defence.

2. Bacteriological warfare might be combated with the greatest prospects of success in a country with a high standard of public health. The organisation of a suitable health service in time of peace represents the most effective means of defence against bacteriological infection. It is, however, impossible to guarantee that a health service, however perfectly organised, could unfailingly master all the epidemics which might be disseminated.

We wish to draw special attention to the fact that, after causing an epidemic, a country would speedily lose control of it, and itself run serious risks.

3. We are not at present in a position to subject bacteriological research to effective supervision. Virulent bacteria, such as might cause epidemics, are to be found in all bacteriological laboratories (both public and private), and also in hospitals treating contagious diseases. There can be no question of hindering the progress of medical bacteriology, the objects of which are humanitarian (the preparation of sera, vaccines, etc.), by supervising and restricting experiments with virulent cultures. Such supervision, moreover, would never be complete, and therefore always ineffective.

4. The Permanent Disarmament Commission should not lose sight of the possible danger of bacteriological warfare.



## Head II.

### ESTABLISHMENT OF THE FACT OF THE USE OF CHEMICAL, INCENDIARY, OR BACTERIAL WEAPONS.<sup>1</sup>

#### PART I. — ESTABLISHMENT OF THE FACT OF THE USE OF CHEMICAL OR INCENDIARY WEAPONS.

##### Chapter I. — General Considerations.

In view of the serious consequences involved, the establishment of the fact of a breach of the prohibition to use chemical or incendiary weapons should satisfy a number of conditions :

1. It should be *extremely rapid*, and, if possible, almost instantaneous, for the following main reasons :

(a) The offending State should not derive substantial military advantages, or even perhaps a decisive superiority, from a tardy imposition of penalties due to delay in establishing the facts ;

(b) Certain substances, like chloropicrin, brominated ketones, etc., leave traces on the ground for only a relatively short space of time (a few hours at the most) ;

(c) There are other volatile substances, like phosgene, the use of which can only be proved by medical examination of the victims. Such examination would have to be made with the least possible delay and before certain clinical or anatomo-pathological phenomena had disappeared or undergone transformation. The effects of lachrymatory substances disappear immediately.

2. The facts should be established by *persons or bodies offering the greatest possible guarantees of impartiality* so as to carry weight with all Governments and with public opinion. It would seem advisable to put this operation under the direction of the Permanent Disarmament Commission ;<sup>2</sup> the persons or organisations responsible for the work should act in the name of, and have to report to, the said Commission, even if they had not been directly appointed by it.

3. The facts should be established by *persons possessing indisputable qualifications and approved moral worth* who, in the discharge of their international mission, should be given the fullest support of international institutions and of the authorities both of the country alleged to be attacked and of the country alleged to be the offender, and, if necessary, of other countries.

To ensure that the above three conditions are satisfied, the procedure for the establishment of the facts of a breach should be *settled beforehand* on practical lines, but the technical machinery thus established should neither be complicated nor rigid.

We will first deal with the questions relating to the organisations responsible for establishing the fact of a breach and then discuss those relating to procedure.

##### Chapter II. — Organs responsible for establishing the Facts.

###### QUESTIONS 2, 3 AND 4.

*Who should determine the breach ? Should specialised experts be compulsorily attached to the authority responsible for determining the breach ? Should these experts be designated in advance ? Should two expert investigators be provided for—viz., by the experts of the country attacked and by international experts appointed in advance ?*

A. The Permanent Disarmament Commission is not as a rule in a position itself to determine with the necessary speed whether a breach has been committed. Provision should therefore be made for a *commission for urgent initial investigation*, whose normal duty it would be to collect forthwith the available evidence, with a view to the ultimate decision as to whether a breach has been committed.

<sup>1</sup> The Special Committee has studied separately the problem of establishing the facts in regard to the use of chemical and incendiary weapons on the one hand, and in regard to bacteriological weapons on the other.

<sup>2</sup> The tasks of the Permanent Commission not yet having been fully defined, any proposal must be understood as being subject to the final attributions which the Conference may assign to this Commission within the general framework of the Convention and of any decisions which may be taken with regard to the questions of supervision and the establishment of facts.

Proofs which the aggrieved party may have had collected by its own experts at the actual time of the attack, or immediately afterwards, have only an *ex parte* character and serve rather to justify the complaint. The aggrieved party should therefore be in a position to have the fact of the use of chemical or incendiary weapons by the other party established without delay by qualified persons already in or near its territory.

1. It would be possible, with a view to prompt action, to entrust the duty of making the first urgent investigations to some person nominated in peace time by the Permanent Commission to direct the work of a Commission of Enquiry. Alternatively, if a Supervisory Commission had already been sent into the country in pursuance of Article 4 of the *General Convention to improve the Means for preventing War*, the State on whose territory the Commission already was might agree to an extension of its powers as defined and limited by Article 4, paragraphs 1 and 4, of that Convention. As a third alternative, the Permanent Disarmament Commission might already have accredited to the States between which hostilities had broken out, certain qualified representatives to whom it would naturally fall to carry out the urgent initial investigations. Such persons, if not themselves qualified experts, would appeal to qualified experts under the conditions proposed in No. 3 below.

If such is not the case, the State attacked must know to whom it should apply to have the fact of a breach of the prohibition to use chemical or incendiary weapons established. It is accordingly necessary to agree to entrust the duty of making the first urgent investigations to the doyen of the Diplomatic Corps, or failing him the senior ranking diplomatic representative, because, in the first place, such a diplomatic representative is on the spot and can take prompt action as an *ex officio* representative of the Permanent Disarmament Commission, while, in the second place, being accredited to the country, he can act without giving offence to anyone.

2. The doyen of the Diplomatic Corps or his substitute would call upon persons of a nationality other than that of the countries concerned: military, naval or air attachés, members of the diplomatic corps or foreign consuls *de carrière*. The special duties of these military attachés or foreign consuls would be not merely to ensure the impartiality of the enquiry, irrespective of the nationality of the technical experts co-opted, but also to give their views on the military, economic or moral consequences resulting from the illicit use of chemical or incendiary weapons.

For both these reasons, the participation of the qualified representative of a Power not party to the dispute to whom the country accused would entrust the interests of its nationals seems to be highly desirable.

Is it necessary to draw up a nominal roll or roster of the military attachés or consuls who could be called in by the doyen of the Diplomatic Corps, and should it be deposited with the latter? It would seem that the reply to this question should be in the negative; excessive rigidity would impair, rather than promote, the rapidity of the investigations. In any event, if a list is to be compiled beforehand, this should be done by the special section of the Permanent Disarmament Commission, which would keep it up-to-date and communicate it to the doyen of the Diplomatic Corps accredited to each country, together with the list referred to in the next paragraph.

3. The need in every case for calling in specialist experts—chemists, biologists, doctors, etc.)—has been disputed by one delegation as calculated to render cumbersome an organisation which should be essentially elastic. It is true that, in certain obvious cases—*e.g.*, mass infection of an area by mustard gas—it might conceivably be less essential to have the assistance of qualified specialists. The general rule to be laid down, however, should be quite different. In order that the initial urgent establishment of the facts—in any case, a very difficult matter—should possess the necessary weight and authority, specialist experts should be called in.

These experts should be international and appointed in advance.

When he receives a complaint from the Government to which he is accredited, the doyen of the Diplomatic Corps or his substitute should therefore first notify technical experts of a nationality other than that of the opposing Powers residing in countries adjacent to the complainant State. He will explain to these experts selected by him from a list of names (consisting partly of persons nominated on personal grounds, partly of nominees of scientific institutions) compiled and transmitted to him beforehand, the nature of the mission to be carried out and the place to which they must proceed with the utmost speed. To save time, the message will be sent through the representatives and the Government of the country where each of the technical experts in question resides. The latter should be requested to state immediately whether they can or cannot answer the summons.

If he thinks it impossible to secure sufficiently promptly the assistance of the experts referred to in the previous paragraph, the doyen of the Diplomatic Corps may appeal to technical experts residing in the territory of the complainant State, selecting them from among the foreign technical experts resident in that country who are included in the list in his possession.

Lastly, if there are no foreign technical experts immediately available, the doyen may call upon chemists, biologists or doctors, nationals of the complainant country who, on account of their technical qualifications and high moral standing, appear on the list compiled beforehand by the Permanent Disarmament Commission.

It should be the duty of the Permanent Disarmament Commission to constitute, either direct or through the special section, a panel of experts qualified to make investigations, should occasion arise, in order to determine whether a breach has been committed.



The lists prepared beforehand very carefully, country by country, and brought up to date at intervals, should in principle be lists of names. The Permanent Commission should, however, be empowered to designate certain well-known scientific institutions which will be called upon to send one of their collaborators immediately the doyen of the Diplomatic Corps makes the request, so as to prevent any breakdown in the operation of the organ for urgent initial investigation.

4. One delegation suggested that instead of military or diplomatic officials, the Commission should also include legal experts with experience in establishing material facts in criminal investigations on the basis of legal principles.

In view of the grave nature of the accusation, and of its consequences if it is proved, the presence of a magistrate or legal authority experienced in conducting criminal investigations would be extremely valuable. It would therefore be highly desirable that the doyen of the Diplomatic Corps should be able to enlist the services of such persons and to include them in the Commission. As, however, it is difficult to bring in qualified legal experts from abroad at short notice, and as, also, every reliance can be placed on technical experts accustomed to take samples or make analyses for the law courts, it is impossible to lay down as a rule that the doyen of the Diplomatic Corps must include a magistrate in the Commission.

B. A reply has already been given to the question of the double expert opinion given by the experts of the country attacked and by international experts appointed beforehand (see A, paragraph 2 above).

The Permanent Disarmament Commission should not be required to have two expert investigations made by international experts directly selected by it.

As the first determination of a breach made on the complaint of the country attacked bears from the very outset an international character, two expert investigations are not, in principle, necessary.

It should, however, be possible for the Permanent Commission to institute a supplementary investigation, since it would be the Commission's duty to declare whether a breach has or has not been committed. If the first findings be impracticable on the territory of the State attacked, or if they should be insufficiently conclusive or be seriously invalidated by data collected in the country alleged to have committed the breach or submitted by that country in its defence, the Commission would be entitled to seek information by every means at its disposal.

### Chapter III. — Procedure for establishing the Fact of a Breach.<sup>1</sup>

#### QUESTIONS 1 AND 5.

*How should the determination of a breach be technically organised? How should the determination of the breach be organised so that it should take place as rapidly as possible?*

A. The country claiming that chemical or incendiary weapons have been used by its opponent will immediately notify the Permanent Commission and simultaneously apply to the person entrusted with the duty of making the first urgent investigations.

It will have to take all the necessary steps to enable the Commissioners to discharge their duties and, in particular, supply them with all evidence it may be able to collect and preserve before or since the complaint was lodged, for instance, depositions, reports and facts ascertained by its own technical experts, material evidence such as apparatus, contaminated clothing, bodies of victims, substances seized, etc. It should also take into account the evidence of foreigners, particularly of military attachés who were in the neighbourhood of the place where the prohibited weapons were used, and which these authorities may have taken before the Commission's arrival.

It should appoint one or more officials who should hold themselves at the Commission's disposal and who should bear written instructions giving them every right to requisition the help of civil and military authorities and secure the Commissioners' access to any place it may be necessary for them to visit in the discharge of their mission.

B. The Commissions for Urgent Initial Investigation instructed to proceed to territory under the *de jure* or *de facto* authority of the complainant State will be regarded as investigating bodies.

The Commissioners should therefore have the right and the duty to verify all the facts set forth in the complaint as constituting the use of the prohibited chemical or incendiary weapons, their effects on persons and objects and also their military, economic or moral consequences. They should also have the right, *ex officio*, to take note of any other breaches of the same nature that may have been committed prior or subsequently to the initial complaint as well as to their consequences.

For this purpose, they should accept all documents and statements; they should conduct interrogatories of witnesses or victims, examine victims and take samples of all articles the state or composition of which would be likely to throw light on the facts and the nature of the means used in violation of the prohibition.

The necessary analyses may be carried out by members of the Commissions in the establishments or laboratories which the complainant State must place at their disposal. It is desirable, however, that the Commissions should be empowered to have the analyses

<sup>1</sup> See the reservation on page 15 with regard to the function of the Permanent Disarmament Commission.



made in a State not directly concerned in the dispute if they think it necessary in order to ensure the rapidity and efficiency of the investigation.

The Commission for Urgent Initial Investigation should send a report to the Permanent Commission and should notify the latter even before the termination of its mission should circumstances arise making the carrying out of its mission difficult or impossible or should it already have secured evidence of serious facts necessitating urgent action.

C. On receiving a complaint, the Permanent Disarmament Commission should immediately notify the State which has been accused, or any other State that might be held responsible. It should invite it to give all necessary explanations, and should remind both the complainant and accused States of the prohibition to use chemical or incendiary weapons and of the consequences of any breach of this prohibition.

The Commission should be empowered to proceed to any measure of investigation into the facts constituting a breach as under paragraph B above, whether on the territory under the *de jure* or *de facto* authority of the complainant State, or on territory under the *de jure* or *de facto* authority of the State accused or of the State that may be held responsible. It should be entitled, in particular, to entrust the holding of an additional investigation or counter investigation to Commissioners directly appointed by it or to appoint additional members to the Commission for Urgent Initial Investigation.

D. When a complaint has been lodged with the Permanent Commission, it should be the right and the duty of the State or States which have been accused or may be held responsible to supply the Commission at the earliest possible moment with all explanations of the facts reported in the complaint or ascertained subsequently. Further, if they have been notified of the despatch of Commissioners they should take all the necessary measures to help the latter to carry out their mission. They should see that the public authorities or inhabitants of the country in no way obstruct the operations of the Commission. They should, in particular, appoint one or more officials who should be constantly at the Commissioners' disposal and who should bear written instructions empowering them to requisition the protection and help of the military or civil authorities both for their investigations carried out on the spot (for example, battlefields, hospitals, military parks and works, factories, laboratories, etc.) or in their scientific researches (for example, taking of samples, analyses, etc.).

E. Quite apart from the rules already suggested regarding investigating bodies and methods of establishing the fact of a breach, the following principle might be laid down. All States parties to the Convention prohibiting the use of chemical or incendiary weapons, and the complainant or accused States in particular, should give the most definite undertakings that they will arrange or afford every facility for the speediest form of transport (aeroplanes, boats, railways, motor-cars) for the staff of investigating commissions and for communications of all kinds (by telegraph, telephone, wireless, mail, etc.) between the Permanent Commission and the persons or bodies responsible for establishing the facts and also between the doyen of the Diplomatic Corps accredited to a country and the experts invited by him.

Experts and commissioners should also enjoy the necessary diplomatic immunity.

In the case of States not directly involved, the above undertaking must be supplemented as follows :

They should forward with the utmost urgency to experts resident in their territory the summons sent through them by the doyen of the Diplomatic Corps or the Permanent Disarmament Commission and the reply of the said experts. They should supply the latter with the speediest forms of transport. Lastly, pending the receipt of the diplomatic passports or visas and other official papers to be issued through the Disarmament Commission, they should immediately give the experts thus invited a document confirming their status and enabling them to start forthwith.

On the request of a Commission for Urgent Initial Investigation or of the Permanent Commission, the same countries should place such services of their scientific laboratories or health establishments at the Commission's disposal as may be necessary for rapid and effective investigations.

F. It should be the duty of the Permanent Disarmament Commission to establish the fact of the use of chemical or incendiary weapons by a declaration to that effect as soon as possible.

The proceedings and the declaration to be made by the Commission raise certain questions which have not been referred to the Special Committee—viz. : (1) What authority at the seat of the Permanent Commission is qualified, on behalf of that Commission, to receive the complaint, notify the State alleged to be the offender and order the first measures of investigation ? (2) What part should be played by the complainant State and by the accused State in the Commission's proceedings ? (3) What part will they take in the issue of the declaration ?

Apparently these questions will have to be decided together with those concerning the organisation and operation of the Permanent Commission generally ; account, however, should be taken of the conditions of special urgency and gravity under which the Permanent Commission will here be called upon to act.

G. In view of the great importance of the procedure for establishing the fact of a breach and in order to prevent any harmful delay, it would be desirable to draw up regulations facilitating the application of that procedure.

## PART II. — ESTABLISHMENT OF THE FACT OF THE USE OF BACTERIAL WEAPONS.

### Chapter I. — General Considerations.

In case of resort by a State to the use of bacteriological weapons, the establishment of the fact of infringement should fulfil the same conditions of speed, impartiality and competence as the establishment of recourse to chemical or incendiary weapons.

It may simply be observed that here the necessary establishment of the fact of infection is particularly urgent, not only in order that effective measures may be taken against epidemic contamination, but particularly in order to discover any evidence establishing the *deliberate* character of the contamination and to determine the persons who have taken part in the prohibited acts on behalf of a State at war.

The difficulties of this investigation are, moreover, greatly aggravated by the fact that the effect of a bacteriological contamination does not make itself felt until the end of the period of incubation and that a deliberate attempt at contamination is not necessarily successful.

### Chapter II. — Organs and Procedure for establishing the Facts.

In principle, the constitution of the organs for establishing the facts and their operation should be the same as in the case of the use of chemical or incendiary warfare.

Nevertheless, technical experts qualified to act on the Commission for Urgent Initial Investigation or appointed by the Permanent Disarmament Commission might with advantage be "clinical doctors, veterinary surgeons, biologists and bacteriologists".

Moreover, the regulations laid down to facilitate the application of the procedure of establishing the facts should be adapted to the particular case of bacteriological warfare.

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## Head III.

### PENALTIES FOR THE USE OF CHEMICAL, INCENDIARY, OR BACTERIAL WEAPONS.

The Special Committee, in view of the fact that the problem of the effects of the establishment of the fact of a breach is the same as regards the use of bacteriological weapons and as regards the use of chemical or incendiary weapons, except in the matter of possible reprisals in the same form, did not consider it necessary to deal separately with these two aspects of the problem.

#### ONLY QUESTION.

*Has the Technical Committee any suggestions to make as regards the penalties to be applied to a State committing a breach of the Convention?*

### Chapter I. — General Considerations.

In accordance with the observation of the Chairman of the Committee, the term "penalties" should be understood in the widest possible sense. It actually includes the measures of any kind to be specified in the General Convention which are applicable in the event of a breach of the provisions concerning the prohibition of the use of chemical, incendiary and bacteriological weapons, whether these relate to general measures applicable in common to all breaches of the Convention or to the "special measures" laid down in the resolution of the General Commission of the Conference, dated July 23rd, 1932, under Head III, No. 5, Violations, to supplement "the rules of international law" to be formulated in connection with chemical, incendiary and bacterial warfare.

In that case, those "special measures" are essential; for a State that resorts to war in breach of the Covenant and Pact is already exposed to the general measures provided for against an aggressor, and, if there are no special measures in case it uses prohibited weapons, it will be to its interest to use them, as the risk will be no greater.

The Committee realises that the subject of "sanctions" is primarily political in character. However, in the consideration of purely technical features of sanctions for the violation of the prohibition of chemical, incendiary or bacterial warfare, the Committee was faced with



the very real difficulty of clearly differentiating between the political and technical phases of the matter, because purely technical considerations may have a political implication, and purely political measures in this regard may have involved technical phases. It would be highly desirable to have the basic political questions first determined by the competent body and then study the technical questions arising therefrom ; but, since the question of technical considerations of sanctions has risen, the Committee puts forward the suggestions appearing in Chapters II to V in the hope that they may afford some measure of assistance to the Bureau in its consideration of this question.

## **Chapter II. — Technical Measures of Assistance to the State attacked, with a View to Protection.**

1. It is suggested that the most effective sanction against the violation of the prohibition of chemical, incendiary or bacterial warfare, in order to make good, mitigate or prevent the effects of such attack, would be an undertaking to place the resources of the chemical industry of the world, as well as the laboratories and technical, professional and scientific personnel at the disposition of the State attacked.

It is possible that the apparatus for individual protection at the disposal of the State attacked (such as masks, protective clothing) may prove inadequate in the event of a large-scale attack, or an attack made with the use of newly-invented toxic substances or substances used for the first time for this purpose ; or again, competent chemists and doctors may not be available ; lastly, the necessary disinfecting material and disinfectants and the specific remedies may be lacking.

If the principle of assistance were accepted, its general conditions might be laid down in the Convention, and preparations for the granting of assistance might be entrusted to the International Information and Documentation Service for Protection against Chemical Weapons, the establishment of which is contemplated in this report. Provision should be made, either in the Convention or in the executive Regulations, for the constitution of a suitable body, due regard being had, *inter alia*, to the nature of the requirements to be met, to the speed with which each State could furnish assistance and to the efficacy of such assistance.

In this connection, it is to be noted that the above measures, if not organised on a universal basis, might be provided for on a regional or continental basis. It is to be noted, however, that in the Committee's opinion, the measures would lose much of their efficacy.

The Committee had before it the question whether assistance should be granted free of cost to the States attacked, but it felt unable to discuss this matter, as being outside its terms of reference. The question is therefore merely noted in the present report.

2. It is possible that a State may not be in a position to furnish to the attacked State its share of the necessary scientific, medical and technical assistance. The Committee feels bound to bring to the notice of the Conference the question whether, in such a case, the State concerned should not be asked to make a financial contribution to be specially allocated to the treatment of the victims of chemical, incendiary or bacteriological warfare, and protection against such warfare.

3. As regards measures, the object of which might be to deprive the guilty State of the advantages of any kind which it may have obtained by the use of the prohibited weapons, these are mainly of a political nature. Their technical aspect (dispatch of technicians and material to the State attacked) must be examined in Chapter IV, 1.

## **Chapter III. — Technical Measures, the Object of which is to make the Guilty State unable or unwilling to continue to use the Illicit Weapon.**

These measures of pressure contemplated in the report (document Conf.D.142), varying from mere diplomatic representations to military measures, are mainly of a political nature. This also applies to economic measures, such as the breaking off of commercial and financial relations between the signatory States, their nationals or residents, and the guilty State, its nationals or residents.

However, there is one technical suggestion which deserves to be considered : *The stoppage of supplies to the guilty State of raw materials, products and appliances necessary for chemical, incendiary and bacteriological warfare* has been proposed as an initial technical measure with a view to paralysing or restricting chemical or incendiary warfare.

For instance, as regards the manufacture of toxic substances, certain materials used, such as sulphur, arsenic, bromine and iodine are very unequally distributed throughout the world.

In certain cases, the prohibition to dispatch raw materials, products and appliances necessary for chemical or incendiary warfare would hamper the continuance of that warfare.

However, this prohibition would be quite ineffective as regards bacteriological warfare and its effects would be very limited as regards incendiary warfare. Even where chemical warfare is concerned, no rapid or even practical effect could be expected of this action if the guilty State possessed a highly developed chemical industry. In addition to its own supplies, such a State might collect in advance considerable stocks of raw material from abroad, and might also find substitutes or manufacture other poisonous gases or liquids.



#### Chapter IV. — Technical Aspect of Reprisals.

The Special Committee is not called upon to examine as a whole the problem of reprisals—*i.e.*, of the retaliatory use of chemical or incendiary weapons, excluding all retaliation by use of bacteriological weapons or of the prohibition of such retaliation, but it has received suggestions with regard to its examination from the technical aspect. In this connection, three questions should be studied :

1. *If the Convention admitted the possibility of individual reprisals of a chemical or incendiary nature (to the exclusion of any use of the bacteriological weapon) to be exercised by the attacked State against the State guilty of such use, would this admission involve a preparation for chemical or incendiary warfare in peace time, in contradiction with the aim pursued by the Conference ?*

It has been proved that a large number of chemical manufactures intended for war can be improvised by a country having a well-equipped chemical industry and varied stocks of substances. Indeed, it is for this reason that the technical supervision of the prohibition of preparations for chemical or incendiary warfare is so difficult and possibly wholly ineffective.

As, however, the installation and starting up of the manufacture of certain toxic substances on a large scale requires a certain time, a country which confines itself to preparing reprisals *after* the chemical or incendiary aggression which it has suffered will undoubtedly be, at any rate at first, in a position of inferiority in regard to its adversary—other things being equal, of course. It may thus be feared that each country will be tempted to proceed in advance to studies and preparations for chemical or incendiary warfare with a view to possible reprisals. This result would, however, be contrary to the aim pursued by the Conference.

The Special Committee cannot therefore give a negative technical reply to the question raised, unless two other factors are brought into play to eliminate any temptation to prepare in advance for chemical or incendiary reprisals, *viz* :

(a) These reprisals and this preparation could never begin until a breach of the prohibition had been officially established. Should the establishment of this breach suffice, or would a special authorisation of the Commission be necessary ? This is a political question on which it is not for the Committee to make any suggestions.

(b) To make up for the technical handicap imposed on the State attacked as a result of having observed the prohibition to make preparations in advance for individual reprisals, the *technical assistance* of the other States would be necessary from the moment this preparation had become licit. This technical support might consist in sending to the State attacked technical experts and supplies likely to hasten and assist individual reprisals.

2. *If the Convention entertained the possibility of collective reprisals by chemical or incendiary weapons what would be the position of the transgressor State ?*

Natural resources and the chemical industry are so distributed throughout the world that it is certain that the transgressor State would necessarily be in a state of technical inferiority if the countries not directly affected agreed to apply collective reprisals by means of chemical or incendiary weapons.

3. *If the Convention precluded the possibility of all collective reprisals with chemical or incendiary weapons, what would be the position of the transgressor State ?*

It cannot be asserted that the transgressor State would always be assured of final superiority. But, in view of the enormous importance assumed by chemical weapons in the last period of the world war and the progress made by science since, there can be no doubt that a State endowed with abundant natural resources and a strong chemical industry would derive immediate advantages, either from a large scale employment of chemical or incendiary weapons or even from their restricted use against specially selected objectives, such as capital cities, electrical power stations, key factories. These advantages might be such as to hinder or even paralyse the means of defence possessed by the State attacked and by States co-operating in collective measures.

The temptation for a country to have recourse to prohibited arms would be considerably increased if it knew in advance that it was safe from any individual or collective reprisals of a chemical and incendiary nature and if, further, it had no reason to apprehend that all the other States would range themselves against it, despite their technical inferiority on this point.

#### Chapter V. — Suggestion with a View to hastening the Practical Application of Penalties as soon as the Fact of a Breach has been established.

Several delegations put forward the idea that the period elapsing between the date on which a State which had been the victim of the use of an illicit weapon had laid its complaint before the Permanent Disarmament Commission and that on which the Commission established the fact that a breach had been committed should be made use of by the Commission for preparatory measures to be taken in view of the possible application of penalties.



Provision should no doubt be made for the Permanent Disarmament Commission to be authorised to take in advance any preparatory steps which might be necessary to ensure the application of its decisions. But, however thorough this preliminary preparation, it could not be sufficiently precise as long as it was carried out on the theoretical plane. Once an accusation had been brought by one State against another, however, the facts adduced in support of the complaint would bring the Commission face to face—even before the facts had been finally verified—with certain definite or at any rate concrete eventualities and corresponding responsibilities.

In the Special Committee's opinion, the members of the Permanent Commission present at its headquarters should therefore, on receiving a complaint, summon all the competent organs, so that the arrangements provided for the case of an infringement of the prohibition should be brought into play immediately the fact of a breach had been established.

#### **Chapter VI. — Conclusions regarding Penalties.**

The Committee has now to estimate the practical value of the positive suggestions and observations it has put forward, while remaining within the bounds of its purely technical task.

1. These suggestions may be of genuine technical efficacy as regards assistance of a scientific, medical or technical nature which might be provided for the protection of a State which was a victim of a chemical, incendiary or bacteriological attack.

2. The effects of measures intended to deprive the guilty State of the technical means or of the desire to continue to use the illicit weapon, consisting in the stoppage of external supplies necessary for chemical or incendiary warfare would be very limited and in any case belated.

3. As regards the question of reprisals, the following technical conclusions were reached :

(a) The recognition of the right of individual reprisals would compromise the prohibition to make preparations for chemical or incendiary warfare, unless, on the one hand, the preparation of such reprisals was made conditional on the previous establishment of the fact of infringement, and, on the other hand, the victim State was assured of concrete assistance from other States in making the said preparations, in order to compensate for its technical inferiority.

(b) There can be no doubt that the transgressor State would necessarily be in a position of technical inferiority if the countries not directly concerned agreed to exert collective reprisals by means of chemical or incendiary weapons.

(c) In the event of the Convention excluding all reprisals, even collective reprisals, it cannot be asserted that the transgressor State would always be assured of final superiority, but its position would be considerably strengthened. It could derive very important advantages from the use of chemical weapons. The temptation for such a State to have recourse to forbidden weapons would be much greater if it knew in advance that it was safe from any individual or collective retaliation.

4. From every point of view, it would be desirable for the Permanent Disarmament Commission and the States signatories of the Convention to avail themselves of the short period elapsing between the submission of a complaint by a State and the establishment of the fact of a breach to make preparations with a view to the possible application of penalties.

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### **GENERAL CONCLUSIONS OF THE REPORT OF THE SPECIAL COMMITTEE.**

(Replies to the Questionnaire submitted by the Bureau to the Committee (Conf.D./Bureau 30/I.A.C.B.24).)

#### **A. Prohibition of Chemical, Incendiary and Bacterial Warfare.**

##### **I. DEFENSIVE MATERIAL.**

1. Protection against the effects of chemical weapons involves the employment of individual protective devices (masks, protective clothing, etc.).

In practice, neither the preparation of these devices nor the supervision of such preparation can be entrusted to an international body.

2. The preparation of means of collective protection (underground shelters, etc.) is an essential means of defence against chemical warfare. Such preparatory work cannot in practice be governed by an international convention, nor can it be submitted to the technical supervision of an international body.

3. The testing of protective material involves the employment of poisonous substances though in quantities insufficient for purposes of military action. There is a risk that any obligation to publish the quantities of poisonous substances produced for this purpose or the limitation of such quantities would fail in its object since it would leave out of account the

experiments carried out by private industry on its own initiative. For the same reason, only a very partial idea of the work done for protection against poisons and its results would be obtained by imposing the obligation to publish the results of experiments (see the short note inserted in the report at the request of the Netherlands on page 10).

4. The preparation of measures of treatment to be given to the victims of chemical warfare cannot give rise to malpractices.

Certain protective devices—*e.g.*, masks—could be submitted to a technical examination by an international body. It would be possible to set up as a technical organ of the Permanent Disarmament Commission<sup>1</sup> an international information and documentation service regarding protection against chemical warfare.

## II. OFFENSIVE MATERIAL.

### (a) *Chemical Warfare.*

2. It would be possible to prohibit manufacture, the import and the possession of apparatus and substances exclusively used for chemical warfare, but such a prohibition would be of only limited value. The manufacture of those substances, which, during the war, were of considerable importance, can be improvised by any State possessing a chemical industry.

There are no projectiles or means of projection which are exclusively employed for carrying on chemical warfare.

3. It is not possible to prohibit the manufacture, import, export or possession of apparatus and substances capable of employment both for peaceful and for warlike purposes. Any such prohibition imposed upon a State would either be ineffective in practice, in view of the stocks held in industrial establishments, or it would inflict irreparable damage on the chemical industry.

As regards limitation of stocks see below under B, 2.

4. It would be possible to prohibit the training of armed forces in the use of chemical weapons, but the practical effect of such a prohibition would be very small as the material used for chemical warfare is not of a specialised character.

5. The Committee regrets that it is unable to suggest any other practical measures to enforce the prohibition of the preparation for chemical warfare.

*Appendix: Special Case of Lachrymatory Substances.* — Lachrymatory substances do not come within the category of substances exclusively employed for purposes of chemical warfare.

It might be possible to request any State desirous of employing lachrymatory substances for police purposes to inform the Permanent Disarmament Commission of the substances employed and the nature and quantity of the apparatus which it proposes to use.

It might be possible to request the State to regulate the use by individuals of arms, appliances or plant, capable of being employed for the protection of private property, and in which chemical substances are used.

### (b) *Bacterial Warfare.*

It is not possible in practice to prevent preparation for bacteriological warfare.

### (c) *Incendiary Warfare.*

The apparatus and substances suitable for the conduct of incendiary warfare are not exclusively applicable to such warfare, with the exception of specifically incendiary shells and bombs; the latter are easily manufactured and can be quickly produced, but it would be possible to prohibit their manufacture, import, export or possession.

It is not possible in practice to prohibit the manufacture, import, export or possession of incendiary apparatus and substances which are suitable for both peaceful and military purposes.

No special training of armed forces is required for purposes of incendiary warfare.

The Committee regrets that it is unable to suggest any other practical methods to enforce the prohibition of the preparation of incendiary warfare.

## B. Enforcement of the Prohibition against the Preparation of Chemical Warfare.

1. (a) It is not possible to enforce the prohibition against such preparation by an examination of the commercial statistics of the activities of chemical industries in all countries (see the short note inserted in the report at the request of the Netherlands on page 10).

<sup>1</sup> See the reservation on page 15 with regard to the function of the Permanent Disarmament Commission.

<sup>2</sup> For reply to question 1, see under b) below.



(b) It is conceivable in theory, but impossible in practice, to exercise this control by entrusting national or international bodies with the duty of inspecting chemical factories and of making public the character of the products therein manufactured, the existing stocks of manufactured products and the production capacity of the factories. If any such control were proposed, it would have to apply to the entire chemical industry. The practical value of such control would be very limited in view of the ease with which chemical warfare can be improvised.

2. It is not possible to base control upon a limitation of the chemical production capacity of States, or at least of a certain number of States, so that the potential capacity of certain States for chemical warfare should not be excessive, compared to that of other States, nor upon a limitation of the quantity of chemical products in stock, in view of the fact that both the potential capacity and the quantities concerned depend upon the distribution of the sources of raw material, upon industrial development, upon entirely legitimate reasons of industrial policy on the part of the States, and, in general, upon several factors subject to variation and not susceptible of control. Such limitation would only be possible in the case of substances exclusively used for chemical warfare. It is not possible to prohibit the intention to make use of substances for chemical warfare while at the same time leaving the manufacture, import and stocking of such material entirely unsupervised. The intention referred to above is not susceptible of proof as it cannot be deduced with certainty either from the nature of State intervention in production or from the extent of production or from abnormal stocks or from other factors.

### **C. Cases of Infringement of the Prohibition of the Employment against an Adversary of Chemical, Incendiary and Bacterial Weapons.**

#### **I. ESTABLISHMENT OF THE FACTS.**

The establishment of the facts should fulfil the following three conditions : it should be extremely rapid, it should afford the greatest possible guarantees of impartiality, and it should be carried out by persons of recognised qualifications and of high moral standing.

#### **2. BODY BY WHICH THE FACTS ARE TO BE ESTABLISHED.**

The duty of collecting evidence would in normal circumstances be entrusted to a *Commission for urgent initial investigation*, which would be international in character.

Evidence collected by the experts of the complainant State is of unilateral character and serves chiefly to justify the complaint.

The Commission for Urgent Initial Investigation may be constituted in peace time or may be composed of representatives of the Permanent Disarmament Commission accredited to the belligerent States.

Failing these arrangements, the complainant State should apply to the doyen of the Diplomatic Corps, who will appoint to be members of the Commission : (1) military attachés, members of the Diplomatic Corps or consuls *de carrière*, (2) technical experts of foreign nationality selected from a list drawn up in advance by the Permanent Disarmament Commission. It might, under certain circumstances, apply to magistrates.

The Permanent Disarmament Commission should not be required to undertake a supplementary enquiry, but should have the right to do so.

#### **3. PROCEDURE FOR ESTABLISHING THE FACTS.**

The complainant State should at once inform the Permanent Commission and should at the same time see that the urgent initial investigations are carried out.

The Commission for Urgent Initial Investigation should forthwith enquire into the matter and report to the Permanent Commission.

The latter should inform the accused State of the complaint and should, if necessary, order an enquiry in its territory.

When the evidence of the States involved has been heard, it will state whether the prohibited weapon has been used.

The States involved and, if necessary, all the other signatory States, should take all necessary steps to enable the Commissioners to perform their duty. The executory regulations should also deal with the facilities to be given to the Commissioners in regard to transport, communications and their technical work.

#### **4. PENALTIES.**

The word " penalties " is understood in the widest sense—general measures or " special measures " recognised to be necessary by the General Commission's resolution of July 23rd, 1932.

The Committee has, however, confined itself to formulating among the possible suggestions those that relate to technical measures, and examining only the technical aspects of the other measures.

The Committee has ignored the question of breaches of the prohibition to make preparations in time of peace or war, which did not fall within its terms of reference.

The Committee is of opinion that it would be effective if all the States signatory to the Convention were to give the attacked State scientific, medical and technical assistance in repairing, attenuating or preventing the effects of the use of the prohibited weapons.

The stoppage of supplies to the offending State of raw materials, products and implements necessary for chemical, incendiary or bacterial warfare might be contemplated ; but its effect would be limited and in any case delayed.

The Committee is not called upon to state whether individual or collective reprisals in the same form as the offence should be permitted or forbidden. It has, however, had to consider the technical aspect.

From this point of view, it has realised the extreme gravity of the question in view of the very considerable and possibly even decisive advantages that the use of chemical or incendiary weapons would give to the offender as against an adversary or adversaries who were forbidden to use the same weapons, even by way of reprisals. These advantages would be purely temporary and might even disappear entirely if the use of chemical or incendiary weapons were permitted by way of reprisals under certain rigid conditions. These conditions might be so established as to guard entirely against the danger that the admission of reprisals might nullify the prohibition of preparations for chemical and incendiary warfare.

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