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CENTENNIAL OF THE FIRST INTERNATIONAL PEACE CONFERENCE

DISCUSSION OF THE SPECIAL REPORTS :

PRELIMINARY REPORT ON THE DEVELOPMENT OF INTERNATIONAL LAW RELATING TO DISARMAMENT AND ARMS CONTROL SINCE THE FIRST HAGUE PEACE CONFERENCE IN 1899

Secretariat memorandum
Prepared by the Directorate of Legal Affairs

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Foreword

1. Within the framework of the United Nations Decade of International Law, the Governments of the Kingdom of the Netherlands and the Russian Federation are called upon to organise and co-ordinate the Centennial of the First International Peace Conference.

2. In paragraph 3 of Resolution 52/154 of 15 December 1997 the United Nations General Assembly "encourages the competent United Nations organs, subsidiary organs, programmes and specialised agencies, including the International Court of Justice, the International Law Commission and the Secretariat, within their respective mandates, competence and budgets, as well as other international organisations:

(a) To co-operate in the implementation of the Programme of Action and to co-ordinate their efforts in this respect;

(b) To consider participation in the activities envisaged in the Programme of Action".

3. Pursuant to this Resolution and the Programme of Action (UN doc. A/C.6/52/3), the executive Secretary of the Centennial of the First International Peace Conference transmitted to the Secretariat of the CAHDI the text of the preliminary report on *International Humanitarian Law and the Laws of War* and requested its consideration by the CAHDI.

4. In addition to the CAHDI, this report was transmitted for consideration to:

- the International Court of Justice (ICJ),
- the Permanent Court of Arbitration (PCA),
- the Asian-African Legal Consultative Committee (AALCC),
- the International American Commission of Jurists of the Organization of American States (IAJC), and
- the International Law Commission (ILC).

5. The Executive Secretariat of the Centennial of the First International Peace Conference would appreciate to have the views of the members of the CAHDI in order for the rapporteurs to include them in the revision of the reports for final discussion at the expert meetings at The Hague (18-19 May 1999) and St. Petersburg (23-25 June 1999), as well as for distribution to other interested fora.

6. The reports, other relevant information and individual comments already made to the reports can be consulted at the following internet address: http://www.minbuza.nl/English/Conferences.

Action required

Members of the CAHDI are called upon to consider the attached report and to comment on it. Comments can be provided directly to the Executive Secretariat of the Centennial of the First International Peace Conference or shared with other members of the CAHDI at the next meeting.

DEVELOPMENT OF INTERNATIONAL LAW RELATING TO DISARMAMENT AND ARMS CONTROL SINCE THE FIRST INTERNATIONAL PEACE CONFERENCE OF 1899

Preliminary Report prepared for the 1999 Centennial of the First International Peace Conference

pursuant to United Nations General Assembly Resolution 52/154 of 15 December 1997 and UN Document A/C.6/52/3

Hans BLIX

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I. Aims of the First Hague Peace Conference

1 Looking back at the very end of the 20th century on the aims that animated the First Hague Peace Conference in 1899 one may feel some optimism as to their further progressive and, perhaps eventually full realization - an optimism for which there would not have been much justification even in the mid 1980's. The end of the Cold War between the Communist ruled countries and the market economy countries stands out as the closing of a long and perilous period during which state conduct radically different from that sought at the Conference was a distinct possibility, namely, "mutually assured destruction" (MAD) through nuclear weapons. After the close of this period a door may now be opening to another era in which armed force may no longer be used on a global scale, although it may still not be avoided at the regional and national levels.

2 While the world of 1999 is thus vastly different from that of 1899 and even raises hopes of the eradication of war between great powers, it is of interest to note that many of the sentiments and considerations which motivated the governments in 1899 remain alive, relevant and more likely to bear fruit to-day. Three main aims of the 1899 Conference are identified below and will be briefly discussed as the starting point of this report:

1. the wish to promote the peaceful settlement of disputes;
2. the wish to limit the cruelty of warfare on humanitarian/ rationalistic grounds; and
3. the wish to limit the burden of armaments.

I.1 The peaceful settlement of disputes

3 The first and fundamental aim of the Conference was to seek "*the most effective means of ensuring to all peoples the benefits of a real and lasting peace*" (Russian note of 30 Dec. 1898). Considering that countless armed conflicts and two world wars have been fought since the First Hague Peace Conference took place the ambition cannot be said to have had much success. It must be recognized, however, that the search for ways and means of peacefully settling disputes between states that are sovereign and equal was not new in 1899 and is still on to-day, and that the search of the conference

was wide reaching, well articulated and marked progress over the past.

4. We must note that the "classical" methods of conciliation, mediation, arbitration and judicial settlement, although used more extensively to-day than in 1899, have not changed dramatically in the last 100 years. However, several other factors that are of great importance for the peaceful settlement of disputes have changed considerably.

5 A large number of regional and universal *Intergovernmental institutions* for co-operation and mutual adjustment are now active, which did not exist 100 years ago. The United Nations is the all embracing organization in terms of membership and functions, including the aim of saving the world from "the scourge of war". But many other organizations, too, like the regional OSCE for Europe, the OAS for the Americas, the OAU for Africa and APEC for South East Asia or sectoral ones, like GATT for international trade and ICAO for aviation, have conflict preventing or conflict settling roles. What is also new at this time is that the *mutual dependence* of states -*e.g.* in terms of communications, finance and trade- has increased so much that leverages have arisen which can be used in the efforts to help prevent the use of force and to settle disputes. In the last resort the *Security Council* is given the authority under the Charter (Arts. 24:1 and 42) in the cases of breaches of peace or aggression to resort to or authorize the threat or use of force on behalf of the state community. In the new climate of détente the required majority for such action, comprising the five permanent members, is no longer a condition that renders the authority in large measure hypothetical. Even though the Council, created some 50 years ago, no longer well represents the economic, military and political power in to-days world and the informal G 7/8 group in some respects could wield more power, effective action by the Security Council acting under the legal authority of the U.N. Charter is now a more distinct possibility than it used to be in the bipolarized world of the 45 first years of the United Nations.

6 Thus, the *institutional conditions* are far more favourable to-day than they were 100 years ago for preventing or stopping armed conflicts between states. With the end of the Cold War there is also *no* nation ready to use force in *crusading* for a particular social or economic organization. Although fundamentalist doctrines

are preached or pursued here and there, and fanaticism has by no means disappeared, *pragmatism* is by and large dominating.

7 Another favourable factor of great practical importance to reduce the risk of armed conflicts to-day is that *territorial controversies* between great powers have all but disappeared or lost relevance. In Europe the long disputed Oder-Neisse line is settled. In any case, it will be a line of less significance among European Union partners. Simmering territorial controversies between Greece and Turkey are -barely- kept under a lid with the help of a common institutional framework: NATO. In Asia the formerly disputed long border between China and Russia is no longer a subject of controversy and the unsolved controversy between Japan and Russia about the Kurile islands seems unlikely to lead to any use of force. Territorial disputes seem also to have faded in South America, while Africa remains an area where disputes about territory and yet unsettled borders may still easily erupt and call for international efforts of settlement.

8 Yet another factor that will be noted further down is that the existence of *nuclear weapons* and the risk that they could be used in an armed conflict might have a restraining influence on pressures to initiate the use of armed force.

I.2 Limitations in the means and methods of warfare, on humanitarian/rationalistic grounds

9 A second powerful sentiment behind the efforts at the First Hague Peace Conference had both humanitarian and rationalistic roots. While it was realized that armed conflicts were inevitably cruel, it was felt that the business of war was not to give vent to hatred, but to prevail over an adversary to achieve a specific objective, *e.g.* to take some territory. As the *purpose was not to inflict pain and suffering* acts which had such effect and which were *not necessary* to attain the objective of the armed conflict, could not be rationally justified and should be excluded on humanitarian grounds. And as *civilians* were seen to have only marginal importance to the armed contest, they could and should be protected -so long as they did not take part in the armed actions and thus became of importance to that contest. They could be affected by

attacks on military targets but were not themselves legitimate targets. A conclusion was that indiscriminate means and methods of warfare, which would make them targets, would be impermissible.

10 Also, the rationale of war did not call for the maiming of the enemy. It was considered enough to *disable* armed enemy soldiers to prevent them from taking further part in the armed contest. The well known formulations of the St. Petersburg declaration of 1868 stated

> *"that the only legitimate object which States should endeavour to accomplish during war is to weaken the military forces of the enemy;*
> *"that for this purpose it is sufficient to disable the greatest possible number of men;*
> *"that this object would be exceeded by the employment of arms which uselessly aggravate the sufferings of disabled men, or render their death inevitable."*

11 The preamble of the Second Hague Convention of 1899 succinctly stated that the parties were inspired

> *"by the desire to diminish the evils of war so far as military necessities permit"*

and the attached regulations, accordingly, held -in Art. 22- that

> *"the right of belligerents to adopt means of injuring the enemy is not unlimited".*

(a) Non-discrimination and the protection of civilians

12 The "launching of projectiles and explosives from balloons or by other similar new methods", would put non-armed civilians at risk and was not perceived as a necessity of war. Hence it was rational and humane to adopt a ban on such methods and it was done in 1899 for a period of five years (Declaration IV, I).

13 In the course of time air warfare and air bombardment came to be considered central means of war-fare and the ban of 1899 (prolonged in 1907) lapsed. This legitimization is not vitiated by the doubts which exist as to whether "area bombardment" is a method of warfare that is militarily rational and that can be legally defended as a "necessity of war" (See Blix, "Area bombardment: rules and reasons" in the *British Yearbook of International Law* 1978).

(b) "Excessively" cruel weapons

14 Declaration (IV, 3) of the 1899 Conference banned the use of *"bullets which expand or flatten easily in the human body"* the so-called *dum-dum* bullet. The necessity of war was not deemed to require more than piercing a hole to *disable* a man. Bullets which did not have hard envelopes and which mushroomed on impact and tore their way, mutilating the soldier, were not rationally required and the use of them therefore could and should be dispensed with.

15 In the Geneva Conferences during the 1970's to update the laws of war there was much discussion about a modern parallel -the small calibre high velocity projectile which, while being fully coated was unstable in flight and tended to tumble on impact and obtain an effect similar to that of the dum-dum bullet. However, the lighter weight of the high speed bullet allowing the soldier to carry more ammunition, was seen as such a rational advantage from a military point of view that it did not prove possible to get agreement banning their use.

(c) Terror weapons

16 One ban on use that was achieved in 1899 (Declaration IV, 2) related to *"projectiles, the sole object of which is the diffusion of asphyxiating or deleterious gases"*. The rationale here appears to have been that the projectiles were perceived to be of "unnecessarily cruel" nature. Later *bacteriological weapons, gas* and other *chemical weapons* generally as well as weapons relying for their effect chiefly on radiation (*neutron bombs*) have been seen as particularly odious -"terror weapons". As by and large such weapons have not been used, the abhorrence of them may have been strong enough to prevail over whatever arguments might have been advanced about their effectiveness.

17 A similar condemnatory view has not prevailed regarding the use of *incendiary weapons* against military personnel despite arguments advanced that flame throwers, napalm and the like, used against personnel, lead to excessive suffering. Their military value ("necessity") has been deemed too great for some states to accept a ban on their use against military personnel (a restriction to protect civilians against them is mentioned below).

18 The post World War II discussions about the legality of *nuclear weapons* illustrate that the rationales invoked for prohibitions of specific weapons have not changed very much. Their use is protested both on the ground that their effects allegedly cannot be limited to legitimate military targets and that they are thus by nature indiscriminate, and on the ground of excessive cruelty (heat and radiation). However, the arguments have not led to agreement on the prohibition of use of these weapons. The consensus advisory opinion of the International Court of Justice in 1996 on the legality of the threat or use of force of nuclear weapons pronounced only that there exists an *obligation* to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament.

19 Considering that nuclear weapons, fragmentation bombs, cluster bombs, fuel-air explosives and incendiary weapons for antipersonnel use have not been the subject of specific prohibitions of use, one is bound to conclude that the results over time of the humanitarian/rationalistic efforts to mitigate the grimness of war through the prohibition or restriction of use of specific weapons have been rather marginal. The main success has been in prohibiting the use of BC-weapons and -lately- antipersonnel lasers and land-mines. Of course, we do not know what horror weapons may have been stopped on the drawing board as a result of restraints based on the humanitarian/rationalistic concepts articulated at the Hague.

20 One element of influence that should be discerned is *public opinion*. Although often invoked both at the end of the last century and later in support of prohibitions of specific weapons, it is hard to avoid the impression that in the last resort it has been up to the military experts to judge whether a particular weapon's usefulness to the armed contest is so great that the suffering it brings must be seen as a "necessity of war". For the nuclear weapons widespread and intense engagement by fairly large segments of public opinion in many countries has not led even to acceptance of the non-first use proposition. The military value of the uncertainty about these weapons' possible use has evidently been seen as great and has led several governments to consider such use as a potential "necessity of war". It is not until we get to the recent *Ottawa treaty on mines* that we find a case where the public's assessment of what is a

necessity of war'prevails. However, it remains to be seen whether the treaty will also be accepted by all great military powers.

21 One could make another -but uncertain- point about the very limited effects which the humanitarian/rationalistic concept has had in the form of bans on the acquisition and bans or restrictions on use of all kinds of weapons with cruel or indiscriminate effects, namely, that precisely the fact that modern warfare and modern weapons -especially nuclear weapons- have become so cruel and have tended to affect the civilian populations so widely *could* now constitute incentives to achieve non-violent settlement of disputes. "A nuclear war cannot be won and must not be fought" is now a familiar adage.

I.3 The burden of armaments

22 A third rationale behind the efforts at the First Hague Peace Conference in 1899 is one that has had strong echoes in modern times, namely, -to quote the Final Act of 1899- *"that the restriction of military charges, which are at present [1899] a heavy burden on the world, is extremely desirable for the increase of the material and moral welfare of mankind"*.

23 The Conference expressed the specific wish that governments might *"examine the possibility of an agreement as to the limitation of armed forces by land and sea, and of war budgets"*. Regrettably, it can be safely observed that the wish has had less impact on the size of armaments than has the global or regional security climate prevailing at any given time. However, it can also be observed that in the current favourable global security climate ministries of finance will exert pressure within governments to reduce military expenditures in order to promote peaceful development and -to quote the Hague Conference- "the material and moral welfare" of people.

I.4 Focus on the time after the First Hague Peace Conference

24 It has not been the purpose of the preceding discussion to pass facile judgment on the relative successes and failures of the ambitions that were articulated at the First Hague Peace Conference. Rather the idea has been to show that several of the ambitions and rationales which inspired the actors of 1899 have remained valid during the following 100 years. During this period the world to which the ambitions have applied, has changed in ways that no one (except perhaps Jules Verne) could have imagined in 1899. The means of warfare and the resources for war have expanded many times. Two world wars have brought megakillings, mega-destruction, megahorrors and ever increasing sufferings for the civilian populations, inter alia through air bombardment. The armament budgets did not shrink in this period. Rather, with more economic resources available, they skyrocketed when security concerns were high. And while conventions, e.g. regarding prisoners of war, had great humanitarian importance during armed conflicts, the holocaust was more cruel and inhumane than anything previously witnessed.

25 It would certainly be of interest to trace and analyse the many legal instruments which were drawn up prior to the end of the Second World War (see, for instance, Goldblat, J.*Agreements for Arms Control*, published by SIPRI, 1982) and which relate to the subjects treated at the First Hague Peace Conference. There are the clauses on limitations of armaments imposed on vanquished states after the world wars, the Covenant of the League of Nations as the first full scale world organization devoted to the settlement of disputes and the prevention war, the Geneva Red Cross Conventions of 1929 and the Geneva Protocol of 1925 prohibiting the use of gas and other chemical weapons and bacteriological weapons. Such an analysis would help us better to understand some questions we face to-day. Yet, considering the colossal changes which have been brought by such developments as the process of decolonization and the global exercise of self-determination, the end of the Cold War, and the accelerated integration of the states of the world into a "global village", it might be permissible to embark directly on a discussion of some of the results of and some of the issues which are central in to-days efforts

to realize the aims and visions of the First Hague Peace Conference. Some considerations of this kind have already been advanced above in direct connexion with the description of three central aims of the conference.

26 The focus in this report will be on issues concerning arms control and disarmament. There is no aim to completely cover the issues or to examine all the agreements reached; rather the intention is to use the examination of various agreements to zero in on problems and possibilities which exist in arms control and disarmament today, notably those that are connected with verification of compliance -which appear central to progress.

II. Realization of the aims of the First Hague Peace Conference regarding disarmament and arms control - in today's world

27 As noted above, the climate for agreements on arms control and disarmament has improved radically with the end of the cold war, the dissolution of the Communist Soviet Union and the growing awareness of the catastrophic consequences of a war involving weapons of mass destruction between great powers. Indeed, a greater readiness to agree on measures to prevent crises and to reduce the risk of armed conflict arose already before the end of the cold war, in the wake of the Cuban missile crisis in 1962 but after the end of the cold war the evolution has accelerated. Agreements reached may be grouped under four headings:

1. Limitations on the *level* of armaments
2. Prohibitions or restrictions of *use* of specific weapons
3. Prohibition of *testing* of specific weapons
4. Prohibition of development and *acquisition* of specific weapons.

II.1 Limitations on the level of armaments

(a) Conventional weapons

28 For many years during the cold war general and complete disarmament was discussed at the Geneva Conference on Disarmament. However, it was mainly an exercise in public relations, one that took place to the music of an armament race, both in the field of conventional weapons and weapons of mass destruction. One major touch-stone was the issue of verification. From the Soviet side it was suggested that the "effective verification", which all agreed was necessary, should consist of full inspection of the *destruction* of weapons which was to take place -but no verification of the arsenals that remained. This "bonfire" concept was rejected by the West and was seen as evidence that the whole Soviet campaign for general and complete disarmament was a propaganda gimmick.

29 On the other hand after many years of fruitless discussions in Vienna between the Warsaw Pact countries and NATO countries during the last decade of the cold war, in the 1980s, substantial reductions were agreed in the *Treaty of 19 November 1990 on Conventional Armed Forces in Europe,* which entered into force in 1992 and was updated in 1997. This regime comprises extensive arrangements for mutual verification and confidence building measures, notably regarding on site inspections (Art. XIV); on the use of national technical means for information , e.g. satellites (Art. XV:1); on the duty not to interfere with such means (Art. XV:2); on the duty not to conceal relevant objects (Art. XV:3): on the creation of a joint group for consultation on implementation (Art. XVI); and on the right of withdrawal if a Party "decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests" (Art. XIX:1. Cf. Discussion below, paragraph 43).

(b) Nuclear weapons

30 *The Strategtic Arms Limitations Treaty (SALT I and II)* between the United States and the Soviet Union committed the two states to important limitations in the possession of strategic nuclear weapon and launchers. Satellites were to provide a principal means of mutual verification of compliance.

31 Significant arms reductions also occurred through the *US-USSR Treaty on the elimination of their intermediate-range and shorter-range missiles (INF),* signed at Washington on 8 December 1987. This treaty contained elaborate provisions (including a separate protocol) concerning verification, both through national technical means (Art. 12:I) and through on-site inspection (Art. XI) and long term monitoring (Art. XI:6). It also stipulated that neither party should interfere with the national technical means of verification used by the other party in accordance with the treaty (Art. XII:2:a) and it established a Special Verification Commission to resolve questions relating to compliance with the obligations assumed and to agree on such measures as may be necessary to improve the viability and effectiveness of the treaty (Art. XIII). Withdrawal is possible if a Party "decides that extraordinary events related to the subject matter of this Treaty have jeopardized its supreme interests" (Art. XV:2).

32 The Strategic arms reduction treaty *START I* signed by the United States and Russia on 31 July 1991 and the *START II* signed on 3 January 1993 contain provisions on very substantial reductions in the stock nuclear weapons carriers and nuclear warheads. Under the second treaty it is envisaged that by 2003 each party shall have reduced the number of its nuclear warheads to a level of 3000-3500. Extensive provisions are made for verification.

II.2. Prohibition or restriction of use of specific weapons

33 This category of regulations has not changed dramatically since the time of the First Hague Peace Conference in 1899, when the use of asphyxiating and deleterious gases and poison and dum-dum bullets was banned.

(a) The 1925 Geneva Protocol

34 The Geneva Protocol of 1925 was a more elaborate -and perhaps a little more extensive- ban, prohibiting *all*se of gas and chemical and bacteriological means in warfare (but not tear-gas in domestic riot control). Like the 1899 ban on the use of gases and dum-dum bullets, this ban of 1925 on the use of BC weapons had no verification mechanism. It was assumed that any violations would be

evident or could be established through ad hoc means of verification. Compliance would be induced, partly by the universal abhorrence of these weapons, partly by the awareness that a violation (at least regarding the use of gas) could bring retaliation in kind.

35 The ban on the use of gas has been violated several times, *e.g.* by Germany prior to the Geneva Protocol of 1925 during the First World War, by Italy during the war in Ethiopia (1936), in Yemen (1967) and during the Iraq-Iran war in the late 1980's. The Chemical Weapons Convention will be discussed below.

36 No case of actual use in warfare of bacteriological (biological) weapons appears to have been proven, but a readiness to use such weapons (*e.g.* anthrax) seems to have been wide-spread.

(b) The 1977 Protocols Additional to the Geneva Conventions and the Convention of 1981

37 During the whole 1970'conferences called either by the International Committee of the Red Cross (the ICRC) or the Swiss government dealt with what they called the "Reaffirmation and Development of International Humanitarian Law Applicable in Armed Conflicts" and what in UN terminology was called "Human Rights in Armed Conflicts". In plainer language the work dealt with the modernization of the rules applicable in armed conflicts, including restrictions in the use of specific conventional weapons. The whole of this work was guided by the humanitarian/rationalistic concept on which the First Hague Peace Conference and the instruments adopted at it was based. The military input in the negotiations was strong, ensuring that the "military necessity" aspect was fully considered in the context of all proposed restrictions. While this reduced the humanitarian effect of many proposals it hopefully led to provisions which stand a better chance of being applied in action.

38 In 1977 the conferences resulted in two *Protocols Additional to the Geneva Conventions of 1949*, one dealing with international armed conflicts, the other with non-international armed conflicts. An additional result was a Convention opened for signature in 1981 containing three different protocols on *Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects*. (On all

these instruments, see Kalshoven, F.: Arms, Armaments and International Law, published in *Receuil des Cours, vol. 191, 1985-II).*

39 For the purpose of this report which focuses on arms control and disarmament the convention and the three protocols attached to it are of interest. One protocol (I) prohibits the use of weapons the primary effect of which is achieved by fragments which in the human body would be invisible by X-rays. Another protocol (II) contains restrictions in the use of mines, booby-traps and other devices. It requires *inter alia* that maps shall be made of preplanned mine-fields and introduces a duty on belligerents to exchange maps at the end of hostilities to facilitate the clearing of mines. It further establishes certain rules to reduce the risk of indiscriminate effects of mines laid by remote means and prohibits the booby-trapping of different types of objects, like toys and food. The third protocol (III) contains a ban on the use from the air of napalm and other incendiary weapons against cities, villages or other areas where there are concentrations of civilians.

40 It is evident that all three protocols are directly based on the concepts of "unnecessary suffering" and/or indiscriminate effects. It is also clear that their scope was rather limited. The military assessment of usefulness weighed heavily and prevailed in large measure over the public revulsion against the extensive use, particularly during the Viet Nam war of incendiary weapons with very cruel effects, extremely injurious high-velocity small caliber projectiles and remotely delivered anti-personnel mines with inherent risks of indiscriminate effects.

41 None of the restrictions introduced in these protocols on the use of specific weapons were subject to any specific mechanism of verification. They were thus akin to older restrictions or prohibitions of use of specific weapons, like the 1925 Geneva Protocol on BC weapons. The Convention was of a "framework" type, allowing further protocols to be added, if and when negotiated (Art. 8:2 (a)). One such further protocol (IV) was adopted on 13 October 1995 prohibiting the use and transfer of *blinding laser weapons.*

II.3. Prohibition of nuclear testing

(a) The Partial Test Ban Treaty

42 The *Partial Test Ban Treaty* (PTBT) of 1963 which prohibited the testing of nuclear weapons and other nuclear explosions except underground, did not ban the production or use of nuclear weapons, and was not based on the Hague concepts. Here a new motivation for restrictions turns up, namely, the wish to protect the global environment -in this case against radioactive fall-out, notably cesium.

43 The treaty did not have any verification mechanism. It was felt that national technical means, in particular for measuring seismic waves and radioactive fall-out, would suffice to give evidence of any nuclear explosion that did not take place underground. It was the first treaty which contained the clause allowing a Party "exercising its national sovereignty" to *withdraw* from the treaty "if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country" (Art. IV).

44 For many years a number of states resisted the proposal of a complete test ban, often contending that underground tests below a certain yield could not be detected and asserting that they could not take the risk of committing themselves to an unverified ban.

(b) The Threshold Test Ban Treaty

45 A bilateral treaty between the US and the USSR was signed in 1974 on the *limitation of underground nuclear weapon tests* the so-called *Threshold Test Ban Treaty* (TTBT). It committed the parties not to carry our any underground nuclear weapon test having a yield exceeding 150 kilotons and to limit the number of its underground tests to a minimum. The limitation was the result of the position that tests of lower yield could not be reliably detected as well as the wish to retain the freedom to carry out some tests. This treaty referred expressly to the parties relying on national technical means of verification at their disposal (Art. II:1).

(c) The Comprehensive Nuclear Test Ban Treaty

46 After many years of underground testing by the five declared nuclear weapon states the dead-lock was broken and the *Comprehensive Nuclear Test Ban Treaty (the CTBT)* was concluded in September 1996. Its purpose may be said to be broader than the preceding two treaties, as it aims not only at guaranteeing that no further radioactive contamination will occur as a result of nuclear testing, but also to impede the further qualitative development of nuclear weapons. Although it has not yet (1998) entered into force and India and Pakistan, which have not adhered to it, have tested nuclear explosives in 1998, all other states, including the five declared nuclear weapon states have refrained from any testing after its conclusion.

47 The CTBT contains an elaborate system of verification which is based on seismological, radionuclide, hydroacoustic and infrasound monitoring. It relies on monitoring stations all over the world and has its center in Vienna, where the organization of the treaty (CTBTO) is located. The Secretariat does not analyze and evaluate the data which the monitoring system obtains, but transmits them to member states, which have to judge whether they consider that particular data suggest a nuclear test. The member states -but not the secretariat- can ask for consultation and clarification and on-site inspections. In an urgent case of non-compliance, the Executive Council may bring the issue to the attention of the Security Council.

48 As all the non-nuclear weapon states parties to the Non-Proliferation Treaty are prohibited already by that treaty to test any nuclear explosive device, a comprehensive test ban treaty could theoretically have been restricted in its membership to the five declared nuclear weapon states and non-parties to the NPT (notably India, Pakistan and Israel). However, the global interest in the comprehensive ban was such that there does not seem to have been any suggestion that the treaty could have been of less than universal membership.

(d) The Environmental Modification Treaty

49 Mention should perhaps also be made in this context of the 1977 *Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques* (the ENMOD Convention). This treaty, too, did not aim at prohibiting the development or use of any particular weapon as excessively cruel or indiscriminate, but aimed rather at preventing states from engaging "in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party" (Art. 1:1).

50 The background of the convention was the use during the Viet Nam war of artificial rainmaking through the seeding of clouds with silver iodide to cause difficulties for the enemy by muddying roads and flooding lines of communication. The convention was much broader in scope, however, and covered "any techniques for changing -through the deliberate manipulation of natural processes- the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space". During the negotiations examples were mentioned, such as changes in ocean currents, the triggering of earth quakes, cyclones, tornadic storms etc.

51 Without specifically saying so the convention relies for verification on national technical means. In addition it enjoins the parties to "consult one another in solving any problems which may arise" (Art. V: I) and refers a party suspecting a breach to complain in the Security Council and to submit all relevant information and possible evidence (Art. V:3). It does not contain the Test Ban Treaty-type of withdrawal clause in a case of an "extraordinary event" jeopardizing the "supreme interests" of a state party.

II.4 Prohibition of development and acquisition of specific weapons

52 The prohibition of development and acquisition of specific weapons obviously represents a more ambitious approach than a prohibition of *use* or a restriction in use or numbers. If a state *has no*

nuclear, chemical or biological weapons, it can use none. So great has been the concern for the dangers of a world loaded with nuclear, chemical and biological weapons that as regards these types of weapons it has been considered desirable to go beyond mere prohibitions of use and seek bans on the very *possession* of the weapons. A number of treaties have this purpose.

(a) The Biological Weapons Convention

53 A convention on the *prohibition of the development, production and stockpiling of bacteriological (biological) and toxin weapons and on their destruction* was concluded in 1972. Unlike the Non-Proliferation Treaty and Chemical Weapons Convention discussed below and the Comprehensive Test Ban Treaty, this convention does not have an institutional mechanism for verification. Like the ENMOD convention (described above) it enjoins the parties to "consult one another and to cooperate in solving any problems which may arise in relation to the objective of ... the Convention" (Art. V) and refers the parties to complain to the Security Council, presenting "all possible evidence" if it finds that another party is acting in breach. Parties are obliged to cooperate in carrying out any investigation initiated by the Council (Art. VI: 1 and 2). No Test Ban Treaty type of withdrawal clause (see above) is included. Efforts are at present underway to negotiate a specific verification agreement supplementing the prohibitions contained in the biological weapons convention.

54 It should perhaps be noted that while in the first half of this century biological weapons were considered as somewhat exotic and it was long believed that they would be practically difficult to use in a militarily effective way, there has been a more recent concern that these weapons -as well as chemical weapons- might be seen and developed as the "poor mans" problems in using them might be overcome. The revelations during inspections in Iraq, especially in 1998, have confirmed this view and contributed to the determination to add a verification mechanism to the prohibition of the production and acquisition of the weapons.

(b) The Non-Proliferation Treaty

55 The *Non-Proliferation Treaty of 1968* obliges non-nuclear weapon states parties to refrain from acquiring nuclear weapons (Art. II) and nuclear weapon states parties (as well as other parties) to negotiate in good faith toward nuclear disarmament and general and complete disarmament (Art. VI). It entered into force in 1970 and was extended without time limit in 1995. It is the most adhered to of all arms control agreements, having some 180 parties.

56 The NPT is supplemented by a number of treaties committing states within specific regions to non nuclear weapon status. In addition to the basic obligation these treaties contain provisions of special interest to the specific regions. Even before the NPT was concluded, the Tlatelolco Treaty for the *Prohibition of Nuclear Weapons in Latin America* was signed in 1967 and entered into force in 1968. It was the first agreement after the *Antarctic Treaty* of 1961 to establish a nuclear weapon free zone. Several other *regional* instruments of similar thrust were concluded later:

- The 1985 Treaty of Rarotonga for the South Pacific,
- The 1995 treaty of Bangkok for Southeast Asia,
- The 1996 Treaty of Pelindaba for Africa.

57 The philosophy of the NPT might be said to be to seek commitments by all states which had not already at the time of the conclusion of the treaty manifested themselves through test explosions to be nuclear weapon states, to remain without nuclear weapons, and to seek a commitment of the five declared nuclear weapon states to negotiate toward an elimination of those weapons. The difference between the two different types of commitments must be noted. In the case of non-nuclear weapon states the commitment not to acquire nuclear weapons is absolute. In the case of the nuclear weapon states there is only an obligation to *negotiate* toward nuclear disarmament and, for that matter toward general and complete disarmament (in an advisory opinion of 1996 the International Court of Justice pronounced itself on this obligation; see above).

58 During the nuclear armament race in the long years of the cold war, the failure of the nuclear weapon states to pursue meaningful negotiations on nuclear disarmament made the latter obligation look

cosmetic. In the view of many it concealed a permanent non-recognized, but none-the-less real, difference between the two categories of states. With the INF agreement, the START I and II and the incipient discussions about a total elimination of nuclear weapons, the declared aim of the NPT, namely, that the states which had not acquired nuclear weapons should not to do so and that those five states which had acquired the weapons should seek to rid themselves of them, has become more credible.

59 Although it was above all the nuclear weapons that marked the arrival of a new era in the security -or non-security- of states, fears similar to those evoked by the nuclear weapons were felt about biological and chemical weapons and have resulted in efforts to go beyond the non-use rules which already existed for these weapons and establish rules about non-possession. The biological weapons convention which preceded the NPT has already been discussed above.

(c) The Chemical Weapons Convention

60 After many years of negotiations the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction *the Chemical Weapons Convention (CWC),* was signed on 13 January 1993 in Paris. As its official title shows it contains comprehensive prohibitions regarding chemical weapons. It also provides an extensive regime of verification, which in many respects is inspired by the safeguards system of the IAEA but also improves on that system. An international technical"secretariat, comprising inter alia staff for on site inspections, has been established at the Hague (Art. VIII:D) and elaborate rules concerning clarification, consultation and *challenge inspections* are laid down (Art. IX). In cases of particular gravity the Conference of the parties shall bring the issue to the attention of the General Assembly and Security Council of the United Nations. (Art. XII:4). The convention contains a clause of the Test Ban Treaty type allowing a party to withdraw "if it decides that extraordinary events related to the subject-matter of this Convention, have jeopardized the supreme interests of its country" (Art. XVI:2).

(d) The Landmines Treaty

61 *The Ottawa treaty on landmines* was signed on 18 September 1997 and contains provisions on the prohibition of use, stockpiling, production and transfer of anti-personnel mines and on their destruction. This arms control agreement is unusual in the sense that action by non-governmental organizations to induce its negotiation and adoption. The motivations were the same as those which animated the weapons restrictions reached at the turn of the century, above all the tragic and cruel effects upon civilians of the many millions of anti-personnel mines which have been used , many of which remain active decades after the end of hostilities.

62 In providing for the total *eliminiation* of mines the Ottawa treaty goes far beyond the 1981 protocol on prohibitions and restrictions on the *use* of mines, booby-traps and other devices. The treaty obliges the parties to report to the Secretary-General within 180 days of entry into force on specific implementation measures which are to be taken (Art.7).

63 No on-going or periodic verification is foreseen, but annual meetings of the parties are foreseen to consider application and implementation. Furthermore, a party wishing clarification of questions relating to compliance can set in motion procedures under which, in the last resort, a special meeting of the parties may be called and may by simple majority decide on the dispatch of a fact-finding mission of experts to collect additional information on the spot or in other places directly related to the alleged compliance issue (Article 8:1-10). Such a mission must be received, may bring equipment necessary for its task, be "given the opportunity to speak to all relevant persons" and be granted access "to all areas and installations... where facts relevant to the compliance issue could be expected to be collected". The mission shall report through the Secretary-General to the meeting of the parties. (Article 8: 11-17). Provisions on certain restrictions on access *e.g.* regarding "sensitive equipment, information and areas" (Art. 8:14, b) seem inspired partly by formulas in the recent IAEA protocol on strengthened safeguards (see Art. 7 of IAEA INFCIRC / 540 of 1997).

III. Common issues seeking their solution

64 The foregoing discussion shows that the interests which motivated the participants in the First Hague Peace Conference are still relevant, forceful and driving today. There is *the wish to settle disputes by peaceful means* rather than force and we can see how a number of new factors promote an evolution in this direction at the end of the 20th century. For *inter-state relations* after the end of the cold war, we can register much success in the prevention of the use of armed force and in the peaceful settlement of disputes. As note above we might ascribe this welcome development first of all to the détente that has developed between great powers and blocks, the almost complete abandonment of ideological crusades backed by armed force, the emergence of effective new leverages and means of mutual influence, *e.g.* in trade and finance, the closer integration of states, including common institutions and an awareness of the horrors that armed conflicts between and blocks would bring.

65 Even as regards what used to be termed *non-international conflicts* there is now a strong tendency for international action to prevent bloodshed. When faced with reports about atrocities and horrors resulting from armed action, the public everywhere seems to react in human solidarity and demand that their governments together with others under or without UN sponsorship take measures to stop the armed action. While the UN Charter prescribes in Art. 2:7 that there shall be no intervention in matters which are essentially within the domestic jurisdiction of member states, unless they constitute a threat to international peace and security, the public at large is not very interested in fine points which determine if armed actions fall within domestic jurisdiction or not. In acute situations, as in Somalia or former Yugoslavia, the UN and states are driven to action to seek to stop local armed action. Indeed, the organized international community seems somewhat reluctantly to cross a threshold and to concern itself with non-international armed conflicts, not only through peace-keeping operations based on the consent of the parties but also through operations lacking such authorization. This signals a dramatic expansion in the ambitions to ensure that conflicts be settled by peaceful means -ambitions that may be even more difficult to fulfil than the ambitions to prevent international conflicts.

66 When we examine the results of the aim to reduce the horrors of warfare by rules we find less radical change from the time this aim was articulated at the First Hague Peace Conference. Modernized rules concerning land and air warfare have, indeed, been adopted in the two *Protocols additional of 1977 tothe Geneva Conventions of 1949* and these conventions provide fairly modern rules concerning the treatment of prisoners of war and the protection of civilians in time of war. However, the prohibitions or restrictions of*use* of specific weapons have not changed dramatically over the last hundred years -exception perhaps being made for blinding laser weapons and land-mines. Rather we have to register that the modern arsenals of weapons contain instruments of injury and destruction which are far more effective than those which existed at the time of the First Hague Peace Conference and that there is stiff resistance on the military side to forego any of these new weapons. We should also not that the protection of the environment is a new motivation and ground for restrictions or prohibition of certain means and methods of warfare.

67 It is the arrival of the*nuclear weapons* that leads to new thinking and new international agreements. The traditional path of restriction of use is not very successful. Numerous proposals to prohibit *first use* of nuclear weapons have been advanced but have not found sufficient support, either because such rules were not seen as credible or because the risk of use -even first use- was regarded as a desirable element of deterrence.

68 Some restrictions have nevertheless been attained and deserve mention. For instance, in connexion with the NPT the five permanent members of the Security Council -also being the five declared nuclear weapon states- have declared with various important reservations that they will not use nuclear weapons against a non-nuclear state party to the NPT.

69 Restrictions in use not generally being regarded as bringing sufficient reassurance concerning weapons of such destructive capacity as the nuclear with a capacity to obliterate huge cities in one single blow, the approach taken has been to seek legally binding commitments about the very*non-acquisition* of these weapons, chiefly through the NPT and regional treaties. The need for reassurance has also lead to the demand for*verification* that these commitments are respected. While bans on the*use* of a weapon which it is not prohibited to possess, have not traditionally

called for permanent mechanisms of verification, we find that the prohibition of *possession* triggers demands for continuous verification to bring the desired confidence about compliance.

70 The philosophy which has thus developed for nuclear weapons has rubbed off on two other groups of weapons -termed weapons of mass destruction- namely, chemical and biological weapons. The bans on *use* of these weapons (already largely existing in the instruments of the Hague in 1899 and Geneva in 1925) have been transformed into bans on possession through the Biological Weapons Convention (1972) and the Convention on Chemical Weapons of 1993. And while the latter convention, as noted above, contains an elaborate verification system, the former is yet to be supplemented in this regard. Further, we find that current day reductions in weapons arsenals, both conventional and nuclear, are also subjected to extensive verification.

71 Verification is therefore a central subject when it comes to the reduction or elimination especially as regards weapons of mass destruction. It will be discussed in some detail below. By way of conclusion the issue of *compliance* will be taken up.

III.1 The issue of verification

72 While there was hardly any reason to raise the issue of verification of *non-use* of specific weapons at the time of the First Hague Peace Conference, verification now appears as a central issue and indispensable element in practically all bans or restrictions on the *possession* of specific weapons. As we look forward to further regulations in the arms control and disarmament field we therefore have reason to analyse the problems and possibilities which exist in the field of verification. An extensive experience already exists in these two respects and we can try to learn from them.

73 In no area are states as jealous of their exclusive power as in the control of their territories. This is a central impediment to effective verification, notably *on site inspection*. It is reported that in the 19th century Turkey objected to the stationing of an international "sanitary station" to help prevent epidemics being spread by pilgrims going to or from Mecca. Turkey apparently held -as very likely many other states would have done at that time- that such stations were

incompatible with her sovereignty. During the discussions of the question of general and complete disarmament in the 1960s it was held by the Soviet Union -at that time a secluded state- that inspection apart from witnessing the actual destruction of weapons would be tantamount to espionage.

74 The world has come a long way since such attitudes dominated our thinking. It is now generally realized that in a world moving toward less weapons, notably less weapons of mass destruction, extensive verification and on site inspection are indispensable. Indeed, the more far-reaching the restrictions contemplated, the stiffer the demands for verification become to give confidence against cheating. If an agreement were reached setting a ceiling at 1000 for some weapon, non-detection of 10 or perhaps even 100 might not matter much in terms of security, but if the commitment is to have 0 weapon, non-detection of even 1 could be a dramatic matter. As was noted above part of the reason for the long delay in the achievement of the complete test ban treaty (CTBT) was the position taken by several states that it could not be adequately verified, given the control techniques existing at the time. There is no doubt that in the discussion of proposals for a complete elimination of nuclear weapons the verification issue will be prominent.

75 Fortunately with détente growing international integration governments have generally become much more accommodating as regards the acceptance of verification, the provision of information on items subject to verification and on site inspection. The notion that "sovereignty" makes it impossible for a government to accept that functionaries of a foreign state or an international organization perform some official activities within its jurisdiction is giving way to a more pragmatic -but still restrictive- attitude which accepts some such activities when they are deemed to be in the interest of the state and take place on the basis of consent. International verification has also been facilitated by new techniques which have come into being and which are highly informative without actually intruding on the ground of states.

76 It is possible that the general public is even more accommodating to inspection than governments which exercise the states'sovereignty. World public opinion did not seem the least surprised that an international crisis erupted in early 1998, when Iraq

raised obstacles to United Nations inspection of the palaces of the President of Iraq.

(a) Self-declarations as the basis for verification

77 Agreements only providing for non-use of weapons did not, as we have seen, normally provide mechanisms or procedures for verification. Some modern agreements *e.g.* the biological weapons convention of 1972 (Articles V and VI), refer only in general terms to verification that might be instituted by the Security Council. Where there is a higher level of ambition as regards verification, as in the multilateral NPT and CWC, the first level is formed by *declarations by the state accepting verification.* The preparation of such declarations may require considerable work by the government and industry of a state. At the same time the government may well, for its own purposes, want to have full knowledge of, say various nuclear or chemical activities which take place within its territory. Seen in this light the international verification of such declarations may provide the state with a highly desirable quality control. For the international organization receiving the declarations, the data provide vitally important starting points which can be checked for internal consistency and form the basis for requests for more information, if need be. Their correctness and completeness may be checked through on site inspection by international inspectors. Both in view of the general wish of states to minimize the presence of inspectors and of the cost of such visits, reliance on remote monitoring and automatic data transmission and on other means of verification not requiring on site inspection, are of increasing importance.

(b) Means of verification not requiring access to the state: "national technical means of verification"

78 The expression "national technical means of verification" signals means which are under the full control of a state and which do not require any cooperation from another state -most importantly the state on which this verification is focused. These means can consequently be used without consent , even against the will of another state. Important examples are satellite observation, seismic monitoring and analysis of samples of water or air. Literally

intelligence, covering, for instance, information obtained through clandestine means, interrogation of defectors and the systematic scanning of open sources etc. may not fit well under the expression "technical means", but in practical terminology they do seem included.

1 satellites

79 Observations through the use of satellites have helped enormously to give states confidence that commitments made about arms control and disarmament measures are respected. They were of particular importance in East-West relations before on site inspection was acceptable. While U 2 planes violated national air space (and, as experience showed, could be shot down), international law told us that the satellites circled the world at levels above and beyond national sovereignty. When mutual confidence became a desirable commodity between the superpowers, the merits of satellite surveillance became evident. Several agreements referred to in this report even lay down bans on any interference with satellite surveillance and concealment from such surveillance (see the CFE and INF agreements described above). Satellites go a long way to prevent surprises and they do it elegantly and with increasing precision, but without intrusiveness on the ground and without complex negotiations.

80 Satellites remain an important tool to assure a good deal of transparency in the arms control and disarmament area. A Soviet satellite discovered the South-African preparations for a nuclear test in the Kalahari desert in 1977 and US satellite pictures were of great value in 1991 to show the Board of Governors of the IAEA relevant nuclear installations in the DPRK. At that time a few members of the Board were reluctant to accept this type of evidence. However, as satellite imagery becomes ever more precise and revealing and as it becomes available from several states and even on a commercial basis, the reluctance is likely to give way. Nevertheless one should not be lulled into confidence that everything of interest to arms control and disarmament is detected. Satellites photograph only that on which their masters train the cameras. The Argentine enrichment plant at Pilcanyio was not seen before it was announced by the Argentine government and the large research reactor, which China

helped Algeria to build apparently was not spotted until several years into the construction. The Indian nuclear test preparations in the spring of 1998 were evidently sufficiently well concealed for satellites not to spot them (perhaps it should be added that none of the activities mentioned were in violation of any international agreement).

2 analysis of samples

81 The analysis of samples provide a powerful means of detecting the presence of various chemicals, biological substances or radio-nuclides. In order not to be so diluted that analysis becomes impossible, samples must in many cases be taken not too far away from where the source activity occurred. In practice this means that they need to come from the territory of a state and there may need to be consent. However, in particular radio-nuclides are detectable even in very low concentrations, allowing detection even far away from the source.

82 For the detection of nuclear explosions in the atmosphere the radio-active fallout spreading with the winds is of decisive importance for detection. Samples of fallout taken far beyond the borders of the state initiating of the explosion, will provide strong evidence of the explosion. We find that the complete test ban treaty (CTBT) relies on such samples (of air) as one method of verification.

83 For the detection of other nuclear activities *e.g.* enrichment of uranium or reprocessing of spent nuclear fuel, samples of water or air, soil or biota are becoming of great importance, but in most cases they must still be taken within the territory where the source activity occurred. Environmental sampling has been high on the verification agenda and has developed fast as a technique ever since the international community began to engage itself in mapping Iraq's program to produce nuclear, chemical and biological weapons. The first evidence of the Iraqi efforts to enrich uranium was obtained in 1990 when analysis was made of tiny particles stuck on the clothes of hostages who had been kept at the nuclear research center Tuwaitha and who were released by Iraq. Since then samples of water have been taken routinely in the waterways of Iraq by the IAEA under its Security Council mandate to monitor that no unauthorized nuclear activity has been undertaken.

84 It should also be noted that the Additional Protocol adopted by the IAEA in 1997 to strengthen the safeguards verification regime (IAEA INFCIRC 540) introduces environmental sampling as an important tool. But here, as in Iraq, we are mostly concerned with samples taken within the territory of the state and with its consent. Even so these techniques may offer the great advantage that evidence (of compliance or non-compliance) can be obtained without a need for inspectors to have access to technologically sensitive parts of nuclear installations. The lower level of intrusiveness of environmental sampling is a great asset. Yet, states which have had or still have nuclear weapon activities might turn out to be reluctant to give their consent to some such sampling, as it may give substantial information not only about the situation at the time of the sampling, but also about activities which took place long ago. Indeed, it might be difficult to see from an analysis whether a nuclear activity which left traces was recent or from far back.

3 seismic monitoring

85 For nuclear explosions underground the seismic effects will be detectable far away from the site of the explosion and thus constitute evidence available without consent of the state. The CTBT relies on seismic monitoring as one of the main methods of verification and a large system of stations for such monitoring is established under the treaty. While the development of the seismic techniques for the detection of nuclear underground explosions has helped to bring acceptance of the CTBT -and at the same time advance seismic sciences- it is perhaps not likely that these techniques will be of use in any other arms control or disarmament context.

4 intelligence

86 Intelligence is a broad term. Espionage, i.e. the compilation of information through illicit means, is only part of the concept. As noted above intelligence may also comprise information through the interrogation of defectors, the monitoring of radio communications, the scanning of publicly available documents and prints -all of which is legal.

87 It was one of the conclusions of the IAEA after the discovery of the Iraqi illicit enrichment program that a systematic and continuous scanning of media could have given clues that Iraq was endeavouring to enrich uranium and could have prompted questions to Iraq. Such scanning was thereafter undertaken as a permanent feature of the safeguards system. This step met general support among member states and a scheme under which supplier states and importing states report to the Agency about their exports and imports of nuclear relevant equipment and material was also endorsed to strengthen the Agency's information base.

88 As might be expected, it is a more sensitive matter for international verification to make use of information which might have been obtained through clandestine means. The issue is not addressed directly in treaty texts. From reading these texts one might get the impression that such information was not relevant.

89 In the bilateral US-USSR treaty of 1987 on the elimination of intermediate-range and shorter-range missiles*(the INF-treaty)* Art. XII:1 provides that "each party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law". It reinforces this rule by laying down in subparagraph 2 of the same article that neither Party shall "interfere with national technical means of verification of the other Party operating in accordance with paragraph I of this Article". In plainer language this should mean that information obtained through satellite observation and photography is recognized as relevant and permissible and must not be impeded. The same would evidently not go for information obtained through clandestine means which are not "consistent with generally recognized principles of international law". And a party is free to interfere against such information gathering.

90 The more recent multilateral ComprehensiveTest Ban Treaty *(CTBT)* similarly allows a party to base a request for an on site inspection "on any relevant technical information obtained by national technical means of verification in a manner consistent with generally recognized principles of international law" (para.37).

91 Under the Chemical Weapons Convention of 1993*(CWC)* a group of experts may be established to clarify a situation which may

give rise to concern and such group is authorized in Art. IX:4:e to examine "all available information and data relevant to the situation causing the concern". This provision seems more open-ended.

92 In the IAEA the issue had never had any relevance before the Agency was mandated by the Security Council in Res. 687 of 1991 to perform immediate on site inspections "based on Iraq's declarations and the designation of any additional locations by the Special Commission"*(UNSCOM)*. Although not articulated the idea was that intelligence organizations in member states should interface with UNSCOM and assist it by information which would help it to identify locations deserving inspection. It was the Commission's task to assess such information and decide whether it would designate a particular location for on site inspection by the IAEA. The Agency was thus not contemplated as a direct recipient of intelligence. In practice direct briefings to the Agency often supplemented the designations made by UNSCOM.

93 There is no doubt that intelligence -in the broadest sense- has been of great importance to help both UNSCOM and the IAEA in their difficult task of fully mapping Iraq's clandestine program for weapons of mass destruction. This experience raised the question to what extent, if any, a verifying organization would be justified in *other* cases to receive and make use of information coming from national intelligence. The question is not entirely academic. It is obvious that there will be significant restraints in the provision of intelligence by governments to verifying organizations, like the secretariats of the IAEA, the CWC and the CTBT. While satellite imagery might not be so difficult to share, information requiring the protection of sources might be hard to share with an organization which, as a matter of principle, recruits it international staff broadly. However, there are also some factors prompting offers of information. If hard and significant information were to exist in a national intelligence organization regarding a possible breach of a weapons commitment, and the responsible verification organization were not somehow to be alerted, it would be difficult later to blame it for not being aware of what was going on.

94 No explicit guidance has been given to the IAEA Secretariat in these matters. That the Agency itself never engages in any clandestine information gathering goes without saying and there is scant guidance in government sponsored instruments. The 1995

NPT Review and Extension Conference expressed as one of its conclusions that

> "States parties that have concerns concerning non-compliance ... . should direct such concerns, *along with supporting evidence and information*, to the IAEA to consider, investigate, draw conclusions and decide on necessary action in accordance with its mandate".

95 No restriction appears to have been set on what kind of information could be submitted to the Agency. Indeed, it would hardly be feasible to prevent a state -or, for that matter even a private individual, say a defector- from offering information to an international organization charged with the task of verification. If the organization routinely scans media, how could it reject information offered through other channels ? Yet, it would appear that receiving intelligence -in the broadest sense- offered as a contribution to treaty-regulated verification by an international organization -rather than as a contribution to the specific Security Council mandated inspection and monitoring in Iraq- would need to follow some strict ground rules if it is to avoid objections from member states.

96 *First,* while the verifying organization might *receive* information from anyone, it should never use any but its own observations and data for conclusions. There is enough desinformation circulating to necessitate a critical analysis and assessment of all information volunteered and desist from any conclusions based on data which the organization cannot independently verify. This is not to say that information proffered could not be of use. For instance, although not a basis for conclusions, it might help the verifying organization to look for relevant data or sites.

97 *Second,* the flow of information must be *one way*, *i.e.* the organization might receive but cannot give anything back. An organization performing verification may acquire a great deal of confidential information and data from states accepting its verification. This confidentiality must continue to be scrupulously respected.

98 *Third*, it would be desirable that intelligence -like information obtained through satellite observation- be received from several countries, so that the input is balanced.

(c) Means of verification requiring access

1 On site routine inspection

99 Although a number of bilateral US-USSR arms control agreements provide for bilateraverification and bilateral on site inspection, the focus here will be on the multilateral agreements relying on an international organization for inspection. In a less bipolarized world, verification of arms control agreements is likely increasingly to be a common international or regional task. As was noted above the Comprehensive Test Ban Treaty was made for universal adherence although for its effectiveness it would only have required acceptance by eight states which were not otherwise (through the NPT) obliged not to test. Similarly a cut-off agreement prohibiting the production of highly enriched uranium and plutonium for weapons purposes could in theory be effective if it were made between the same eight states, but it is generally assumed that it will be made for adherence by all states, including those which are already bound under the NPT by a similar rule.

100 The safeguards system of the IAEA was the first institutionalized on site verification and inspection system that evolved. From the beginning of the 1960s it has developed in little more than 35 years from a tiny activity into a large professional operation engaging some 600 staff and costing some 100 million dollars per year. At the end of 1997 there were 931 nuclear facilities and other locations which contained nuclear material and were subject to safeguards and during 1997 a total of 2499 inspections were carried out, requiring 10 240 person-days of inspection effort.

101 In the beginning the safeguards system, especially the on site inspection, met considerable resistance and skepticism. There was concern in some quarters that technical and commercial secrets in inspected non-nuclear weapon states might be divulged by inspectors and that these states'nuclear industries would be at a disadvantage compared to their competitors in nuclear weapon states which were not obliged to accept inspection. This is not the place to go into detailed technical descriptions of facility specific safeguards verification (under IAEA INFCIRC. 66) and comprehensive safeguards verification created to respond to the requirements under the NPT and covering all present and future

nuclear activities of a country (under IAEA INFCIRC. 153) and the strengthened safeguards verification (under IAEA INFCIRC 540), which it was deemed necessary to introduce after the failure of the old system to detect Iraq's program for the enrichment of uranium. However, some features have more general interest and deserve description, comments and comparisons with similar features under the CWC and the CTBT.

102 A first comment is that nuclear industry's skepticism to inspection has largely subsided. No complaints have ever been heard about revelations of industrial or commercial secrets and the cooperation between industry and the inspectorate is mostly excellent. Yet, the experience of strengthening the traditional NPT-type safeguards verification (under IAEA INFCIRC. 66 and 153) with a new additional protocol demonstrated that there was still reluctance among many governments to grant but the most evidently needed prerogatives and conveniences the inspecting organization. To take but one example: while the long negotiated CWC stipulates that visa shall be given to chemical inspectors for at least two years, the same provision to strengthen the independence of nuclear inspectors and to facilitate unannounced visit by them, was not accepted. One year was the best that could be had.

103 A second comment relates to the orientation of the verification system. Earlier as now the system is based in the first place on *accountancy* (declarations) of nuclear material under the jurisdiction of the inspected party. The accounts are checked for consistency and -through on site inspection- for reflecting the reality. Although a highly professional system, it has been criticized for being somewhat mechanistic, too much concerned with *quantitative assessments* and too little with *qualitative judgments* At the root of this criticism there lies a feeling among some that one should not have to devote so much effort to verify the numerous nuclear installations of advanced democratically organized states where it would be unlikely that any clandestine program would and could be hidden, but rather concentrate efforts on specific states with little or no democratic control and with possible motivation to acquire nuclear weapons.

104 This is obviously an important question of approach, which may have a more general bearing in the field of verification. It is true that the police in a big city may wisely put more efforts and

resources into crime ridden areas than in traditionally quiet neighbourhoods. However, an intergovernmental organization based on the principle of the *sovereign equality of states* cannot allow itself to assume that some members are lesser proliferation risks than others. It is more akin to airport controls which must treat all passengers in the same manner. It cannot act on trust *vis-à-vis* anyone.

105 A third comment relates to the *scope of access for inspectors*. Not entirely surprisingly governments will generally prefer that inspectors' access be limited to specific locations of undeniable relevance, while the inspecting organization will like to have as much freedom of movement as possible. Under the system of inspection which was worked out for the verification of NPT obligations (IAEA INFCIRC 153) governments yet unaccustomed to inspection gave relatively limited on site access to the inspectors. During routine inspections in declared nuclear installations they were limited to visiting so called *strategic points* which were listed. Whatever arguments could be adduced for this arrangement it certainly signaled that inspectors could be kept in place.

106 It is true that in very special circumstances the system did not preclude *special inspections* anywhere beyond declared facilities. However, in the absence of a system of information which could point to non-declared installations which would merit such inspection, no special inspections of such installations were ever asked before the revelations of Iraq's clandestine program.

2 *Special inspections (IAEA), challenge inspections (CWC) and on site inspections (CTBT)*

107 At this point it might be of interest to examine some important differences between the IAEA'right to special inspections (foreseen in paras. 73 and 77 of NPT-type safeguards agreement under INFCIRC. 153), the *challenge inspections* which can take place under the CWC (Art. IX, para 13 and ff.) and the *on site inspections* which can be requested under the CTBT.

108 *In the IAEA* the *Secretariat can request a special inspection* when it considers that information made available by the inspected

state party, including explanations, is not adequate. If the state rejects the request, such rejection can be overruled by a simple majority of the Agency'Board of Governors, deciding that it is essential and urgent to establish that nuclear material subject to safeguards is not diverted to nuclear weapons. Thus, a request for special inspection can only be made if the Secretariat believes on some reasonable grounds that some nuclear material or facility exists which should have been declared, has not been so declared. In the case of the Democratic Peoples Republic of Korea such a request was made by the Director-General in I992, was upheld by the Board of Governors and rejected by the DPRK. As a result the matter was referred to the Security Council.

109 The IAEA model gives considerable power and responsibility to the Secretariat to assess the situation and to decide in a politically sensitive matter. For the states involved this model might have the advantage that a Secretariat will try to take a matter of fact view and avoid politicization -if this is possible.

110 *Under the Chemical Weapons Convention* there is, as in the IAEA, a permanent inspectorate which pays periodic visits to the relevant installations. However *here any state party may request* the "technical secretariat" to undertake a *challenge inspection* to clarify any questions concerning possible non-compliance with the Convention. Thus, the CWC Secretariat cannot, itself, take the initiative to such inspection. On the other hand, a party requesting a challenge inspection will only need one third of the Council to support it. This system takes the Secretariat out of the hot seat. On the other hand it holds some risk for harassing challenge inspections.

111 As noted above, unlike the IAEA Secretariat which verifies states'compliance with safeguards agreements *the CTBT Secretariat* does not analyse the material obtained through the various monitoring methods employed with a view to discovering any anomalies to be followed up. Data are relayed *to member states* for analysis. If the states find data that need to be clarified, they can turn directly to the state on whose territory the relevant event appears to have taken place or to the Director-General of the CTBTO or to the Executive Council of the CTBTO. If *states members* are not satisfied with the clarifications obtained, they -but

not the Director-General-*can ask for on site inspection*. Thirty affirmative votes would be needed -out of 51 members of the Council- to bring about such an inspection. A request can be based on "national technical means of verification in a manner consistent with generally recognized principles of international law", which would seem to make satellite observations acceptable, but not data obtained by clandestine means.

(d) Iraq as a watershed in the field of verification

112 The revelations in 1991 about Iraq's success in concealing its clandestine program for the enrichment of uranium and the development of a nuclear weapon became a watershed in the attitudes to safeguards verification. It was realized that to have a verification system which had serious deficiencies might be more dangerous than having none, because it might lull neighbours and the world at large into a misplaced confidence. All understood that the system, to be meaningful, would have to be given more teeth and modifications which until then would have been unacceptable became possible, not least as regards access in connexion with routine inspections. The limitation of access to strategic points which had existed in routine inspection under the NPT fell away and several other expansions occurred in the right to access and the possibility to unannounced inspections.

113 However, it has to be noted that even the rights of access under the strengthened IAEA safeguards look very modest when compared with the rights of access accorded UNSCOM and the IAEA to fulfil the mandate of inspection in Iraq given to them by the Security Council. It might be of interest to see what a maximalist right of access can look like. In accordance with an exchange of letters of 14 May l991 between the Secretary-General of the UN and the Iraqi Foreign Minister the inspectors working in Iraq should have, for instance

- unrestricted freedom of entry and exit without delay or hindrance;
- unrestricted freedom of movement without advance notice within Irak... ;
- right to unimpeded access to any site or facility for the purpose of on-site inspection... ;

- right to request, receive, examine and copy any record, data, or information... ;
- right to install equipment or construct facilities or observation, inspection, testing or monitoring... ;
- right to take photographs whether from the ground or from the air... ;
- right to unrestricted communication by radio, satellite... .

114 Under the plan for *future ongoing monitoring and verification in Iraq,* approved by the Security Council in October 1991, the rights listed above were confirmed and some additional prerogatives were spelled out, *e.g.*:

- to stop and inspect vehicles, ships, aircraft or any other means of transportation within Iraq...;
- to inspect imports or exports of material and other items upon arrival or departure;
- to conduct interviews with any personnel at any site... .

115 An inspection regime with such extensive rights of access to sites and to information is unprecedented and will hardly be accepted by any state unless it is under severe pressure. That seven years of inspection in Iraq employing this regime have not been enough to give confidence that the mapping of Iraq's program of weapons of mass destruction is "full, final and complete", point to a conclusion that has great importance for all verification of arms control and disarmament, namely, that 100 per cent certainty is hardly ever attainable.

(e) The residue of uncertainty in verification

116 The difficulty to verify with full certainty that there is no fissile material, no chemical or biological substances which can be used in weapons, not a single antipersonnel mine on the territory of a state can perhaps be understood if the inspection and verification task is compared with the task of a national police to ensure that no narcotic drugs are stored clandestinely in a country. The police can move anywhere and has extensive -though not unlimited- rights of access. It may perhaps tap telephones, subpoena witnesses and it may have many informers. Yet, it would be a successful police, indeed, if it

could give absolute guarantees that there are no drugs in the country.

117 In some respects the situation of the international weapons inspectors looking for undeclared material or installations is easier than that of the national police: *Nuclear* material is unique in leaving finger prints and a national weapons program for the enrichment of uranium or separation of plutonium will also call for rather large industrial installations which may be visible from satellites or detectable from information about exports.

118 Nevertheless the freedom of movement and prerogatives of international inspectors will in most respects be much more limited than those of the national police. Furthermore, a few kilograms of plutonium are not larger than a fist, and the same is true of an antipersonnel mine while lethal chemicals or biological material can be stored in tiny containers. There is no way international inspection -or national police- could be sure to trace such small items hidden in a large country. Nor is there any way in which it could trace all documents, computer programs, matrixes, prototype machines or, for that matter, engineers and scientists that may be part of a weapons program. If this is what governments request, they cannot have it. Inspectors cannot monitor every inch of the territory of a state and it is not meaningful to go in blind and random search.

119 Although in public rhetoric governments may sometimes appear to be asking complete verification, they know that this is not possible. In normal verification under the NPT governments do not request that the ambition should be to detect very small quantities of fissile material and they are aware that there must remain some measure of uncertainty. Indeed, governments are accustomed to basing their decisions and policies on some degree of uncertainty. Reducing that uncertainty as much as possible without incurring too high verification costs or too high intrusiveness and accurately reporting on it is the normal job of the verifier. Deciding on how far they will rely on such reports in their policies and actions is the business of governments. What level of uncertainty is acceptable may be different in different situations and under different regimes, *e.g.* under the NPT generally and under the inspection scheme for Iraq. Two examples may illustrate the point.

120 After destroying its nuclear weapons and removing the fissile material, *South Africa* asked the IAEA to verify that there were no

more weapons and that all the fissile material was accounted for. South Africa went out of its way to facilitate the task of the Agency's inspectors and invited them to visit any place any time. The inspectors did a very thorough job. Yet, the conclusions of the Agency Secretariat which were accepted by the Board of Governors, reflect caution and a determination not give a greater assurance than strictly flowed from the inspections. justified. In a report (of 3 September 1992) it is stated:

> "The team *found no evidence* that the inventory of nuclear material included in the Initial Report was incomplete" (IAEA doc. GOV/2609, para. 31).

121 And in a report of 8 September 1993 the following language is used:

> "The team *found no indication to suggest* that there remain any sensitive components of the nuclear weapons programme which have not been either rendered useless or converted to commercial non-nuclear applications or nuclear usage" (IAEA doc. GOV/2684, para 31).

122 In the case of *Iraq,* where the Agency had had unparalleled inspection rights and access to sites, documents and persons, had been working at full capacity for six years and had acquired a very extensive knowledge and understanding of the nuclear program, but where there was hardly a genuine -and certainly not a consistent- wish of the state authorities to fully cooperate, the reports to the Security Council, likewise show caution. In a report of the IAEA of 6 October 1997 to the Security Council it is stated (in para. 79) that there were ***'no indications"*** of significant discrepancies between the technically coherent picture that had evolved of Iraq's past nuclear programme and the information contained in Iraq's "Full, Final and Complete Declaration" (FFCD) of 7 September 1996 as supplemented since then. However, the report goes on to say:

> *"...no absolute assurances can be given with regard to the completeness of Iraq's FFCD. Some uncertainty is inevitable in any country-wide technical verification process which aims to prove the absence of readily concealable objects or activities. The extent to which such uncertainty is acceptable is a policy judgment" (U.N. Doc. S/1997/779 of 8 October 1997).*

123 In an informal briefing of the Council on 16 October l997, the IAEA Director-General said in commenting upon the text quoted:

> *"... when the Agency reports that it has found* ***no indication*** *of activities, facilities or items, this does not amount to an assertion that there is none... The probability that "no indication" corresponds to "non-existence" depends upon how intrusive, extensive, systematic and skillful the investigation was that gave such result. Judging that probability is not a technical matter. Even less so deciding what level of probability is required".*

124 In the case of Iraq the Security Council, too, will be aware that verification can never be 100 %, but its assumption is that Iraq will continue to conceal what it can and it will require a very high level of clarification. It should be kept in mind, however, that while the case of inspections in Iraq shows that it is possible to design verification systems that are extremely intrusive and fine meshed, considerations regarding acceptability to states in general, regarding cost and the risk of irritating false alarms suggest some moderation in the devising of general systems. Inevitably then the level of assurance of full compliance by the inspected states is less high.

(f) "Managed access"

125 An issue that appears more and more often in the context of international verification of arms control and disarmament agreements is that of sensitive information or installations which the inspected party has a legitimate interest in keeping confidential and which should not be fully viewed by inspectors *e.g.* to avoid any added risk of proliferation.

126 As was noted above, under traditional NPT type verification the inspectors were limited to visiting *strategic points* in nuclear installations. The risk was then little that anything legitimately confidential would be revealed. Special arrangements had only to be made by the IAEA under the so-called hexapartite agreement regarding the inspection of enrichment plants, where access, notably to the cascade hall, by inspectors was subject to special arrangements to minimize the risk that proliferation sensitive information should leak. However, when under strengthened

safeguards the inspectors were to be given a much wider general freedom of movement in nuclear installations, a demand for special rules turned up and resulted inter alia in an article under which the Agency upon request by the inspected party would have to make

> *"arrangements for **managed access** under this Protocol in order to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information."(IAEA INFCIRC. 540, Art. 7).*

127 In the *Chemical Weapons Convention* the Annex on Implementation and Verification (which preceded the IAEA provision quoted above) provides in Part X point 41 that the inspected party is

> *"under the obligation to allow the greatest degree of access taking account any constitutional obligations it may have with regard to proprietary rights or searches and seizures, The inspected State Party has the right under **managed access** to take such measures as are necessary to protect national security...".*

128 Measures permitted under managed access include the removal of sensitive , papers, the shrouding of sensitive equipment, the logging off of computer systems, restriction of sample analysis to the presence or absence of scheduled chemicals, random selective access to buildings and, only in exceptional cases, the granting of access only to individual inspectors to certain parts of the inspection site.

129 The provisions of the Chemical Weapons Convention and of the new protocol for strengthened IAEA safeguards show that fairly significant restrictions in access can be demanded by the inspected states. Of course, such state may be restrained in any temptation to make use of available restrictions, lest an excessive demand appear unreasonable and draw suspicion.

130 It may be of interest to note that curiously even in the case of inspections in Iraq under Security Council mandate some restraints are observed despite the seemingly unlimited authority given to UNSCOM and the IAEA (recorded above). In early 1998 a full crisis erupted over the access by UNSCOM inspectors to "presidential sites" and it was widely suspected in the world press that the cause

was that these sites were used to stock prohibited weapons of mass destruction. Eventually the crisis was defused by a visit of the Secretary-General of the United Nations, Kofi A. Annan. In the memorandum of understanding which was drawn up at his visit the following paragraph (3) occurs:

> *"The Government of Iraq undertakes to accord UNSCOM and IAEA immediate, unconditional and unrestricted access in conformity with [relevant U.N. resolutions]. In the performance of its mandate under the Security Council resolutions, UNSCOM undertakes to respect the legitimate concerns of Iraq relating to* ***national security, sovereignty and dignity."*** *(U.N.Doc. S/1998 / 166 of 27 February 1998).*

131 Special procedures were designed involving the presence of foreign diplomats at inspections by inspectors of presidential sites apparently to satisfy the demands raised by "sovereignty and dignity". When considering that premises and documents of police, ministries, armed forces etc. were by no means excluded from inspection under the concept of "sovereignty" the protocol gesture made to defuse the crisis seems to be a modest price paid. It is evident that the restraints as regards foreign presence that could be asked by Iraq in 1998 on the basis of respect for the notion of "sovereignty" were minimal compared to the restraints that Turkey read into the notion of sovereignty in the 19th century.

132 Regardless of any conceptual arguments that it might have invoked, it is quite possible that Iraqi authorities would have prevented inspector access sufficiently long to enable themselves at some point where inspection was demanded, to remove small items or documents which would bring undesired revelations. For larger items, on the other hand, such conduct would be more difficult. Their removal would be likely to be spotted by satellite surveillance. At hospitals and religious premises the two inspecting organizations, while certainly not waiving their rights of inspection, observed appropriate decorum.

133 The above description of inspection problems which arose in Iraq should show that even when the inspecting organization is granted "unrestricted access", some restraint in the exercise of the right may be needed and that a residue of uncertainty will inevitably remain as to whether everything has been disclosed.

III.3. Compliance

134 It is often remarked that a fundamental difference between international and national law is that the latter but not the former is linked to means of enforcement ensuring compliance. While it is true that there is no international nuclear or other police and no courts that will automatically take jurisdiction in cases of violations of arms control or disarmament agreements and certainly no automatic sanctions, the remark misses many essential points.

135 *First*, rules of international like those of national law are complied with in most cases because the subjects have accepted the rules as being in their own interest and because they have a habit of good faith respect for treaty and other rules valid for them. The peaceful settlement of disputes in accordance with agreed procedures avoids hardships and even bloodshed. The lowering of armament burdens under bilateral or multilateral agreements releases resources for development. The accepted ban on chemical and biological weapons prevents some of the most feared horrors and sufferings of war, etc.

136 Sometimes it is the mutual or general adherence to the same norm that provides the advantage, sometimes the benefits gained by commitments may be different for different parties; there may be a direct quantitative *quid pro quo* as when two superpowers agree on specific but not identical steps of disarmament. Non-nuclear weapon states have sometimes maintained that their renunciation of nuclear weapons under the NPT should be a "sacrifice" on their part and that the *quid pro quo* should be the commitment of the nuclear-weapon states to pursue negotiations toward disarmament. However, upon analysis it is hard to maintain that there is much of a "sacrifice". Indeed, there may be a significant advantage for an individual state that many other states -especially neighbours and other states in the region- renounce nuclear weapons. The commitment of nuclear weapon states, to be sure, may be perceived as another advantage gained, but it has hardly been the main motivation for any state adhering.

137 *Second,* where a state which has bound itself by a rule of international law feels that some new development has modified the situation and gives it some interest in disregarding the commitment,

several considerations may restrain it from breaching its obligation. It may care for its own international reputation as a state respecting its commitments. It may be concerned about being singled out for condemnation. It may fear retaliation by neighbours, reactions by great powers or sanctions by the international community. In none of the cases would the reaction be as automatic and predictable as the reaction to violations of domestic law: states are mostly big and powerful subjects which, although not immune to reactions from the outside, can not be thrown in jail and not easily be fined. Even in the domestic sphere legal reaction to very powerful subjects, *e.g.* trade unions waging illegal strikes or large religious or political groups pursuing some "civil disobedience", may problematic.

138 When all this is said, it must be squarely admitted that states breaking legal commitments often get away with it, especially if they are big and powerful and that precisely in the area of perceived national security interests may develop to disregard international obligations, the more so if forceful reactions appear unlikely. This makes it all the more important to note the stronger leverages which are developing at the end of the 20th century and which are available to induce states to respect international obligations to which they are subject. The fast accelerating integration and organization of states into an international community makes states much more dependent on each other, *e.g.* in the area of trade, finance and development assistance.

(a) What degree of uncertainty about compliance is tolerated ?

139 Before some of the traditional and new means designed to *induce* compliance will be discussed, we must return to *verification* as fundamentally important to establish *whether there is or is not compliance*. We have seen how in some cases -the use of chemical weapons or dum-dum bullets- violations may be evident. Permanent verification procedures were not deemed necessary. However, for most rules in the field of arms control and disarmament technically advanced national or international means of verifying implementation *are now* needed. This report has described many of them in some detail. It has also shown that despite ever more developed means of verification there is normally and inevitably a *residue of uncertainty*

about full compliance. It must be asked *how do governments act in the face of this uncertainty ?*

140 It has been suggested above that the degree of uncertainty about full treaty implementation which governments may find acceptable may vary, depending upon the importance of the rule to be respected and upon the country whose compliance is in question. Pragmatism rather than equal application of legal norms prevails. In the case of Iraq the tolerance of uncertainty about compliance with stiff obligations is very low in several governments, as they are convinced that Iraq will avoid to comply if it can and would be ready to use any undetected weapons of mass destruction. By contrast, as shown, an inevitable measure of uncertainty seems to be accepted with equanimity in the case of South Africa, as its government has much credibility and is not seen as having any motivation for a clandestine retention of nuclear weapons.

141 The inevitable residue of uncertainty in verification about compliance raises some other intriguing questions, which may be noted.

(b) Compliance measures supplemented by possible counter-proliferation ?

142 Some U.S. experts have taken the view that as the organized international systems of verification fail to give complete reassurance about the absence of nuclear or chemical or biological weapons, the U.S. must itself keep a strong capacity to intervene by unspecified measures of "counter proliferation" (perhaps 'surgical' attacks?) against suspect cases of non-compliance and by hardware, like anti-missile systems, to stop a violation, should one become evident. Although such doctrines seem to supplement rather than compete with international means of inducement and enforcement, one is nevertheless tempted to ask if they can give 100 % certainty about -enforced- compliance with bans on the possession and use of prohibited weapons -and what is their cost.

(c) Verification of compliance with a cut-off agreement

143 Another interesting question as to how much uncertainty of compliance could be tolerated in verification may surface in the negotiation of an agreement for the prohibition of production of highly enriched uranium and plutonium for weapons use -a *cut-off agreement*. Such agreement would call for the inspection of all enrichment and reprocessing plants in the states parties to verify that none of the fissile material produced is for weapons use. An obligation of this kind exists already for non-nuclear weapon states parties to the NPT and is verified under NPT-type safeguards (for instance in Brazil and Japan). However, the chief purpose of a cut-off agreement would be to oblige the five declared nuclear-weapon states parties to the NPT and states not parties to the NPT, notably India, Pakistan and Israel, if joining the agreement, to stop producing fissile material for weapons and subject their relevant plants to inspection and verification. As inspection in such plants is labour intensive and costly the argument has been made that it could be performed at lower intensity -and with less cost- in states which have nuclear weapons, as in these cases a higher residue of uncertainty about full implementation could be tolerated than in non-nuclear-weapon states. After all these countries already have stocks of nuclear weapons and of fissile weapons-useable material and it would not affect security much if inspection and verification failed to identify all. It would only be a quantitative problem. By contrast, in a non-nuclear state, a verification failure to identify a quantity of plutonium could be used by the state clandestinely to make a first nuclear weapon and thus achieve a qualitative change -to become a nuclear-weapon state. Against these arguments there is a fundamental argument about equality. How could it be justified that the same type of nuclear installation be verified for the same purpose at different levels of intensity in two different countries, say Japan and China ? Equality -but not cost- speaks against the proposition.

(d) Compliance with a total ban on the possession of nuclear weapons

144 If nuclear-weapon states can never be 100 % certain through verification that other nuclear-weapon states are complying with *their* obligation to eliminate *all* their nuclear weapons, how could they take the risk of standing "naked" ? This is a question regarding verification which will inevitably turn up in the coming discussions about the complete elimination of nuclear weapons. As this development is not imminent there will be time to ponder the issue. Perhaps nuclear weapons are not the only possible deterrence against nuclear weapons. Perhaps also a gradual increase in the transparency of states and development of an improved global security system will impact on the issue ? The Report of the Canberra Commission on the Elimination of Nuclear Weapons, (August 1996) provides both valuable insights and valuable ideas on the issue.

(e) Means of inducing compliance

1 Verification and detection as means of deterring non-compliance

145 The standard safeguards agreements of the IAEA for the implementation of the NPT (INFCIRC 153, Corr.) provides that the objective of safeguards is

> *"the timely detection of diversion of significant quantities of* ***nuclear material*** *from peaceful nuclear activities to the manufacture of nuclear weapons or of other nuclear explosive devices or for purposes unknown, and* ***deterrance of such diversion by the risk of early detection.****" (Para. 28)*

146 The thought articulated in the agreement -to be accepted by the state- is clearly that a risk of early detection of any diversion of nuclear material will deter the state from attempting such diversion. Being found out as cheating would certainly be discrediting and damaging to a state's standing and would, moreover, very likely set in motion political, economic or even military pressures by other states.

147 In this context it might be noted that the nuclear test explosions carried out by India and Pakistan in the spring of 1998, without being violations of any legal commitment assumed by either country (as they had refused to join existing test bans), led to strong reactions by many states, including the cutting off of development aid, credit guarantees and support for loans in the World Bank. Here even conduct perceived by many states as defiance of an *incipient* rule of the global community provoked strong reactions. Looked at from another angle one might feel that India's and Pakistan's non-adherence to the rule was also an indication that the rule was taken seriously.

2 *Break-down of treaty relation likely result of non-compliance*

148 Article 60 of the 1969 Vienna Convention on the Law of Treaties provides that

> "A material breach of a bilateral treaty by one of the parties entitles the other to invoke the breach as a ground for terminating the treaty or suspending its operation in whole or in part"(subpara. 1).

149 A party to a bilateral arms control or disarmament treaty will be aware that if it ceases to comply with its commitments, the other party is likely to declare itself free of any further obligation. This may act as a deterrent against breaches. The term "material breach" is defined by the Convention as a *repudiation of the treaty* or *"the violation of a provision essential to the accomplishment of the object or purpose of the treaty"*. Evidently a party to a treaty may choose to overlook minor departures from treaty obligations. However, as a party contemplating a breach is unlikely to know what will be tolerated by way of non-compliance, this uncertainty, too, might act as a deterrence against any non-compliance.

150 For *multilateral treaties,* the legal effects of a non-compliance by one party are more complicated (Subpara. 2), but they also allow suspension or termination by joint action of the other parties or even in several situations by another party specially affected by the breach. Thus under these provisions, too, a party tempted to breach an arms control or disarmament agreement would have to count on

other parties freeing themselves of their obligations and taking whatever steps they consider appropriate and legal.

3 *Non-compliance giving other treaty parties a right to withdraw*

151 Several arms control and disarmament treaties discussed in this report contain a clause along the following lines:

> "Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have *jeopardized the supreme interests of its country*.." (Art. IV of the Partial Test Ban Treaty of 1963).

152 Similar clauses are found, for instance, in the art. X:1 of the 1968 Non-Proliferation Treaty, art. XIX of the 1990 Treaty on Conventional Armed Forces in Europe (CFE) of 1990, and in art. XV of the US-USSR 1987 Treaty on the elimination of their intermediate-range and shorter-range missiles (INF). The right retained in this type of clause is evidently broader than just covering a clear-cut breach of the treaties by other parties. It would enable a party to free itself from further obligations also in circumstances where the occurrence of a breach appears highly probable but may be difficult to prove, perhaps due to inconclusive verification. This type of article may serve as warning to a state contemplating non-compliance that even if it would be able to make it difficult to *prove non-compliance* it might trigger an undesired withdrawal by another party. On the other hand the article may also show another function of effective verification, namely, that such verification may *help states which have complied to argue against unjustified attempts of withdrawal.*

153 A number of other agreements in the arms control field fail to contain the common withdrawal clause cited above, *e.g.* the 1972 Convention on the prohibition of the development, production and stockpiling of *biological weapons.* It must be concluded that the omission is deliberate and that the parties have not wanted to facilitate withdrawal in cases of suspected breaches. Nevertheless, the residuary rule of the Vienna Convention on the law of Treaties do apply.

4 Risk of retaliation as a means of inducing compliance

154 The tit for tat, tooth for tooth and eye for eye may be seen as a concept of revenge but just as well as a means of deterrent operating in a primitive community, where collective sanctions are unreliable or yet underdeveloped. In the international community it has played and will continue to play a significant role until the state community is better equipped authoritatively and impartially to establish cases of non-compliance with obligations and decide and perform reactions to such cases. Clearly the 1899 bans on the use of the dum-dum bullet and the bans on asphyxiating and deleterious gases were sanctioned by the risk of retaliation and it is generally believed that the general compliance with the 1925 Geneva ban on B and C weapons and non-use of poisonous gas during the Second World War was due in large part to the fear of retaliation in kind. It is evident that although no prohibition of use has been agreed to concerning nuclear weapons, the risk of retaliation in kind has provided significant inducement for non-use.

5 Risk of collective sanctions as a means of inducing compliance

155 Arms control and disarmament treaties very often contain provisions about consultation between parties and measures of clarification in cases of suspected breaches. As we have seen the right of termination or withdrawal may also exist implicitly or explicitly. The right of retaliation for breaches is never explicitly stated and at least in one case, namely a use of bacteriological weapons, it appears to have been ruled out.

156 The 1993 Convention on Chemical Weapons (CWC) contains some provisions on compliance (Art. XII), to the effect inter alia that the Conference of State Parties may restrict or suspend a state's rights and privileges until it returns from breach to compliance. It may also *recommend* state parties to take collective measures and in cases of particular gravity it is -as noted above- to bring the issue, relevant information and its own conclusions to the attention of the General Assembly and Security Council of the U.N.

157 The Statute of the IAEA, which entered into force in 1957, likewise contains some sanction provisions. Under Art. XIX:B a member which has 'persistently violated"the provisions of the statute or of any agreement entered into pursuant to the statute (notably a safeguards agreement) may be suspended from the exercise of the privileges and rights of membership...

158 It is evident that although the IAEA has taken decisions to deprive both Iraq and the DPRK of non-humanitarian technical assistance as a result of their non-compliance with safeguards agreements, neither the provisions of the IAEA nor those of the CWC form the basis for sanctions which bite. The two organizations are watch-dogs of the organized international community and the systems authority to take effective measures to bring about compliance with arms control and disarmament agreements is vested in the United Nations Security Council. Such measures -sanctions- can be taken only on the basis of Chapter VII of the U.N. Charter and require that the Council has determined the existence of a threat to the peace, breach of the peace or act of aggression.

159 It is not, of course, certain that all cases of non-compliance with arms control and disarmament agreements constitute threats to the peace, nor is it by any means sure that all such cases will be brought before the Council. It is, nevertheless, a possibility in many cases and a statutorily required step in some cases (as for the IAEA under its relationship agreement with the U.N.)

160 The Security Council, itself, has made it known how seriously it views any proliferation of weapons of mass destruction. In a Presidential Statement after the Security Council meeting at summit level in I992 the following was said:

> "The proliferation of all weapons of mass destruction constitutes a threat to international peace and security. The members of the Council commit themselves to working to prevent the spread of technology related to the research for or production of such weapons and to take appropriate action to that end.
>
> "On nuclear proliferation, they note the importance of the decision of many countries to adhere to the Non-Proliferation Treaty and emphasize the integral role in the implementation of

that Treaty of fully effective IAEA safeguards, as well as the importance of effective export controls. The members of the Council will take appropriate measures in the case of any violations notified to them by the IAEA.".

161 A remarkable feature of the above statement is that it seems to lay down that any proliferation of weapons of mass destruction would be an event allowing the Council to take action under Chapter VII. However that may be the statement can hardly have been meant to obviate the need to determine in each concrete case whether there is "a threat to the peace". How will the Council act in such cases ?

162 The case of Iraq was brought to the Council as a case of clear-cut aggression and led to a massive armed intervention under the authority of the Council. In the Council mandated inspections by the IAEA it was found that Iraq had violated its obligations under the NPT and the safeguards agreement with the IAEA. The Council has shown itself determined to ensure that all Iraqi weapons of mass destruction be eradicated, has given strong support to UNSCOM and the IAEA in their work to this end and has looked to its members to take enforcement measures on behalf of the Council when needed to ensure Iraqi compliance.

163 In the case of the Democratic Peoples Republic of Korea (DPRK) which was brought to the Council by the IAEA, not as a case of breach of the NPT, but as a case of non-compliance with the safeguards agreement between the DPRK and the IAEA, the action of the Council was very different. It encouraged its members to take steps to defuse the situation and the U.S. reached what was termed an "agreed framework" under which the DPRK declared that it would "freeze" its existing nuclear programme and accept international verification on all existing plants and the United States would inter alia put together an international consortium to arrange financing for and the supply of two 1000 MW(e) light water reactors. When a significant portion of the light water reactor project was completed, but "before delivery of key nuclear components" the DPRK would "come into *full compliance* with its safeguards agreement...".

164 The agreed framework reached between the U.S and the DPRK was endorsed by the Security Council and the Agency has

been verifying the freeze as it was asked to do. Although no one has explicitly condoned the failure of the DPRK to comply fully with its safeguards agreement with the IAEA (and the General Conference of the IAEA has each year declared that the DPRK remains in non-compliance), it is evident that this degree of non-compliance is tolerated -presumably because any alternative course of action is deemed more problematic. One is driven to the conclusion that in its aim to avoid dangerous confrontation, perhaps including armed force in a sensitive area of the world, the Security Council, including its permanent members, has not attempted to uphold a legal regime but judged it wiser to follow a pragmatic line.