

Nuclear non proliferation and disarmament
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Ever since the creation of the first nuclear weapons, scientists, military and political leaders, and opinion makers have raised the question what a nuclear future would look like. *One world or none* was both the title of a well-known collection of papers and the basic dilemma that characterized the beginning of the nuclear age, which could be spelled out in this way: mankind—if it did not learn to control, in a strongly centralized and super-national way, the nuclear genie that had emerged from the bottle—was condemned to a future of nuclear annihilation. At the start of the nuclear age, the forecast was that either nuclear weapons be centrally controlled, or any nation of a certain size and development would soon decide to acquire its own (albeit small) nuclear arsenal, with the result that nuclear war would be sooner or later inevitable. The Russell-Einstein Manifesto of more than 50 years ago expressed a stronger point of view: either mankind renounce war altogether or nuclear weapons would bring universal destruction. The history of the last 60 years has not contradicted this basic dilemma, but did show that the time scale in which the dilemma would force some immediate collective decision, and hence a choice between one world or none, was and is difficult to predict.

In fact, up to now we have not had any use for nuclear weapons in war for two basic reasons. The first reason is that the leadership of the two nuclear superpowers and of the smaller nuclear states behaved as rational decision makers as far as the control of nuclear weapons, and the decision not to initiate the use of such weapons, was concerned. In other words, *deterrence* worked. The second reason is that, contrary to the expectations of the early nuclear age, most nations remained non-nuclear (in other words *proliferation* was contained). The nuclear stability which we enjoyed in the last half century should be seen in a significant way as the result of good luck, since the possession of nuclear weapons does not automatically make leaders into rational decision makers, nor are non-nuclear states bound to indefinitely refrain from the acquisition of nuclear weapons.

The basic document which helped contain the spread of nuclear weapons is the NPT [Non Proliferation Treaty] of 1968, which is normally referred to as the cornerstone of nuclear stability. The NPT distinguishes its parties between Nuclear Weapon States (NWS) [States who made a nuclear test before 1967] and all the other states that, in order to be a member of the NPT, are classified as Non Nuclear Weapon States (NNWS). The treaty has basically three legs:

1. The Principle of Non Proliferation: The NNWS should refrain from acquiring nuclear weapons or from seeking the control of nuclear weapons, while the NWS should not transfer nuclear weapons or parts of them to others. Moreover, all Parties to the Treaty should not transfer [un-safeguarded] fissile material to NNWS

2. The Principle of Disarmament: Parties to the Treaty, and particularly the NWS, should commit themselves to negotiations in good faith aimed at achieving at an early stage nuclear disarmament and the cessation of the nuclear arms race
3. The Principle of Access to Peaceful Nuclear Technology. All Parties to the Treaty have the right to develop and be assisted in the development of nuclear energy for civilian purposes

The Cold War ended with a significant effort in the direction of nuclear disarmament. Between the second half of the 1980's and the beginning of the 1990's, the US and Russia dramatically reduced the size of their arsenals. Moreover, for some time around the end of the Cold War no non-nuclear state decided to acquire nuclear weapons, leaving the set of countries possessing nuclear weapons unchanged, namely the permanent five members of the U.N. Security Council and –unofficially – Israel. The Chernobyl accident in 1986 induced a gloomy picture of nuclear civilian activity, and for some time interest in this type of energy dropped worldwide, as did interest in proliferation problems associated with the nuclear fuel cycle and the spread of nuclear energy technology. The NPT itself was extended indefinitely in 1995, contributing to what seemed to be a bright perspective for nuclear non proliferation and disarmament. .

But after the mid-1990's, the condition of three legs of the NPT began a significant shift. First, Russia and the US basically froze their disarmament agenda, with the last signed treaty leaving some 1700-2200 deployed strategic weapons per side (but only as of 2012) and an unspecified number of tactical, as well as retired—but not destroyed,—nuclear weapons per side. Moreover, the other (smaller) nuclear powers, France, the UK and China, stayed very clear of the complete nuclear disarmament threshold. In 1998, two new declared (but unofficial from the standpoint of the NPT) nuclear powers arose, namely India and Pakistan. And later, for the first time, one country exited the NPT and made a nuclear test (North Korea).

Moreover, some remarkable initiatives—such as the establishment of a treaty prohibiting nuclear tests and hence hindering the development of new types of nuclear weapons—basically failed to become a reality, thus contributing to the feeling that the era of nuclear disarmament was over. Some basic initiatives (the 13 steps) aimed at reinvigorating nuclear disarmament were discussed and approved at the 2000 NPT Review Conference, but were not even mentioned in the 2005 Review Conference, which ended without any final document. Finally, an interest in civilian nuclear energy returned in various parts of the world. Questions about the possibility of an effective control to prevent covert utilization for military purposes of the civilian technology became more and more relevant; the International Atomic Energy Agency (IAEA) in Vienna elaborated stricter constraints to be applied to countries developing civilian nuclear programs, notably the so-called additional protocol. These stricter constraints have been received with mixed response. Many critical countries (i.e., critical from the viewpoint of proliferation risks) declined to sign the additional protocol. A specific country (Iran) has been under extensive scrutiny and has been accused of developing an indigenous fuel cycle with the undeclared purpose of taking steps forward in the direction of building nuclear weapons.

In article 6 of the NPT, explicit mention is made not only to nuclear disarmament as a final goal, but also to the pursuing of negotiation leading to an early cessation of the arms race [among nuclear powers], as an intermediate step.

The prevailing idea has been that, in a substantive sense, the arms race ended with the end of the cold war. Now we are seeing more and more signs of a trend going in the opposite direction. We can say that there are worrisome signs of the unraveling of the arms control regime as we know it. The cessation of the ABM treaty, the threat, by the Russian side, of the withdrawal from the INF (Intermediate Nuclear Forces) Treaty as a response both to the new proposed deployments of missile defense systems in Europe and to the increased intermediate range missile capabilities in many Asian countries, presents a gloomy picture of the status of the arms control regime.

It is thus clear why the NPT is seen more and more as being in a critical condition, and why many observers believe that the battle against proliferation is not going well, to put it mildly.

Let us be clear: no country supports nuclear proliferation in general. Countries may decide that they need to possess nuclear weapons, but no government is buying the argument that “more is better” when speaking about nuclear weapon states. The statement that a large web of nuclear weapon states deterring each other may be a more stable configuration than the present one, is only an argument used by some political scientists (such as Waltz) to gain notoriety by denying an obvious wisdom. Where countries differ is in the strategy for enforcing non proliferation, and in their individual perceptions of the threat posed by different cases of proliferation.

Countries may decide that they want to acquire nuclear weapons for two basic reasons:

1. The presence of an external threat, especially, but not exclusively, when the external threat is represented by nuclear weapon states (whether official or de facto).
2. The prestige and the power which is associated with nuclear weapons.

The NPT up to now had done a remarkable job in inducing countries to refrain from the acquisition of nuclear weapons by addressing, albeit in an imperfect way, both of the motivations above. The principle of non-proliferation in the NPT helps in creating an environment partially free from nuclear threats, while the principle of disarmament aims at decreasing both the relevance of nuclear weapons and the prestige associated to their possession. The NPT, as is well known, discriminates between haves and have-nots. This discrimination was meant to be temporary, as it has always been understood that the only way to move towards a stable equilibrium was to resolve the distinction between haves and have-nots by eliminating nuclear weapons, namely by making them illegal (as in the case of chemical and biological weapons). Progressing towards such stability is tantamount to having a manifest, unequivocal and sustained progress in nuclear disarmament.

While the time scale is uncertain, with the lack of any steady progress in nuclear disarmament we are now seeing very worrisome signs of crisis in the NPT. If, when and how the NPT might seriously crack and possibly collapse is of course not clear, but much depends on how the international community will react to the present difficulties of the non proliferation regime.

One of the most notable problems facing the NPT is that some nuclear weapons states, most notably the United States, as well as some other countries have developed a strategy wherein,

while paying formal tribute to the role of the NPT, in fact sidetrack it. Their fight against nuclear proliferation takes then a more unilateral approach and includes the following points:

1. Nuclear proliferation is a threat to the present system of international relations, but there are serious differences depending on who is in fact acquiring or attempting to acquire nuclear weapons. There are very bad (hostile) nuclear proliferators and others who are considered not so bad. The relatively good ones (like Israel and India) of course are treated very differently from the bad ones.
2. Progress in nuclear disarmament is not considered to have de facto an influence on the decision of another country to acquire or not to acquire nuclear weapons. Consequently, neither nuclear disarmament nor the steps related to it (the CTBT for example, or any of the 13 steps) are on the agenda. Token reference is generally made to previous achievements in nuclear disarmament, but with little or no consequence on the political decisions that are to be taken.
3. The fight against non proliferation is primarily based on containment and repression of those countries that are deemed to be both hostile and possible nuclear proliferators. Instruments of repression range from different types of sanctions to actual (preventive) war.
4. The need to control fissile material and to prevent unauthorized use by potential proliferators or non-national groups (terrorists) is acknowledged in principle, although questions arise as to its actual position on the priority list to prevent the spread of nuclear weapons.

Let us discuss some of the problems and concerns raised by the strategy associated with the above points.

1. One should not underestimate the degree of resentment that is induced by (real or perceived) unfair treatment, and the ensuing political consequences. Israel was never subjected to any pressure to renounce its possession of nuclear weapons. India and Pakistan were subjected to sanctions which were later removed, while India in the end got the best deal—the proposed US India nuclear deal. North Korea, which withdrew from the NPT, is (or was) under severe sanctions. While we do not want to deny here that there may be serious motivations and reasonable considerations behind these unequal treatments, the overall impression is nonetheless that nuclear proliferation lost its character of being a shared idea (or value) of the international community and instead became one of the many instruments of some partisan foreign policy. We should recall that the NPT itself was not meant to involve only countries with common foreign policy goals, but was instead an agreement among countries with different if not antagonistic views of the world which agreed to some common constraint.
2. It is true that there is no immediate correlation between the major nuclear powers' pace of nuclear disarmament and the development of nuclear ambitions among non nuclear states. A country will most likely take the decision to go nuclear under the pressure of

security concerns. But if a general trend supporting nuclear disarmament is in place, the global environment is less threatening to potential proliferators, and it is more difficult for countries to become nuclear without losing credibility and influence. So while the lack of disarmament may not be the immediate motivating factor for proliferation, it nevertheless has a general overall influence on allowing proliferation to develop. In other words, if nuclear powers keep telling others to “do as I say and not as I do”, there is no guarantee that this message will be listened to indefinitely.

3. What about the motivations behind nuclear weapon states which are not actively pursuing nuclear disarmament? Preserving or enhancing prestige and influence on world affairs constitutes one kind of motivation, but do nuclear weapon states also feel threatened? In this period, not in particular by other nuclear weapon states. Although if this were the case, controlled and agreed initiatives for nuclear disarmament among nuclear weapon states could actually decrease this threat. Moreover the two nuclear superpowers (US and Russia) could still walk a long way on the road of nuclear disarmament without losing their overwhelming nuclear superiority. Are there then other (non nuclear) threats, and in particular is terrorism a real or perceived threat? Yes, but we are talking about threats that would hardly be affected by a substantial decrease in the nuclear arsenal. A large nuclear arsenal is not indispensable or even useful for dealing, say, with terrorism (even with potential nuclear terrorism). Rather, the point is that when the political climate induces the public to believe that there is a war going on, any form of disarmament—be it nuclear or non nuclear—is unpopular and easily falls off the political agenda of even more progressive parties. In particular nuclear disarmament is negatively affected by the so-called “war on terror”.
4. Creating an environment where some specific more powerful countries impose independent, autonomous non proliferation constraints might even be considered necessary in order to effectively limit the transfer of dangerous nuclear technology and materials. One might thus appreciate a complementary role between individual countries and international institutions in the battle against proliferation. Problems arise when the non proliferation campaign is used as an excuse to impose sanctions or wage war against a country that is defined as *evil*, and where the main aim is not to stop proliferation, but to induce a regime change. The problems become bigger if the intervention results not in the restoration of peace and order (not to mention democracy), but in the creation of a seemingly permanent situation of unrest and civil war. The reference to Iraq is obvious, although we have no time to address the complexity of the problems related to Iraq here. We want only to point out that, *from the point of view of nuclear proliferation*, the Iraqi war and other similar initiatives that might be planned or envisioned have the effect of greatly diminishing the significance of the non proliferation issue, reducing it to a mere excuse for some other goal. Moreover, the war on Iraq sent two other sets of messages: first, that big powers can bypass international institutions such as the UN; and second, that countries much closer to reaching military nuclear capability (such as the DPRK) are punished far less in the end than countries which are classified as “evil” yet are very far from that capability.

5. In all the issues surrounding terrorism, nuclear terrorism has a special place. The proper strategy to address (potential) nuclear terrorism is to reduce the relevant risks by controlling all fissile materials and eliminating the excess fissile material coming from the dismantlement of weapons (i.e., blending the excess HEU and disposing and/or utilizing in MOX the excess PU). It is also important to get the agreement of all States, irrespectively of their political orientation, in controlling any amount of fissile material produced with the strictest available safeguards. The international community is lagging behind on both counts. There is still a large amount of excess fissile material to be disposed of in Russia mainly (about 20 years after the INF treaty) and, as mentioned above, international consensus about new stringent measures to control nuclear activities is still relatively limited and, in any case, international control does not concern fissile material for military use.. The motivations for this state of affairs are manifold, from commercial problems which slowed the disposal of fissile material in the former Soviet Union, to the perception that stringent safeguards are at times an instrument of discrimination rather than an instrument aimed at protecting the security of every country. Failing a vigorous effort—both technical and diplomatic—to control and dispose of (when needed) fissile material, the spectrum of nuclear terrorism will be with us for some time.

In order to discuss a future reduction of nuclear risks, it is perhaps useful to go back to some of the special features of the NPT. The more unilateralist approach, described before, has created more problems than results, and has significantly eroded the large consensus about the general non proliferation regime.

As we said before, the NPT was born as an agreement between states having a very different vision of the world. In the NPT, the “imperialistic” US cooperated with the “evil empire” (USSR) in keeping proliferation under control and, for some time, in dramatically reducing the nuclear arsenals. Different visions of the world did not impede the NPT from working. This should be true even now when the states antagonistic to the US are not as powerful as was the USSR, but may still in general be unlikely to yield to repression.

In order to be credible, the three basic legs of the NPT should be honestly respected. Disarmament should not be disconnected from non-proliferation, and assistance in the development of nuclear energy should be given without undue restrictions or discriminations. But in order to improve the collective security in nuclear affairs, there is an urgent need to revisit the entire system of safeguards and constraints on the production of fissile materials. The additional protocol itself (not yet adopted by a sufficiently large number of states) is probably not enough, and more stringent international control on the production of fissile material should be established. New ideas along these lines have been put forward relatively recently by the IAEA, but more ideas are needed. IAEA membership could easily become universal, as even countries outside the NPT are members of the IAEA. There is moreover no objective reason why all countries which are members of the IAEA should not be induced to sign and ratify the additional protocol and other possibly more stringent measures, without exception.

The issue of addressing alleged violations of non-proliferation rules will come out as it has recently. Dialogue may be very difficult at times, but can go a long way, and should be the

principal instrument for resolving disputes. If even a difficult case like North Korea has been put on a totally different track through dialogue and perseverance, many other cases could presumably be solved by a persistent effort towards dialogue. The effectiveness of sanctions depends on many factors; long-term large-scale sanctions, for example, are generally less effective, as countries tend to adjust to a prolonged sanction regime, and the resulting isolation fosters nationalistic attitudes and cuts off the political/economic leadership from the international arena. Moreover, authoritarian regimes tend to be strengthened by isolation and, if there is a determination to build nuclear weapons or WMD, this determination can be strengthened.

Military force has recently been used against countries suspected of violating the non proliferation rules. Leaving aside for a moment the important issue of the legitimacy of these actions, the results have been altogether a dramatic failure. In general terms, it may be true that some military actions slow down the construction of nuclear weapons (or WMDs) by destroying some specific infrastructure, but then what comes next? If, after the destruction of some specific nuclear infrastructure, the country is able to restart the program, then nothing has been “gained”, except possibly some time. And if military pressure on that country goes well beyond the destruction of nuclear plants, then recent history shows that the end result may be a situation of total chaos, where instability may spread and create an intractable problem.

To regain consensus for (and credibility of) the NPT and the non proliferation regime, it is really essential that the agenda for nuclear disarmament is reconsidered, and that some relevant visible steps are taken by the nuclear power states. It is in our collective interest that the non proliferation regime be seen as the result of a choice of the entire international community and not as an imposition of some specific more powerful states. In fact, a different attitude should be taken by nuclear power states. What follows here is a list of reasonable, visible steps that could be taken by the nuclear powers to support the credibility of the NPT, by carrying on their obligation under art. VI and more generally steps that could reinvigorate nuclear disarmament.

- *Russian and American strategic weapons and SORT.* First, the SORT agreement itself should clearly be made irreversible, and second, a further significant progressive reduction of strategic nuclear weapons should be planned with some stringent deadlines. Withdrawn weapons and delivery systems should be destroyed.
- *Preservation of all the existing arms agreements.* No arms control agreement must be abolished. Efforts should be made to enhance the bilateral arms control agreements and to extend them to other parties, when possible.
- *Tactical Nuclear Weapons.* Tactical Nuclear Weapons have only been withdrawn by force of unilateral measures. Agreements should be signed for the removal and the dismantlement of tactical nuclear weapons.
- *CTBT/FMCT.* The Comprehensive Test Ban should enter into force and this depends primarily on the decision of the United States to rescue the treaty. The FMCT should be discussed and negotiated in a short time.
- *The smaller nuclear powers* should also contribute to the disarmament agenda. Modernization of nuclear forces (Chinese forces, Trident in the UK, etc.) should be indefinitely postponed.
- *Nuclear weapons should not be allowed to be deployed on other countries' territories.* Only American nuclear forces are currently deployed in other countries (6 European countries).

Other official or de-facto nuclear powers might decide to do the same in the future, creating possibly very dangerous situations.

- *Nuclear Weapon Free Zones.* The nuclear powers should agree with no reservation whatsoever to respect all proposals for establishing nuclear weapon free zones, and commit to respect the zones once established.
- *Reliance on nuclear weapons* should be manifestly reduced. Nuclear weapons should be all de-alerted. Military strategies should manifestly rely less and less on nuclear weapons. No first use policies should be encouraged and security guarantees should be extended to non nuclear weapons States.
- *De-facto nuclear powers* should contribute also to the disarmament agenda, by signing all the arms control treaties other than the NPT, by respecting the basic NPT constraints, and by stopping nuclear modernization and plans for future developments of nuclear weapons.

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