

Roundtable on
" European contributions to nuclear disarmament "

Challenges to the Non Proliferation regime.

What could be done ?

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- speaking notes -

Vertical proliferation (by nuclear armed countries) and horizontal proliferation are the challenges to the non-proliferation regime.

The problem lies in hardware and strategies.

The main problems come from the United States of America and Russia, who continue with an insane level of armaments since they possess 95 % of the world nuclear weapon stockpile, and are still modernizing them.

Other countries are still modernizing.

Give here the example of France nuclear weapon program.

Description of the program and its recent changes.

History of the French nuclear weapon program in a nutshell :

- The Decision process in military nuclear affairs is highly concentrated.
 - On 18 october 1945, the French Atomic Energy Commissariat was created by ordinance with the mandate to *"implement all measures that can be helpful to benefit of the use of atomic energy in the field of Science, Industry and National Defense"*.
 - The Atomic Energy Commissariat was given a high degree of administrative and financial autonomy, *"a great freedom of action"*, *"a sine qua non condition of its effectiveness"*.
 - The Atomic Energy Commissariat is directly under the authority of the President of the Minister's Council.
 - The funds for its military activities came from the Defense Ministry, which had no control on the way these funds were used. No defense minister has managed to change this situation.
- The French nuclear bomb project remained secret until 1958 because of the domestic and the international contexts.
 - The 4th Republic in the 1950s was very unstable, with a high turnover of governments and France was conducting colonial wars (Indochina, Algeria).
 - Most segments of the society opposed a French nuclear weapon program:
 - The Atomic Energy Commissariat were against and more than 600 of them signed a petition against nuclear weapons.
 - The political parties were against for financial reasons.

- The militaries were opposed because of the cost, since they needed important funds for their other wars; because they would not have any control on the development program; and because there were negotiations about an European force.
- The general public was opposed because of fear of the "apocalypse" (in the Stockholm appeal)
- Some European agreements were being discussed : the European Defense Community, which failed in 1954, and Euratom.
- The United States of America were also opposed to the development of nuclear weapon by any new state.

Nevertheless, the program started industrial development in 1952, with the vote of the Quinquennial Programming law in 1952, aiming at a long term plan to produce nuclear material in sufficient quantities. The construction of the first reactor to produce plutonium started in 1952 in Marcoule and was completed in 1955. A pilot plutonium separating plant started operating in 1954.

The government was against until Suez crisis, but overnight the President of the Minister's Council changed its mind : the secret nuclear weapon program would go ahead.

Guy Mollet was against the nuclear weapon and pro-European.
He had decided a moratorium until 1961.

But in November 1956, the fate of the Suez military expedition, the reaction from Soviet and US state leaders and what it revealed about the lack of French power led him to a real, but still secret, political decision to pursue the development of nuclear weapons.

On 30 November 1956, a secret protocol was signed which defined the objectives of a national nuclear weapon program : preparatory studies for nuclear explosives, manufacture of prototypes, and tests. On 10 May 1957, a site of 108 000 km² was defined as military zone in the South of Algeria. Work started on 1 October 1957. Buchalet said (in 1984) : *"One could not do better or faster"*.

On 22 July 1958, De Gaulle gave high priority to the nuclear bomb project. In 1959, he tells to the engineers : "Continue, do not waste anything, do not hurry up too much, I shall cover you, I shall not sign anything". The first nuclear A bomb test was conducted in Reggane on 13 February 1960 with a yield of 40 kilotonnes.

French deterrence strategy : Deterrence of the weak to the strong

The French deterrence force was initially meant to secure French vital interests - insuring the integrity of the national territory and the existence of the nation - against possible threats arising from a more powerful country. The original French nuclear

policy was therefore strictly defensive, in order to prevent war. It was a deterrence “of the weak to the strong”, the strong being the USSR during the Cold War.

With limited means, the purpose was to have weapons in sufficient number so that enough would survive a first strike and be able to inflict unacceptable damages, out of proportion to the stakes in the conflict, if vital interests were endangered. Deterrence was the non-event: instead of comparing forces, the point was to compare the damage inflicted: an anti-city strategy, aimed at convincing the enemy (the USSR) that attacking France would not be worth the gain.

France has always maintained ambiguity in defining her vital interests, considering that it enhances deterrence because a possible adversary would have difficulty in assessing its margin for action.

It was a straight and simple deterrence, but paradoxically, if it had ever been executed, France would have been wiped out.

Who is to decide? The Fifth Republic gives increased executive power to the President, who is “the person with the final word on our deterrent and the only one with the power to decide.” As President Mitterrand has explained: “As a matter of fact, conditions in which France could have to reply to an aggression or a threat of aggression could leave only a few minutes. It is for this reason that, in principle, the head of the State decides, and decides alone.”

The arsenal :

A forced march to make an arsenal invulnerable, increasing the yield of weapons, and expanding missiles penetration power. The number of weapons peaked at 540 in 1992 (land, air and sea based), and now it is less than less than 300 (air and sea based). The yield is 100-150 kt.

Low Yield Weapons and ultime avertissement : The original deterrence policy was strictly defensive, excluding military use on the battlefield, and thereby giving nuclear weapons solely a political role. However, with French withdrawal from the NATO military integrated command in June 1963, the French authorities knew that their forces stationed in Germany would be deprived of NATO’s tactical nuclear weapons. De Gaulle decided in 1966 to build tactical weapons. Once France had developed a triad with strategic and tactical weapons, and given that it was not possible to exclude a foreign invasion of French territory, it was tempting to conceive of a possible use for nuclear weapons. Weapons of a yield of 30–40 kilotons were developed and installed on the Pluton (deployed from 1974) and then on the Hadès ground-ground missiles, until 1993. These missiles had a very short range -120 and 450 kilometers.

The use of these tactical weapons was then conceptualized. They were supposed to serve as an “*ultime avertissement*”. This final warning was intended to show the

adversary the determination of the French through limited nuclear strikes on military targets. If, unfortunately, the adversary did not understand and stop, then, during the Cold War, this *ultime avertissement* would have been followed by a massive strike on Soviet cities. The tactical weapons were later called “prestrategic,” a term meant to imply that their use would be part of the strategic deterrence.

Disarmament measures in the 90s :

- halt of the production of plutonium and highly enriched uranium for nuclear weapons
- dismantlement of the fissile material production facilities
- short range weapons Pluton and Hades have been dismantled, by 1997
- 1996 - dismantlement of the ground-launched nuclear missiles on the Plateau d'Albion (yield of 3 megatons)
- reduction of strategic forces (300 in 2008)
- support for a zero yield for the CTBT and ratification in 1998
- ratification of the Pelindabada and Roratonga treaties in 1996
- reduction of the alert level for the strategic forces
- decrease of the number of submarines permanently at sea in 1996 (=1)

Some of these measures are significant and some were taken for financial reasons :

- the short range missiles were unusable,

- France has produced enough fissile material for the next 50 years,

France is modernizing its hardware and conducts a program of nuclear weapon test simulation using the Laser Megajoule.

All measures have been taken unilaterally.

End of Cold War, new international context and adaptation of the arsenal and doctrine

- 1991 : Mitterrand “*the great difficulty is that there is no ennemy any more, but we still have the weapons*”.
- 1994 : in the 1980s Mitterrand chose to “*perfect the apocalypse*” and denounced the “*major heresy*” that would lead to a doctrine of use. To remove this temptation, he limited the magnitude and the diversity of weapons systems.
- 1995 : Chirac was elected. The more powerful enemy that French nuclear forces were supposed to deter had vanished, but scenarios justifying a “*strictly sufficient*” (but nevertheless significant and modernized) nuclear force proliferated.
- Several scenarios have been spelled out for the role of nuclear weapons :
 - 1) As “life insurance” to deter the big powers, in particular China.
 - 2) To deter the regional powers, the “proliferators,” from threatening French vital interests with weapons of mass destruction—not only nuclear weapons.
 - 3) To deter state-sponsored terrorism.
 - 4) To deter more limited threats. The question of protecting the right of

French troops to intervene outside of French territory and to resist blackmail

To address the diverse threats to vital interests in a changing world, with threats of varying degree of danger and coming from different regions, France's strategy is to implement an "adapted" response to the level of nuisance, with the possibility to strike selectively with means which are made more flexible in order that their use would be credible.

"Should they have hostile intentions towards us, the leaders of these States must know that they would incur what would for them be absolutely intolerable damage. And in that case, the choice would not lie between the complete annihilation of a country or inaction. The damage to which a possible aggressor would expose itself would first be inflicted on its centres of political, economic and military power." (MoD 2006) and 2008 White Paper. The *"ultime avertissement"* is the core of the French doctrine : precise threats on precise centers.

This represented a major inflexion in the deterrence concept. The means were "adapted" : the number of nuclear warheads were reduced on some of the missiles. This reduction was explicitly made to increase the credibility of the use of the weapon. Decided very discreetly, the change was implemented in 2003.

The Chief of the Defense Staff and the Ministers are convinced that these limited and precise strikes would involve very limited collateral damage : *"The credibility of our threat against these regional powers implies that the population losses be kept limited if we want that our adversary takes it into consideration . . . in western public opinions, it would be unimaginable to announce that, in retaliation to a missile which killed one thousand persons in Paris, we decide to strike a regional power killing millions of people. To be able to destroy centers of power, we possess very precise weapons with a variable yield to avoid collateral damages, without having built miniaturized weapons."* (Chief of Defense staff, 2006)

The credible use, consisting in the capacity to strike precisely with weapons of a lower yield, is also now called the *"avertissement nucléaire"*. It could consist of limited strikes with nuclear-equipped ASMP (Air-Sol Moyenne Portée) missiles from aircraft or of a strike with a strategic missile with a reduced number of warheads launched from a submarine.

Or, the final warning could instead be an electromagnetic pulse produced by a nuclear explosion in the high atmosphere. In October 2006, General Bentégeat explained that the explosion of a nuclear weapon at an altitude of several tens of kilometers would create an electromagnetic pulse resulting, "within a definite radius," in the destruction of all electromagnetic and computing devices, "without any blast or radioactive effect on the ground." The threat of such a use is supposed to represent, among all the possibilities for the ultime avertissement, the least

destructive mode.

Thus, since the mid-1990s, there have been “major inflections” in the original French deterrence concept, shifts that have been justified by new perceived threats. The original doctrine has been adapted in three major ways :

- deterrence of the “weak to the strong” has become the deterrence of the “strong to regional powers”;
- the anti-city strategy has become anti-centers of power, with the main parameter being a modulated impact;
- and the vital interests have been expanded.

These changes, which were decided very quietly in the late 1990s, have never been discussed publicly, including in the Parliament.

On the hardware side, France has proceeded with a program (almost finished) to replace and modernise the nuclear weapons, missiles, aircrafts and submarine to make them more flexible, precise and long lasting : it consists of the *"modulation of the explosive power of the weapons, the strengthening of their penetration power, the improvement of their range and precision, the possibility to define the most relevant targets considering the circumstances "*.

Missiles have also been modernized. The new M51 missile replacing the M45 since 2010 has a range of 6000 km with the nominal charge, and could reach 9,000–10,000 km (to reach Asia) if it carries fewer warheads. In 2015, the M51 missile will be modified to be able to carry the new TNO warhead

Since 2010, the ASMP missile (Air-Sol Moyenne Portée : medium-range air-to-surface missile) has been replaced by advanced missiles (ASMP-A), with a range of 500 km, better precision -10 meters - and the new TNA warhead (airborne nuclear warhead).

One could summarise French nuclear policy by the following statement : *"France considers nuclear deterrence as the best response to the possible failure of non proliferation policies"*, a good example of self-fulfilling prophecy.

By the same logic, these developments in doctrine and weapon modernisation should lead other countries to equip themselves with the same means of protection.

At present: The French president decides alone. For his decisions, he has advice only from very few non elected persons and from pressure from industry; the AEC predetermines the decision For example, in May 1995, newly-elected President Chirac asked CEA to make a report on the various possibilities to guarantee the long-term reliability of the French deterrent, and CEA prepared the decision to resume nuclear tests.

The first political leader to change his mind on military nuclear issue was Michel Rocard, who was Prime Minister during the period 1988–1991. When he participated in the Canberra Commission on the elimination of nuclear weapons, Michel Rocard became convinced of the necessity to get rid of nuclear weapons. Such a rare event - a former French Prime Minister contesting the validity of maintaining a nuclear arsenal - went almost unnoticed in France. In 2009, a national première happened on the French scene: four leading figures—two former prime ministers: one conservative, Alain Juppé, and one socialist, Michel Rocard; a retired Air Force general, Bernard Norlain, who had been chief of the military cabinet under two Prime ministers, Chirac and Rocard; and a former defense minister, the socialist Alain Richard—published in a major newspaper a call for France to engage radically in the Global Zero process. A leading French defense journalist reacted promptly: *“For Paris, the only efficient measure presently consists in strengthening the anti-proliferation measures, and there is little chance that the text written by the two former Prime Ministers would lead to any evolution.”*

The nuclear weapon is still for France also *“weapon of political status”* which is also an *“essential element of international status for our country, recognized by the NPT,”* making France *“a nation which counts and is listened to on the international scene.”*

There has been a close collaboration with Israel : France sold to Israel a reactor and a plutonium separation plant in the 1950s, and there was also a close collaboration between Atomic Energy Commission scientists and Israeli scientists.

In the 1970s, the USA collaborated closely with France, who was not yet party to the NPT. This was a very well kept secret in both countries. France has always pretended to have a totally independent program. On the US side, it is very likely that it has violated national law, since it involved transferring nuclear technology to a foreign country apart from the UK.

In France, there is presently a low level of expert thinking on disarmament and very little public awareness, even among scientists, about the dangers of nuclear weapons.

Other challenge to NPT regime :

France and the western countries have biased policies with respect to nuclear equipped states outside the NPT : India - and Israel.

Another example is Brasil which still does not accept full safeguards on its enrichment program and refuses to sign the IAEA Additional Protocol. This shows that an instrument essential to the robustness of the non-proliferation regime is far from being universally accepted.

The USA/India nuclear energy deal

In July 2005, President George W. Bush and Indian Prime Minister Manmohan Singh have jointly announced on 18 July 2005, a far reaching program in nuclear technology cooperation, at the initiative of the USA. India should give the lists of civilian and military nuclear facilities, place all civil facilities under IAEA safeguards, in exchange of which, the USA would collaborate with India in all areas of civilian nuclear technology.

Until then, all countries members of the NPT, and especially the USA, did not have any trade relations in nuclear technology and hardware with countries, such as India, which had tested nuclear devices and for which nuclear installations were not all under IAEA safeguards.

On 1 August 2008, the IAEA board of governors approved by consensus a new safeguard agreement with India, although its nuclear facilities had not even been defined. Of course, this consensus was considered as a great diplomatic victory in India, since it is a de facto international recognition of the status of India as a nuclear power. 14 out of 22 nuclear installations will be inspected. The fast neutron breeder reactor – producing plutonium – is not included in the installations to be inspected.

Then, the Nuclear Suppliers Group (NSG) was asked to make a special exemption for India. The Nuclear Suppliers Group, originally known as the London Club, was specially created in 1974 at the initiative of the USA as a response to the first nuclear test by India in 1974, which used plutonium produced by a reactor purchased in Canada under the constraint that it would be used only for peaceful activities.

During the NPT extension conference in 1995, the State Parties unanimously adopted a principle under which the purchase of nuclear materials was contingent upon IAEA safeguards agreements and a commitment not to acquire nuclear weapons.

The NSG exemption was granted to India under several conditions : moratorium on nuclear testing, no first use policy, act with other countries to reach the conclusion of the Fissile Material Cut off Treaty, and a commitment to adhere to the Missile Technology Control Regime.

The final USA/India agreement was signed in October 2008. On 30 September 2009, France and India signed a nuclear cooperation agreement for research on and supply of EPR reactors as well as the supply of the necessary fuel. India also signed an agreement with Russia in December 2008.

By contrast, USA firms had to wait until the Indian parliament would pass – on 30 August 2010 - a new liability legislation limiting the responsibility of USA firms in case of an accident. Without such a law, none of them would have taken the risk to build a nuclear power plant in India.

The agreement, which allows India to import fissile material for its civilian reactors

and keep the totality of its domestic uranium resources for its military program, gives India access to the most modern nuclear technologies as well as the best training for its engineers. Therefore, it can be assessed that this agreement constitutes a violation of the article 1 of NPT according to which countries are prohibited to assist, encourage or incite in any way non nuclear weapon countries to produce nuclear weapons. In this agreement, India is even not committed to sign and ratify the CRBT, nor to accept IAEA strengthened safeguards, nor to halt the production of fissile material for its arsenal, which are the three main measures to prevent proliferation.

Moreover, in November 2010, during a visit in India, President Obama proposed that India would be allowed to join the NSG. If this was the case, what could be done in the case India would not respect its commitments ?

This exemption has had the most negative consequence to weaken a consensus resolution signed by the 189 State parties to the NPT, and to lead to the dissatisfaction of numerous countries that had accepted the most stringent non proliferation commitments. For example, Brasil was going to accept the strengthened IAEA safeguards and the Additional Protocol and finally refused to adhere to it. One exemption calls inevitably for others: Pakistan has already asked that this agreement be considered as the "new norm" for the countries non parties to the NPT. It gives also a good reason to continue to block the discussions on the fissile materials cut off treaty which have not yet started (The main request by Pakistan is that past stocks of fissile material be taken into account).

When it joined NSG in 2004, China committed that it would not export nuclear equipment to Pakistan. It did not oppose India exemption, but it has now announced that it will sell two nuclear reactors to Pakistan.

Conclusion :

There is an urgent need to reverse the vertical and horizontal proliferation trends in an efficient way. The main problem lies in the stockpiles of USA and Russia. However the following measures should be implemented.

- 1) Implement real disarmament measures - but not unilaterally, although this is debatable, This is a difficult task, since disarmament is unacceptable to almost all decision makers in the nuclear weapon countries. If countries implement disarmament measures, they should be part of a negotiated framework including disarmament measures from all parties. For example, France implemented some disarmament measures in the 1990s, but got nothing in return. For example, the USA are still conducting – cold - tests.
- 2) France and the United Kingdom should publicly renounce their first strike policy, specify what they consider to be their vital interests, and renounce further modernization of their warheads and missiles. However in France, all

the modernization program has been accomplished for the next 20 years. In a negotiated fashion, France should renounce the airborne component and decrease even more the number of weapons.

- 3) Start/ Participate in joint activities about a technological scheme for disarmament : for example, a lot of thinking can be done about the means and procedures of verification, the training of observers, such as in the British/Norwegian verification experiment. Similar experiments could be conducted on a much larger scale.
- 4) Remove the tactical weapons from Europe.
- 5) Think about real alternative to deterrence. Presently the discourse on deterrence is very ambivalent, even from people advocating the need for nuclear disarmament : most people think that nuclear deterrence has served a purpose.
- 6) End the double standards : The biased policies give wrong signals to Israel, Pakistan, and also to Iran, North-Korea, and even Brazil. The Israeli nuclear arsenal should be discussed openly and its existence should be taken into account in all discussions to reduce nuclear proliferation. The genuine concerns that this arsenal creates for the countries of the region should be recognized. This is a prerequisite to the easing of the tensions in the Middle East and to the discussion of a Middle East free of weapons of mass destruction. Double standards in IAEA and NSG : depoliticize the discussions and be fair to all countries.
- 7) Most important : Western countries should assess, with a "new thinking" for common security, the current world re-arrangements that are a consequence of the modified economic and demographic weights, -"the emergence of new poles of power"-, and they should realize that only multilateral, global, non-discriminatory agreements have a chance of bringing stability in the long run. France and Britain should put the issue of a Nuclear Weapon Convention on the international agenda now.